

PRODUCT DATA SHEET

Sikafloor®-25S PurCem® ECF

POLYURETHANE HYBRID CONDUCTIVE SCRATCH COAT



DESCRIPTION

Sikafloor®-25S PurCem® ECF is a 4 part polyurethane hybrid electrostatic conductive, coloured, water based scratch coat.

USES

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

- Conductive scratch coat below Sikafloor®-25 PurCem ECF
- Part of the Sikafloor® PurCem HS-25 ECF system

CHARACTERISTICS / ADVANTAGES

- Good conductivity
- Low VOC emissions
- Odourless
- Tolerant to substrate moisture
- High bond strength

SUSTAINABILITY

Conformity with LEED v2009 IEQc 4.2: Low-Emitting Materials - Paints and Coatings

APPROVALS / CERTIFICATES

- CE Marking and Declaration of Performance to EN 13813 - Cementitious / resin screed material for use internally in buildings.
- Impact resistance values tested at PRA Coatings Technology Centre, Hampton Middlesex, UK. Test report No. 75221-151b, dated April 23rd, 2012
- Classification of reaction to fire performance acc. EN 13501-1, tested at EXOVA Warrington fire, Warrington, UK. Test Report No. 318327, dated May 24th, 2012

PRODUCT INFORMATION

Chemical base	Water-based polyurethane cement hybrid	
Packaging	Parts A + B + C + D:	3 + 3 + 12 + 2 x 0,012 = 18,024 kg ready to mix unit
	Part A: (Pre-tinted)	3 kg plastic pail
	Part B:	3 kg plastic jerrycan
	Part C:	12 kg plastic lined, double paper bag
	Part D:	2 x 0,012 kg small plastic bags

Appearance / Colour	Part A	Coloured liquid
	Part B	Brown liquid
	Part C	Grey powder
	Part D	Black carbon fibres

Textured matt finish.

Standard colours: Beige, Oxide Red, Sky Blue, Grass Green, Pebble Grey, Light Grey, Dusty Grey, Agate Grey. Applied colours selected from colour charts will be approximate. It is recommended that applied colour samples should be compared against colour chart colours under the same lighting conditions before final selection. When 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 coating. Colour matching of scratch coat is not normally important as it will be covered by a wearing finish. Always select same colour as wearing finish.

Shelf life	Part A:	12 months from the date of production. Protect from freezing.
	Part B:	12 months from the date of production. Protect from freezing.
	Part C:	6 months from the date of production. Protect against humidity.
	Part D:	24 months from the date of production. Protect against humidity.

Storage conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between + 5°C and +25°C. Always refer to packaging.
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Density	Mixed resin (all parts): ~ (Mix A + B + C + D) (EN ISO 2811-1) 1,81 kg/l ± 0,03 Density value at +22 °C.
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Product Declaration	EN 13813 - Cementitious / resin screed material for use internally in buildings. Class CT - C50 - F15 - ARO.5 - IR 20
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TECHNICAL INFORMATION

Shore D Hardness	~ 80	(DIN 53505)
Compressive Strength	~ 50 N/mm ²	(DIN EN 13892-2)
Tensile Strength in Flexure	~ 15 N/mm ²	(DIN EN19892-2)
Tensile Adhesion Strength	> 1,5 N/mm ² (failure in concrete)	(ISO 4624)
Electrostatic Behaviour	Typical average resistance ~ 10 ⁴ - 10 ⁵ Ohm to ground ¹⁾	(EN 1081)

¹⁾ Readings may vary depending on ambient conditions (i.g. temperature, humidity) and measurement.

SYSTEMS

Systems	Please refer to the System Data Sheet of: Sikafloor® HS-25 ECF Self-levelling, electrostatic conductive, polyurethane modified cementitious screed
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APPLICATION INFORMATION

Mixing Ratio	Part A : B : C = 1 : 1 : 4 (by weight) Part C includes fibres mixed from part D.
Consumption	~ 1,81 kg/m ² /mm These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level or wastage, e.t.c.

Ambient Air Temperature	+15 °C min. / +30 °C max.		
Relative Air Humidity	85 % max.		
Dew Point	Beware of condensation. The substrate and uncured floor must be at least 3 °C above the dew point to reduce the risk of condensation or blooming on the floor finish.		
Substrate Temperature	+15 °C min. / +30 °C max.		
Substrate Moisture Content	≤ 6% Test method: Sika®-Tramex meter, CM-measurement or Oven-dry method. No rising moisture according to ASTM (Polyethylene-sheet). Substrate visibly dry with no standing water.		
Pot Life	Ambient Temperatures	Time	
	+15 °C	~ 45 - 50 min	
	+20 °C	~ 20 - 25 min	
	+30 °C	~ 15 - 18 min	
Curing Time	Substrate Temperature	Minimum	Maximum
	+15 °C	24 hours	72 hours
	+20 °C	14 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.			

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

- Cementitious substrates (concrete / screed) shall be sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum tensile strength of 1,5 N/mm².
- Substrates shall be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, e.t.c.
- Cementitious substrates shall be prepared mechanically using suitable abrasive blast cleaning or planing / scarifying equipment to remove cement laitance and achieve an open textured surface profile suitable for the product thickness. (Reference: CSP 3-6 International Concrete Repair Institute or equivalent).
- Weak cementitious substrates must be removed and surface defects such as blow holes and voids must be fully exposed.
- Repairs to the substrate, filling of cracks, blowholes/voids and surface levelling must be carried out using appropriate products from the Sikafloor®, Sikadur® and Sikagard® range of materials. Products must be cured before applying Sikafloor®-25S PurCem® ECF.
- All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by vacuum cleaning equipment.
- All free edges and working day joints of Sikafloor®-25S PurCem® ECF, whether at the perimeter, along gutters or 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 the Sikafloor®-25S PurCem® ECF. Width and depth of the grooves must be twice the

thickness of the floor finish.

- Substrate priming (prior the scratch coat) is not normally required under typical circumstances. However due to variations in concrete quality, surface conditions, surface preparation and ambient conditions, reference areas are recommended to determine whether priming is required in order to prevent the possibility of blisters, debonding, pinholes and other aesthetic variations. If in doubt apply a test area first.

MIXING

Prior to mixing all parts, mix separately part A using a low speed single paddle electric stirrer (300 - 400 rpm) to mix liquid and all the coloured pigment until a uniform colour has been achieved. Add part B to part A and mix part A + B continuously for 30 seconds until a uniform coloured mix has been achieved. When parts A and B have been mixed, while mixing with a pan type revolving or forced action mixer (free fall mixers must not be used), gradually add part C (aggregate/sand) over a period of 30 seconds. To avoid lumps in mix, don't dump Part C into parts A + B. Add part D and mix for a further 3 minutes until a smooth consistent mix has been achieved. Over mixing must be avoided to minimise air entrainment. During the final mixing stage, scrape down the sides and bottom of the mixing container with a flat or straight edge trowel at least once to ensure complete mixing. Mix full units only. Mixing time for A+B+C+D = 4 minutes.

Note: The carbon fibres (part D) must be added to parts A+B+C immediately after adding part C. Allow parts C+D to mix according to the above mentioned mixing time for all parts to ensure complete distribution of the conductive carbon fibres.

APPLICATION

Please refer to the Method Statement of Sikafloor®-25 PurCem ECF.

CLEANING OF TOOLS

Removal of fresh remnants from tools and application equipment can be carried out using Thinner C immediately after use. Hardened / cured material can only be mechanically removed.

MAINTENANCE

To maintain the appearance of the floor after application, Sikafloor®-25S PurCem® 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 and waxes.

CLEANING

Refer to "Sikafloor®- CLEANING REGIME".

FURTHER DOCUMENTS

Substrate Quality & Preparation

Please refer to Sika Method Statement: "EVALUATION AND PREPARATION OF SURFACES FOR FLOORING SYSTEMS".

Application Instructions

Please refer to Sika Method Statement: "MIXING & APPLICATION OF FLOORING SYSTEMS".

LIMITATIONS

- After application, Sikafloor®-25S PurCem® ECF must be protected from damp, condensation and direct water contact (rain) for 24 hours.
- The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking.
- Construction joints and existing static surface cracks require pre-treating with a stripe coat by prefilling and levelling to seal against loss of material through the joint or cracks before full layer application. Use Sikadur® or Sikafloor® resins.
- If heating is required do not use gas, oil, paraffin or other fossil fuel heaters, these produce large quantities of both CO₂ and H₂O water vapour, which may adversely affect the finish. For heating use only electric powered warm air blower systems.
- Always ensure good ventilation when using Sikafloor®-25S PurCem® ECF in a confined space, to prevent excessive ambient humidity.
- Colour uniformity cannot be completely guaranteed from batch to batch (numbered). If this is considered important in the scratch coat. Take care when using Sikafloor®-PurCem® products to draw from inventory in batch number sequence. Do not mix batch numbers in a single floor area.
- Sikafloor®-25S PurCem® ECF shares the resin (part A) and hardener (part B) with other Sikafloor®-PurCem® products. Make sure the correct pack sizes of Part C

(aggregate) are used.

- Protect the substrate and Sikafloor®-25S PurCem® ECF during application from pipe condensation or any overhead leaks.
- 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.
- Hot steam cleaning may lead to delamination due to thermal shock.
- Do not apply to cracked or unsound substrates.
- Do not apply to wet or green concrete or polymer modified repair patches if the moisture content is above 10 %.
- 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 to un-reinforced sand cement screeds, asphaltic or bituminous substrates, glazed or un-glazed tiles. Magnesite, copper, aluminium, wood or urethane compositions, elastomeric membranes or fibre reinforced plastic (FRP) composites.
- Do not apply on substrates with rising moisture.

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.

DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

According to the EU Directive 2004/42/CE, the maximum allowed content of VOC (product category IIA / j type wb) is 140 g/l (Limits 2010) for the ready to use product. The maximum content of Sikafloor®-25S PurCem® ECF is ≤ 140 g/l VOC for the ready to use product.

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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