

SYSTEM DATA SHEET

Sikafloor® PurCem® HB-22

HEAVY DUTY TEXTURED FOOD GRADE POLYURETHANE CEMENT HYBRID FLOORING SYSTEM

DESCRIPTION

Sikafloor® PurCem® HB-22 system is polyurethane/cement technology and is part of the Sikafloor® PurCem® system range. The Sikafloor® PurCem® HB-22 system is especially designed for areas exposed to harsh conditions.

It is designed to withstand chemical attack, high impact and can be used in wet and dry processing plants. The system consists of a highly durable polyurethane/cement body coat, broadcast with aggregates for increase slip resistance and sealed with a pigmented top coat making the system easy to maintain.

USES

- Food and Beverage industries, wet or dry process
- Pharmaceutical industries
- Chemical industries
- Mining - product storage and heavy vehicle work-shops

CHARACTERISTICS / ADVANTAGES

- High mechanical and abrasion resistance.
- High chemical resistance. Resists a wide range of organic and inorganic acids, alkalis, amines and CIP cleaning process
- Thermal shock resistant
- Very low VOC
- Food grade approved (HACCP approved)
- Resistance to fire
- Fast installation
- Fast to return to service
- Easy to clean and maintain
- Anti-slip surface to Aust Standard P ratings
- Tolerant to moisture in the substrate
- Very good life cycle cost performance
- Seamless

SUSTAINABILITY

- Very low VOC emissions, as tested externally at Eurofins, according to AgBB guidelines, test report n° 392-2014-00087001A_02
- Conformity with LEED v2009 IEQc 4.2: Low-Emitting Materials - Paints and Coatings
- Australian Green Star Rating V3-IEQ-13

APPROVALS / CERTIFICATES

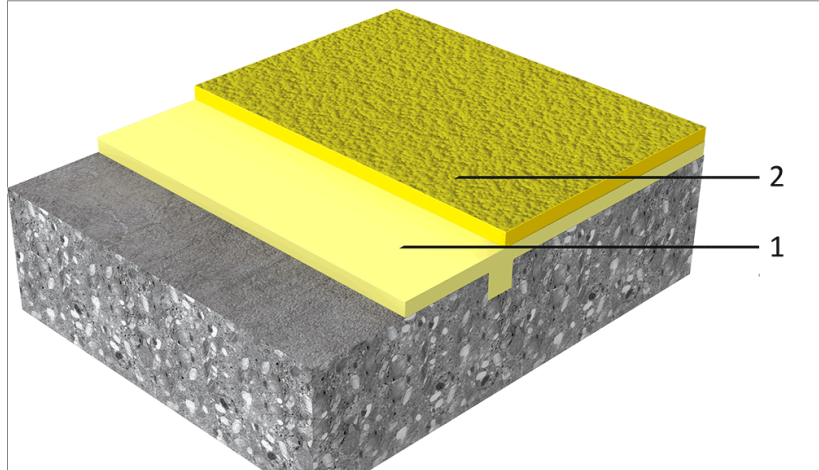
- HACCP International Food Grade approved for use in Export Food and Beverage facilities.- Food zone classification -SSZ
- Fire - Tested to AS/ISO 9239-1:2013 - Pass
- Slip rating - Conforms to AS4586-2013 - P Ratings
- VOC - Australian Standards ASTM D3960 Green Star Building Council - V1 IEQ-13 V1 IEQ-11
- Screed material for floor screeds according to EN 13813:2002, certified by notified factory production control body 0086, certificate of conformity of factory production control 541325, and provided with the CE-mark.
- Polyurethane screed for concrete protection according to the requirements of EN 1504-2:2004 and conforms to the requirements of EN 13813: 2002, certified by Factory Production Control Body, 0086, certificate 541325, and provided with the CE-mark.
- Conforms to the requirements of: EN1186, EN 13130, prCEN/TS 14234 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. Test report by ISEGA, 32758 U11 and 32759 U11, both dated December 6th, 2011.
- Compliant with USDA flooring requirements
- Canadian Food Inspection Agency acceptance for use in food plants in Canada.
- 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. n° 75221-151, dated January 11th, 2012
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SYSTEM INFORMATION

System structure

Sikafloor® PurCem® HB-22



Layer	Product
Scratch coat (optional)	Sikafloor®-21/-22/-24 PurCem®
1. Base coat	Sikafloor®-21 PurCem® + Aggregate broadcast 0.5–1.4 mm
2. Top coat	Sikafloor®-31 or 33 PurCem®

As optional body coats Sikafloor®-22/-24 + Quartz sand 0.9–1.4 mm fully blinded broadcast can be used. Please refer to the individual Product Data Sheet.

Composition	Water-based polyurethane cement hybrid
Appearance	Medium to heavy texture, matt finish
Colour	Standard: Beige, Maize Yellow, Oxide Red, Sky Blue, Light Grey, Dusty Grey, Traffic Grey, Curtain call Made to order: Grass Green, Pebble Grey
Nominal thickness	~ 4.5-6 mm / 8-9mm system option for high load and/or high thermal shock Note: 9mm thick system is constructed by the addition of 5-6 kg- 2mm silica sand to the Sikafloor 21 PurCem base and applied at 7-8mm thickness
Volatile organic compound (VOC) content	Very low content of volatile organic compounds, it fulfils the stringent demands for indoor air quality and low VOC emitting products. According to Australian Standards Green Star Rating V3-IEQ-13 - < 1 gram per litre as VOC content per material.

TECHNICAL INFORMATION

Water absorption	<0.10 %	(ASTM C 413)
Abrasion resistance	Class "Special" Severe abrasion resistance	(BS 8204 Part 2)
	AR 0.5	(EN 13892-4)

	Class A6	(EN 13892-3)
	< 3000 mg (H-22/1000/1000)	(ASTM D 4060-01)
Resistance to impact	Class III (≥ 20 Nm)	(ISO 6272)
Indentation	0	(MIL – PFR 24613)
Compressive strength	>50 N/mm ² after 28 days at +23°C / 50% r.h.	(BS EN 13892-2)
Tensile adhesion strength	> 2.0 N/mm ²	(EN1542)
Reaction to fire	Critical radiant flux - Pass	AS/ISO 9239.1 VS0209 Appendix B
Chemical resistance	Please refer to Sikafloor® PurCem® chemical resistance guide. Contact Sika technical service for specific information.	
Temperature resistance	4.5 mm -15 °C to +70 °C	6 mm -25 °C to +80 °C
		9mm -25°C to +120 °C
Resistance to UV exposure	Sikafloor® PurCem® HB-22 has excellent resistance to UV exposure for outdoor applications such as loading docks and chemical bunded areas. Note that there will be discolouration from UV. Use Sikafloor 33 PurCem UV stable finish coats to provide a colour-fast result .	
Permeability to water vapour	0.260 g/h/m ² (1.2 mm)	(ASTM E-96)
Capillary absorption	< 0.016 kg/(m ² ×h ^{0.5})	(EN 1504-2)
Skid / slip resistance	R13/V6	(DIN 51130)

APPLICATION INFORMATION

Consumption	Layer	Product	Consumption
	Scratch coat (optional)	Sikafloor®-21/-22/-24 PurCem®	~3 kg/m ²
	1. Base coat	Sikafloor®-21 PurCem® + Aggregate broadcast 0.9–1.4 mm	~1.9 kg/m ² /mm ~4–5 kg/m ²
	2. Top coat	Sikafloor®-31 PurCem®	~0.7–0.8 kg/m ²
	Consumptions are theoretical and do not include any wastage, additional material need due to porosity, substrate profile etc.		
Material temperature	Please refer to the individual Product Data Sheet		
Ambient air temperature	+10 °C min / +40 °C max		
Relative air humidity	80% 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 °C max		
Substrate moisture content	Sikafloor® PurCem® HB-22 can be installed on substrates with higher moisture content. The substrate needs to be visibly dry and have an adequate pull-off strength min 1.5 N/mm ² . No ponding water. Check for rising moisture.		
Pot Life	Refer to individual Data Sheets for 21 - 24 - 31 - 33 and 29 Purcem		
Application time	Application of Sikafloor® PurCem® HB-22 is varies depending on substrate and ambient conditions. As a guide the 21 base should be always be continuous and the "wet edge" should be kept alive and joined within approx 1-2 minutes.		

If there is a need to stop for a longer period, then a stop line is advised at the nearest joint or a very straight tape line is created.

Waiting time to overcoating	Application of 31 and 33 PurCem finish coats to Sikafloor® PurCem® HB-22	
	Degrees	Approx. time
	15	6-7 hours
	20	5-6 hours
	25	4-5 hours
	30	3-4 hours
	Accelerator dosage for faster turn around and colder temperature applications;	
	21 PurCem	
	Addition rate to approx halve the above waiting times - 15 mls.	
	Addition at approx. 6 degrees C to achieve 3-4 hours - 25-30 mls.	
	31 PurCem	
	Addition rate to approx. halve speed of return to service - 5mls	
	33 PurCem	
	Refer to individual TDS	

Applied product ready for use	Temperature	Foot traffic	Light traffic	Full cure
	+10 °C	~ 36 hours	~ 72 hours	~ 7 days
	+20 °C	~ 12 hours	~ 48 hours	~ 3 days
	+30 °C	~ 7 hours	~ 36 hours	~ 2 days

Note: Times are approximate and will be affected by changing ambient conditions and substrate conditions

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

Please refer to:

- Sikafloor® PurCem® Method Statement
- Sika® Method Statement Mixing and Application of Flooring Systems
- Sika® Method Statement Surface Evaluation & Preparation
- Sikafloor® PurCem® Product 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.
- Always observe the requirements for minimum Pull off/ Bond value of min 1.5Mpa.
- Ensure all perimeter and termination cuts are installed as part of the preparation process.
- Always ensure good ventilation when using Sikafloor® PurCem® products in a confined space, to prevent excessive ambient humidity.
- Freshly applied Sikafloor® PurCem® products, 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. Use 33 Purcem for UV stability of the finished product
- 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 by 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.
- Protection of the finished floor whilst plant and equipment are being installed is highly recommen-

ded.

- Care should be taken not to expose Sikafloor® PurCem® HB-22 to unduly high concentration of cleaning chemicals in the machinery cleaning and commissioning stages of a manufacturing build. Refer to Sika Technical Dept. for Passivation/Commissioning Technical Document.

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

Refer to individual product Technical Data sheets for specific mixing and application instructions. The following key points to observe are to be read in conjunction with those individual product TDS.

EQUIPMENT

- Mixing equipment must be sufficient quality to mix the products thoroughly.
- Supply back up mixing equipment should there be a failure of the existing.
- Use quality pin rakes and trowels for placing the base 21 PurCem
- Use wide min. 300 mm centre poled rollers along with min 15mm knap sleeves for placing the finish coats.

SUBSTRATE QUALITY

Substrate must be of sufficient quality to achieve a bond pull value of 1.5Mpa. Existing resin flooring systems and tiles may be overcoated with Sikafloor® PurCem® HB-22 system - Refer to Sika Technical Dept. for Instruction.

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SUBSTRATE PREPARATION

Ideal surface preparation for Sikafloor® PurCem® HB-22 is CSP3 - According to International standards for preparation of concretes - Apprx. 1-2mm profile. Profiles greater than this can be filled with scratch coating of Sikafloor 21 PurCem. Localised heavy spalls can be filled using extended Sikafloor 21 PurCem - Refer to Sika Technical Dept. for instruction. Creating "falls to waste" and re grading/ ramping can be completed with extended Sikafloor 21 PurCem or with Sikafloor 160 Epoxy mortar depending on the scope of the works - Refer to Sika Technical Dept. for instruction.

MIXING

Ensure mixing area is close to the floor installation. Have product opened and ready to mix prior to commencing installation. Strictly observe specific component mixing times and

methods (refer to individual TDS) - Failure to do so will result in uneven results;

- Low product placability/flowability.
- Uneven colour and sheen.
- Uneven using and setting times.

Discard mixing buckets regularly to avoid pre-promoted product in the mixes. This will vary depending on ambient and product temps.

As a rule, at 23 Degrees C, discard or clean base product mixing vessels every 30-40 min. Discard finish coat buckets every 3- 4 mixes.

APPLICATION

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 is evident when used without the addition of pigment.

Apply Sika floor 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.

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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 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.

MAINTENANCE

CLEANING

Please refer to Sikafloor®- Cleaning Regime.

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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System Data Sheet

Sikafloor® PurCem® HB-22

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