BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-281 EDF

Epoxy coloured self-smoothing electrostatic dissipative flooring resin (Formerly FLORGARD ESD)

DESCRIPTION

Sikafloor®-281 EDF is a 4-part, self smoothing, solvent free, coloured electrostatic dissipative epoxy resin floor coating.

USES

Sikafloor®-281 EDF may only be used by experienced professionals.

The Product is used as a:
- Smooth electrostatically dissipative floor covering for industries that process, assemble, install, package, test or transport, such as electronics, clean room, pharmaceutical, automotive industries etc.

Please note:
- The Product may only be used for interior applications.

CHARACTERISTICS / ADVANTAGES

- Meets the requirements of ASTM F150
- Low VOC emissions
- Good resistance to abrasion
- Low odour during application
- Very good mechanical resistance
- Easy application
- Easy to clean

PRODUCT INFORMATION

Composition	Epoxy resin, selected fillers and carbon fibres	
Packaging	Part A+B+C+D pre-batched	17.5 kg set
	Part A	5 kg container
	Part B	2 kg container
	Part C	10.41 kg bag
	Part D	0.09 kg pouch
Shelf life	Part A	6 months from date of production
	Part B	6 months from date of production
	Part C	24 months from date of production. **Protect from humidity.**
	Part D	24 months from date of production. **Protect from humidity.**
Storage conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +10 °C and +30 °C.	

Appearance and colour	Part A (Resin)	Coloured, liquid
	Part B (Hardener)	Transparent, liquid
	Part C (Filler)	White quartz
	Part D (Carbon fibre)	Black fibres

Product is available in a number of colour shades. Please consult with Sika representative for more details.
IMPORTANT
Applied colours selected from colour charts will be approximate.
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.
IMPORTANT
When 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 floor finish. Use of clear UV resistant top coat may not prevent discoloration of underlying coatings.
IMPORTANT
Different mixing time of each set will lead to shade variations.
IMPORTANT
Due to the nature of carbon fibres providing the conductivity, it is not possible to achieve exact colour matching. With very bright colours (such as yellow and orange), this effect is increased.

Density	~1.7 kg/L (Part A+B+C+D mixed, +27 °C)	(EN ISO 2811-1)

TECHNICAL INFORMATION

Shore D Hardness	~71 (28 d, +27 °C)	(ASTM D2240)
Abrasion resistance	~8 mg (7 d, +27 °C, CS-10/1000/1000)	(ASTM D4060)
Compressive strength	~54 N/mm² (28 d, +27 °C)	(EN 196-1)
Tensile strength in flexure	~30 N/mm² (28 d, +27 °C)	(EN 196-1)
Tensile strength	~9 N/mm² (28 d, +27 °C)	(ISO 527-3)
Tensile adhesion strength	~3 N/mm² (28 d, +27 °C, concrete failure)	(EN 1542)
Electrostatic behaviour	Typical average resistance to ground [1] 10^6–10^9 Ω	(ASTM F150)

NOTE:
[1] Readings may vary, depending on ambient conditions (i.e. temperature, humidity), measurement equipment, cleanliness of the floor and the test person.
All measurement values for the Sikafloor®-281 EDF system stated in the product data sheet were measured under the following conditions: Ambient conditions: +23 °C/50 %; Measurement device for the Resistance to Ground: Metriso 2000 (Warmbier) or comparable.

Chemical resistance	Resistant to many chemicals. Contact Sika Technical Services for specific information.

SYSTEM INFORMATION

System structure

Layer	Product
Primer	Sikafloor®-167 Primer / Sikafloor®-161 HC
(Optional) Levelling layer	Sikafloor®-296
Earthing connection	Sikafloor® Copper Tape IN
Conductive primer	Sikafloor®-223 W Conductive
Self-smoothing topping	Sikafloor®-281 EDF

APPLICATION INFORMATION

Mixing ratio

Part A : Part B : Part C : Part D = 5 : 2 : 10.41 : 0.09

Consumption

Layer	Product	Consumption
Primer	Sikafloor®-167 Primer / Sikafloor®-161 HC	0.2–0.3 kg/m²
(Optional) Levelling layer	Sikafloor®-296 (1 mm)	1.7 kg/m² per mm
Earthing Connection	Sikafloor® Copper Tape IN	Please consult Sika representative
Conductive under coat	Sikafloor®-223 W Conductive	0.1–0.12 kg/m²
Self-smoothing top coat	Sikafloor®-281 EDF	2.5 kg/m²

These figures are theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level and wastage etc.

Layer thickness

1.5 mm max.
IMPORTANT
Excessive thickness > 1.5 mm (consumption > 2.5 kg/m²) will cause reduced conductivity.

Ambient air temperature

+10 °C min. / +30 °C max.

Relative air humidity

75 % 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. Low temperatures and high humidity conditions increase the probability of blooming.

Substrate temperature

+10 °C min. / +30 °C max.

Substrate moisture content

≤ 4 % parts by weight
The following test methods can be used: Sika®-Tramex meter, CM-measurement or Oven-dry-method. No rising moisture according to ASTM D4263 (Polyethylene-sheet).

Pot Life

Temperature	Pot life (100 g mass)
+20 °C	~25 minutes
+30 °C	~20 minutes

Applied product ready for use

Temperature	Foot traffic	Light traffic	Full cure
+20 °C	~2 days	~3 days	~7 days
+30 °C	~24 hours	~3 days	~5 days

Notes: 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 Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

FURTHER INFORMATION

Refer to the following method statements:
- Sika Method Statement — Sikafloor® evaluation and preparation of surfaces
- Sika Method Statement — Sikafloor® mixing and application

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 single paddle mixer (300 to 400 rpm)

APPLICATION EQUIPMENT
- Flat, round edge steel trowel
- Spiked roller
- Trowels, including serrated
- Pin leveller

SUBSTRATE QUALITY

IMPORTANT
Incorrect treatment of cracks
The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking. Construction joints and existing static surface cracks in substrate require pre-treating before full layer application. Use Sikadur® or Sikafloor® resins.

- Cementitious substrates (concrete / screed) 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 all contaminants such as dirt, oil, grease, coatings, laitance, surface treatments and loose friable material.

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.
- Weak concrete must be removed and surface defects such as blowholes and voids must be fully exposed. Repairs to the substrate, filling of blowholes/voids and surface levelling can be carried out using appropriate products from the Sikafloor®, Sikadur® and Sikagard® range of materials.
- The concrete or screed substrate has to be primed or levelled in order to achieve an even surface. Note: Unevenness will influence the film thickness and thus the conductivity.
- High spots must be removed by e.g. 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.

MIXING

1. Mix Part A (resin) for ~10 seconds and add Part D (carbon fibre) and mix well.
2. Add Part B (hardener) to Part A and mix for 2 minutes.
3. While mixing Parts A + B, gradually add Part C (filler).
4. IMPORTANT Do not mix excessively. Mix for a further 1 minutes until a uniform mix is achieved.
5. To ensure thorough mixing, pour materials into another container and mix again to achieve a smooth and uniform mix.
6. 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
Temporary heating
If temporary heating is required, do not use gas, oil, paraffin or other fossil fuel heaters. These produce large quantities of both carbon dioxide and water vapour, which may adversely affect the finish.
1. For heating, use only electric powered warm air blower systems.

IMPORTANT
Performing pre-trials
Pre-trials/mock-up applications must be performed and procedures agreed with all parties before full project application.
IMPORTANT
Temporary moisture barrier
If the substrate moisture content measured with the CM-method is > 4 % by weight, apply a temporary moisture barrier consisting of Sikafloor® EpoCem®.
1. Contact Sika technical services for more information.

IMPORTANT
Indentations
Under certain conditions, underfloor heating or high ambient temperatures combined with high point loading may lead to indentations in the resin.

SMOOTH WEARING LAYER
1. Pour the mixed Product onto the substrate. **Note:** The consumption is specified in Application Information.
2. Apply the Product evenly over the surface with a serrated trowel.
3. To achieve a smooth finish, smooth the surface with the flat side of a trowel.
4. Back roll the surface in two directions at right angles with a steel spike roller.

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 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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