

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® is a construction products which only should be applied by trained applicators.

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

PRODUCT INFORMATION

Composition	Water based polyurethane cement hybrid	
Packaging	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

CHARACTERISTICS / ADVANTAGES

- 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

APPROVALS / CERTIFICATES

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

Shelf life	Part A	6 months from date of production. Protect from freezing.
	Part B	6 months from date of production. Protect from freezing.
	Part C	6 months from date of production. Must be protected from humidity.
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 ² (28 d, +23 °C)	(ASTM C579)
Tensile strength in flexure	~14 N/mm ² (28 d, +23 °C)	(ASTM C580)
Tensile strength	~5 N/mm ² (28 d, +27 °C)	(ISO 527-3)
Tensile adhesion strength	~3 N/mm ² (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.	
	Layer	Product
	Primer (optional) ¹⁾	Sikafloor®-167 Primer / Sikafloor®-161 HC
	Scratch coat	Sikafloor®-41 PurCem®
	Body coat / Topping	Sikafloor®-41 PurCem®
	¹⁾ 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

Mixing ratio	Part A : Part B : Part C = 2.88 : 3 : 14.12			
Consumption	Layer	Product	Consumption	
	Scratch coat	Sikafloor®-41 PurCem®	~1.9 kg/m ²	
	Body coat / Topping	Sikafloor®-41 PurCem®	~1.9 kg/m ² 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.			
Layer thickness	3–6 mm			
Material temperature	Pre-condition material for 24 h between +20 °C to +28 °C			
Ambient air temperature	+10 °C min. / +35 °C max.			
Relative air humidity	80 % max.			
Dew point	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.			
Substrate temperature	+10 °C min. / +35 °C max.			
Substrate moisture content	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 ² .			
Pot Life	Temperatures	Pot life (100 g mass)		
	+10 °C	~30 minutes		
	+20 °C	~20 minutes		
	+30 °C	~12 minutes		
	+35 °C	~8 minutes		
Waiting time to overcoating	Before overcoating Sikafloor®-41 PurCem® allow:			
	Substrate temperature	Minimum	Maximum	
	+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.			
Applied product ready for use	Temperature	Foot traffic	Light traffic	Full cure
	+10 °C	24 h	48 h	7 days
	+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.				

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.

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®

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

- 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 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

Please note that as a result of specific local regulations the declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product 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.

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