

PRODUCT DATA SHEET

Sikafloor®-40 PurCem® LP (ID)

2 MM THICKNESS SELF-SMOOTHING, LOW TO MEDIUM DUTY, POLYURETHANE HYBRID FLOORING SCREED

DESCRIPTION

Sikafloor®-40 PurCem® LP (ID) is a three-part, water dispersed low to medium strength coloured polyurethane modified, cement and aggregate screed with self-smoothing properties. It has an aesthetic, smooth surface and is typically installed at 2 mm thickness.

USES

Sikafloor®-40 PurCem® LP (ID) may only be used by experienced professionals.

Sikafloor®-40 PurCem® LP (ID) is used as wear coat layer in Sikafloor® PurCem® system build ups, in areas of low to medium loading and good abrasion, such as in:

- Dry production area
- Warehouse
- Workshops
- Garage

CHARACTERISTICS / ADVANTAGES

- Bond strength in excess of the tensile strength of concrete. Concrete will fail first.
- Non tainting / odourless.
- VOC free.
- Good mechanical resistance. Behaves plastically subject to impact. Will deform but will not crack or debond.
- High abrasion resistance resulting from its silica aggregate structure.
- Can be applied to substrates with high moisture content (7 days old or mature damp concrete).
- Jointless. Extra expansion joints are not necessary; simply maintain and extend existing expansion joints up through the Sikafloor® -PurCem® flooring system.
- Easily maintained.

PRODUCT INFORMATION

Composition	Part A : Water borne polyol Part B : Isocyanate Part C : Aggregates, cement and active fillers
Packaging	Part A : 3.00 kg plastic drum Part B : 3.00 kg plastic jerrycan Part C : 11.00 kg plastic lined, double paper bags Part A+B+C: 17.00 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	If stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between +18 °C and +30 °C.		
Appearance and colour	Part A : Liquid / coloured Part B : Liquid / dark brown Part C : Powder / natural grey Available colours : Green, Grey, Light Grey, Cream, Red.		
Density	Part A	~1.07 kg/L	(EN ISO 2811-1) &
	Part B	~1.23 kg/L	(ASTM C 905)
	Part C	~1.80 kg/L	(at +20 °C to +30 °C)
	Part A+B+C mixed	~1.90 ± 0.03 kg/L	

TECHNICAL INFORMATION

Shore D Hardness	7 days	~80	(ASTM D 2240)
Compressive strength	28 days	~ 44 N/mm ²	(ASTM C 579) (at +23°C/50%r.h)
Tensile strength in flexure	28 days	~ 14.7 N/mm ²	(ASTM C 348) (at +23°C/50%r.h.)
Tensile strength	28 days	~ 4.0 N/mm ²	(ASTM C 307) (at +23°C/50%r.h.)
Tensile adhesion strength	~ 1.75 N/mm ²	(failure in concrete)	(EN 1542)
	(1.5 N/mm ² is the minimum pull off strength of the recommended concrete substrate)		
Chemical resistance	Resistant to chemicals. Please ask for a detailed chemical resistance chart.		

SYSTEM INFORMATION

Systems	Sikafloor®-40 PurCem® LP (ID) system		
	Layer	Product	
	Scratch Coat	Sikafloor®-42 PurCem® LP SC	
	Body Coat	Sikafloor®-40 PurCem® LP (ID)	
	*As optional primers Sikafloor®-161 HC + Quartsand 0.4 – 0.8 mm broadcast to excess might be used. Please refer to the individual Product Data Sheet.		

APPLICATION INFORMATION

Mixing ratio	Part A : B : C = 1 : 1 : 3.67 (packaging size = 3 : 3 : 11) by weight		
Consumption	Layer	Product	Consumption
	Scratch Coat	Sikafloor®-42 PurCem® LP SC	~0.6 kg/m ²
	Body Coat	Sikafloor®-40 PurCem® LP (ID)	~3.5 kg/m ²
	This figure is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level or wastage etc.		
Layer thickness	~2 mm		
Ambient air temperature	+10 °C min. / +30 °C max.		
Relative air humidity	85% maximum		
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.		

Substrate moisture content

The substrate can be dry or damp (saturated surface dry or SSD) with higher moisture content (No ponding water). Check rising moisture. The substrate needs to be visibly dry and have adequate pull-off strength min. 1.5 N/mm².

Pot Life	Temperature	Time
	+10 °C	~35 - 40 min
	+20 °C	~22 - 25 min
	+30 °C	~15 - 18 min
	+35 °C	~12 - 15 min

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

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

If used other primers than Scratch Coat refer the Technical Data Sheet of the respective product. Make sure that the primer and the scratch coat layer is fully cured before application of Sikafloor® PurCem® previous layer.

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

- Sikafloor®-40 PurCem® LP (ID) is designed to be used on normal temperature within range +25 °C to +40 °C.
- Construction joints require pre-treatment with a stripe coat to verify and seal loss of material through the joint.
- It is advisable to perform 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 System Data Sheet, to prevent curling during curing. Large areas do not require perimeter groove. Width and depth must be twice the thickness of the floor finish.
- If an added aggregate screed layer is applied, retaining grooves must also be created for this screed.
- In cases where thermal stress is expected the formation of retaining grooves is a must also on the layer of standard mix of Sikafloor®-40 PurCem® LP (ID).
- Do not apply to PCC (polymer modified cement mortars) that may expand due to moisture when sealed with an impervious resin.
- Always ensure good ventilation when using Sikafloor®-40 PurCem® LP (ID) in a confined space, to prevent excessive ambient humidity.
- Freshly applied Sikafloor®-40 PurCem® LP (ID) must be protected from damp, condensation and direct water contact (rain) for at least 24 hours.
- Protect the substrate during application from condensation from pipes or any overhead leaks.
- Do not apply to cracked or unsound substrates.
- Do not apply to porous surfaces where significant moisture vapour transmission (outgassing) will occur during application.
- For consistent results it is advised to always use the scratch coat prior to placing Sikafloor®-40 PurCem® LP (ID) on any substrate.
- Always allow a minimum of 48 hours after product application prior to placing into service in proximity with food stuffs.
- Product of the Sikafloor®-40 PurCem® LP (ID) are subject to discolouration or yellowing when exposed to UV radiation. Extent depends on colour. There are no measurable losses of any 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.
- Hot steam cleaning may lead to delamination due to thermal shock.
- Do not apply to water soaked, glistening wet concrete substrates.
- Do not apply below +10 °C or above +35 °C or a maximum relative humidity 85 %.
- Sika® Thinner C is flammable. NO NAKED FLAMES.
- 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 to wet or green concrete or polymer modified patches if the moisture content is above 10 %.
- Do not mix Sikafloor®-PurCem® LP products by hand. Use only mechanical means.
- Colour uniformity cannot be completely guaranteed from batch to batch (numbered).
- Take care when using Sikafloor®-PurCem® LP products to draw from inventory in batch number sequence. Do not mix batch numbers in a single floor area.
- Sikafloor®-40 PurCem® LP (ID) is not recommended for shock freezers.

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

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 priming is normally not required under typical circumstances. However due to variations in concrete quality, surface conditions, surface preparation and ambient conditions, reference test areas are recommended to determine whether priming is required to prevent the possibility of blisters, de-bonding pinholes and other aesthetic variations.

Sikafloor® PurCem® can be applied onto recent concrete over 7 to 10 days old or onto old damp concrete (SSD) without having to prime first, as long as the substrate fulfils the above requirements.

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 2-5 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®-40 PurCem® LP (ID), 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.

MIXING

Material and ambient temperature will affect the mixing process. If necessary, condition the materials for best use to +18 °C to +27 °C.

Premix part A and B separately, make sure all pigment is uniformly distributed with a low speed electric stirrer. Start mixer and add parts A and then B and blend for 30 seconds.

Gradually add part C (aggregate) to the mixed resin parts over a period of 15 seconds. **DON'T DUMP!**. Allow part C to blend for further 75 seconds (total mixing time is 2 minutes), 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 to 8 kg of 2 - 3 mm dry quartz sand immediately after mixing the full set.

Use a low speed electric stirrer (300 - 400 rpm) for mixing parts A+B+C.

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.

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®-40 PurCem® LP (ID) onto the substrate and work with a toothed trowel or pin screed to the desired thickness, achieving a flat surface. A straight edge trowel can also be used to smooth out the marks of the tooth trowel or instead of it. Take care to spread newly placed materials across the transition of previously applied mixes before the surface begins to set.

Remove air with a spike roller immediately (less than two minutes after placing).

Roller spikes must be at least three times longer than the product thickness applied.

Allow a minimum 18 hours cure period at +30 °C before light traffic.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with Thinner C immediately after use.

Hardened / cured material can only be mechanically removed.

MAINTENANCE

CLEANING

To maintain the appearance of the floor after application, Sikafloor®-40 PurCem® LP (ID) 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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