BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-21 PurCem®

Medium to heavy duty, self-smoothing, polyurethane cement hybrid flooring screed

DESCRIPTION

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

USES

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 resistance.

FEATURES

- 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 - or 10% pbw)

SUSTAINABILITY

- 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)

CERTIFICATES AND TEST REPORTS

- 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

PRODUCT INFORMATION

Composition	Waterbased polyurethane cement hybrid

Packaging

Sikafloor PurCem 21: 20kg Kit (A+B+C+Pigment)

Part A	2.8 kg plastic pail
Pigment	0.4 kg plastic pail
Part B	3.00 kg plastic jerrycan
Part C	13.8 kg plastic lined, double paper bags

Sikafloor PurCem 21: 80kg Mix: (A+B+C+Pigment)

Part A	11.2 kg plastic Bucket (1 x unit)
Pigment	0.4 kg plastic pail (4 x Units)
Part B	12 kg plastic pails
Part C	13.8 kg plastic lined, double paper bags (4 x units required)

Appearance and colour

Part A	light beige liquid
Part B	brown liquid
Part C	grey powder
Pigment	colourpack - various colours

Available Standard Colours: Oxide Red (RAL3009), Grass Green (RAL6010), Skye Blue (RAL5015), Maize Yellow (RAL1006), Beige (RAL1001), Slate Grey (RAL7015), Dusty Grey (RAL7037), Traffic Grey (RAL7042), Pebble Grey (RAL7032), & Curtain Call
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.

Shelf life

Part A	12 months from date of production. **Protect from freezing.**
Part B	9 months from date of production. **Protect from freezing.**
Part C	9 months from date of production. **Must be protected from humidity.**
Pigment	12 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	Mixed density: ~1.93 kg/L

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)
Flexural-strength	~10 N/mm² (28 days at +23 °C / 50 % r.h.)	(BS EN 13892-2)
Tensile adhesion strength	concrete failure	(EN 1542)

APPLICATION INFORMATION

Mixing ratio	**Always mix in full kits**
Consumption	~ 1.9 kg/m²/mm
Layer thickness	Scratch coat: 1–2 mm Base and wear coat: 3–6 mm
Ambient air temperature	+10 °C min. / +40 °C max.
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 to 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.
Ensure that the scratch coat layer is fully cured before application of base coat or wear coat.
Add ~15ml of Sikafloor PurCem Accelerator for faster turn around at colder temperature applications. This can reduce curing time time by 25-50%. Do not exceed to more than 25ml of PurCem accelerator.

SYSTEM INFORMATION

Systems

Sikafloor PurCem HB-22 (Broadcast Standard)
Sikafloor PurCem HB-22 UV (Broadcast UV Top Coat)
Sikafloor PurCem HS-24 (Smooth Finished)

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 DOCUMENTATION

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

IMPORTANT CONSIDERATIONS

- Do not apply to PCC (polymer modified cement mortars) that may expand due to moisture when sealed with an impervious resin.
- Substrate outgassing: to minmize substrate outgassing Sikafloor®-21 PurCem® should be installed during declining tempratures. If outgassing persists, apply scratch coat of Sikafloor®-21 PurCem® or Sikafloor PurCem 24 to completely seal the surface and reduce surface defects. All concrete behaves differently, as such a trial application is recommended to determine if a scratch coat is required for broadcast systems. It is a must to apply scratch coat for smooth application system (PurCem HS 24)
- 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.
- Sikafloor® PurCem® products are subject to discolouration when exposed to UV. Use UV stable topcoat Sikafloor®-33 PurCem®.
- Products can be used outside provided the change in appearance or colour is acceptable to 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.

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

SUBSTRATE QUALITY / PRE-TREATMENT

The surface must be clean, visibly 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-off adhesion strength must be >1.5 N/mm². If in doubt apply a test area first.

MIXING

1. Mix Part A (resin) for ~30 seconds using slow speed electric mixer.
2. Add Part D (colour pack) to Part A. Mix continously for 30 secs until a uniformly coloured mix is achieved.
3. Gradually add Part B and continue mixing for 30 secs using slow speed electric mixer.
4. Gradually add part C whilst mixing.
5. After combining all the parts, mix for an additional 2 mins until a uniform mix is achieved. Scrape off the sides and bottom of the mixing containers to ensure complete mixing.

Note: Do not use high speed mixing. It can entrained excessive air and can reduce pot life due to pre-mature curing from chemical reaction.

Mixing Tools

Use a low speed electric stirrer (300 - 400 rpm) for mixing parts A and B.

APPLICATION

Broadcast Applications: For best results and long-term performance Sikafloor-21 base coat should be applied with the addition of PurCem pigment, however can be installed without pigment if the client and applicator have no objection to the potential of visible colour difference with deep scratches or damage to the surface. No noticeable difference in application performance when used without the addition of pigment.

Smooth Applications: Scratch Coat priming is required: Sikafloor-21 PurCem must be installed with the addition of Sikafloor PurCem Pigment for smooth applications

Apply Sikafloor-21 PurCem Evenly at the prescribed thickness without any ridges when joining previous mixes by spreading the new mix and introducing it into the edges of the previous.

Spike roll the product to release any air entrained by mixing and to assist in a final even out of the surface.

Time the application of the broadcast aggregate whilst the base can still receive it. This is generally between 2-5 minutes post installation of the base. - Depending on ambient and substrate temps.

Take care to remove as much of the broadcast aggregate as possible before overcoating. Excess loose aggregate on the floor when applying finish coats will result in uneven texture and colour shading across the finished floor.

Application of the Sikafloor-31 or 33 PurCem finish coats must be carried out using the correct rolling equipment (See Equipment above).

Product must be applied evenly, and wet edges joined promptly. Squeegee application of the coating then "laying off" with the roller is a recommended way of achieving an even result. Cross "laying off" assists this further.

Failure to adhere to these methods will likely produce uneven textures and colour in the finished product.

CLEANING OF EQUIPMENT

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

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.

Sika Australia Pty Limited
with 1 line available
aus.sika.com
Tel: 1300 22 33 48