

## SYSTEM DATA SHEET

# Sikafloor® MultiDur ES-55 ESD

Smooth Epoxy ESD Flooring System

## PRODUCT DESCRIPTION

Sikafloor® MultiDur ES-55 ESD is a smooth finish, epoxy ESD Flooring System. The System is designed to dissipate electrostatic charges (ESD) and protect personnel and sensitive equipment in electrostatic protected areas (EPA).

## USES

Sikafloor® MultiDur ES-55 ESD may only be used by experienced professionals.

The System can be used in industrial buildings, such as:

- Pharmaceutical establishments
- Giga factories
- Film studios
- Automotive facilities
- Computer manufacturing
- Electronic facilities and data centers

The System may only be used for interior applications.

## CHARACTERISTICS / ADVANTAGES

- Low Airborne Molecular Contaminants (AMC) emissions.
- Good resistance to specific chemicals.
- Smooth gloss finish.
- Proven, effective technology.
- System is straightforward to install.
- Offers long-lasting protection.
- Aesthetically pleasing - available in numerous colours.

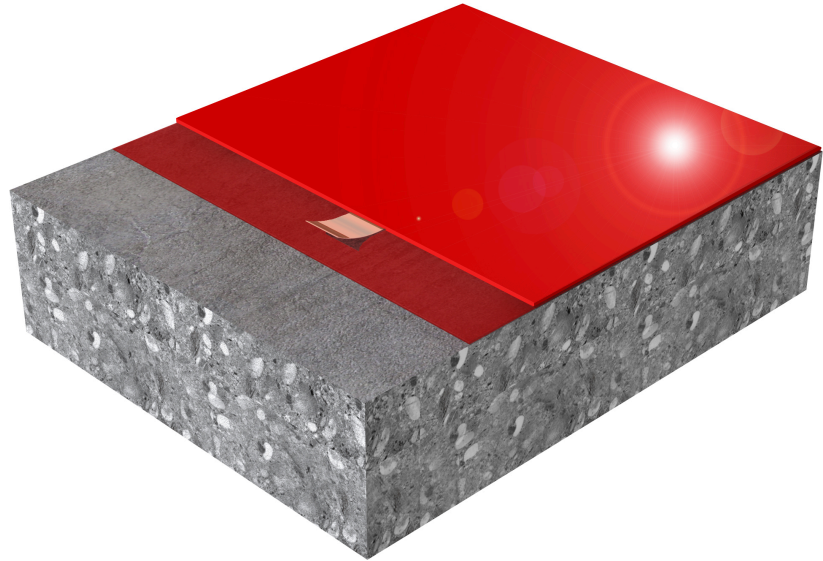
## APPROVALS / STANDARDS

- Approval for ESD protective products acc. IEC 61340-5-1, RISE Institute, No. ESD-20-0023.
- Insulation Resistance DIN VDE 0100-600, kiwa, Test Report No. P 12819-E.
- Fire Classification Report EN 13501-1, ofi, No. 2102463.
- Electrostatic properties ASTM F 150, KIWA, Report No. P 13238-1-E.

# SYSTEM INFORMATION

## System Structure

Sikafloor® MultiDur ES-55 ESD (~0.7–2.0 mm)



Self smoothing / Resin Screed

### Layer

1. Primer or scratch coat

### Product

Sikafloor®-150

Sikafloor®-151

Sikafloor®-1590

2. Wearing layer / Wearing screed

Sikafloor®-2350 ESD filled with 20 % quartz sand 0.1–0.3 mm

## Composition

Epoxy

## Colour

Cured colour

Available in the approximate colours RAL 1014, RAL 6000, RAL 6010, RAL 6020, RAL 6021, RAL 6027, RAL 6034, RAL 7005, RAL 7011, RAL 7016, RAL 7032, RAL 7035, RAL 7038, RAL 7040, RAL 7047.

Please contact Sika® Customer Services for information on availability.

Note: When the System is exposed to direct sunlight, there may be some discolouration and colour variation. This has no influence on the function and performance of the floor finish.

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

## Nominal thickness

1.5 mm to 2.0 mm

## TECHNICAL INFORMATION

### Reaction to Fire

Class B<sub>fl</sub>-s1

### Chemical Resistance

Refer to the chemical resistance of Sikafloor®-2350 ESD.

### Thermal Resistance

Short-term, maximum 7 days +60 °C

#### IMPORTANT

#### No simultaneous mechanical and chemical strain

While the product is exposed to temperatures up to +60 °C, do not also subject it to chemical and/or mechanical strain, as it may cause damage to the product.

### Electrostatic Behaviour

Resistance to ground

$R_G < 10^9 \Omega$

(IEC 61340-4-1)

This product fulfils the requirements of ATEX 137

Typical average resistance to ground	$R_G \leq 10^6 \Omega$ to $10^7 \Omega$	(EN 1081)
Body voltage generation	$< 100 \text{ V}$	(IEC 61340-4-5)
System Resistance (Person/Floor/Footwear)	$< 10^9 \Omega$	

Note: Measurement results can be affected by ESD clothing, ambient conditions, measurement equipment, cleanliness of the floor and the test personnel.

#### IMPORTANT

#### ESD footwear requirements

The ESD shoes used in the EPA must have a resistance of  $< 5 \text{ MOhm}$  according to IEC 61340-4-3 at climate class 1 (12 % relative humidity /  $+23 \text{ }^\circ\text{C}$ ). In order to achieve charges of  $< 30$  volts of human body charge during the walking test (at 12 % relative humidity /  $+23 \text{ }^\circ\text{C}$ ), we recommend using the following ESD shoes: Weeger ESD clog, art. 48512-30, [www.schuh-weeger.de](http://www.schuh-weeger.de).

#### ESD MEASUREMENT CONDITIONS AND SPECIFICATIONS

All measurement values for the System stated in the System Data Sheet (except those referring to proof statements) were measured using the following equipment and ambient conditions:

Condition or Equipment	Specification
Size of ESD-footwear	42 (EU) (UK: 8; US: 8.5)
Test person weight	90 kg
Ambient conditions	$+23 \text{ }^\circ\text{C}$ / 50 %
Measuring device for measuring resistance to ground	Metriso 2000 or 3000 (Warmbier) or comparable
Surface resistance probe	Carbon Rubber electrode. Weight: 2.50 kg
Rubber pad hardness	Shore A 60 ( $\pm 10$ )
Measuring device for measuring body voltage generation	Walking Test Kit WT 5000 (Warmbier) or comparable

## APPLICATION INFORMATION

### Consumption

Self smoothing / resin screed

Layer	Product	Consumption
Primer or scratch coat	1 x Sikafloor®-150 Sikafloor®-151 Sikafloor®-1590	$\sim 0.3 \text{ kg/m}^2$ to $0.5 \text{ kg/m}^2$
Levelling (if required)	Sikafloor®-150 Sikafloor®-151 Sikafloor®-1590	Refer to the individual Product Data Sheet
Earthing connection	Sika® Conductive Kit	1 earthing point per $\sim 200 \text{ m}^2$ to $300 \text{ m}^2$ . Minimum 2 per room.
Wearing layer / Wearing screed	1 x Sikafloor®-2350 ESD filled with 20 % quartz sand 0.1 to 0.3 mm	Maximum $1.5$ to $2.5 \text{ kg/m}^2$

Note: With thinner layers, the chemical and mechanical resistance and the flow properties can be reduced.

### Waiting Time / Overcoating

For the waiting time to overcoating of the primer, refer to the individual Product Data Sheet.

## VALUE BASE

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 DOCUMENTS

- Sika® Method Statement: Evaluation and Preparation of Surfaces for Flooring Systems.
- Sika® Method Statement: Mixing and Application of Flooring Systems.

## LIMITATIONS

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. For heating, use only electric powered warm air blower systems.

IMPORTANT

### Protecting the material after application

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

IMPORTANT

### No application on rising moisture

Do not apply on substrates with rising moisture.

IMPORTANT

### No application on sloped substrates

Do not apply on substrates with a slope > 1 %.

## 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

### APPLICATION

#### Installation of earthing points

Refer to Sika® Method Statement: Mixing and Application of Flooring Systems.

Number of earthing connections per room: Minimum of 2 earthing connections. The optimum number of earthing connections depends on the local conditions and must be specified on drawings or other contract documentation.

#### ESD conductivity measurements

Recommended number of conductivity measurements is specified in the following table:

<u>Ready Applied Area</u>	<u>Number of Measurements</u>
< 10 m <sup>2</sup>	6
≥ 10 m <sup>2</sup> and < 100 m <sup>2</sup>	10 to 20
≥ 100 m <sup>2</sup> and < 1000 m <sup>2</sup>	50
≥ 1000 m <sup>2</sup> and < 5000 m <sup>2</sup>	100

If the measurements yield values that are outside of the agreed specification, follow these steps:

1. Carry out one additional measurement within a radius of approximately 30 cm around the original measuring point.

If the value of the new measurement meets the agreed specification, the original measurement can be disregarded. If the value of the new measurement does not meet the agreed specification, you may repeat the measurement described above, until the fulfilment of the requirements have been verified. If the requirements cannot be verified, contact Sika® Technical Services.

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.

- a) For heating, use only electric powered warm air blower systems.

IMPORTANT

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## LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

## 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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