

SYSTEM DATA SHEET

Sikafloor® PurCem® HS-21

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

PRODUCT DESCRIPTION

Sikafloor® PurCem® HS-21 system is made with polyurethane cement technology and is part of the Sikafloor® PurCem® flooring range. The Sikafloor® PurCem® HS-21 system is especially designed to withstand chemical attack, high impact and can be used in wet and dry processing plants.

The system is composed of an highly durable polyurethane cement body coat, it has an aesthetic, easy to clean and smooth surface, providing medium slip resistance. Is typically installed at 4 to 6 mm thick.

USES

Sikafloor® PurCem® HS-21 installation works to be carried out only by Sika Approved Contractors. Please observe information given by Product Data Sheets.

- Food processing plants, in wet or dry process areas, freezers and coolers, thermal shock areas
- Chemical plants
- Laboratories
- Workshops

CHARACTERISTICS / ADVANTAGES

- High chemical resistance. Resists a wide range of organic and inorganic acids, alkalis, amines, salts and solvents
- Good temperature resistance
- High mechanical and abrasion resistance
- Easy application
- Easy to clean and maintain
- Seamless, non taint, odourless
- Smooth, matt surface
- Tolerant to moisture in the substrate
- Very good life cycle cost performance

ENVIRONMENTAL INFORMATION

- VOC emission certificate according to AgBB und DIBt

approval requirements, Eurofins, 4.1.2012

- VOC emission certificate class A+ according to French regulation, Eurofins, 22.06.2012

APPROVALS / STANDARDS

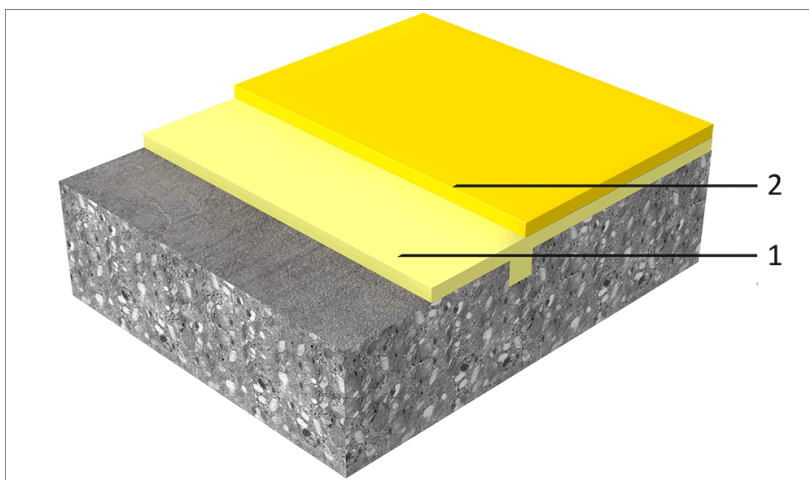
- Screed material for floor screeds according to EN 13813: 2002, Declaration of Performance 02 08 02 02 001 0 000002 1088 and provided with the CE-marking.
- Surface protection coating for concrete according to EN 1504-2:2004, Declaration of Performance 02 08 02 02 001 0 000002 1088, certified by notified factory production control body 0086, certificate of conformity of the factory production control 541325, and provided with the CE-marking.
- 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.
- Certified as suitable for use in food and beverage facilities that operate in accordance with a HACCP based Food Safety Programme.
- 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. No. 75221-151, dated January 11th, 2012
- Slip resistance properties according to DIN 51130 tested at MPI (Materialprüfung und Entwicklung), test reports refs. No. 12-6639-S/12 and 12-6641-S/12, dated August 7th, 2012.
- GMP "Class A in operation" certified in accordance with EC-GMP Annex 1, (Clean Room Suitable Materials[®] tested, report no. SI 1403-695.
- Cleanability. Clean Room Suitable Material (Riboflav in test) test report no. SI 1403-695, Fraunhofer Institute for Manufacturing and Engineering and Automation IPA.
- Biological resistance. Clean Room Suitable Material test report no. SI 1403-695, Fraunhofer Institute for Manufacturing and Engineering and Automation IPA.

SYSTEM INFORMATION

System Structure

Sikafloor[®] PurCem[®] HS-21



| Layer | Product |
|-----------------|--|
| 1. Scratch coat | Sikafloor [®] -21 PurCem [®] |
| 2. Body coat | Sikafloor [®] -21 PurCem [®] |

As optional primers Sikafloor[®] -156/-161 + quartz sand 0.4–0.8 mm broadcast to excess can be used. Please refer to the individual Product Data Sheet.

| | |
|--|---|
| Composition | Water-based polyurethane cement hybrid |
| Appearance | Smooth surface, matt finish |
| Colour | Beige, Maize Yellow, Oxide Red, Sky Blue, Grass Green, Pebble Grey, Light Grey, Dusty Grey, Agate Grey |
| Nominal Thickness | ~ 4-6 mm |
| 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 AgBB. |

TECHNICAL INFORMATION

| | | |
|----------------------------|--|------------------|
| Water Absorption | 0 % | (CP BM2/67/2) |
| Abrasion Resistance | Class "Special" Severe abrasion resistance | (BS 8204 Part 2) |
| | AR 0.5 | (EN 13892-4) |
| | Class A6 | (EN 13892-3) |
| | < 900 mg (H-22/1000/1000) | (ASTM D 4060-01) |

| | | |
|--|--|-------------------|
| Resistance to Impact | Class III ($\geq 20\text{Nm}$) | (ISO 6272) |
| | 2 pounds/30 inches (3 mm thick) | (ASTM D 2784) |
| Indentation | 0 | (MIL – PFR 24613) |
| Compressive Strength | $>55\text{ N/mm}^2$ after 28 days at $+23^\circ\text{C}$ / 50% r.h. | (BS EN 13892-2) |
| Tensile Adhesion Strength | $> 2.0\text{ N/mm}^2$ | (EN1542) |
| Reaction to Fire | B _{fl} -s1 | (EN 13501-1) |
| Chemical Resistance | Please refer to Sikafloor® PurCem® chemical resistance guide. Contact Sika technical service for specific information. | |
| Thermal Resistance | 4 mm | 6 mm |
| | -15 °C to +70 °C | -25 °C to +70 °C |
| The product is resistant to short term contact with temperatures of +90°C, mainly during the cleaning regimes. | | |
| Capillary Absorption | $< 0.002\text{ kg}/(\text{m}^2 \times \text{h}^{0.5})$ | (EN 1062-3) |
| USGBC LEED Rating | Conforms Section EQ (Indoor Environmental Quality), Credit 4.2 Low-Emitting Materials Paints and Coatings. Calculated VOC content $\leq 50\text{ g/l}$ | |
| Coefficient of Friction | Rubber: | 0.5 |
| | Steel: | 0.3 |
| Skid / Slip Resistance | R 10 | (DIN 51130) |
| | SRV Dry | SRV Wet |
| | 70 | 60 |

APPLICATION INFORMATION

| | | | |
|---|---|-----------------------|-------------------------------------|
| Consumption | Layer | Product | Consumption |
| | 1. Scratch coat | Sikafloor®-21 PurCem® | $\sim 1.0\text{-}3.0\text{ kg/m}^2$ |
| | 2. Body coat | Sikafloor®-21 PurCem® | $\sim 1.9\text{ kg/m}^2/\text{mm}$ |
| Consumptions are theoretical and do not include any wastage, additional material need due to porosity, substrate profile etc. | | | |
| Product Temperature | Please refer to the individual Product Data Sheet | | |
| Ambient Air Temperature | $+10^\circ\text{C}$ min / $+40^\circ\text{C}$ 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 | $+10^\circ\text{C}$ min / $+40^\circ\text{C}$ max | | |
| Substrate Moisture Content | Sikafloor® PurCem® HS-21 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. | | |
| Applied Product Ready for Use | Temperature | Foot traffic | Light traffic |
| | $+10^\circ\text{C}$ | ~ 20 hours | ~ 34 hours |
| | $+20^\circ\text{C}$ | ~ 12 hours | ~ 16 hours |
| | $+30^\circ\text{C}$ | ~ 8 hours | ~ 14 hours |
| | | | Full cure |
| | | | ~ 7 days |
| | | | ~ 4 days |
| | | | $\sim 3\text{-}4$ days |

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

PRODUCT INFORMATION

Packaging Please refer to the individual Product Data Sheet

Shelf Life Please refer to the individual Product Data Sheet

Storage Conditions Please refer to the individual Product Data Sheet

MAINTENANCE

CLEANING

Please refer to Sikafloor®- Cleaning Regime.

FURTHER DOCUMENTS

Please refer to:

- Sika® Information Manual Mixing and Application of Flooring Systems
- Sika® Information Manual Surface Evaluation & Preparation
- Sikafloor® PurCem® Product Data Sheets

LIMITATIONS

- 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.
- 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. Extent depends on colour. There are no measurable losses of any properties when discolouration 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.

VALUE BASE

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

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 the exact product data and uses.

ECOLOGY, HEALTH AND SAFETY

Local safety regulations must be observed and it advisable to wear PPI when working with this product with particular attention paid to cutting and handling. Transportation Class: The product is not classified as hazardous good for transport. Disposal: The material is recyclable. Disposal must be according to local regulations. Please contact your local Sika sales organisation for more information.

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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