BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor® VEL

Monostyrene-free, crack-bridging, conductive, and chemically highly resistant laminate system based on vinyl ester resin

DESCRIPTION

Monostyrene-free, crack-bridging, conductive and chemically highly resistant laminate system based on vinyl ester resin; plain color. General building approval from the DIBt, Berlin: Z-59.12-546. Complies with the emission requirements of the AgBB scheme and Class A+ of the VOC regulation from the French Ministry of the Environment (MEDDTL).

USES

Sikafloor® VEL is specifically designed for use by commercial applicators only.
Sikafloor® VEL serves as a coating solution for WHG collection trays and rooms, suitable for both indoor and outdoor environments for the storage of liquids. Additionally, it functions effectively as a floor coating for areas subjected to direct traffic from vehicles equipped with pneumatic tires, solid rubber wheels, Vulkollan wheels, or polyamide wheels. This product is particularly well-suited for use in electroplating plants, pickling facilities, and environments where oxidizing media are handled.

FEATURES

- Temperature resistant up to 60 °C as a coating layer on concrete substrates
- Crack bridging 0.4 mm
- 'Total Solid' (complies with the German Construction Chemistry test procedure)
- Can be used for electrically conductive coverings
- Can be driven on by vehicles with pneumatic, solid rubber, Vulkollan or polyamide tyres

PRODUCT INFORMATION

Packaging	Sikafloor® VE Primer (A)	16 kg
	Sikafloor® VE Primer (B)	8.8 kg
	Sikafloor® VE Broadcast Agent	25 kg
	Sikafloor® VE (A)	25 kg
	Sikafloor® VE/VE LF/VE Topcoat (B)	1 kg (enough for two 25 kg containers)
	Sikafloor® VE Powder	20 kg
	Sikafloor® VE LF (A)	25 kg
	Sikafloor® VE Booster	2.5 kg
	Sikafloor® VE Filler	12.5 kg
	Sikafloor® VE Topcoat (A)	25 kg
	Sikafloor® VE Glass Fibre Fleece	roll ~ 1.27 m wide
	Siliciumcarbid 0.5-1.0 mm	25 kg
Appearance and colour	Sikafloor® VE Primer (A)	yellowish transparent
	Sikafloor® VE Primer (B)	yellowish transparent
	Sikafloor® VE Broadcast Agent	sand-coloured
	Sikafloor® VE (A)	yellowish transparent
	Sikafloor® VE/VE LF/ VE Topcoat (B)	transparent
	Sikafloor® VE Powder	silver grey
	Sikafloor® VE LF (A)	black
	Sikafloor® VE Booster	violet
	Sikafloor® VE Filler	black
	Sikafloor® VE Topcoat (A)	grey
	Sikafloor® VE Glass Fibre Fleece	white
Shelf life	Sikafloor® VE Primer (A)	24 months
	Sikafloor® VE Primer (B)	24 months
	Sikafloor® VE Broadcast Agent	24 months
	Sikafloor® VE (A)	24 months
	Sikafloor® VE/VE LF/VE Topcoat (B)	12 months
	Sikafloor® VE Powder	24 months
	Sikafloor® VE LF (A)	24 months
	Sikafloor® VE Booster	24 months
	Sikafloor® VE Filler	24 months
	Sikafloor® VE Topcoat (A)	24 months
	Sikafloor® VE Glass Fibre Fleece	unlimited
Storage conditions	Unopened containers should be stored in a dry and cool place (between min. +5°C and max. +20°C).	
Density	Sikafloor® VE Primer (A)	~1.15 g/cm³
	Sikafloor® VE Primer (B)	~1.05 g/cm³
	Sikafloor® VE Broadcast Agent	~1.3 - 1.55 g/cm³ (bulk density)
	Sikafloor® VE (A)	~1.12 g/cm³
	Sikafloor® VE/VE LF/VE Topcoat (B)	~1.16 g/cm³
	Sikafloor® VE Powder	~0.7 - 0.9 g/cm³ (bulk density)
	Sikafloor® VE LF (A)	~1.16 g/cm³
	Sikafloor® VE Booster	~0.95 g/cm³
	Sikafloor® VE Filler	~0.54 g/cm³ (bulk density)
	Sikafloor® VE Topcoat (A)	~1.21 g/cm³

TECHNICAL INFORMATION

Crack bridging ability	0.4 mm	(ZG of the DIBt)

Chemical resistance

In accordance with building authority approval from the DIBt (Z-59.12-546) for test groups 1, 2, 3, 3b, 4, 4a, 4b, 4c, 5, 5a, 5b, 6, 6a, 6b, 7, 7a, 7b, 8a, 9, 9a, 10, 11, 12, 13, 14, 15 and 15a

Additionally approved by the building authorities for the following media:
- Acetonitrile
- Formic acid ≤ 100%
- Chromic sulphuric acid (30% CrO^3 dissolved in 20% sulphuric acid)
- Hydrofluoric acid ≤ 40%
- Phosphoric acid ≤ 89%
- Hydrochloric acid ≤ 37%
- Sulphuric acid ≤ 80%
- Nitric acid ≤ 65%
- Aqueous sodium hypochlorite solution (12% active chlorine)
- Hydrogen peroxide ≤ 50%
- Aqueous ammonia solution ≤ 25%
- Sulphuric acid ≤ 96%

Note: In individual cases, discolouration of the media is possible without affecting chemical resistance.

Electrostatic behaviour

Earth resistance R_E [1, 2)]

characteristic value	curing	test standard
< 10^8 Ω	7 days/23°C	DIN EN 1081

1) This product meets the requirements of TRGS 727
2) Measurement results may vary depending on environmental conditions (e.g., temperature, humidity) and measuring devices.

The conductivity is checked in accordance with the status report “Conductive coatings for industrial floors” by Deutsche Bauchemie e.V.:

Area of the installed coating system	Number of measurements
< 10 m²	1 measurement/1 m²
10–100 m²	10–20 measurements
> 100 m²	10 measurements/100 m²

The measuring points must be at least 50 cm apart. If the required measured value is not achieved at one point, further measurements must be taken within a radius of approx. 50 cm.

APPLICATION INFORMATION

Layer thickness

2.5 - 3.5 mm

Ambient air temperature

min. + 15°C, max. + 30°C

Relative air humidity

Max. 80% (observe dew point, dew point distance from 70% humidity > 5 K)
Ensure good and adequate ventilation during processing!
Tools and mixing equipment must be dry!

Open Time

Sikafloor® VE Primer

20°C	ca. 40 minutes

Sikafloor® VE / Sikafloor® VE LF / Sikafloor® VE Topcoat

15 °C (+Sikafloor® Booster, hardener)	ca. 90 minutes (including 15 minutes' resting time)
20 °C (+Sikafloor® Booster, hardener)	ca. 70 minutes (including 15 minutes' resting time)
25 °C (+Sikafloor® Booster, hardener)	ca. 60 minutes (including 15 minutes' resting time)
30 °C (+Sikafloor® Booster, hardener)	ca. 35 minutes (including 15 minutes' resting time)

Curing time

Temperature	Foot traffic	Full Cure
15°C	17 h	96 h
20°C	12 h	72 h
25°C	8 h	72 h
30°C	5 h	48 h

The finished coating is fully resistant to mechanical and chemical stress at 20 °C after 5 days.

SYSTEM INFORMATION

System structure

Primer:
1.8 kg Sikafloor® VE Primer (A) (64 parts)
1.0 kg Sikafloor® VE Primer (B) (36 parts)
2.8 kg = 2.6 L Primer
Consumption: ca. 0.25 kg/m²
Broadcast Primer with Sikafloor® Broadcast Agent ca. 2.0 kg/m²

Cove: Sikafloor® VE Primer + Sikafloor®-280 (C) 1:10

Scratch coat:
5.0 kg Sikafloor® VE (A) - pre-accelerated (49,5 parts)
0.1 kg Sikafloor® VE (B) (1 part)
5.0 kg Sikafloor® VE Powder (49,5 parts)
10.1 kg Scratch coat
Consumption: ca. 2.0 kg/m²

Embde of the first Sikafloor® VE Glass Fibre Fleece:
1x Sikafloor® VE Glass Fibre Fleece 300 g/m²
Embed with the fresh Scratch coat

Trowelling mortar:
5.0 kg Sikafloor® VE (A) - pre-accelerated (98 parts)
0.1 kg Sikafloor® VE (B) (2 parts)
Embed of the second Sikafloor® VE Glass Fibre Fleece 300 g/m²
5.1 kg
Consumption: ca. 1.3 kg/m²

Earthing connection:
Sikafloor® Conductive Set
1 earthing point per 200 - 300 m², at least 2 per room

Conductive trowelling coat:
5.0 kg Sikafloor® VE LF (A) - pre-accelerated (63 parts)
0.1 kg Sikafloor® VE LF (B) (1 part)
2.8 kg Sikafloor® VE Filler (36 parts)
7.9 kg Conductive trowelling coat
Consumption: ca. 0.7 kg/m²

Superstructures without DIBT approval
For special superstructures or customer-specific applications, binding consultation with product management is required prior to approval.

Option 1: Topcoat grey, smooth, non-conductive:
5.0 kg Sikafloor® VE Topcoat (A) - pre-accelerated (98 parts)
0.1 kg Sikafloor® VE Topcoat (B) (2 parts)
5.1 kg Topcoat
Consumption: ca. 0.75 kg/m², 1.Topcoat 0.5 kg/m², 2.Topcoat 0.25 kg/m²

Option 2: Topcoat slip-resistant, conductive:

Conductive trowelling coat:
5.0 kg Sikafloor® VE LF (A) - pre-accelerated (63 parts)
0.1 kg Sikafloor® VE LF (B) (1 part)
2.8 kg Sikafloor® VE Filler (36 parts)
7.9 kg Conductive trowelling coat broadcasted with 2.5 kg/m² Silicium-carbid 0.5-1.0 mm
Consumption: ca. 0.7 kg/m²

Topcoat, grey (per work step):
5.0 kg Sikafloor® VE Topcoat (A) - pre-accelerated (98 parts)
0.1 kg Sikafloor® VE Topcoat (B) (2 parts)
5.1 kg Topcoat
Consumption: ca. 0.75 kg/m², 1.Topcoat 0.5 kg/m², 2.Topcoat 0.25 kg/m²

Option 3: Topcoat slip-resistant, non-conductive:

Conductive trowelling coat:
5.0 kg Sikafloor® VE LF (A) - pre-accelerated (63 parts)
0.1 kg Sikafloor® VE LF (B) (1 part)
2.8 kg Sikafloor® VE Filler (36 parts)
7.9 kg Conductive trowelling coat broadcasted with 2.5 kg/m² Quartzsand 0.3-0.8 mm
Consumption: ca. 0.7 kg/m²

Topcoat, grey (per work step):
5.0 kg Sikafloor® VE Topcoat (A) - pre-accelerated (98 parts)
0.1 kg Sikafloor® VE Topcoat (B) (2 parts)
5.1 kg Topcoat
Consumption: ca. 0.75 kg/m², 1.Topcoat 0.5 kg/m², 2.Topcoat 0.25 kg/m²

Option 4: Tank lining (without DIBt-Approval)

Trowelling mortar:
5.0 kg Sikafloor® VE (A) - pre-accelerated (49,5 parts)
0.1 kg Sikafloor® VE (B) (1 part)
5.0 kg Sikafloor® VE Powder (49,5 parts)
10.1 kg Trowelling mortar
Consumption: ca. 2.0 kg/m²

Embed of the 1. Sikafloor® VE Glass Fibre Fleece:
1x Sikafloor® VE Glass Fibre Fleece 300 g/m²
Embed into the fresh trowelling mortar

Trowelling mortar:
5.0 kg Sikafloor® VE (A) - pre-accelerated (98 parts)
0.1 kg Sikafloor® VE (B) (2 parts)
Embed of the 2. Sikafloor® VE Glass Fibre Fleece 300 g/m² + one layer Sika® Reemat Lite
5.1 kg
Consumption: ca. 1.8 kg/m²

Pre-accelerated Sikafloor® VE solutions

(Sikafloor® VE (A) / Sikafloor® VE LF (A) / Sikafloor® VE Topcoat (A))

component	container	kg/container
Sikafloor® VE (A) Sikafloor® VE LF (A) Sikafloor® VE Topcoat (A)	pre-measured containers (25 kg)	25.00
from 24°C to 30°C: Sikafloor® VE Booster	60 ml	0.06
from 17°C to 25°C: Sikafloor® VE Booster	100 ml	0.1
from 12°C to 18°C: Sikafloor® VE Booster	180 ml	0.18
Total		**25.06 - 25.18**

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.

FURTHER DOCUMENTATION

The following points must be observed:
- Adequate ventilation (especially in pits and containers)
- No smoking or open flames
- Safety data sheets
- Hazard warnings and safety advice on the containers
- Wear the prescribed personal protective equipment (avoid skin contact with the materials)
- Clean and care for hands with skin protection soap (no solvents!) and skin protection ointment
- Wear a dust mask when grinding (e.g., during repairs)
- Operating instructions in accordance with § 14 Hazardous Substances Regulation and TRGS 507
- accident prevention regulations of the professional association
- Avoid direct contact of the materials with flames, especially during welding work (weld beads) on the construction site

Use up residual quantities as far as possible. Do not pour into sinks or trash cans! Collect separately for disposal in resistant, sealable, and labeled

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 PREPARATION

Concrete:
Prepare the substrate by shot blasting, pressure blasting, or milling (follow up with shot blasting after milling). The substrate must be level, fine-grained, solid, dry, free of grease and oil, and free of loose and flaking particles. Residual moisture ≤ 4 CM%. The average tensile strength must not fall below 1.5 N/mm2. For heavily soiled or chemically contaminated substrates, additional cleaning methods (e.g., steam blasting) appropriate for the object must be carried out. The substrate must be level, fine-grained, solid, dry, free of grease and oil, and free of loose and crumbling parts. Residual moisture ≤ 4 CM%. Objects subject to the provisions of the Water Resources Act (WHG) may only be coated by qualified coating companies that hold a certificate of competence.

MIXING

To simplify application, 25 kg of each of the various Sikafloor® VE (A) components are mixed with Sikafloor® VE Booster. The quantities of accelerator depend on the temperature. For further processing, 5 kg of the pre-accelerated solution is removed.
NOTE! The pre-accelerated solutions must be processed within one day.
DANGER! For vinyl ester resin systems, always first carefully mix the Sikafloor® VE Booster into the resin solution before adding the hardener. Otherwise, there is a risk of explosion!
Liquid components are transferred to a mixing vessel and stirred thoroughly. The materials are mixed in the mixing vessel using a drill and putty mixer at 300–500 rpm. Move the mixer along the wall and bottom of the vessel until a homogeneous mixture is formed. After adding the hardener, the pre-accelerated components require a waiting period for further processing until the foaming subsides. (Gas development!) The waiting time depends on the temperature. Since... Mix thoroughly again. Solids are added to the solution in portions and stirred in as described until a lump-free mixture is obtained.

APPLICATION

Primer:
Apply Sikafloor® VE with a brush or roller. No puddles should remain in concrete depressions or open expansion joints. Evenly sprinkle Sikafloor® VE sprinkling agent onto the freshly applied primer. Once the primer has cured, carefully remove any excess material.
Scratch coat:
Apply Sikafloor® VE scratch coat with a trowel. Place the first layer of Sikafloor® VE Glass Fibre Fleece into the fresh filler, press lightly, and work in with a disc roller. Then saturate the Sikafloor® VE Glass Fibre Fleece with the Sikafloor® VE solution. Use a short-pile roller for this.
Trowelling mortar:
Embed the Sikafloor® VE Glass Fibre Fleece in two layers, one after the other, with the necessary overlap (approx. 5 cm) in the fresh Sikafloor® VE. Each layer is pressed down individually with the disc roller, Sikafloor® VE solution is applied with the paint roller and then deaerated with the disc roller. The overlapping seams between the two Sikafloor® VE Glass Fibre Fleece should be offset by at least 20 cm.
Conductive trowelling coat:
After the Sikafloor® VE trowelling mortar has hardened, stick on self-adhesive copper strips and apply the electrically conductive Sikafloor® VE LF top coat with a smoothing trowel. For an even surface, roll over with a mohair roller.
Optional Topcoat:
The fresh guide compound is covered with 2.5 kg of silicon carbide Sprinkle the fresh guide filler with 2.5 kg silicon carbide 0.5-1.0 mm to cover. After hardening, remove excess material. Both layers are applied with a rubber trowel. After the first layer, wait until the surface has hardened and is no longer sticky. Roll the two layers with a mohair roller. This ensures uniform coverage and an even sheen.

CLEANING OF EQUIPMENT

Acetone

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.

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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