

PRODUCT DATA SHEET

Sikafloor[®]-44 PurCem[®] N

MEDIUM DUTY, SELF-SMOOTHING, POLYURETHANE HYBRID FLOORING SYSTEM.

DESCRIPTION

Sikafloor[®]-44 PurCem[®] N is a self-smoothing, four components, water based coloured polyurethane hybrid flooring topping. It has flat, high abrasion, chemical, impact and slip-resistant finish. It is typically installed at 3 to 4 mm thickness.

USES

Sikafloor[®]-44 PurCem[®] N may only be used by experienced professionals.

Sikafloor[®]-44 PurCem[®] N is used as a scratch coat or wearing coat layer in Sikafloor[®] PurCem[®] flooring systems such as in:

- Production area
- Chemical plants
- Laboratories
- Workshops
- Textile and film plants
- Warehousing and storage
- Electronic component manufacture and assembly
- Pharmaceutical plants

CHARACTERISTICS / ADVANTAGES

- Good resistance to specific chemicals
- High mechanical and wear resistance
- Low VOC emissions
- Odourless
- Non-tainting
- Thermal expansion properties similar to concrete
- Tolerant to substrates with high moisture content

PRODUCT INFORMATION

Packaging	Part A+B+C+A1	20 kg Set
	Part A	2.88 kg container
	Part B	3.10 kg container
	Part C	13.52 kg bag
	Part A1	0.5 kg container

Shelf life	Part A	6 months from date of production. Protect from freezing
	Part B	6 months from date of production. Protect from freezing
	Part C	6 months from date of production. Protect from freezing
	Part A1	6 months from date of production. Protect from freezing

Storage conditions The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C.

Appearance / Colour	Part A	White liquid
	Part B	Dark brown liquid
	Part C	Off-White powder
	Part A1	Liquid colour (Grey, Light Grey, Green, Yellow, Red, Blue)
	Cured finish	Matt finish

IMPORTANT

When the product is exposed to direct UV exposure (sun, lamp, skylight, etc.), there may be some discolouration and colour variation. This has no influence on the function and performance of the product.

IMPORTANT

For colour matching: Apply colour sample and confirm selected colour under real lighting conditions.

IMPORTANT

Colour uniformity cannot be completely guaranteed from batch to batch. Do not mix batch numbers in a single area

Density ~1.83 kg/L (Part A+B+C+A1 mixed, +27 °C) (EN ISO 2811-1)

TECHNICAL INFORMATION

Shore D hardness	~80 (7d, +27 °C)	(ASTM D2240)
Abrasion resistance	~96 mg (7d, +27 °C, CS17/1000cycle/1000gm)	(ASTM D4060)
Compressive strength	~40-42 N/mm ² (28 d, +23 °C)	(ASTM C579)
Flexural strength	~16 N/mm ² (28d, +23 °C)	(DIN EN 196)
Tensile strength	~10 N/mm ² (28d, +27 °C)	(ISO 527-1A)
Tensile adhesion strength	~3 N/mm ² (concrete failure)	(EN 1542)
Chemical resistance	Resistant to many chemicals. Contact Sika Technical Services for additional information.	

SYSTEM INFORMATION

System structure	Layer	Product
	Scratch coat	1-2 Sikafloor®-44 PurCem® N
	Body coat / Topping	Sikafloor®-44 PurCem® N

In case substrate has excessive porosity, there may required additional scratch coat to seal the porosity or pin holes.

APPLICATION INFORMATION

Mixing ratio Part A : Part B : Part C : Part A1 = 2.88 : 3.10 : 13.52 : 0.50

Consumption	Layer	Product	Consumption
	Scratch coat	Sikafloor®-44 PurCem® N	~1.85 kg/m ²
Body coat / Topping	Sikafloor®-44 PurCem® N	~1.85 kg/m ² /mm	

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	3-4 mm																		
Product temperature	Pre-condition material for minimum 24h between +20 °C to +23 °C (In summer condition) Pre-condition material for minimum 24h between +27°C to +28°C (In winter condition)																		
Ambient air temperature	+18 °C min. / +35 °C max																		
Relative air humidity	80 % max																		
Dew point	Beware of condensation. The substrate and uncured applied product must be at least +3 °C above dew point to reduce the risk of condensation or blooming on the surface of the applied product. Low temperatures and high humidity conditions increase the probability of blooming																		
Substrate temperature	+18 °C min. / +35 °C max.																		
Substrate moisture content	Please refer to the Product Data Sheet of base layer or primer. The product can be installed on substrates with a higher moisture content. No ponding water may be present on the surface. Check for rising moisture. The substrate must be visibly dry and must have a minimum pull-off strength of 1.5 N/mm ² .																		
Waiting time / Overcoating	Before overcoating Sikafloor®-44 PurCem® N allow: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Substrate temperature</th> <th>Minimum</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>+20°C</td> <td>24 hours</td> <td>48 hours</td> </tr> <tr> <td>+30°C</td> <td>16 hours</td> <td>48 hours</td> </tr> </tbody> </table>			Substrate temperature	Minimum	Maximum	+20°C	24 hours	48 hours	+30°C	16 hours	48 hours							
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Note: Times are approximate and will be affected by changing ambient conditions, particularly temperature and relative humidity. Ensure that the primer or scratch coat is fully cured before the application of subsequent Sikafloor® PurCem® layers

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

Dirt pick up in slow curing conditions

In some slow curing conditions, soiling of the surface may occur when opened to foot traffic, even though mechanical properties have been achieved.

1. Remove dirt using a dry mop or cloth.
2. Do not scrub the product with water for the first three days

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.

IMPORTANT CONSIDERATIONS

- 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. Width and depth must



be twice the thickness of the floor finish.

- In cases where thermal stress is expected the formation of retaining grooves is a must also on the layer of standard mix of Sikafloor®-44 PurCem® N.
- 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®-44 PurCem® N in a confined space, to prevent excessive ambient humidity.
- Freshly applied Sikafloor®-44 PurCem® N 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®-44 PurCem® N on any substrate.
- Always allow a minimum of 48 hours after product application prior to placing into service in proximity with food stuffs.
- Products of the Sikafloor®-44 PurCem® N product range are subject to discolouration 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 for 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 +18 °C or above +35 °C or a maximum relative humidity 85 %.
- Product/components have to be preconditioned for minimum 24 hours prior to application to get good performance.
- 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®-44 PurCem® N products by hand. Use only mechanical means.
- Colour uniformity can not be completely guaranteed from batch to batch (numbered). Take care when using Sikafloor®-44 PurCem® N products to draw from inventory in batch number sequence. Do not mix batch numbers in a single floor area.
- Sikafloor®-44 PurCem® N 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

EQUIPMENT

MIXING EQUIPMENT

- Electric double paddle mixer (>700 W, 300 to 400 rpm)
- Forced action / rotating pan / double paddle or trough type mixer (300–400 rpm)

APPLICATION EQUIPMENT

- Notch trowel
- Pin rack
- Flat trowel
- Spiked roller
- Spike shoes
- Hygrometer
- Temperature gun
- Moisture meter

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.
- The product can be applied on green or damp concrete with no standing water. Allow for at least 7 days for early concrete shrinkage to occur to prevent shrinkage cracks from appearing on the wearing surface.

SUBSTRATE PREPARATION

Substrate primer

Substrate priming is not required under normal 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.

IMPORTANT

Incorrect treatment of cracks The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking.

- Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment or diamond grinding machine to remove cement laitance and achieve an open textured surface.
- Weak concrete must be removed and surface defects such as blow holes and voids must be fully exposed.
- Repairs to 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.

- To prevent curling of the applied product during curing, place retaining grooves in the substrate along all exposed edges (perimeter, joints, connections, plinths, columns, coverings and drains / gullies) as shown in the application details of the Sika Method Statement: Sikafloor® PurCem®. Width and depth must be twice the thickness of the floor finish.

MIXING

IMPORTANT

Mix full units only

- Mix Part A (resin) individually & then add A1(Pigment) and mix for ~30 seconds.
- Add Part B (hardener) to Part A. Mix Part A + B continuously for 30 seconds until a uniformly coloured mix is achieved.
- After mixing for 30 seconds, gradually add Part C while you continue mixing.
- After combining all parts, mix for an additional 2 minutes, until a uniform mix is achieved. Note: At ambient temperatures @ +18 °C need little longer mixing to get the materials mixed temperature 25deg C .
- To ensure thorough mixing, pour materials into another container and mix again to achieve a smooth and uniform mix.
- 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.

APPLICATION

IMPORTANT

Protecting the material after application

After application, protect the system from damp, condensation and direct water contact for at least 24 hours.

IMPORTANT

Protect from overhead leaks and condensation

Protect the product during application from pipe condensation or any overhead leaks.

IMPORTANT

Ventilation in confined spaces

Always ensure good ventilation when applying the Product in a confined space.

IMPORTANT

Application on polymer modified cement mortars

Do not apply the product on polymer modified cement mortars if the mortar expands when sealed with an impervious resin.

IMPORTANT

Waiting time for foodstuff

Allow a minimum of 48 hours after application before placing foodstuff in the same area.

SCRATCH COAT

- Pour the mixed product onto the prepared substrate
- Scrape the product into the prepared surface with a steel trowel to the required thickness so that the surface texture is filled.

WEARING LAYER

- Pour the mixed product onto the substrate. Note: The consumption is specified in application Information.
- Apply the product evenly over the surface with a pin rack or a notch trowel.
- Back roll the surface in two directions at right angles with a spike roller. Note: Maintain a "wet edge" during application to achieve a seamless finish.

CLEANING OF TOOLS

Clean all tools and application equipment with xylene or suitable Thinner immediately after use. Hardened material can only be removed mechanically.

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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