

SYSTEM DATA SHEET

Sikafloor® PurCem® HS-25 ECF

SELF-SMOOTHING, MEDIUM TO HEAVY DUTY, MATT FINISH, ELECTROSTATICALLY CONDUCTIVE POLYURETHANE HYBRID FLOORING SYSTEM

DESCRIPTION

The Sikafloor® PurCem® HS-25 ECF system is an electrostatically conductive screed made with polyurethane cement technology and is part of the Sikafloor® PurCem® flooring range. The Sikafloor® PurCem® HS-25 ECF system is especially designed to withstand chemical attack, high impact load and can be used in wet and dry processing plants. The Sikafloor® PurCem® HS-25 ECF system is composed of a highly durable polyurethane cement body coat, easy to clean and smooth surface, providing a smooth-textured surface.

USES

Sikafloor® PurCem® HS-25 ECF may only be used by experienced professionals.

It is used in areas of medium to high mechanical loading and abrasion, where high chemical exposure and conductive requirements demand a smooth-textured, flat wearing course such as in:

- Chemical and explosive storage and handling areas
- chemical and pharmaceutical production plants
- Food processing plants
- In dry or wet process areas
- Freezers and coolers
- Thermal shock areas explosive dust environment
- Workshops and laboratories.

CHARACTERISTICS / ADVANTAGES

- Good conductivity. Fulfils the conductivity requirements from ATEX 137
- Good chemical resistance, resists a wide range of organic and inorganic acids, alkalis, amines, salts and solvents
- Good resistance to fire
- Very low VOC emissions
- Odourless
- High mechanical and abrasion resistance
- Seamless, non-taint, odourless
- Tolerant to substrate moisture

- Smooth, matt surface
- Very good life cycle cost performance

APPROVALS / STANDARDS

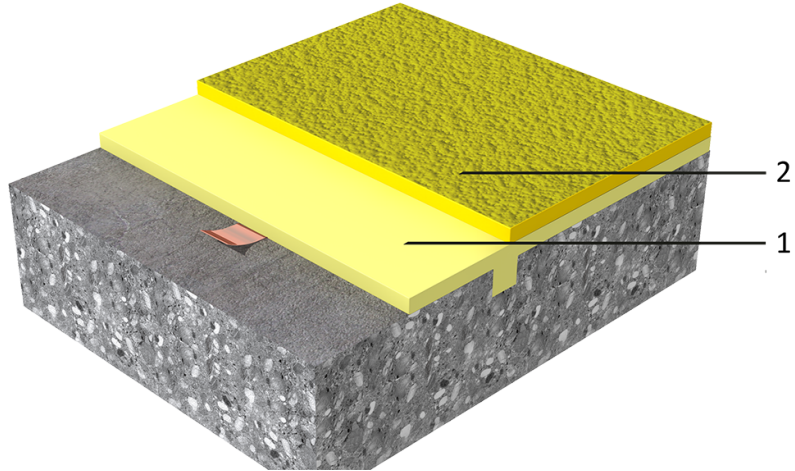
- Conforms to the requirements of EN 13813: 2002 as CT - C50 - F15 - ARO.5 - IR 20
- Conforms to the requirements of EN 1504-2 for principles 5 (PR) and 6 (CR) as a coating (C)
- Impact resistance values tested at PRA Coatings Technology Center, Hampton Middlesex, UK. Test report No. 75221-151b, dated April, 2012
- Slip resistance properties according to DIN EN 51130 tested at Test Institute MPI, Test report No. 12 6637 - S / 12, August 2012
- Classification of reaction to fire performance acc. EN 13501-1, tested at EXOVA Warringtonfire, Warrington, UK. Test Report No. 318327, dated May 24th, 2012
- 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, 37970 U 141, June 2014

PRODUCT INFORMATION

Packaging	Please refer to individual Product Data Sheet.
Shelf Life	Please refer to individual Product Data Sheet.
Storage Conditions	Please refer to individual Product Data Sheet.

SYSTEM INFORMATION

System Structure Sikafloor® PurCem® HS-25 ECF:



1. Earthing + Conductive scratch coat	Sika® Earthing Kit + Sikafloor®-25S PurCem® ECF
2. Conductive screed	Sikafloor®-25 PurCem® ECF

As optional primers Sikafloor®-161 HC + Quartzsand 0.3–0.9 mm broadcast to excess can be used. Please refer to the individual Product Data Sheet. The system configurations as described must be fully complied with and may not be changed.

Composition	Water-based polyurethane cement hybrid
Appearance	Smooth-textured surface, matt finish
Colour	Beige, Oxide Red, Sky Blue, Grass Green, Pebble Grey, Light Grey, Dusty Grey, Agate Grey
Nominal Thickness	~ 6 mm

TECHNICAL INFORMATION

Abrasion Resistance	<900 mg	(H-22/1000/1000)	(ASTM D 4060-01)
Resistance to Impact	Class III	(≥ 20Nm)	(ISO 6272)
Compressive Strength	> 50 N/mm ²		(DIN EN 13892-2)
Tensile Strength	> 15 N/mm ²		(DIN EN13892-2)
Tensile Adhesion Strength	>1.5 N/mm ² (failure in concrete)		(ISO 4624)
Reaction to Fire	Bfl-s1		(EN 13501-1)
Chemical Resistance	Resistant to many chemicals. Contact Sika technical service for specific information.		
Temperature Resistance	The product (6 mm thickness) is suitable for use when exposed to continuous temperatures, wet or dry, of up to +90°C. The minimum service temperature is -40 °C.		
Skid / Slip Resistance	R 10		(DIN 51130)

Electrostatic Behaviour

Resistance to ground ¹	$R_g < 10^9 \Omega$	(IEC 61340-4-1)
Typical average resistance to ground ²	$R_g < 10^6 \Omega - 10^8 \Omega$	(DIN EN 1081)

¹ In accordance with IEC 61340-5-1 and ANSI/ESD S20.20.

² Readings may vary, depending on ambient conditions (i.e. temperature, humidity) and measurement equipment.

APPLICATION INFORMATION

Consumption	Coating	Product	Consumption
	Primer (optional)	Sikafloor®-161 HC + quartz sand 0.3–0.9 mm broadcast to excess	1–2 × ~0.3–0.5 kg/m ²
	Earthing connection	Sika® Earthing Kit	1 earthing point per approx. 200–300 m ² , min. 2 per room.
	Conductive scratch coat	Sikafloor®-25S PurCem® ECF	~1.81 kg/m ² /mm (1 × ~3.0 kg/m ²)
	Conductive screed	Sikafloor®-25 PurCem® ECF	~1.89 kg/m ² /mm (1 × ~9.0 kg/m ²)

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

Product Temperature +15 °C min. / +25 °C max.

Ambient Air Temperature +15 °C min. / +30 °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 +15 °C min. / +30 °C max.

Substrate Moisture Content The Sikafloor® PurCem® HS-25 ECF System can be installed on substrates with higher moisture content (6% checked by Tramex). The substrate needs to be visibly dry and have an adequate pull-off strength min 1.5 N/mm². No ponding water. Check for rising moisture. If an epoxy resin as primer is used please refer to the individual Product Data Sheet for the limits with regards to substrate moisture content.

Waiting Time / Overcoating (Optional) Before applying Sikafloor®-25S PurCem® ECF on broadcast Sikafloor®-161 HC allow:

Substrate temperature	Minimum	Maximum
+15 °C	24 hours	4 days
+20 °C	12 hours	2 days
+30 °C	8 hours	1 days

Always make sure primer is fully cured before application.

Before applying Sikafloor®-25 PurCem® ECF on Sikafloor®-25S PurCem® ECF allow:

Substrate temperature	Minimum	Maximum
+15 °C	36 hours	72 hours
+20 °C	24 hours	48 hours
+30 °C	12 hours	24 hours

Times are approximate and will be affected by changing ambient and substrate conditions, particularly temperature and relative humidity.

Applied Product Ready for Use

Temperature	Foot traffic	Light traffic	Full cure
+10 °C	~ 20 hours	~ 34 hours	~ 7 days
+20 °C	~ 12 hours	~ 16 hours	~ 4 days
+30 °C	~ 8 hours	~ 14 hours	~ 3–4 days

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

MAINTENANCE

To maintain the appearance of the floor after application, Sikafloor® PurCem® HS-25 ECF must have all spillages removed immediately and must be regularly cleaned using rotary brush, mechanical scrubbers, scrubber dryer, high pressure washer, wash and vacuum techniques etc. using suitable detergents.

CLEANING

Please refer to the Sikafloor® Cleaning Regime.

FURTHER DOCUMENTS

Please refer to:

- Sika® Method Statement of Sikafloor®-25 PurCem® ECF
- Sika® Method Statement Mixing and Application of Flooring Systems
- Sika® Method Statement Surface Evaluation & Preparation

IMPORTANT CONSIDERATIONS

- This product may only be used by experienced professionals.
- Construction joints require pre-treatment with a stripe coat to verify and seal loss of material through the joint.
- It is necessary to create a groove along the perimeter of the application area particularly if there are columns or gullies in the floor surface, as indicated in the application details of the Method Statement for Application, to prevent curling during curing. Large areas do not require additional intermediate grooves. Width and depth must be twice the thickness of the floor finish.
- Always ensure good ventilation when using the Sikafloor® PurCem® HS-25 ECF system in a confined space, to prevent excessive ambient humidity.
- The products of the Sikafloor® PurCem® HS-25 ECF system shares the resin (part A) and hardener (part B) with other Sikafloor®-PurCem® products. Make sure the correct pack sizes of aggregate are used.
- After application, the Sikafloor® PurCem® HS-25 ECF system must be protected from damp, condensation and direct water contact (rain) for 24 hours.
- Hot steam cleaning may lead to delamination due to thermal shock.
- For consistent results it is advised to always use the scratch coat prior to placing Sikafloor® PurCem® HS-25 ECF on any substrate.
- Protect the substrate during application from condensation from pipes or any overhead leaks.
- 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 yellowing when exposed to UV radiation. There are no measurable losses of other 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.
- Do not apply to cracked or unsound substrates.

- Do not apply to PCC (polymer modified cement mortars) that may expand when sealed with an impervious resin.
- Do not apply to water soaked, glistening wet concrete substrates.
- Do not apply to porous surfaces where significant moisture vapour transmission (out-gassing) will occur during application.
- Do not apply below +15 °C or above +35 °C or a maximum relative humidity above 85 %.
- Do not apply to un-reinforced sand cement screeds, asphaltic or bituminous substrate, glazed tile or non-porous brick, tile and magnesite, copper, aluminium, soft wood or urethane composition, elastomeric membrane and fibre reinforced polyester (FRP) composites.
- 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 3 days.
- The cleanliness of the floor, ambient conditions, measurement equipment, and the test person have a substantial influence on the measurement results.

All measurement values for the Sikafloor® PurCem® HS-25 ECF system stated in the system data sheet (apart from the ones referring to proof statements) were measured under the following conditions:

Ambient conditions:	+23 °C/50 %
Measurement device for the Resistance to Ground:	Metriso 2000 (Warmbier) or comparable
Surface resistance probe:	Tripod electrode acc. DIN EN 1081

The number of conductivity measurements is strongly recommended to be as shown in the table below:

Ready applied area	Number of measurements
< 10 m ²	6 measurements
< 100 m ²	10–20 measurements
<1000 m ²	50 measurements
<5000 m ²	100 measurements

In case of values lower/higher as required, additional measurements has to be carried out, approx. 30 cm around the point with insufficient readings. If the newly measured values are in accordance with the requirements, the total area is acceptable.

Installation of earthing points: Please refer to the Method Statement: "MIXING & APPLICATION OF FLOORING SYSTEMS".

Numbers of earth connections: Per room at least 2 earthing points. The optimum number of earth connections depends on the local conditions and should be specified using available drawings.

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 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.

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.

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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