

PRODUCT DATA SHEET

Sikafloor®-390 ECF N

2-part, chemical-resistant, electrostatically conductive floor covering

DESCRIPTION

Sikafloor®-390 ECF N is a 2-part, electrostatically conductive, self-smoothing epoxy resin with high chemical resistance. It is specially used to make surfaces in bunding areas impermeable to liquids which might contaminate ground water.

Total solid according to test method DEUTSCHE BAUCHEMIE

USES

Sikafloor®-390 ECF N may only be used by experienced professionals.

Sikafloor®-390 ECF N is used as a:

- Smooth electrostatically conductive floor covering
- Sikafloor®-390 ECF N is used for interior and exterior applications.

Please note:

- The Product may only be used by experienced professionals.

FEATURES

- Electrostatically conductive
- Impermeable to liquids
- Accommodates substrate movement

CERTIFICATES AND TEST REPORTS

- CE marking and declaration of performance based on EN 1504-2:2004 Products and systems for the protection and repair of concrete structures — Surface protection systems for concrete — Coating
- CE marking and declaration of performance based on EN 13813:2002 Screed material and floor screeds — Screed material — Properties and requirements — Synthetic resin screed material
- Fulfils the requirements of DIN IEC 61340-4-1 (internal test)
- Building material classification according to DIN EN 13501-1:2019-05, test report no. 20210025/01, class Bfl-s1, MPA Dresden, Germany, February 2021
- Particle emission certificate CSM quality certificate according to ISO 14644-1, class 5, test report no. SI 2011-1195
- Outgassing certificate CSM quality certificate according to ISO 14644-15, class -8.3, test report no. SI 2011-1195
- Biological resistance according to ISO 846, CSM test report no. SI 2011-1195
- Decontaminability according to DIN 25415:2012, very good
- General building authority approval no. Z-59.12-393 in the Sikafloor water protection system 390 ECF N as Sikafloor MultiDur ES-58 ECF DE

PRODUCT INFORMATION

Packaging

Container Part A	20.75 kg
Container Part B	4.25 kg
Container Part A + Part B	25 kg ready to mix units

Refer to the current price list for available packaging variations.

PRODUCT DATA SHEET

Sikafloor®-390 ECF N

May 2024, Version 04.01

020811020020000231

Shelf life	12 months from date of production		
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. Always refer to the packaging. Refer to the current Safety Data Sheet for information on safe handling and storage.		
Appearance and colour	Part A	coloured, liquid	
	Part B	yellowish, transparent	
	Cured appearance	Gloss finish	
	Available in a wide range of colours.		
	Exposure to direct sunlight		
	Note: When the product is exposed to direct sunlight, there may be some discolouration and colour variation. This has no influence on the function and performance of the coating.		
	Note: Colour deviations may occur due to filling with quartz sand or carbon fibre filaments.		
	Note: Due to the nature of carbon fibres providing the conductivity, surface irregularities might be possible. This has no influence on the function and performance of the coating.		
Density	Part A	~1.66 kg/l	(EN ISO 2811-1)
	Part B	~1.05 kg/l	
	Mixed Product	~1.51 kg/l	
	Values were determined at 23°C.		
Solid content by mass	~100 %		
Solid content by volume	~100 %		

TECHNICAL INFORMATION

Shore D Hardness	Cured 7 days at +23 °C	~50	(EN ISO 868)
Abrasion resistance	Cured 7 days at +23 °C	~30 mg (CS10 / 1000 g / 1000 cycles) (after 7 days at +23 °C)	(EN ISO 5470-1)
Flexural-strength	Cured 7 days at +23 °C	~4 MPa	(ISO 178)
Tensile adhesion strength	> 1.5 N/mm ² (failure in concrete)		(EN 1542)
Electrostatic behaviour	Earth leakage resistor R_E²⁾		
	Parameter	Curing	Test standard
	< 10 ⁹ Ω	7 days/23°C	DIN EN 61340-4-1
	Earth leakage resistor R_E¹⁾²⁾		
	Parameter	Curing	Test standard
	< 10 ⁸ Ω	7 days/23°C	DIN EN 1081
	Usual average earth leakage resistance RE²⁾		
	Parameter	Curing	Test standard
	< 10 ⁶ Ω	7 days/23°C	DIN EN 1081

¹⁾ This product fulfils the requirements of TRGS 727

²⁾ The measurement results may vary depending on the ambient conditions (e.g. temperature, humidity) and measuring devices.

The conductivity is tested in accordance with the status report 'Ableitfähige Beschichtungen für Industriefußböden' Deutsche Bauchemie e.V.:

Area of the installed coating system	Number of measurements
< 10 m ²	1 Measurement/1 m ²
10–100 m ²	10–20 Measurements
> 100 m ²	10 Measurements/100 m ²

The measuring points must be at least 50 cm apart. If the required measurement value is not achieved at one point, further measurements must be carried out within a radius of approx. 50 cm. A double application of Sikafloor®-390 ECF N (e.g. verticals) should be carried out with an intermediate conductive film.

Service temperature

IMPORTANT

Avoid exposure to moist or wet heat > +80 °C

Sikafloor® broadcast systems with a minimum thickness of ~3–4 mm can resist short-term moist or wet heat of up to +80 °C, if the exposure is only temporary (less than 1 hour). While the system is exposed to temperatures up to +80 °C, simultaneous mechanical or chemical strain may cause damage to the system.

1. Do not expose the system to chemical or mechanical strain at elevated temperatures.

APPLICATION INFORMATION

Mixing ratio

Part A : Part B (by weight) 83 : 17

Consumption

Sikafloor® MultiDur ES-39 ESD

Fulfils ESD requirements, DIN EN 61340-4-1, DIN EN 61340-4-5, DIN EN 1081 and VDE 0100

Coating	Product	Consumption
Primer:	Sikafloor®-150/-151	1-2 x ~ 0,3 - 0,5 kg/m ² per layer
Levelling layer (if required):	Sikafloor®-150/-151 Filler	see respective product data sheet
Derivation:	Sikafloor®-Leitset	1 earthing point per 200 - 300 m ² , at least 2 per room
Conductive layer:	Sikafloor®-220 W Conductive	1 x ~ 0,08 - 0,1 kg/m ²
Dissipative coating:	Sikafloor®-390 ECF N	1 x 2,5 kg/m ²
ESD sealing:	Sikafloor®-305 W ESD	1-2 x ~ 0,18 - 0,2 kg/m ² per layer

Sikafloor® MultiDur ES-39 ECF

Complies with DIN EN 61340-4-1 and DIN EN 1081

Coating	Product	Consumption
Primer:	Sikafloor®-150/-151	1-2 x ~ 0,3 - 0,5 kg/m ² per layer
Levelling layer (if required):	Sikafloor®-150/-151 Filler	see respective product data sheet
Derivation:	Sikafloor®-Leitset	1 earthing point per 200 - 300 m ² , at least 2 per room
Conductive layer:	Sikafloor®-220 W Conductive	1 x ~ 0,08 - 0,1 kg/m ²
Dissipative coating:	Sikafloor®-390 ECF N	1 x 2,5 kg/m ²

Sikafloor® MultiDur ES-49 ECF

Complies with DIN EN 61340-4-1, DIN EN 1081 and VDE 0100

Coating	Product	Consumption
Primer:	Sikafloor®-150/-151	1-2 x ~ 0,3 - 0,5 kg/m ² per layer
Levelling layer (if required):	Sikafloor®-150/-151 Filler	see respective product data sheet
Derivation:	Sikafloor®-Leitset	1 earthing point per 200 - 300 m ² , at least 2 per room
Conductive layer:	Sikafloor®-221 W Conductive	1 x ~ 0,08 - 0,1 kg/m ²
Dissipative coating:	Sikafloor®-390 ECF N	1 x 2,5 kg/m ²

Sikafloor® MultiDur ES-52 ESD

Fulfils ESD requirements, DIN EN 61340-4-1, DIN EN 61340-4-5, DIN EN 1081, VDE 0100 and EN 62485 VDE 0510-485-2

Coating	Product	Consumption
Primer:	Sikafloor®-150/-151	1-2 x ~ 0,3 - 0,5 kg/m ² per layer
Levelling layer (if required):	Sikafloor®-150/-151 Filler	see respective product data sheet
Derivation:	Sikafloor®-Leitset	1 earthing point per 200 - 300 m ² , at least 2 per room
Conductive layer:	Sikafloor®-221 W Conductive	1 x ~ 0,08 - 0,1 kg/m ²
Dissipative coating:	Sikafloor®-390 ECF N	1 x 2,5 kg/m ²
ESD sealing:	Sikafloor®-305 W ESD	1-2 x ~ 0,18 - 0,2 kg/m ² per layer

Sikafloor® MultiDur ET-39 ECF/V

Complies with DIN EN 61340-4-1 and DIN EN 1081

Coating	Product	Consumption
Primer:	Sikafloor®-150/-151	1-2 x ~ 0,3 - 0,5 kg/m ² per layer
Levelling layer (if required):	Sikafloor®-150/-151 Filler	see respective product data sheet
Conductive coating	Sikafloor®-390 ECF N filled with 2.5 - 4% levelling agent T	1 x 2,5 kg/m ²
Derivation:	Sikafloor®-Leitset	1 earthing point per 200 - 300 m ² , at least 2 per room
Conductive layer:	Sikafloor®-220 W Conductive	1 x ~ 0,08 - 0,1 kg/m ²
Dissipative coating:	Sikafloor®-390 ECF N filled with 2.5 - 4% levelling agent T	1 x 1,25 kg/m ²

Surfaces with WHG requirements:

the system data sheet Sikafloor® MultiDur ES-58 ECF DE applies here (Water protection system 390 ECF)

Material temperature	Maximum	+30 °C
	Minimum	+10 °C
Ambient air temperature	Maximum	+30 °C
	Minimum	+10 °C

Relative air humidity	Maximum	80 % r.h.		
Dew point	Beware of condensation. The substrate and uncured applied product must be at least +3 °C above the 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	Maximum	+30 °C		
	Minimum	+10 °C		
Substrate moisture content	Refer to the Product data sheets of the individual primer.			
Pot Life	+10 °C	~60 minutes		
	+20 °C	~30 minutes		
	+30 °C	~10 minutes		
Note: Times are approximate and will be affected by changing ambient conditions, particularly temperature and relative humidity.				
Waiting time to overcoating	Substrate temperature	Minimum	Maximum	
	+10 °C	~48 hours	~6 days	
	+20 °C	~24 hours	~4 days	
	+30 °C	~18 hours	~48 hours	
Note: Times are approximate and will be affected by changing ambient conditions, particularly temperature and relative humidity.				
Applied product ready for use	Temperature	Foot traffic	Light traffic	Full cure
	+30 °C	~20 hours	~3 days	~7 days
	+20 °C	~30 hours	~4 days	~10 days
	+10 °C	~48 hours	~6 days	~14 days
Note: Times are approximate and will be affected by changing ambient 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.

FURTHER DOCUMENTATION

Refer to the following method statements:

- Sika Method Statement — Evaluation and preparation of surfaces for flooring systems
- Sika Method Statement — Sikafloor® mixing and application

ECOLOGY, HEALTH AND SAFETY

CE LABELLING

See declaration of performance.

Hazard statements

GISCODE: RE 90 (previously RE 1)

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

APPLICATION EQUIPMENT

Apply the Product with a serrated trowel – for example, the large-surface scraper No. 656 or the toothed blade No. 25 from Polyplan (www.polyplan.com).

MIXING EQUIPMENT

- Electric double-paddle mixer (> 700 W, 300 rpm to 400 rpm)

SUBSTRATE QUALITY

Cementitious substrates must be structurally sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum tensile strength of 1.5 N/mm².

Substrates must be clean, dry and free of contaminants such as dirt, oil, grease, coatings, laitance, surface treatments and loose friable material.

PRODUCT DATA SHEET

Sikafloor®-390 ECF N
May 2024, Version 04.01
020811020020000231

SUBSTRATE PREPARATION

MECHANICAL SUBSTRATE PREPARATION IMPORTANT

Surface defects due to voids in the substrate

Voids and blow holes in the substrate will weaken the surface and damage the covering Product if not repaired during the preparation process.

1. Fully expose blow holes and voids during surface preparation to identify the required repairs.
1. Remove weak cementitious substrates.
2. Prepare cementitious substrates mechanically using abrasive blast cleaning, abrasive planing or scarifying equipment to remove cement laitance.
3. Before applying thin layer resins, remove high spots by grinding.
4. Before applying the Product, remove all dust, loose and friable material from the application surface with an industrial vacuuming equipment.
5. Level the surface or fill cracks, blow holes and voids with products from the Sikafloor®, Sikadur® and Sikagard® range of materials.

For additional information on products for leveling and repairing defects, contact Sika® Technical Services.

SUBSTRATE PREPARATION OF NON-CEMENTITIOUS SUBSTRATES

For information on substrate preparation of non-cementitious substrates, contact Sika® Technical Services.

MIXING

Stir component A mechanically before mixing. Carefully add component B in the prescribed mixing ratio and mix for 3 minutes with an electric double whisk (maximum 300 rpm) until a homogeneous mixture is obtained. To ensure complete mixing, pour the mixed material into a clean container (repot) and mix again briefly. Avoid stirring in air by mixing for too long.

Mixing tools

Sikafloor®-390 ECF N must be mixed with a low-speed electric double beater (maximum 300 rpm) or other suitable equipment.

APPLICATION

Wear layer - horizontal surfaces

Sikafloor®-390 ECF N is poured and evenly spread to the desired layer thickness using a double-bladed trowel or notched trowel. For a better finish, smooth the freshly applied layer again after 20-30 minutes with the back of the notched trowel. Then immediately deaerate intensively at least twice with a metal spiked roller in a cross pass.

Wear layer - vertical surfaces

The first layer of Sikafloor®-390 ECF N mixed with 2.5-4% by weight of setting agent T is applied with a notched trowel. After sanding with a black pad, the drainage points and the conductive layer are applied. The second layer of Sikafloor®-390 ECF N, mixed with 2.5-4% by weight of setting agent T, is then applied with a notched trowel.

Non-slip wear layer

Sikafloor®-390 N is poured out, evenly distributed to the desired layer thickness with a notched trowel and immediately sprinkled with SiC 0.3-0.6 or 0.5-1.0 mm in excess. After curing, the excess silicon carbide must be swept off and vacuumed and sealed with Sikafloor®-390 ECF N.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with Sika® Thinner C immediately after use. Hardened material can only be removed mechanically.

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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PRODUCT DATA SHEET

Sikafloor®-390 ECF N
May 2024, Version 04.01
020811020020000231

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