

## PRODUCT DATA SHEET

# Sikafloor®-21 PurCem®

Self-smoothing high strength, chemical and thermal shock resistant polyurethane hybrid flooring screed with a slip resistant finish

### DESCRIPTION

Sikafloor®-21 PurCem® is a self-smoothing multi-component, waterbased colored polyurethane hybrid flooring screed. It has flat, high abrasion, chemical, impact and slip-resistant finish.

### USES

The Product is used as a scratch coat or wearing coat layer in Sikafloor® PurCem® flooring systems.

Please note:

- The Product may only be used by experienced professionals.

### CHARACTERISTICS / ADVANTAGES

- Good resistance to specific chemicals
- High mechanical resistance
- Low VOC emissions
- Odourless
- Non-tainting
- Thermal expansion properties similar to concrete
- Tolerant to substrates with high moisture content

### ENVIRONMENTAL INFORMATION

- Environmental Product Declaration (EPD) in accordance with EN 15804. EPD independently verified by Institut für Bauen und Umwelt e.V. (IBU)
- VOC emissions AgBB, Sikafloor®-21 PurCem®, Approval No. 392-2014-00087001D
- VOC emissions AgBB, Sikafloor®-21 PurCem®, eurofins, Certificate No. G10004
- VOC emission classification of building materials RTS M1
- Conforms with LEED v4 EQ credit: Low-emitting materials
- Conforms with LEED v4 MR credit: Building product disclosure and optimization — Environmental Product Declarations (option 1)

### APPROVALS / STANDARDS

- CE marking and declaration of performance based on EN 13813:2002 Screed material and floor screeds — Screed material — Properties and requirements — Synthetic resin screed material
- Cleaning test Sikafloor®-21 PurCem, CSM Fraunhofer, Certificate No. 1403-695
- Cleanability test Sikafloor®-21 PurCem®, Fraunhofer, Report No. SI 1208-611
- Impact resistance test Sikafloor®-21 PurCem®, PRA, Report No. 75221-151
- Tainting test ISO 4120, Sikafloor®-21 PurCem®, Campden, Report No. 125424/1a
- Abrasion resistance test Sikafloor®-20 PurCem®/-21 PurCem®, Face consultants, Report No. FC/12/3850
- Fire testing EN 13501-1, APPLUS, No.21/32302953-2

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## PRODUCT INFORMATION

<b>Chemical Base</b>	Water-based polyurethane cement hybrid	
<b>Packaging</b>	Container Part A neutral	2.5 kg
	Container Part A	3 kg
	Container Part B	3 kg
	Part C	15 kg bag
	Part D	0.5 kg plastic pouch for substrate A neutral
	Packaging combined	21 kg ready to mix units
	Refer to the current price list for available packaging variations.	
<b>Shelf Life</b>	Part A	12 months from date of production
	Part B	12 months from date of production
	Part C	9 months from date of production
	Part D	12 months from date of production
	Always refer to the best before date of the individual packaging.	
<b>Storage Conditions</b>	<p>The Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C. Always refer to packaging.</p> <p>Refer to the current Safety Data Sheet for information on safe handling and storage.</p>	
<b>Appearance / Colour</b>	Part A neutral	Light beige liquid
	Part A	Coloured liquid
	Part B	Brown liquid
	Part C	Natural grey powder
	Part D	colourpack as per list below for part A neutral
	Cured appearance	Matt finish
	Cured colour	Pebble Grey, Beige, Golden Yellow, Dusty Grey, Carmine Red, Agate Grey, Marine Blue, Yellow Green
<p>Note: When the Product is exposed to direct sunlight, there may be some discolouration and colour variation. This has no influence on the function and performance of the Product.</p> <p>For colour matching: Apply colour sample and confirm selected colour under real lighting conditions.</p>		
<b>Density</b>	Mixed Product	~1.93 kg/l at +20 °C (EN ISO 2811-1)

## TECHNICAL INFORMATION

<b>Shore D Hardness</b>	Cured 7 days at +23 °C	85	(ASTM D2240)
<b>Compressive Strength</b>	Cured 28 days at +23 °C	50 N/mm <sup>2</sup>	(EN 13892-2)
<b>Tensile Strength in Flexure</b>	Cured 28 days at +23 °C	~10 N/mm <sup>2</sup>	(EN 13892-2)
<b>Tensile Adhesion Strength</b>	≥ 2.5 (2.0) N/mm <sup>2</sup>		(EN 1542)
<b>Reaction to Fire</b>	Class B <sub>fl</sub> -s1		(EN 13501-1)

## APPLICATION INFORMATION

<b>Mixing Ratio</b>	Part A : Part B : Part C : Part D	2.5 : 3.0 : 15 : 0.5	
	Part A : Part B : Part C	3.0 : 3.0 : 15	
<b>Consumption</b>	~1.9 kg/m <sup>2</sup> per mm thickness		
<b>Layer Thickness</b>	Scratch coat	1–2 mm	
	Wear or base coat	3–6 mm	
<b>Product Temperature</b>	Minimum	+10 °C	
	Maximum	+35 °C	
<b>Ambient Air Temperature</b>	Minimum	+10 °C	
	Maximum	+35 °C	
<b>Relative Air Humidity</b>	Maximum	80 %	
<b>Dew Point</b>	Beware of condensation. The substrate and uncured applied product must be at least +3 °C above dew point to reduce the risk of condensation or blooming on the surface of the applied product. Low temperatures and high humidity conditions increase the probability of blooming.		
<b>Substrate Temperature</b>	Minimum	+10 °C	
	Maximum	+35 °C	
<b>Substrate Moisture Content</b>	The Product can be installed on substrates with a higher moisture content. No ponding water may be present on the surface. Check for rising moisture. The substrate must be visibly dry and must have a minimum pull-off strength of 1.5 N/mm <sup>2</sup> .		
<b>Pot Life</b>	+10 °C	~40 minutes	
	+20 °C	~25 minutes	
	+30 °C	~18 minutes	
	+35 °C	~15 minutes	
<b>Waiting Time / Overcoating</b>	Before overcoating the Product allow:		
	<b>Substrate temperature</b>	<b>Minimum</b>	<b>Maximum</b>
	+10 °C	24 hours	72 hours
	+20 °C	24 hours	48 hours
	+30 °C	12 hours	24 hours
	+35 °C	12 hours	24 hours
Note: Times are approximate and will be affected by changing ambient conditions, particularly temperature and relative humidity.			
Note: If a primer other than a scratch coat of Sikafloor PurCem is applied, refer to the relevant PDS of the chosen product for curing times. Ensure that the primer or scratch coat is fully cured before the application of subsequent Sikafloor PurCem layers.			

## BASIS OF PRODUCT DATA

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.

## FURTHER DOCUMENTS

- Sika Method Statement: Evaluation and preparation of surfaces for flooring systems
- Sika Method Statement: Mixing & Application of Flooring Systems

## LIMITATIONS

### IMPORTANT

#### **Dirt pick up in slow curing conditions**

In some slow curing conditions, soiling of the surface may occur when opened to foot traffic, even though mechanical properties have been achieved.

1. Remove dirt using a dry mop or cloth.
2. Do not scrub the Product with water for the first three days.

## ECOLOGY HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### EQUIPMENT

#### MIXING EQUIPMENT

- Electric single paddle mixer (300 to 400 rpm)
- Electric double paddle mixer (>700 W, 300 to 400 rpm)
- Forced action / rotating pan / double paddle or trough type mixer (300–400 rpm )

#### APPLICATION EQUIPMENT

- Flat, round edge steel trowel
- Spiked roller
- Trowels, including serrated
- Pin leveller

### SUBSTRATE QUALITY

#### TREATMENT OF JOINTS AND CRACKS

##### IMPORTANT

#### **Incorrect treatment of cracks**

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

Construction joints and existing static surface cracks in substrate require pre-treating before full layer application. Use Sikadur® or Sikafloor® resins.

The System can be applied on green or damp concrete with no standing water. Allow for at least 3 days for early concrete shrinkage to occur to prevent shrinkage cracks from appearing on the wearing surface.

Cementitious substrates (concrete / screed) must be structurally sound and of sufficient compressive strength (minimum 25 N/mm<sup>2</sup>) with a minimum tensile strength of 1.5 N/mm<sup>2</sup>.

Substrates must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings, laitance, surface treatments and loose friable material.

### SUBSTRATE PREPARATION

To prevent curling of the applied product during curing, place retaining grooves in the substrate along all exposed edges (perimeter, joints, connections, plinths, columns, covings and drains / gullies) as shown in the application details of the Sika Method Statement: Sikafloor®- PurCem®. Width and depth must be twice the thickness of the floor finish.

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## MIXING

### IMPORTANT

#### Mix full units only

#### 3 PART MIXING PROCEDURE

1. Mix Part A (resin) until the coloured pigment is dispersed and a uniform colour is achieved.
2. Add Part B (hardener) to Part A.
3. Mix Part A + B continuously for 30 seconds until a uniformly coloured mix is achieved.
4. After mixing for 30 seconds, gradually add Part C while you continue mixing.
5. After combining all parts, mix for an additional 2 minutes, until a uniform mix is achieved. Note: At ambient temperatures less than +15 °C mix between 30 seconds and 1 minute longer.
6. To ensure thorough mixing, pour materials into another container and mix again to achieve a smooth and uniform mix.
7. During the final mixing stage, scrape down the sides and bottom of the mixing container with a flat or straight edge trowel at least once to ensure complete mixing.

#### 4 PART MIXING PROCEDURE

1. Mix Part A (resin) for ~30 seconds.
2. Add Part D (colour pack) to Part A.
3. Mix Part A + D continuously for 30 seconds until a uniformly coloured mix is achieved.
4. After mixing for 30 seconds, gradually add Part B and continue mixing for 30 seconds.
5. After mixing for 30 seconds, gradually add Part C while you continue mixing.
6. After combining all parts, mix for an additional 2 minutes, until a uniform mix is achieved. Note: At ambient temperatures less than +15 °C mix between 30 seconds and 1 minute longer.
7. To ensure thorough mixing, pour materials into another container and mix again to achieve a smooth and uniform mix.
8. During the final mixing stage, scrape down the sides and bottom of the mixing container with a flat or straight edge trowel at least once to ensure complete mixing.

## APPLICATION

### IMPORTANT

#### Protecting the material after application

After application, protect the System from damp, condensation and direct water contact for at least 24 hours.

### IMPORTANT

#### Protect from overhead leaks and condensation

Protect the Product during application from pipe condensation or any overhead leaks.

### IMPORTANT

#### Ventilation in confined spaces

Always ensure good ventilation when applying the Product in a confined space.

### IMPORTANT

#### Application on polymer modified cement mortars

Do not apply the product on polymer modified cement mortars if the mortar expands when sealed with an impervious resin.

### IMPORTANT

#### Waiting time for foodstuff

Allow a minimum of 48 hours after application before placing foodstuff in the same area.

#### SCRATCH COAT

1. Pour the mixed Product onto the prepared substrate.
2. Scrape the Product into the prepared surface with a steel trowel to the required thickness so that the surface texture is filled.

#### WEARING LAYER

1. Pour the mixed Product onto the substrate. Note: The consumption is specified in Application Information.
2. Apply the Product evenly over the surface with a pin leveller or a trowel.
3. Back roll the surface in two directions at right angles with a spike roller. Note: Maintain a "wet edge" during application to achieve a seamless finish.

## CLEANING OF TOOLS

Clean all tools and application equipment with Sika® Thinner C immediately after use. Hardened material can only be removed mechanically.

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## 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.

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

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