BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-21 PurCem®

MEDIUM TO HEAVY DUTY, SELF-SMOOTHING, POLYURETHANE HYBRID FLOORING SCREED

DESCRIPTION

Sikafloor®-21 PurCem® is a multi-component, water-based coloured polyurethane hybrid screed with self-smoothing properties. It has a smooth, matt, impervious, hard wearing surface and is typically installed at 3–6 mm thickness.

USES

Sikafloor®-21 PurCem® may only be used by experienced professionals.
Sikafloor®-21 PurCem® is used as a scratch coat primer, basecoat and wear coat layer in Sikafloor®PurCem® system build ups, in areas of medium to heavy loading, high chemical exposure and abrasion.

CHARACTERISTICS / ADVANTAGES

- Good chemical resistance
- High mechanical resistance
- High glass transition point
- Non tainting /odourless
- VOC free
- Can be applied to substrates with high moisture content (7 days old or mature damp concrete)

ENVIRONMENTAL INFORMATION

- Conformity with LEED v4 MRc 2 (Option 1): Building Product Disclosure and Optimization – Environmental Product Declarations
- Conformity with LEED v4 MRc 4 (Option 2): Building Product Disclosure and Optimization - Material Ingredients
- Conformity with LEED v2009 IEQc 4.2: Low-Emitting Materials - Paints and Coatings
- Complies AgBB for use in in indoor environment. Test report No. G10004B.

APPROVALS / STANDARDS

- Synthetic resin screed material according to EN 13813: 2002, DoP 02 08 02 02 001 0 000002 1088, certified by Factory Production Control Body, 0086, certificate 541325, and provided with the CE-marking
- Coating for surface protection of concrete according to EN 1504-2:2004, Declaration of Performance 02 08 02 02 001 0 000002 1088, certified by Factory Production Control Body, 0086, certificate 541325, and provided with the CE-marking
- EN1186, EN 13130, and prCEN/TS 14234 standards, and the Decree on Consumer Goods, representing the conversion of directives 89/109/EEC, 90/128/EEC and 2002/72/EC for contact with food stuffs, according to test report by ISEGA, 32758 U11 and 32759 U11, both dated December 6th, 2011. (Tests performed on Sikafloor® -20/21/22/29 and 31 PurCem® in standard and LP versions).
- British Standards Specifications (BSS) acceptance for use in the UK.
- Campden and Chorleywood Food Research Association, Ref. S/REP/125424/1a and 2a, dated 8th February, 2012
- Fire classification report according to EN 13501-1 from Exova Warrington Fire for Sikafloor®-21 PurCem® No.317047, dated 24th of March, 2012
- Liquid water transmission rate test report from the Technology Centre, Ref. 15456 dated January 25th, 2012
- Abrasion resistance tests performed by Face Consultants Ltd., according to BS 8204-2:2003, report ref. FC/12/3850, dated January 17th, 2012. (Tests performed on Sikafloor® -20/21 PurCem®)
- Impact resistance values tested at PRA, Ref. nº 75221-151, dated January 11th, 2012
- Slip resistance properties according to DIN 51130 tested at MPI (Materialprüfung und Entwicklung), test reports refs. Nº 12-6639-S/12 and 12-6641-S/12, dated August 7th, 2012.
- Thermal expansion coefficient and freeze-thaw cycle resistance performed at RWTH / IBAC, report nº M-

1614 dated May 29th, 2012.

PRODUCT INFORMATION

Chemical Base	Water-based polyurethane cement hybrid	
Packaging	Part A (pre-tinted)	3.00 kg plastic pail
	Part A (neutral)	2.615 kg plastic pail
	Part B	3.00 kg plastic jerrycan
	Part C	15.00 kg plastic lined, double paper bags
	Part D	0.385 kg plastic pouch for substrate A neutral
	Part A (pre-tinted)+B+C: 21.0 kg ready to mix units Part A (neutral)+B+C+D: 21.0 kg ready to mix units	
Appearance / Colour	Part A (pre-tinted)	coloured liquid
	Part A (neutral)	light beige liquid
	Part B	brown liquid
	Part C	natural grey powder
	Part D	colourpack as per list below for part A neutral
	Standard colours: Agate Grey, Beige, Dusty Grey, Grass Green , Light Grey, Maize Yellow, Oxide Red, Pebble Grey, Sky Blue	
Shelf Life	Part A	12 months from date of production. **Protect from freezing.**
	Part B	12 months from date of production. **Protect from freezing.**
	Part C	6 months from date of production. **Must be protected from humidity.**
	Part D	24 months from date of production. **Protect from freezing.**
Storage Conditions	Original, unopened and undamaged sealed packaging, in dry conditions at temperature between +5 C° and +30 °C.	
Density	Part A (pre-tinted)+B+C mixed: ~ 1.93 kg/l ± 0.03 (at +20 °C) Part A (neutral)+B+C+D mixed: ~ 1.93 kg/l ± 0.03 (at +20 °C)	

TECHNICAL INFORMATION

Shore D Hardness	~80–85	(ASTM D 2240)
Compressive Strength	~50 N/mm² (28 days at +23 °C / 50 % r.h.)	(BS EN 13892-2)
Tensile Strength in Flexure	~10 N/mm² (28 days at +23 °C / 50 % r.h.)	(BS EN 13892-2)
Tensile Adhesion Strength	concrete failure	(EN 1542)

SYSTEM INFORMATION

APPLICATION INFORMATION

Mixing Ratio	▪ Part A (pre-tinted) : B : C = 1 : 1 : 5 (packaging size = 3.0 : 3.0 : 15) by weight ▪ Part A (neutral) : B : C : D = 0.87 : 1 : 5 : 0.13 (packaging size = 2.615 : 3.0 : 34 : 0.385) by weight **Mix full units only.**
Ambient Air Temperature	+10 °C min. / +40 °C max.
Consumption	~ 1.93 kg/m²/mm

Layer Thickness	Scratch coat: 1–2 mm Base- and wear coat: 3–6 mm
Relative Air Humidity	85 % max.
Dew Point	Beware of condensation! The substrate and uncured floor must be at least 3 °C above dew point to reduce the risk of condensation or other disturbance of the surface on the floor finish.
Substrate Temperature	+10 °C min. / +40 ºC
Substrate Moisture Content	Can be installed on substrates with higher moisture content. No ponding water. Check rising moisture. The substrate needs to be visibly dry and have adequate pull-off strength min 1.5 N/mm².

Pot Life

Temperatures	Time
+10 °C	~ 35 - 40 minutes
+20 °C	~ 22 - 25 minutes
+30 °C	~ 15 – 18 minutes
+35 °C	~ 12 - 15 minutes

Waiting Time / Overcoating

Before overcoating Sikafloor®-21 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

Times are approximate and will be affected be changing ambient and substrate conditions, particularly temperature and relative humidity.
If used other primers than Scratch Coat refer the Technical Data Sheet of the respective product. Make sure that the primer and the scratch coat layer is fully cured before application of Sikafloor® PurCem® previous layer.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

The surface must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc. All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by vacuum. Pull of strength shall not be less than 1.5 N/mm². If in doubt apply a test area first.

MIXING

Premix part A with a low speed electric stirrer and then add part B and mix for 30 seconds. For the colourpack version, premix part A neutral with a low speed electric stirrer and add part D to it. Mix until a uniform colour is achieved. Add part B and mix for 30 seconds.
Use a double paddle (axis) mixer and gradually add part C (aggregate) to the mixed resin. Allow part C to blend for further 2 minutes minimum, to ensure complete mixing and a uniform moist mix is obtained. During the operations, scrape down the sides and bottom of the container with a flat or straight edge trowel at least once (parts A+B+C) to ensure complete mixing.

Mixing Tools

Use a low speed electric stirrer (300 - 400 rpm) for mixing parts A and B. For preparation of the mortar mix use a double paddle mixer.

APPLICATION

Prior to application, confirm substrate moisture content, relative humidity and dew point. As a scratch coat Sikafloor®-21 PurCem® can be applied using a steel trowel. As a body coat Sikafloor®-21 PurCem® can be applied using a toothed trowel or pin screed, to the desired thickness, or a steel trowel. Remove air with a spike roller.
For further details please refer to the related system data sheet.

CLEANING OF TOOLS

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

FURTHER DOCUMENTS

Please refer to:
- Sikafloor® PurCem® Method Statement
- Sika® Method Statement Mixing and Application of Flooring Systems
- Sika® Method Statement Surface Evaluation & Preparation
- Sikafloor® PurCem® System Data Sheets

LIMITATIONS

- 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®-21 PurCem® in a confined space, to prevent excessive ambient humidity.
- Freshly applied Sikafloor®-21 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.
- Always allow a minimum of 48 hours after product application prior to placing into service in proximity with food stuffs.
- Products of the Sikafloor® 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 aesthetical 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.

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.

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.

ECOLOGY

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.

DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

According to the EU Directive 2004/42/CE, the maximum allowed content of VOC (product category IIA / j type wb) is 140 g/l (Limits 2010) for the ready to use product.
The maximum content of Sikafloor®-21 PurCem® is < 140 g/l VOC for the ready to use product.

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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