BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-29 PurCem® LP

HIGH STRENGTH POLYURETHANE COVING AND DETAILING MORTAR

DESCRIPTION

Sikafloor®-29 PurCem® LP is a three, water dispersed, vertical grade, coloured polyurethane modified, cement and aggregate mortar for detailing work and vertical rendering.
It has a finely textured smooth aggregate appearance which offers excellent resistance to abrasion, chemical attack and mechanical damage.
Typically installed at 3 - 9 mm thickness

USES

Sikafloor®-29 PurCem® LP may only be used by experienced professionals.

In combination with the rest of the PurCem® range in concrete substrate areas, to provide vertical, coving and detailing solutions in areas of abrasion and high chemical exposure, such as in:
- Food processing plants, in wet or dry process areas, freezers and coolers, thermal shock areas
- Chemical plants
- Laboratories
- Workshops

On properly prepared and supported steel surfaces, such as in:
- Steel decks
- Overpasses or platforms

CHARACTERISTICS / ADVANTAGES

- Excellent chemical resistance. Resists a wide range of organic and inorganic acids, alkalis, amines, salts and solvents. Please refer to the Chemical Resistance Chart or consult your local Technical Dept.
- Designed specifically for trowel applications to vertical surfaces.
- Similar coefficient of thermal expansion to concrete, allowing movement with the substrate through normal thermal cycling. It will perform and retain its physical characteristics through a wide temperature range from -40 °C up to +120 °C.
- Bond strength in excess of the tensile strength of concrete. Concrete will fail first.
- Non taint, odourless.
- VOC free.
- High mechanical resistance. Behaves plastically subject to impact. Will deform but will not crack or debond.
- Slip resistance. Natural textured surface provides anti-slip traction.
- High abrasion resistance resulting from its silica aggregate structure
- It is possible to apply on to 7 to 10 day old concrete after adequate preparation and with a tensile bond strength in excess of 1.5 N/mm².
- Tolerant to substrates with high moisture content.
- Fast curing will allow foot traffic after twelve hours and full service after two days. Production downtime is cut to an absolute minimum.
- Jointless. Extra expansion joints are not necessary; simply maintain and extend existing expansion joints up through the Sikafloor®-PurCem® flooring system.
- Wide range of application temperatures +10 °C to +35 °C.

APPROVALS / CERTIFICATES

Conforms to the requirements of EN 13813: 2002 as CT – C40 – F7.
Certified as suitable for use in food and beverage facilities that operate in accordance with a HACCP based food safety programme, dated 10 December 2020.
All other values indicated are internal test results.

PRODUCT INFORMATION

Composition	Part A : Water borne polyol and pigments Part B : Isocyanate Part C : Aggregates, cement and active fillers
Packaging	Part A : 1.60 kg plastic drum Part B : 1.40 kg plastic jerrycan Part C : 19.00 kg plastic lined, double paper bags Part A + B + C : 22.0 kg ready to mix units
Shelf life	Part A : 12 months from date of production. Must be protected from frost. Part B : 9 months from date of production. Must be protected from frost. Part C : 6 months from date of production. Must be protected from humidity.
Storage conditions	Stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between +20 °C and +30 °C.
Appearance and colour	Part A pre-tinted : coloured liquid Part B : brown liquid Part C : natural grey powder Available colours: Cream, Green, Light Grey, Grey, Red. Custom colour matching is available upon request. Minimum order quantities apply. Please consult the producer for required lead times. Colour uniformity cannot be completely guaranteed from batch to batch. Do not mix batch numbers in a single area. Due to the technology used, colour stability of the products cannot be guaranteed when exposed to UV light.

Density			
	Part A	~1.07 kg/L	(EN ISO 2811-1) & (ASTM C 905) (at +20°C)
	Part B	~1.24 kg/L	
	Part C	~1.58 kg/L	
	Part A+B+C mixed	~1.97 ± 0.03 kg/L	

TECHNICAL INFORMATION

Shore D Hardness	80 - 85		(ASTM D 2240)
Compressive strength	28 days	> 39 N/mm²	(ASTM C 579)
	28 days	> 44 N/mm²	(BS EN 13892-2) at +23 °C / 50 % r.h.
Tensile strength in flexure	28 days	> 8.1 N/mm²	(ASTM C 580)
	28 days	> 8 N/mm²	(BS EN 13892-2) +23 °C / 50 % r.h.
Tensile adhesion strength	> 2.0 N/mm²	(failure in concrete)	(EN 1542)
	(1.5 N/mm² is the minimum pull out strength of the recommended concrete substrate)		

Service temperature

System Thickness	Minimum	Maximum
3 mm	+5 °C	+65 °C
5 mm	-5 °C	+65 °C
6 mm	-25 °C	+80 °C
9 mm	-40 °C	+120 °C

The product is designed to withstand thermal shock caused by steam cleaning when thickness is 9 mm.

Chemical resistance	Resistant to many chemicals. Please ask for a detailed chemical resistance table.

Reaction to fire			
	Sikafloor®-29 PurCem®	Class $B_{(fl)}$ S1	(BS EN 13501-1)

SYSTEM INFORMATION

Systems

Use the products mentioned below as indicated in their respective Product Data Sheets. For additional information, please refer to the System Data Sheet and the Method Statement.

Substrate Priming Systems

Coving and detailing and vertical applications:

Primer:

Sikafloor®-161 HC blinded with 0.4-0.7 mm quartzsand

Re-prime as Sikafloor®-29 PurCem® LP has to be applied vertically in tacky primer.

Coving Mortar:

Sikafloor®-29 PurCem® LP

Seal coat:

1 x Sikafloor®-31 PurCem® LP

Note: These system configurations must be fully complied with as described and may not be changed.

APPLICATION INFORMATION

Mixing ratio

Part A : B : C = 1 : 1 : 11.7 (packaging size = 1.50 : 1.50 : 19.00) by weight

Consumption

Primer:
Sikafloor®-161 HC as primers. It is also possible to use Sikadur®-732
(Consumption may vary depending on substrate conditions)
Always apply on to tacky primer. Re-prime if allowed to cure.
Coving and detailing mortar 3 - 9 mm.
Sikafloor®-29 PurCem® LP (part A+B+C) ~2.0 kg/m²/mm layer thickness.
These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level or wastage etc.

Layer thickness

3 mm min. / 9 mm max.

Ambient air temperature

+10 °C min. / +35 °C max.

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. / +35 °C max

Substrate moisture content

≤ 4 % pbw – as required by the primer
Test method: Sika®-Tramex meter (equipment limited to < 6 %), CM - measurement or Oven-dry-method.
Always confirm substrate moisture content prior to the application.
Refer to System Structure and options for substrate priming.

Pot Life

Temperature	Time
+10 °C	~40 - 50 min
+20 °C	~25 - 30 min
+30 °C	~15 - 20 min
+35 °C	~10 - 15 min

Curing time

Temperature	Foot Traffic	Light Traffic	Full Cure
+10 °C	~30 h	~48 h	~7 d
+20 °C	~18 h	~36 h	~5 d
+30 °C	~12 h	~24 h	~3 - 4 d
+35 °C	~10 h	~20 h	~3 - 4 d

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

Waiting time to overcoating

Allow primer to become tacky. Re-prime if allow to cure.
See “Substrate Humidity” for suitable type.
Before any subsequent application on Sikafloor®-29 PurCem® LP allow:

Temperature	Minimum	Maximum
+10 °C	36 h	72 h
+20 °C	24 h	48 h
+30 °C	24 h	48 h
+35 °C	12 h	48 h

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

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.

IMPORTANT CONSIDERATIONS

A retaining groove must be placed top and bottom of the cove detail to anchor the coving mortar as well as around details such as drains, etc., as indicated in the application details of the Method Statement for Application to prevent curling during curing. Width and depth must be twice the thickness of the mortar.
Do not featheredge.
Do not apply to PCC (polymer modified cement mortars) that may expand due to moisture 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 (outgassing) will occur during application.
Sika® Thinner C is flammable. NO NAKED FLAMES.
Always ensure good ventilation when using Sikafloor®-29 PurCem® LP in a confined space, to prevent excessive ambient humidity.
Freshly applied Sikafloor®-29 PurCem® LP must be protected from damp, condensation and direct water contact (rain) for at least 24 hours.
For maximum hygienic requirements always seal Sikafloor®-29 PurCem® LP with Sikafloor®-31 PurCem® LP (1-2 coats).
Do not apply below +18 °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.
Do not apply the primer to wet or green concrete or polymer modified patches if the moisture content is above 4 %.
Do not apply to concrete if the air or substrate temperature is within 3 °C of the dew point.
Protect the substrate during application from condensation from pipes or any overhead leaks.
Do not mix Sikafloor®- PurCem® products by hand. Use only mechanical means.
Do not apply to cracked or unsound substrates.
Avoid puddles during primer application.
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 other properties when this 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.

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

The concrete substrate must be sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum pull off strength of 1.5 N/mm².
The substrate must be clean, dry and free of all contaminants such as oil, grease, coatings and surface treatments, etc.
If in doubt, apply a test area first.

SUBSTRATE PREPARATION

Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve an open textured surface to achieve CSP 3-9 according to the International Concrete Repair Institute.
Weak concrete must be removed and surface defects such as blow holes and voids must be fully exposed.
Repairs to the substrate, filling of blowholes/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®-29 PurCem® LP, whether at the 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 the Sikafloor®- PurCem®. 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 stresses, vibration movements or around load-bearing columns and at vessels sealing rings.
Refer to the edge details provided in the Method Statement.

MIXING

Material and ambient temperature will affect the mixing process.
If necessary, condition the materials for best use to 20 °C – 28 °C.
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.
Use a double paddle (axis) mixer for best results and gradually add part C (aggregate) to the mixed resin parts over a period of 15 seconds. DON'T DUMP it !
Allow part C to blend for further 2 minutes minimum, to ensure complete mixing and a uniform moist 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) to ensure complete mixing. **Mix full units only**.
When adding aggregate to prepare a patching / levelling mortar, gradually add the 6 kg of 2 - 3 mm dry quartz sand immediately after mixing the full set.
Start the pan mixer and gradually add part C (aggregate) to the mixed resin parts over a period of 15 seconds. DON'T DUMP!
Use a low speed electric stirrer (300-400 rpm) for mixing parts A and B. For preparation of the mortar mix use a pan type revolving mixer.

APPLICATION

Prior to application, confirm substrate moisture content, r.h. and dew point.
If moisture content is > 6 % pbw, Sikagard®-720 EpoCem® can be applied as T.M.B. (temporary moisture barrier) system prior to priming with Sikafloor®-161 HC or Sikadur®-732 on vertical surfaces.
Primer coat.
Mix and apply the primer according to its corresponding Product Data Sheet, using a brush or roller to provide uniform coverage. The primer must be tacky during the application of Sikafloor®-29 PurCem® LP. Mix and apply only the amount of primer which can be overlaid before it cures. If the primer becomes glossy or looses tackiness, remove any surface contaminates, then recoat with additional material.
Mortar
Apply the mixed Sikafloor®-29 PurCem® LP onto the ready primed substrate and compact to the appropriate thickness, then finish the detailing profile with a coving trowel or steel float. Apply Sikafloor®-29 PurCem® LP while the primer is still tacky. If the primer becomes tack free, reapply the primer. A light brushing while the mortar is still workable will close any surface voids. Allow a minimum 24 hour cure period at 20 °C. (See Waiting time / Overcoating)
For maximum sealing of the cove, application must be performed with one or two coats of Sikafloor®-31 PurCem® LP to seal the surface and improve aesthetics.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with Thinner C immediately after use.
Hardened/cured Sikafloor®-29 PurCem® LP can only be mechanically removed.

MAINTENANCE

CLEANING

To maintain the appearance of the floor after application, Sikafloor®-29 PurCem® LP must have all spillages removed immediately and must be regularly cleaned using rotary brushes, mechanical scrubbers, scrubber dryers, high pressure washers, wash and vacuum techniques, etc., using suitable detergents and waxes.

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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