

**Product Data Sheet**  
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Sikafloor®-291

# Sikafloor®-291

## 3-component epoxy self-smoothing underlay screed

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**Product Description** Sikafloor®-291 is a three part, fine textured self smoothing underlay and levelling screed.

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**Uses** *As a self-smoothing screed for:*

- Levelling layer under Epoxy, Polyurethane and PMMA\* floor coatings / screeds, tiles, sheet floors, carpets or wooden floors.
- Floor topping without particular aesthetic requirements.

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**Characteristics / Advantages**

- Economical
- Fast and easy application
- Good levelling properties
- Good chemical resistance
- Good early and final mechanical strengths
- Ideal preparation for smooth surface finishes
- Contains no solvents

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### Product Data

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#### Form

**Appearance / Colours**

Part A - resin:	white liquid
Part B - hardener:	yellowish liquid
Part C - filler:	off white, powder
Mixed colour:	light yellow
Finish:	fine textured, matt

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**Packaging** Pre-batched 164 kg units.

Part A:	8.00 kg container
Part B:	20.0 kg container
Part C:	34.0 kg plastic lined bag x 4

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#### Storage

**Storage Conditions/ Shelf-Life** 6 months from date of production if stored properly in original, unopened and undamaged, sealed containers, in dry conditions, at temperatures between +5°C and +35°C. Protect from frost.

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Construction



## Technical Data

<b>Chemical Base</b>	Epoxy.		
<b>Density</b>	Part A:	~ 1.05 kg/l (at +20°C)	
	Part B:	~ 1.03 kg/l (at +20°C)	
	Part C:	~ 1.72 kg/l (at +20°C)	
	Parts A+B+C mixed:	~ 2.2 kg/l (at +20°C)	(EN 1015-6)
<b>Layer Thickness</b>	1.5 mm min. / 3.0 mm max.		
<b>Fire Rating</b>	Class A2 <sub>(fl)</sub>		(EN 13501-1)
<b>Service Temperature</b>	-30°C to +80°C for continuous exposure.		

## Mechanical / Physical Properties

<b>Compressive Strength</b>	~ 60 N/mm <sup>2</sup>	(28 days / +27°C)	(According to IS 9162-1979)
<b>Flexural Strength</b>	~ 18 N/mm <sup>2</sup>	(28 days / +27°C)	(According to IS 9162-1979)
<b>Bond Strength</b>	> 1.5 N/mm <sup>2</sup> (failure in concrete)		(According to ISO 4624)
<b>Abrasion Resistance</b>	~ 0.7 mm thickness loss (According to IS 1237 – 1980 and IS 9162 - 1979)		

## Resistance

<b>Chemical Resistance</b>	The Sikafloor® -291 has improved chemical resistance over plain concrete in aggressive environments, but is not designed as a chemical protection. For specific chemical resistance, always overcoat with a suitable product of the Sikafloor® range. For occasional exposure or spillages, please consult.
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## System Information

<b>System Structure</b>	<i>Underlay / levelling screed for medium substrate roughness:</i> Layer thickness: 1.5 - 3 mm Primer: Sikafloor®-290 Primer Screed: Sikafloor®-291 Topping: Sikafloor® range (optional)
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## Application Details

### Consumption / Dosage

Coating System	Product	Consumption
Primer	Sikafloor®-290 Primer	0.2 – 0.3 kg/m <sup>2</sup>
Underlay / levelling screed (1.5 mm to 3 mm)	Sikafloor®-291	2.2 kg/mm/m <sup>2</sup>
Topping (optional)	Sikafloor® range	See PDS

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

### Substrate Quality

The concrete substrate must be sound and of sufficient compressive strength (minimum 25 N/mm<sup>2</sup>) with a minimum pull off strength of 1.5 N/mm<sup>2</sup>.

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.

<b>Substrate Preparation</b>	<p>Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve an open textured surface.</p> <p>Weak concrete must be removed and surface defects such as blow holes 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® and Sikagard® range of materials.</p> <p>High spots can be removed by grinding.</p> <p>All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush or vacuum.</p>
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**Application Conditions / Limitations**

<b>Substrate Temperature</b>	+8°C min. / +30°C max.
<b>Ambient Temperature</b>	+8°C min. / +30°C max.
<b>Substrate Moisture Content</b>	<p>≤ 4% moisture content.</p> <p>Test method: Sika® Tramex moisture meter, CM measurement or Oven-dry method. No rising moisture according to ASTM (PE sheet test).</p>
<b>Relative Air Humidity</b>	80% max.
<b>Dew Point</b>	<p>Beware of condensation!</p> <p>The substrate and uncured floor temperature must be at least 3°C above the dew point to reduce the risk of condensation or blooming on the floor finish.</p>

**Application Instructions**

<b>Mixing</b>	Part A : Part B : Part C = 1 : 2.5 : 17 (by weight)
<b>Mixing Time</b>	<p>Prior to mixing, shake part A and part B briefly until homogenous, then pour both parts into the mixing container and mix thoroughly for 3 minutes until a uniform mix has been achieved.</p> <p>Gradually add part C while stirring with a power mixer. Mix thoroughly for 3 minutes until a uniform mix has been achieved.</p>
<b>Mixing Tools</b>	<p>Mix using a slow speed electric mixer (300 - 400 rpm) with helical paddle or other suitable equipment.</p> <p>Recommended are single or counter rotating double mortar (basket type) and forced action (pan type) mixers. Free fall mixers must not be used.</p>
<b>Application Method / Tools</b>	<p>Place mixed Sikafloor®-291 onto the primed substrate and spread evenly to the required thickness uniformly with a rubber or metal trowel or spatula and immediately roll with a spike roller to remove entrapped air and obtain an even thickness layer.</p> <p>Do not use additional water, which would disturb the surface finish and cause discolouration.</p> <p>A seamless finish can be achieved if a 'wet' edge is maintained during application.</p>
<b>Cleaning of Tools</b>	<p>Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be removed mechanically.</p>

<b>Potlife</b>	20.5 kg mass								
	<table border="1"> <thead> <tr> <th>Temperature / r.h. 75%</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>+10°C</td> <td>~ 40 minutes</td> </tr> <tr> <td>+20°C</td> <td>~ 20 minutes</td> </tr> <tr> <td>+30°C</td> <td>~ 10 minutes</td> </tr> </tbody> </table>	Temperature / r.h. 75%	Time	+10°C	~ 40 minutes	+20°C	~ 20 minutes	+30°C	~ 10 minutes
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**Waiting Time / Overcoating**

Before applying Sikafloor®-291 on Sikafloor®-290 Primer allow:

	Waiting time	
Substrate temperature	Minimum	Maximum
+10°C	12 hours	72 hours
+20°C	6 hours	48 hours
+30°C	4 hours	24 hours

Sikafloor®-291 can be overcoated with vapour tight coatings when the surface humidity falls below 4%! Not earlier than:

Substrate temperature	Waiting time
+10°C	2 days
+20°C	1 day
+30°C	1 day

Note: Successive coats of Sikafloor®-291 must be applied after priming with Sikafloor®-290 Primer and allowing at least the minimum times indicated above between applications.

Times are approximate at 75% r.h. and will be affected by changing ambient and substrate conditions, particularly temperature and relative humidity.

**Notes on Application / Limitations**

Always ensure good ventilation when using Sikafloor®-291 in a confined space to remove excess moisture.

Freshly applied Sikafloor®-291 must be protected from damp, condensation and water for at least 24 hours.

Prevent premature drying by protecting from strong wind and do not expose to direct sun light while fresh.

Apply primer and Sikafloor®-291 on a falling temperature. If applied during rising temperatures "pin holing" can occur.

Non moving construction joints require pre-treatment using fillerized primer Sikafloor®-290 Primer. Dynamic cracks (> 0.4 mm) and moving joints need to be assessed on site can be treated with an elastic sealing material of the Sikaflex range. The incorrect assessment and treatment of cracks can lead to a reduced service life and reflective cracking.

Colour variations can occur on unsealed Sikafloor®-291 through exposure to direct sun light. This however, will not adversely influence the mechanical properties.

**Curing Details****Applied Product ready for use**

Temperature	Foot traffic	Light traffic	Full cure
+10°C	~ 24 hours	~ 3 days	~ 14 days
+20°C	~ 15 hours	~ 2 days	~ 7 days
+30°C	~ 7 hours	~ 1 day	~ 4 days

Note: Times are approximate and will be affected by changing ambient and substrate conditions.

**Cleaning / Maintenance****Methods**

Due to the texture of its surface, Sikafloor®-291 is not suitable to be used as wearing layer where easy staining can occur. A seal coat of the Sikafloor® range with suitable cleaning capabilities is advisable.

Remove dirt using a brush and/or vacuum. Do not use wet cleaning methods until the product is fully cured.

Do not use abrasive methods or cleaners.

**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.

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**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.

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**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.

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