



BUILDING TRUST



## PRODUCT DATA SHEET

# Sikafloor®-41 PurCem®

Self-smoothing high strength, chemical and thermal shock resistant polyurethane hybrid flooring screed with a slip resistant finish (Formerly FLORGIENE MD)

### DESCRIPTION

Sikafloor®-41 PurCem® is a self-smoothing, three component, water based coloured polyurethane hybrid flooring screed. It has flat, high abrasion, chemical, impact and slip-resistant finish. It is typically installed at 3 to 6 mm thickness.

### USES

Sikafloor®-41 PurCem® may only be used by experienced professionals.

Sikafloor®-41 PurCem® is used as a scratch coat or wearing coat layer in Sikafloor® PurCem® flooring systems such as in:

- Food processing plants, in wet or dry process areas, freezers and coolers
- Chemical plants
- Laboratories
- Workshops
- Textile and film plants
- Beverage production
- Warehousing and storage
- Confectionery and bakery production
- Electronic component manufacture and assembly
- Pharmaceutical plants
- Dairy and milk plants
- Meat, poultry and fish processing plants
- Hotel kitchens
- Cold storages

### FEATURES

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

### CERTIFICATES AND TEST REPORTS

Test Certificate, FLORGIENE MD, Global Migration Test as per USFDA 175.300 1st April 2019, Suitable for contact with aqueous foods/beverages, CFTRI dated 12 Nov 2020

### PRODUCT INFORMATION

<b>Composition</b>	Water based polyurethane cement hybrid	
<b>Packaging</b>	Part A+B+C pre-batched	20 kg set
	Part A	2.88 kg container
	Part B	3.00 kg container
	Part C	14.12 kg bag

Shelf life	Part A	6 months from date of production. <b>Protect from freezing.</b>
	Part B	6 months from date of production. <b>Protect from freezing.</b>
	Part C	6 months from date of production. <b>Must be protected from humidity.</b>
Storage conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C.	
Appearance and colour	Part A	White liquid
	Part B	Dark brown liquid
	Part C	Coloured powder
	Cured finish	Matt finish
	Cured appearance	Green, Grey, Light Grey, Yellow, Red, Blue
	<p>IMPORTANT</p> <p>When the product is exposed to direct UV exposure (sun, lamp, skylight, etc.), there may be some discolouration and colour variation. This has no influence on the function and performance of the product.</p> <p>IMPORTANT</p> <p>For colour matching: Apply colour sample and confirm selected colour under real lighting conditions.</p> <p>IMPORTANT</p> <p>Colour uniformity cannot be completely guaranteed from batch to batch. Do not mix batch numbers in a single area.</p>	
Density	~1.86 kg/L (Part A+B+C mixed, +27 °C)	(EN ISO 2811-1)

## TECHNICAL INFORMATION

Shore D Hardness	~80 (7 d, +27 °C)	(ASTM D2240)
Abrasion resistance	~60 mg (8 d, +27 °C, H22/1000/1000)	(ASTM D4060)
Compressive strength	~44 N/mm <sup>2</sup> (28 d, +23 °C)	(ASTM C579)
Flexural-strength	~14 N/mm <sup>2</sup> (28 d, +23 °C)	(ASTM C580)
Tensile strength	~5 N/mm <sup>2</sup> (28 d, +27 °C)	(ISO 527-3)
Tensile adhesion strength	~3 N/mm <sup>2</sup> (concrete failure)	(EN 1542)
Temperature resistance	Sikafloor®-41 PurCem® can be subject to thermal shock < +70 °C at 6 mm thickness	
Chemical resistance	Resistant to many chemicals. Contact Sika Technical Services for additional information.	

## SYSTEM INFORMATION

System structure	Use the products mentioned below as indicated in their respective Product Data Sheets. For additional information, please refer to the application Method Statement.	
	<b>Layer</b>	<b>Product</b>
	Primer (optional) <sup>1)</sup>	Sikafloor®-167 Primer / Sikafloor®-161 HC
	Scratch coat	Sikafloor®-41 PurCem®
	Body coat / Topping	Sikafloor®-41 PurCem®
	<sup>1)</sup> In case substrate has excessive porosity, use Sikafloor®-167 Primer / Sikafloor®-161 HC + Quartz sand 0.4–0.7 mm light broadcast Note: These system configurations must be fully complied with as described and may not be changed.	

## APPLICATION INFORMATION

<b>Mixing ratio</b>	Part A : Part B : Part C = 2.88 : 3 : 14.12			
<b>Consumption</b>	<b>Layer</b>	<b>Product</b>	<b>Consumption</b>	
	Scratch coat	Sikafloor®-41 PurCem®	~1.9 kg/m <sup>2</sup>	
	Body coat / Topping	Sikafloor®-41 PurCem®	~1.9 kg/m <sup>2</sup> per mm	
	This figure is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level or wastage etc.			
<b>Layer thickness</b>	3–6 mm			
<b>Material temperature</b>	Pre-condition material for minimum 24h between +20 °C to +23 °C			
<b>Ambient air temperature</b>	+18 °C min. / +35 °C max.			
<b>Relative air humidity</b>	80 % max.			
<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>	+18 °C min. / +35 °C max.			
<b>Substrate moisture content</b>	Please refer to the Product Data Sheet of base layer or primer. 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>Waiting time to overcoating</b>	Before overcoating Sikafloor®-41 PurCem® allow:			
	<b>Substrate temperature</b>	<b>Minimum</b>	<b>Maximum</b>	
	+20 °C	24 hours	48 hours	
	+30 °C	16 hours	48 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.			
<b>Applied product ready for use</b>	<b>Temperature</b>	<b>Foot traffic</b>	<b>Light traffic</b>	<b>Full cure</b>
	+20 °C	18 h	24 h	4 days
	+30 °C	12 h	18 h	3-4 days
	+35 °C	12 h	18 h	3-4 days
	Notes: Times are approximate and will be affected by changing ambient and substrate conditions, particularly temperature and relative humidity.			
	<b>IMPORTANT</b>			
	<b>Dirt pick up in slow curing conditions</b>			
	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.			

## 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 INFORMATION

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

- Sika Method Statement: Sikafloor® PurCem®

## IMPORTANT CONSIDERATIONS

- Construction joints require pre-treatment with a stripe coat to verify and seal loss of material through the joint.
- It is advisable to perform a groove along the perimeter of the application area particularly if there are columns or gullies in the floor surface, as indicated in the application details of the System Data Sheet, to prevent curling during curing. Width and depth must be twice the thickness of the floor finish.
- In cases where thermal stress is expected the formation of retaining grooves is a must also on the layer of standard mix of Sikafloor®-41 PurCem®.
- Do not apply to PCC (polymer modified cement mortars) that may expand due to moisture when sealed with an impervious resin.
- Always ensure good ventilation when using Sikafloor®-41 PurCem® in a confined space, to prevent excessive ambient humidity.
- Freshly applied Sikafloor®-41 PurCem® must be protected from damp, condensation and direct water contact (rain) for at least 24 hours.
- Protect the substrate during application from condensation from pipes or any overhead leaks.
- Do not apply to cracked or unsound substrates. Do not apply to porous surfaces where significant moisture vapour transmission (outgassing) will occur during application.
- For consistent results it is advised to always use the scratch coat prior to placing Sikafloor®-41 PurCem® on any substrate.
- Always allow a minimum of 48 hours after product application prior to placing into service in proximity with food stuffs.
- Products of the Sikafloor®-41 PurCem® product range are subject to discolouration when exposed to UV radiation. Extent depends on colour. There are no measurable losses of any properties when this occurs and it is a purely aesthetic matter.
- Products can be used outside provided the change in appearance is acceptable for the customer.
- In some slow curing conditions, soiling of the surface may occur when opened to foot traffic, even though mechanical properties have been achieved. It is advised to remove dirt using a dry mop or cloth. Avoid scrubbing with water for the first three days.
- Hot steam cleaning may lead to delamination due to thermal shock.
- Do not apply to water soaked, glistening wet concrete substrates.
- Do not apply below +18 °C or above +35 °C or a maximum relative humidity 85 %.
- Product/components have to be precondition at +23 °C for minimum 24 hours prior to application to get good flowability.
- Soft wood or urethane composition, elastomeric membrane and fibre reinforced polyester (FRP) composites.
- Do not apply to wet or green concrete or polymer modified patches if the moisture content is above 10 %.
- Do not mix Sikafloor®-41 PurCem® products by hand. Use only mechanical means.

- Colour uniformity can not be completely guaranteed from batch to batch (numbered). Take care when using Sikafloor®-41 PurCem® products to draw from inventory in batch number sequence. Do not mix batch numbers in a single floor area.
- Sikafloor®-41 PurCem® is not recommended for shock freezers

## ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains 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

- 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 oil, grease, coatings and surface treatments, etc.
- The product 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.

### SUBSTRATE PREPARATION

#### IMPORTANT

##### Substrate primer

Substrate priming is not required under normal circumstances. However due to variations in concrete quality, surface conditions, surface preparation and ambient conditions, reference test areas are recommended to determine whether priming is required to prevent the possibility of blisters, de-bonding pinholes and other aesthetic variations.

#### IMPORTANT

##### Incorrect treatment of cracks

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

- Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment

or diamond grinding machine to remove cement laitance and achieve an open textured surface.

- Weak concrete must be removed and surface defects such as blow holes and voids must be fully exposed.
- Repairs to substrate, filling of blowholes/voids and surface levelling must be carried out using appropriate products from the Sikafloor®, Sikadur® and Sikagard® range of materials.
- High spots can 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.
- 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.

## MIXING

### IMPORTANT

#### Mix full units only

1. Mix Part A (resin) for ~30 seconds.
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.

## 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.

## PRIMER

1. Mix and apply the primer according to its corresponding Product Data Sheet, using a brush or roller to provide uniform coverage.
2. Broadcast 0.4–0.7 mm quartz sand.

## 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 EQUIPMENT

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

## LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

## 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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**Product Data Sheet**

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