BUILDING TRUST

SYSTEM DATA SHEET

Sikafloor® MultiDur ES-57 ESD

Smooth, Epoxy ESD Flooring System with Increased Conductivity

PRODUCT DESCRIPTION

Sikafloor® MultiDur ES-57 ESD is a smooth finish, epoxy ESD Flooring System. The System is used to dissipate electrostatic charges (ESD) and protect sensitive equipment in electrostatically protected areas (EPA).

USES

Sikafloor® MultiDur ES-57 ESD may only be used by experienced professionals.

Sikafloor® MultiDur ES-57 ESD is used in industrial buildings such as:

- Pharmaceutical institutions
- Automotive factories and assembly centres
- Electronic facilities and data centres

Please note:
- The System may only be used by experienced professionals.
- The System may only be used for interior applications.

CHARACTERISTICS / ADVANTAGES

- Provides reliable and long-lasting ESD protection.
- Seamless surface requires minimal cleaning and maintenance.
- Functional finish with outstanding appearance.
- Low Airborne Molecular Contaminants (AMC) emissions.
- Low VOC emissions .
- Good resistance to specific chemicals.
- Very good mechanical resistance.

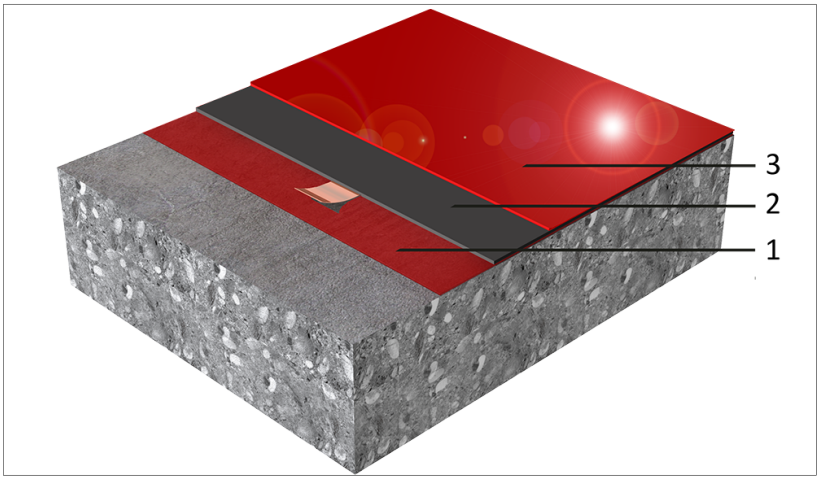
APPROVALS / STANDARDS

- Approval for ESD Protective Products IEC 61340-5-1.
- Fire classification report EN 13501-1, GHENT, Report No. CR 21-0968-01.
- Test Report Electrostatic Properties accoding to IEC 61340-5-1, RISE Institute, No. O169245.

SYSTEM INFORMATION

System Structure

Sikafloor® MultiDur ES-57 ESD



	Layer	Product
1.	Primer	Sikafloor®-150 Sikafloor®-151 Contact Sika® Technical Services for information on choosing the right primer for your project.
2.	Conductive Primer	Sikafloor®-221 W Conductive + Sikafloor® Conductive Set.
3.	Wearing Layer	Sikafloor®-2350 ESD filled with 20 % Quartz Sand (0.1–0.3 mm).

Composition

Epoxy

Appearance

Smooth, gloss finish

Colour

Available in the approximate colours: RAL 1014, RAL 5012, RAL 6000, RAL 6010, RAL 6020, RAL 6021, RAL 6034, RAL 7005, RAL 7011, RAL 7021, RAL 7032, RAL 7035, RAL 7036, RAL 7038, RAL 7040, RAL 7047, RAL 9002.
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

~2.0 mm

TECHNICAL INFORMATION

Tensile adhesion strength

≥ 1.5 MPa (EN 1542)

Electrostatic Behaviour

Resistance to Ground	$R_G < 10^9\ \Omega$	(IEC 61340-4-1)
Typical Average Resistance to Ground	$R_G < 10^6–10^7\ \Omega$	
Body Voltage Generation	< 100 V	(IEC 61340-4-5)
System Resistance	$R_G < 10^9\ \Omega$	

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 °C and 50 % relative humidity
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 ±10)
Measuring device for measuring body voltage generation	Walking Test Kit WT 5000 (Warmbier) or comparable

IMPORTANT

ESD footwear requirements

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

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

APPLICATION INFORMATION

Consumption

Layer	Product	Consumption
Primer	Sikafloor®-150 Sikafloor®-151	1 to 2 × 0.3 to 0.5 kg/m²
Conductive Primer	Sikafloor®-221 W Conductive Sikafloor® Conductive Set	1 × 0.08 to 0.10 kg/m² 1 earthing point per 200 to 300 m², minimum 2 per room.
Wearing Layer	Sikafloor®-2350 ESD filled with 20% Quartz Sand 0.1–0.3 mm	Maximum 2.5 kg/m²

Ambient Air Temperature

Maximum	+30 °C
Minimum	+15 °C

Relative Air Humidity

Maximum	80 % r.h.

Dew Point

Refer to the individual Product Data Sheet.

Substrate Temperature

Maximum	+30 °C
Minimum	+15 °C

Substrate Moisture Content

Refer to the individual Product Data Sheet.

Waiting Time / Overcoating

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

Before applying Sikafloor®-2350 ESD on Sikafloor®-221 W Conductive, allow:

Temperature	Minimum	Maximum
+15 °C	~26 hours	~7 days
+20 °C	~17 hours	~5 days
+30 °C	~12 hours	~4 days

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
+15 °C	~48 hours	~3 days	~7 days
+20 °C	~24 hours	~48 hours	~4 days
+30 °C	~16 hours	~36 hours	~3 days

NOTE: Times apply when the last layer of the System has been applied. Times are affected by changing ambient conditions, particularly temperature and relative humidity.

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

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

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

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

Ready Applied Area	Number of Measurements
< 10 m²	6
≥ 10 m² and < 100 m²	10 to 20
≥ 100 m² and < 1000 m²	50
≥ 1000 m² and < 5000 m²	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.
2. If the value of the new measurement meets the agreed specification, the original measurement can be disregarded.
3. If the value of the new measurement does not meet the agreed specification, repeat the measurement described above until the fulfilment of the requirements have been verified.
4. If the requirements cannot be verified, contact Sika® Technical Services.

INSTALLATION OF EARTHING POINTS
Refer to Sika® Method Statement: Sika® Method Statement — Sikafloor® mixing and application.
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.

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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