

PRODUCT DATA SHEET

Sikafloor®-20 PurCem® FG

Heavy duty coloured polyurethane floor screed

DESCRIPTION

Sikafloor®-20 PurCem® FG is a four parts, water-based, high strength, coloured polyurethane resin floor screed suitable for floors subject to heavy loading, abrasion and chemical exposure.

USES

Sikafloor®-20 PurCem® FG may only be used by experienced professionals.

Sikafloor®-20 PurCem® FG is used as a final flooring wearing layer in areas subject to heavy loading, abrasion and chemical exposure, such as in:

- Chemical processing
- Food processing and wet areas
- Brewing and dairy (clean areas)
- Engineering process areas
- Warehouses and logistics areas
- Cold rooms

CHARACTERISTICS / ADVANTAGES

- Excellent chemical resistance
- High mechanical resistance
- High abrasion resistance
- Steam cleanable at 9 mm thickness
- Thermal resistance
- Slip resistance
- Easily maintained
- Fast curing
- Easy to apply
- Durable
- Matt finish

PRODUCT INFORMATION

Composition	Water-based PU with cementitious aggregate			
Packaging	Part A	3 kg can	Liquid	Milky White
	Part B	3 kg can	Liquid	Amber
	Part C	14 kg bag	Powder	Pigmented
	Part D	15 kg bag	Filler/Aggregate	Natural aggregate colour
	Part A + B + C + D	35 kg set		
Shelf Life	6 months from the date of production			
Storage Conditions	Store properly in original, unopened and undamaged packaging in dry conditions at temperatures between +10 °C and +30 °C. Protect from direct sunlight.			
Appearance / Colour	Matt, anti-skid finish Standard colour available: red green, cream, yellow, grey, light grey			

Density ~2.1 kg/l

TECHNICAL INFORMATION

Abrasion Resistance	~3 gms	(ASTM D4060, Taber Abraser H22 Wheel, 1000 g / 1000 cycles)
Compressive Strength	~50 N/mm ²	(ASTM C942)
Tensile Strength in Flexure	~15 N/mm ²	(ASTM C348:2002)
Tensile Strength	~7 N/mm ²	(ASTM D638-14)
Coefficient of Thermal Expansion	2.5 x 10 ⁻⁵ °C	(BS EN 1770)
Service Temperature	For 6 mm thickness	-25 °C min. / +130 °C max.
	For 9 mm thickness	-35 °C min. / +140 °C max.
	At maximum temperatures, the resistance is to occasional spillages only.	
Chemical Resistance	Spillage resistance to most dilute and concentrated organic and inorganic acids, dilute and concentrated alkalis, fats, oils and organic solvents. For resistance to specific chemicals, please contact our Technical Service Department.	

APPLICATION INFORMATION

Consumption	Layer	Product	Consumption
	Scratch coat	Sikafloor®-21 PurCem® FG	~1.5–2.0 kg/m ²
	Lightly broadcast with quartz sand 0.3–0.9 mm	Sikadur®-501	~0.30 kg/m ²
	Body coat	Sikafloor®-20 PurCem® FG	~2.0 kg/m ² /mm

A total thickness of between 6–9 mm is required.

Seal Coat (Optional)

1 x Sikafloor®-31 PurCem® LP

These figures are theoretical and do not provide for any additional material required due to surface porosity, surface profile, variations in level or wastage, etc.

Layer Thickness	6 mm min. / 9 mm 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 blooming on the floor finish.			
Substrate Temperature	+10 °C min. / +30 °C max.			
Pot Life	Temperature	Time		
	+8 °C	~35 minutes		
	+15 °C	~25 minutes		
	+30 °C	~15 minutes		
Curing Time	Substrate Temperature	Foot Traffic	Light Traffic	Full Cure
	+25 °C	~10 hours	~24 hours	~7 days
	+35 °C	~8 hours	~18 hours	~5 days
	All curing times are approximate and will be affected by changing ambient conditions.			

Waiting Time / Overcoating Before applying Sikafloor®-20 PurCem® FG on Sikafloor®-21 PurCem® FG, allow:

Substrate Temperature	Minimum	Maximum
+25 °C	~10 hours	~36 hours

Always make sure the scratch coat has fully hardened before application of Sikafloor®-20 PurCem® FG.

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.

IMPORTANT CONSIDERATIONS

- Retaining grooves must be provided at exposed edges along the application area (perimeter, joints, connections, plinth, columns, covings and drains/gullies) as indicated in the Method Statement for application, to prevent curling during curing. The width and depth of the groove must be twice the thickness of the floor finish.
- For older floors, additional keying may be achieved by providing 8 mm x 8 mm grooves diagonally into the floor.
- Retaining grooves are also required at day joints.
- Do not apply to PCC (polymer modified cement mortar) that may expand due to moisture when sealed with an impervious resin.
- Always ensure good ventilation when using Sikafloor®-20 PurCem® FG in a confined space, to prevent excessive ambient humidity.
- Freshly applied Sikafloor®-20 PurCem® FG must be protected from damp, condensation, water and temperatures below 5 °C for at least 24 hours.
- Protect the substrate during application from condensation from pipes or any overhead leaks.
- Do not apply to water soaked, glistening wet concrete substrates.
- 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 from the Sikafloor®- PurCem® product range are subject to discolouration when exposed to UV light. There are no significant losses in the physical properties when this occurs and it is purely an aesthetic concern. Sikafloor®-20 PurCem® FG can be used outside provided the change in appearance is acceptable by all stakeholders.
- 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 advisable to remove dirt using a dry mop or cloth. Avoid scrubbing with water for the first three days.
- Do not apply to porous surfaces where significant moisture vapour transmission (out-gassing) will occur during application.
- Applications of less than the recommended 6 mm (thickness) can result in unacceptable rough surfaces.
- Sika® Thinner C is flammable. NO NAKED FLAMES!

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.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Substrate Quality

The concrete substrate must be sound and of sufficient compressive strength (min. 25 N/mm²) with a minimum pull-off strength of 1.5 N/mm².

The surface must be clean, dry and free of all contaminants e.g. dirt, oils, grease, coatings and surface treatments etc. If in doubt, apply a test area first.

Substrate Preparation

Concrete substrates should be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve a profiled open texture surface of CSP 3–CSP 4 according to the International Concrete Repair Institute (ICRI) guidelines.

Weak concrete must be removed and surface defects such as blow holes and voids must be fully exposed. Repairs to substrate, filling of blow holes / 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.

Edge Terminations

All free edges and working day joints of Sikafloor®-20 PurCem® FG, whether at perimeter, along gutters or at drains require extra anchorage to distribute mechanical and thermal stresses. This is best achieved by forming or cutting grooves in the concrete. Grooves must have a depth and width of twice the thickness of Sikafloor®-20 PurCem® FG. Refer to the edge details provided in the Method Statement. If necessary, protect all free edges with mechanically attached metal strips. Never featheredge, always turn into an anchor groove.

Expansion Joints

Expansion joints must be provided in the substrates at the intersection of dissimilar materials. Isolate areas subject to thermal stress, vibration movements or around load-bearing columns and at vessels sealing ring.

For more information, please refer to "Method Statement - Evaluation and Preparation of concrete surface for Sika's Flooring System" and "Method Statement - Application of Sikafloor®-20 PurCem® FG".

MIXING

Material and ambient temperature will affect the mixing process. If necessary, condition Sikafloor®-20 PurCem® FG between 18–25 °C one day prior to application.

Premix Part A and B separately, make sure all pigment is uniformly distributed with a low speed electric stirrer.

Pour Part A and B into a clean container and mix for around 30 seconds. While mixing, gradually add Part C (powder) and Part D (filler/aggregate) to the mixed resin and continue mixing for another 2–3 minutes until a uniform moist mix is obtained. During the mixing operation, scrape down the sides and bottom of the container with a spatula or a straight edge trowel to ensure complete mixing of Parts A, B, C and D. Mix full units only.

Use a helical mixer attached to a heavy-duty low speed electric stirrer (~500 rpm) to mix Sikafloor®-20 PurCem® FG. A force-action mixer can also be used to mix large quantities (3–4 bags) of Sikafloor®-20 PurCem® FG.

APPLICATION

Prior to application, confirm substrate moisture content, r.h. and dew point.

Proceed with placement of the material to facilitate the release of entrapped air from the mix and CO₂ from the reaction. Do so in every batch mixed in a consistent manner in order to avoid colour differences due to increased temperatures in the reaction. Pour the mixed Sikafloor®-20 PurCem® FG onto the substrate and spread evenly with a rake or screed box to the required thickness. Take care to spread newly mixed materials across the transition of previously applied mixes (wet edge), before the surface begins to set.

Finish the surface using a flat, round edge steel trowel. A short pile roller can be used to roll over the surface once or twice, and always in the same direction, to provide a more homogenous finish to the surface. No excessive back-rolling!

Excessive backrolling or trowelling will bring up more resin to the surface, reducing the desired anti-slip surface texture which characterises this product.

CLEANING OF TOOLS

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

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Product Data Sheet

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LOCAL RESTRICTIONS

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

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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