

Product Data Sheet
 Edition 18/08/2005
 Identification no:
 02 07 02 04 001 0 000003
 Sikagard®-186

(Template for local translation, only for internal use)

Sikagard®-186

2-part epoxy primer and binder for repair mortars

Product Description

Sikagard®-186 is a two part epoxy resin conforming to ZTV-BEL-B part 3, 1995 edition, TL/TP BEL-EP (German standard concerning the sealing and protection of concrete road foundations underneath asphalt layers in bridge construction).

Uses

- Concrete sealer, approved for temporary exposure to open flames
- For priming and the protection of concrete bridges, car park decks etc. in combination with waterproofing membranes (e.g. Sikalastic-821) according to ZTV-BEL-B parts 1, 2 and 3 underneath asphalt layers
- Binder for the preparation of levelling and repair mortars
- Primer for concrete substrates under most Sika Epoxy and PUR flooring products

Characteristics / Advantages

- Low viscosity and good penetration properties
- High bond strength
- Approved for temporary exposure to open flame
- Temperature resistant during placing of hot poured asphalt
- Suitable for application on "green" concrete (note the application conditions when used as a primer for EP/PUR floorings)

Tests

Approval / Standards

Confirms to the requirements of TL/TP-BEL-EP of ZTV-BEL-B 1/87, TL/TP-BEL-EP of ZTV-BEL-B draft, 1998 edition, and ZTV-BEL-B part 3, 1995 edition. Report No. P 1678, Polymer Institut, Germany.

External Supervision

Polymer Institute Dr. Stenner GmbH, Germany

Product Data

Form

Appearance / Colours

Resin - part A: transparent, liquid
 Hardener - part B: yellowish, liquid

Packaging

Part A: 20 kg containers
 Part B: 10 kg containers
 Part A+B: 30 kg ready to mix units

Bulk packaging:
 Part A: 180 kg drums
 Part B: 180 kg drums



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.

Technical Data

Chemical Base

Epoxy resin

Density

Part A (liquid): ~ 1.14 g/cm²
Part B (liquid): ~ 1.00 g/cm²
A+B (solid): ~ 1.11 g/cm²

(DIN EN ISO 2811-1)

Solid Content

~ 100% (by volume) / ~ 100% (by weight)

System Information

System Structures

Application as per ZTV-BEL-B, Part 3

Priming (single layer application):

1 x Sikagard[®]-186, broadcast with quartz sand 0.4 - 0.7 mm

Priming (2-layer application):

1 x Sikagard[®]-186, broadcast with quartz sand 0.4 - 0.7 mm

1 x Sikagard[®]-186, broadcast with quartz sand 0.4 - 0.7 mm

Seal coat:

1 x Sikagard[®]-186, broadcast with quartz sand 0.7 - 1.2 mm

1 x Sikagard[®]-186

Scraping / levelling mortar (layer thickness < 5 mm):

Primer: 1 x Sikagard[®]-186, broadcast with quartz sand 0.4 - 0.7 mm

Mortar: 1 x Sikagard[®]-186 + quartz sand, broadcast with quartz sand
0.4 - 0.7 mm

If the layer thickness is 5 - 20 mm the repair mortar has to be prepared and applied according ZTV-SIB 90 (max. grain size = 1/3 layer thickness)

Recommended mortar mix design:

2 pbw quartz sand 0.1 - 0.3 mm + 1 pbw quartz sand 0.7 - 1.2 mm + 1 pbw
Sikagard[®]-186

Application as a primer for EP / PUR floorings

Priming:

Low / medium porosity concrete: 1 x Sikagard[®]-186

High porosity concrete: 2 x S Sikagard[®]-186

Application Details

Consumption / Dosage

Coating System	Product	Consumption
Priming	Sikagard® -186	0.3 - 0.5 kg/m ²
Broadcast	Quartz sand	1.0 - 1.5 kg/m ²
Seal coat	Sikagard® -186	0.3 - 0.5 kg/m ²
Scraping / levelling mortar (layer thickness < 5 mm)	1 pbw Sikagard® -186 + 3 - 4 pbw quartz sand	~ 2.0 kg/m ² /mm
Broadcast	Quartz sand	1.0 - 1.5 kg/m ²
Repair mortar (layer thickness 5 - 20 mm)	1 pbw Sikagard® -186 + 3 pbw quartz sand	~ 2.0 kg/m ² /mm

Application as a primer for EP / PUR floorings

Coating system	Product	Consumption
Priming	1 - 2 x Sikagard® -186	0.3 - 0.5 kg/m ² /layer

These figures are theoretical and do not allow for any additional material 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

Application as per ZTV-BEL-B, Part 3

Preparation of the concrete substrate has to be in accordance with ZTV-SIB 90 (Table 3).

Prior to application of primer, sealer or scraping mortar seal deep holes (> 0.5 cm) use a polymer-modified cement mortar (PCC I for coat thickness 1.0 - 10 cm) or reactive resin mortar (PC, for coat thickness 0.8 - 2.0 cm) acc. ZTV-SIB 90, Sections 6 and 7.

Application as a primer for Sika Epoxy and PUR floorings

Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve a profiled open textured surface.

Weak concrete must be removed and surface defects such as blowholes and voids must be fully exposed.

Repairs to substrate, filling of blowholes / voids and surface levelling can be carried out using appropriate products from the Sikafloor®, Sikadur® and Sikagard® range of materials.

The concrete or screed substrate has to be primed or levelled up in order to achieve an even surface.

High spots must be removed by grinding.

All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and/or vacuum.

Application Conditions / Limitations

Substrate Temperature	+8°C min. / +45°C max.
Ambient Temperature	+8°C min. / +45°C max.
Substrate Humidity	<u>Application as per ZTV-BEL-B, Part 3</u> Can be applied on mat damp concrete <u>Application as primer for Sika Epoxy and PUR floorings</u> ≤ 4% pbw moisture content. Test method: Sika-Tramex meter or CM - measurement. No rising moisture according to ASTM (Polyethylene-sheet).
Relative Air Humidity	85% r.h. max.
Dew Point	Beware of condensation! The substrate and uncured primer must be at least 3°C above dew point to reduce the risk of condensation or blooming on the primer finish.

Application Instructions

Mixing	Part A : part B = 80 : 20 (by weight)
Mixing Time	Prior to mixing stir part A mechanically. When all of part B has been added to part A mix continuously for 2 minutes until a uniform mix has been achieved. For the preparation of mortars the quartz sand must be mixed with part A and B for a further 2 minutes until a uniform mix has been achieved. To ensure thorough mixing pour materials into another container and mix again to a uniform consistency. Over mixing must be avoided to reduce air entrapment.
Mixing Tools	Sikagard®-186 must be mechanically mixed using an electric power stirrer (300 - 400 rpm) or other suitable equipment.
Application Method / Tools	Prior to application, confirm substrate moisture content, relative humidity and dew point. If > 4% pbw moisture content, Sikafloor® EpoCem® may be applied as a T.M.B. (temporary moisture barrier) system (only if used as a primer for Sika Epoxy and PUR topcoats). <i>Primer / Seal coat:</i> Make sure that a continuous, pore free film covers the substrate. If necessary, apply two priming coats. Apply the Sikagard®-186 by brush, roller or squeegee. <i>Scraping / Repair mortar:</i> Apply the mortar by spatula / trowel to the required thickness.
Cleaning of Tools	Clean all tools and application equipment with Thinner C immediately after use. Hardened / cured material can only be mechanically removed.

Potlife

Temperatures	Time
+10°C	~ 40 minutes
+20°C	~ 30 minutes
+30°C	~ 15 minutes
+45°C	~ 8 minutes

Waiting Time / Overcoatability	Before applying Sikalastic®-821 / 821 LV / 822 on Sikagard®-186 allow:																						
	Substrate temperature	Minimum	Maximum																				
	+10°C	24 hours	1 month*																				
	+20°C	20 hours																					
	+30°C	16 hours																					
	+45°C	12 hours																					
	Note: *Assuming that all dirt has been removed and contamination is avoided																						
	Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.																						
Notes on Application / Limitations	<p>Do not apply Sikagard®-186 on substrates in which significant vapour pressure may occur.</p> <p>Freshly applied Sikagard®-186 must be protected from damp, condensation and water for at least 24 hours.</p> <p>Avoid puddles on the surface with the primer.</p> <p>For external applications, apply on a falling temperature. If applied during rising temperatures “pin holing” may occur from rising air.</p> <p><i>Tools</i> Recommended supplier of tools: PPW-Polyplan-Werkzeuge GmbH, Phone: +49 40/5597260, www.polyplan.com</p>																						
Curing Details																							
Applied Product ready for use	<table border="1"> <thead> <tr> <th>Temperature</th> <th>Foot traffic</th> <th>Vehicular traffic</th> <th>Full cure*</th> </tr> </thead> <tbody> <tr> <td>+10°C</td> <td>~ 24 hours</td> <td>~ 24 hours</td> <td>~ 24 hours</td> </tr> <tr> <td>+20°C</td> <td>~ 20 hours</td> <td>~ 20 hours</td> <td>~ 24 hours</td> </tr> <tr> <td>+30°C</td> <td>~ 16 hours</td> <td>~ 16 hours</td> <td>~ 24 hours</td> </tr> <tr> <td>+45°C</td> <td>~ 12 hours</td> <td>~ 12 hours</td> <td>~ 24 hours</td> </tr> </tbody> </table> <p>*Ready for the adhesive tensile test (TP-BEL-B part 3).</p> <p>Note: Times are approximate and will be affected by changing ambient conditions.</p>			Temperature	Foot traffic	Vehicular traffic	Full cure*	+10°C	~ 24 hours	~ 24 hours	~ 24 hours	+20°C	~ 20 hours	~ 20 hours	~ 24 hours	+30°C	~ 16 hours	~ 16 hours	~ 24 hours	+45°C	~ 12 hours	~ 12 hours	~ 24 hours
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Notes	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 Restriction	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 product uses.																						
Health and Safety Information	Please insert any additional Standard Health and Safety Information in accordance with local laws and which are not already stated in the safety data sheet. For questions contact your Ecology and Safety-Manager.																						
Protective Measures	<p>Sikagard®-186 part A+B fall under the dangerous goods regulations. During application observe hints on labels as well as local regulations. In a liquid state the product contaminates water and must not get into drains, waters or ground.</p> <p>Further details are contained in our instructions “Health protection and prevention of accidents”.</p>																						
Ecology	Insert local law information (if product not classified, please remove).																						
Transportation Class	Insert local law information (if product not classified, please remove).																						
Important Notes	<p>Residues of material must be removed according to local regulations. Fully cured material can be disposed of as household waste under agreement with the responsible local authorities.</p> <p>Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data can be obtained from the material safety data sheet.</p>																						
Toxicity	Insert local law information (if product not classified, please remove).																						

Legal Notes

It may be necessary to adapt this disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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.

Note

The following chapter is only mandatory for European countries

CE Labelling

The harmonized European Standard EN 13 813 „Screed material and floor screeds - Screed materials - Properties and requirements“ specifies requirements for screeds material for use in floor construction internally.

Structural screeds or coatings, i.e. those that contribute to the load bearing capacity of the structure, are excluded from this standard.

The resin floor systems as well as screeds fall under this specification. They have to be CE-labelled as per Annex ZA. 3, Table ZA.1.5 and 3.3 and fulfil the requirements of the given mandate of the Construction Products Directive (89/106):

CE	
Sika Deutschland GmbH Kornwestheimerstraße 103-107 D - 70439 Stuttgart	
04 ¹⁾	
EN 13813 SR-B1,5	
Primer/sealer (systems as per Product Data Sheet)	
Reaction to fire:	NPD ₁ ³⁾
Release of corrosive substances (Synthetic Resin Screed):	SR
Water permeability:	NPD
Abrasion Resistance:	NPD
Bond strength:	B 1,5
Impact Resistance:	NPD
Sound insulation:	NPD
Sound absorption:	NPD
Thermal resistance:	NPD
Chemical resistance:	NPD

← *)

- ¹⁾ Last two digits of the year in which the marking was affixed.
- ²⁾ In Germany, DIN 4201 still applies. Passed class B2.
- ³⁾ No performance determined.
- ⁴⁾ Not broadcast with sand.

***) Please fill in your relevant producer address**



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