

PRODUCT DATA SHEET

Sikafloor®-20 PurCem® (AE)

HEAVY DUTY, POLYURETHANE-CEMENT HYBRID FLOORING SCREED



DESCRIPTION

Sikafloor®-20 PurCem® (AE) is a multi-component, water-based coloured polyurethane-cement hybrid flooring screed. It has flat, high abrasion, chemical, impact and slip resistant surface. It is typically installed at 6 - 9 mm.

Suitable for use in hot and tropical climatic conditions.

USES

Sikafloor®-20 PurCem® (AE) may only be used by experienced professionals.

Sikafloor®-20 PurCem® (AE) is used as a final flooring wear layer in Sikafloor® PurCem® HM-20 system build up in areas of high mechanical abrasion and impacts, aggressive chemical attack, thermal shocks and high temperature stresses. The product can also be used as an underlayment and level screed for Sikafloor® PurCem® flooring systems by adding defined aggregates.

CHARACTERISTICS / ADVANTAGES

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

SUSTAINABILITY

- Sikafloor®-20 PurCem® (AE) is certified according "Low Emitting Materials as per Al Sa'fat - Dubai Green Building Evaluation System" by Dubai Central Laboratory (DCL) certificate No. CL17020432

PRODUCT INFORMATION

Composition	Water-based polyurethane cement hybrid	
Packaging	Part A	5.0 kg plastic jerrycan
	Part B	4.6 kg plastic jerrycan
	Part C	2 x 19.40 kg plastic lined, double paper bags
	Part D	1.6 kg plastic pouch
	Part A + B + C + D: 50 kg ready to mix units	
Appearance / Colour	Part A	Light beige liquid
	Part B	Brown liquid
	Part C	Natural grey powder
	Part D	Colourpack as per list below
	Standard colours: Stone grey, Beige, Grass Green, Oxide Red. Other colours upon request: Traffic Grey, Maize Yellow, Slate Grey.	

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	6 months from date of production. Protect from freezing.

Storage conditions The package must be stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight, heat and moisture.

Density Part A + B + C + D mixed: ~2.08 kg/l (+20°C)

Volatile organic compound (VOC) content < 1 g/l (US EPA 24)

TECHNICAL INFORMATION

Shore D Hardness ~80 - 85 (ASTM D 2240)

Resistance to impact >2.6 kg-m (25 joules) (ASTM D2794)
No cracks or any other surface damages

Abrasion resistance ~2 g (2000 mg) (ASTM D4060)
(H-22 / 1000 g / 1000 cycles)

Compressive strength ≥ 45 N/mm² (28 d / +23 °C / 50 % r.h.) (ASTM C579)

Tensile strength in flexure ≥ 15 N/mm² (28 d / +23 °C / 50 % r.h.) (ASTM C580)

Tensile adhesion strength > 2.0 N/mm² (Concrete failure) (EN 1542)

Coefficient of thermal expansion 2.4 x 10⁻⁶ cm/(cm°C) (ASTM D696)

Reaction to fire Reaction to fire classification: B_{fl}-s1 (EN 13501-1)

Chemical resistance For further information please contact Sika's Technical Department

Thermal compatibility Pass (No sign of cracks) (ASTM C884)

Water absorption ~0.19% (ASTM C413)

Skid / slip resistance >90 BPN Value (Dry) (BS 7976-2)

SYSTEMS

Systems

Please refer to the System Data Sheet of:

Sikafloor® PurCem® HM-20

Heavy-duty, lightly textured, high chemical, mechanical and temperature resistant PUCEM hybrid screed

APPLICATION INFORMATION

Mixing ratio	Mix full units only.		
Ambient air temperature	+10 °C min. / +30 °C max.		
Consumption	~2.10 kg/m ² /mm Consumptions are theoretical and do not include any wastage, additional material need due to porosity, substrate profile etc.		
Layer thickness	Wear coat 6 - 9 mm Underlayment screed 12 - 30 mm (when defined aggregates added)		
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 blooming on the floor finish.		
Substrate temperature	+10 °C min. / +30 °C max.		
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/mm ² .		
Pot Life	Temperature	Time	
	+10 °C	~35 - 40 min	
	+20 °C	~22 - 25 min	
	+30 °C	~15 - 18 min	
	+35 °C	~12 - 15 min	
Curing time	Before overcoating Sikafloor® -20 PurCem® allow:		
	Substrate temperature	Minimum	Maximum
	+10 °C	24 h	72 h
	+20 °C	24 h	48 h
	+30 °C	12 h	24 h
	+40 °C	12 h	24 h
Times are approximate and will be affected by 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

Homogenise Part A with a low speed electric stirrer and then add Part B and premix Part A and B separately for 30 seconds. Make sure all pigment is uniformly distributed.

For the colourpack version, homogenise 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 A neutral, D and B separately for 30 seconds. Make sure all pigment is uniformly distributed. Start the pan mixer and gradually add Part C (aggregate) to the mixed resin parts over a period of 15 seconds. Allow Part C to blend for further 2 minutes minimum, to ensure complete mixing and a uniform 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 or A neutral + B + C + D) to ensure complete mixing. Mix full units only.

Mixing Tools

Refer to the Sikafloor® - PurCem® method statement

APPLICATION

Prior to application, confirm substrate moisture content, relative humidity and dew point. Sikafloor®-20 PurCem® (AE) can be applied using a flat, round edge steel trowel. A short pile roller can be used once or twice, and always in the same direction, to provide a more homogeneous finish to the surface. For further details please refer to the related system data sheet and method statement.

CLEANING OF EQUIPMENT

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

BASIS OF PRODUCT DATA

All technical data stated in this 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® 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.
- Always ensure good ventilation when using Sikafloor®-20 PurCem® (AE) in a confined space, to prevent excessive ambient humidity.
- Freshly applied Sikafloor®-20 PurCem® (AE), must be protected from damp, condensation and direct water contact (rain) for at least 24 hours.
- The material must be conditioned by being stored in an area with an ambient temperature between +15°C and +25°C for a minimum of 48 hours before using.
- 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. Extend 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 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.

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.

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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ISO 9001: Sika UAE LLC,
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Sika Saudi Arabia Co. Ltd,
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ISO 14001: Sika UAE LLC,
Sika Gulf B.S.C. (c),
Sika Saudi Arabia Co. Ltd
OHSAS: Sika UAE LLC,
Sika Gulf B.S.C. (c)

All products are supplied
under a management
system certified to conform
to the requirements of the
quality, environmental and
occupational health &
safety standards ISO 9001,
ISO 14001 and OHSAS
18001.

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