

Product Data Sheet
Edition 24/06/2010
Identification no:
02 08 01 02 009 0 000004
Sikafloor®-169

Sikafloor®-169

2-part epoxy binder for mortars, screeds and seal coats

Product Description Sikafloor®-169 is a two part, very low yellowing, low viscous, transparent epoxy resin.
"Total solid epoxy composition acc. to the test method Deutsche Bauchemie e.V. (German Association for construction chemicals)"

Uses

- Transparent binder for coloured quartz mortars and screeds e.g Sika CompactFloor
- Transparent sealer coat for broadcast colour quartz mortar screeds and smooth coatings fully broadcast to excess with coloured chips
- Suitable for normal up to medium heavy mechanical loading
- Particularly used in the food and pharmaceutical industries, for show rooms and workshops etc.

Characteristics / Advantages

- Transparent
- Low VOC-content
- Very low yellowing
- Good mechanical and abrasion resistance
- Low viscous
- Easy application
- Multi-purpose binder

Product Data

Form

Appearance / Colours Resin - part A: turbid, liquid
Hardener - part B: yellowish, liquid

Under UV-exposure some discolouration (yellowing) will occur, however this has no influence on the function and performance of the coating.

Packaging

Part A: 7,5 kg containers
Part B: 2,5 kg containers
Part A+B: 10 kg unipacks

Bulk packaging:
Part A: 200 kg drums
Part B: 200 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. Protect from direct sunlight.

Construction



Technical Data

Chemical Base	Epoxy	
Density	Part A: ~ 1.1 kg/l Part B: ~ 1.0 kg/l Mixed resin: ~ 1.1 kg/l	(DIN EN ISO 2811-1)
All Density values at +23°C.		

Mechanical / Physical Properties

Compressive Strength	<i>Mortar (mixing ratio 1 : 10):</i> ~ 80 N/mm ² (7 days / +23°)	(EN-196-1)
Flexural Strength	<i>Mortar (mixing ratio 1 : 10):</i> ~ 20 N/mm ² (7 days / +23°)	(EN-196-1)
Shore Hardness	80 (7days / +23°C)	(DIN 53505)
Abrasion Resistance	47 mg (CS 10/1000/1000) (8 days / +23°C)	(DIN 53 109 (Taber Abrader Test))

Resistance

Chemical Resistance Resistant to many chemicals. Please ask for a detailed chemical resistance table.

Thermal Resistance

Exposure*	Dry heat
Permanent	+50°C
Short-term max. 7 d	+80°C
Short-term max. 12 h	+100°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

Systems Structure	<i>Coloured Quartz broadcasted System (~1,5-2 mm)</i> Primer: 1 x Sikafloor®-156, 161 or 169 Broadcast : broadcast in excess with PU coated Colour Quartsand (0.3-0.8 mm) Seal coat: 1 x Sikafloor®-169 <i>Sika CompactFloor Pro (~ 3 mm):</i> Primer: 1 x Sikafloor®-156, 161 or 169 slightly broadcast with Sikaquartz PU (0.4 – 1.2 mm) Slurry: 1 x Sikafloor®-169 + 1 x Sika Compact Filler Broadcast: broadcast to saturation with Sikaquartz PU (0.4 – 1.2 mm). Power floating Seal coat: 1 x Sikafloor®-169 Sealer: Glossy finish. 1 x Sikafloor®-169 Matt finish. 1 x Sikafloor®-304 W <i>Coloured Quartz Screed (up to 10 mm):</i> Primer: 1 x Sikafloor®-156, 161 or 169 slightly broadcast with quartz sand (0.4 - 0.7 mm) Mortar: 1 x Sikafloor®-169 + PU coated colour quartsand (0.3 - 1.8 mm) Impregnation: 1 x Sikafloor®-169 Sealer: Glossy finish. 1 x Sikafloor®-169 Matt finish. 1 x Sikafloor®-304 W
--------------------------	---

Suitable sand mixture (typical example):

Sikafloor®-169	Grading Fraction				
	0.3 - 0.8 mm	0.6 - 1.2 mm	1.0 - 1.8 mm		
1 ppw	4 ppw	3 ppw	1 ppw	2 ppw	
pre-mixed epoxy binder	PU coated coloured quartz sand white	PU coated coloured quartz sand white	70% PU coated coloured quartz sand blue	30% PU coated coloured quartz sand black	PU coated coloured quartz sand white e

Application Details

Consumption / Dosage	Coating System	Product	Consumption
<i>Coloured Quartz broadcasted System (~1,5-2 mm)</i>			
	Primer	Sikafloor®-156, 161 or 169	~0.3- 0.5 kg/m ²
	Broadcast	Broadcast in excess with PU coated Colour Quartsand (0.3-0.8 mm)	~4.0-6.0 kg/m ²
	Seal Coat	1 x Sikafloor®-169	~0.6 – 0.8 kg/m ²
<i>Sika CompactFloor</i>			
	Primer	Sikafloor®-156, 161 or 169	~0.3- 0.5 kg/m ²
	Broadcast	Slightly broadcast with Sikaquartz PU (0.4 – 1.2 mm)	~1.0 kg/m ²
	Slurry for Sika CompactFloor	1 pbw Sikafloor®-169 + 1 pbw Sikafloor®- Compact Filler	~1.7 - 2.0 kg/m ²
	Broadcast	Sikaquartz PU (0.4 – 1.2 mm)	~3.5 – 4.5 kg/m ²
	Seal Coat	Sikafloor®- 169	~0.25- 0.3 kg/m ²
	Sealer		
	Glossy finish	Sikafloor®- 169	~0.1- 0.15 kg/m ²
	Matt finish	Sikafloor®- 304 W	~0.1- 0.15 kg/m ²
<i>Coloured Quartz Screed (up to 10 mm):</i>			
	Primer Broadcast	Sikafloor®-156, 161 or 169 Quartz sand (0.4 - 0.7 mm)	~ 0.5 kg/m ² - 1.0 kg/m ²
	Coloured Quartz mortar	1 pbw Sikafloor®-169 + 10 pbw PU coated coloured quartz sand (0.3 - 1.8 mm)	~ 2.0 kg/m ² /mm
	Impregnation	Sikafloor®-169	~ 1.4 kg/m ²
	Sealer		
	Matt finish	Sikafloor®- 304 W	~0.1- 0.15 kg/m ²

* Fully broadcast with quartz sand or coloured chips always to excess.

Please note:

In case of application as transparent top coat with higher consumption as mentioned above, a haze surface and/or a stronger visible yellowing could be possible after hardening.

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	<p>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.</p> <p>The substrate must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc.</p> <p>If in doubt apply a test area first.</p>
Substrate Preparation	<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 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[®] and SikaGard[®] range of materials.</p> <p>The concrete or screed substrate has to be primed or levelled in order to achieve an even surface.</p> <p>High spots must be removed by e.g. grinding.</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>
Application Conditions / Limitations	
Substrate Temperature	+10°C min. / +30°C max.
Ambient Temperature	+10°C min. / +30°C max.
Substrate Moisture Content	<p>≤ 4% 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 floor must be at least 3°C above dew point to reduce the risk of condensation or blooming on the floor finish.</p>
Application Instructions	
Mixing	Part A : part B = 75 : 25 (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 2 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> <p>For mortars add the premixed Sikafloor[®]-169 VP to the aggregates and mix until a uniform mix has been achieved.</p>
Mixing Tools	<p>Sikafloor[®]-169 must be thoroughly mixed using a low speed electric stirrer (300 - 400 rpm) or other suitable equipment.</p> <p>For the preparation of mortars use a forced action mixer of rotating pan, paddle or trough type. Free fall mixers must not be used.</p>

Application Method / Tools	<p>Prior to application, confirm substrate moisture content, r.h. and dew point.</p> <p>If > 4% pbw moisture content, Sikafloor® EpoCem® may be applied as a T.M.B. (temporary moisture barrier) system.</p> <p>Primer: Make sure that a continuous, pore free coat covers the substrate. If necessary, apply two priming coats. Apply Sikafloor® -156, -161 or -169 by brush, roller or squeegee.</p> <p>Sika CompactFloor:</p> <p><i>Primer:</i> Sikafloor-161, Sikafloor-156 or Sikafloor-169 is applied by brush, roller or squeegee in one or two coats to achieve a continuous and pore free layer covering the substrate. After application of the primer the coat is slightly blined with quartz sand according to the system.</p> <p><i>Slurry:</i> The slurry is poured from the mixing vessel onto the cured and broadcast primer and distributed over the substrate with a steel trowel (riding on the broadcast quartz sand).</p> <p>Broadcast: Selected coloured quartz sand is broadcast into the slurry to saturation (not excess).</p> <p><i>Power Floating:</i> Suitable power floater (20-90 rpm) with soft steel blades.</p> <p><i>Seal coat:</i> Applied by steel trowel or rubber squeegee and is then rolled with a short pile roller to achieve an even seal coat.</p> <p>Mortar screed: Apply the mortar/screed evenly using leveling boards and guide rails if necessary. After a short waiting time compact and smoothen the mortar with a trowel or Teflon coated power floater (usually 20 - 90 rpm).</p> <p>Impregnation: Uniformly spread Sikafloor®-169 by using a trowel or squeegee and back-roll with a short pile nylon roller.</p> <p>Seal coat: Uniformly spread Sikafloor®-169 by using a short pile nylon roller or a squeegee (back-rolling is necessary).</p> <p>A seamless finish can be achieved if a “wet” edge is maintained during application.</p>
Cleaning of Tools	<p>Clean all tools and application equipment with Thinner C immediately after use. Hardened and/or cured material can only be removed mechanically.</p>

Potlife

Temperatures	Time
+10°C	~60 minutes
+20°C	~30 minutes
+30°C	~ 20 minutes

Waiting Time / Overcoating

Before applying Sikafloor®-169 on Sikafloor®-156 allow:

Substrate temperature	Minimum	Maximum
+10°C	24 hours	4 days
+20°C	10 hours	2 days
+30°C	5 hours	1 day

Before applying Sikafloor®-169 on Sikafloor®-169 allow:

Substrate temperature	Minimum	Maximum
+10°C	48 hours	4 days
+20°C	24 hours	2 days
+30°C	12 hours	1 day

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

Notes on Application / Limitations

Do not apply Sikafloor®-169 on substrates with rising moisture.

Freshly applied Sikafloor®-169 should be protected from damp, condensation and water for at least 24 hours.

Avoid puddles on surface with the primer.

Trials should be carried out on mortar mixes to confirm and evaluate suitable aggregate colour blends and size distribution (granulometry).

Tools

Recommended supplier of tools:

PPW-Polyplan-Werkzeuge GmbH, Phone: +49 40/5597260, www.polyplan.com. Serrated trowel for smooth wearing layer:
e.g. Large-Surface Scrapper No. 565, Toothed blades No. 25

Recommended supplier of the power floater:

Scanmaskin Sweden (Head Office) Box 187
SE-437 22 Lindome, Sweden
Phone: +46-31 99 49 70
Fax: +46-31 99 48 70
<http://www.scanmaskin.com>

The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking.

Under certain conditions, underfloor 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.

Curing Details

Applied Product ready for use

Temperatures	Foot traffic	Light traffic	Full cure
+10°C	~ 48 hours	~ 5 days	~ 10 days
+20°C	~ 24 hours	~ 3 days	~ 7 days
+30°C	~ 12 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.

Note

The following chapter is only mandatory for European countries.

CE Labelling

The harmonized European Standard EN 13813 „Screed material and floor screeds - Screed materials - Properties and requirements“ specifies requirements for screed materials 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.

Resin floor systems as well as cementitious 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-AR1-IR 4	
Resin screed/coating for indoors in buildings (systems as per Product Data Sheet)	
Reaction to fire:	E _{fl} ²⁾
Release of corrosive substances (Synthetic Resin Screed):	SR
Water permeability:	NPD ³⁾
Abrasion Resistance:	AR1 ⁴⁾
Bond strength:	B 1,5
Impact Resistance:	IR 4
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 4102 still applies. Passed class B2.

³⁾ No performance determined.

⁴⁾ Not broadcast with sand.



Sika Services AG
Tüffenwies 16
CH-8048 Zurich
Switzerland

Phone +41 44 436 40 40
Telefax +41 44 436 46 86
www.sika.com



Note**The following chapter is only mandatory for European countries.****CE Labelling**

The harmonized European Standard EN 1504-2 „Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 2 : Surface protection systems for concrete” gives specifications for products and systems used as methods for the various principles presented under EN 1504-9.

Products which fall under this specification have to be CE-labelled as per Annex ZA. 1, Tables ZA.1a to ZA 1g according to the scope and relevant clauses there indicated, and fulfil the requirements of the given mandate of the Construction Products Directive (89/106):

Here below indicated are the minimum performance requirements set by the standard. For the specific performance results of the product to the particular tests, please see the actual values above in the PDS.

CE	
0921	
Sika Deutschland GmbH Kornwestheimerstraße 103-107 D - 70439 Stuttgart	
08 ¹⁾	
0921-CPD-2017	
EN 1504-2	
Surface Protection Product Coating ²⁾	
Abrasion resistance (Taber test):	< 3000 mg
Permeability to CO ₂ :	$S_D > 50 \text{ m}$
Permeability to water vapour:	Class II
Capillary absorption and permeability to water:	$w < 0.1 \text{ kg/m}^2 \times \text{h}^{0.5}$
Resistance to severe chemical attack: ³⁾	Class I
Impact resistance:	Class I
Adhesion strength by pull-off test:	$\geq 2.0 \text{ N/mm}^2$
Fire Classification: ⁴⁾	E _{fl}

← *)

← *)

¹⁾ Last two digits of the year in which the marking was affixed.

²⁾ Tested as a part of a system build-up with Sikafloor®-161 / Sikafloor®-169.

³⁾ Please refer to the Sikafloor® Chemical Resistance Chart.

⁴⁾ Min. classification, please refer to the individual test certificate.

*

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 sb) is 500 g/l (Limits 2010) for the ready to use product.

The maximum content of Sikafloor®-169 is < 500 g/l VOC for the ready to use product.



Sika Services AG
Tüffenwies 16
CH-8048 Zurich
Switzerland

Phone +41 44 436 40 40
Telefax +41 44 436 46 86
www.sika.com

