

SYSTEM DATA SHEET

Sikafloor® MultiDur ES-56 ESD

Smooth conductive epoxy ESD flooring system

DESCRIPTION

Sikafloor® MultiDur ES-56 ESD is a smooth finish, epoxy ESD flooring system. The system is designed to dissipate electrostatic charges (ESD) and protect sensitive equipment in electrostatic protected areas (EPA).

USES

The System is used in industrial buildings such as:

- Pharmaceutical facilities
- Automotive facilities
- Electronic facilities and data centres

Please note:

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

CHARACTERISTICS / ADVANTAGES

- Low Airborne Molecular Contaminants (AMC) emissions
- Low VOC emissions
- Good resistance to specific chemicals
- Very good mechanical resistance

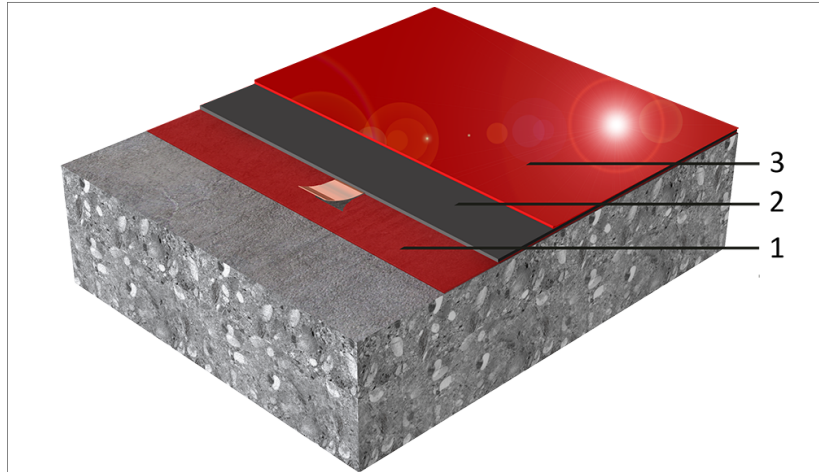
APPROVALS / CERTIFICATES

- ESD-Approval Sikafloor MultiDur ES-56 ESD
- Approval for ESD protective products acc. IEC 61340, RISE Institute, No. ESD-20-0024, rev 1
- Fire classification report, EN 13501-1, Ghent University, Report No. 20-1069-03

SYSTEM INFORMATION

System structure

Sikafloor® MultiDur ES-56 ESD



Layer	Product
1. Primer	Sikafloor®-160 Sikafloor®-161 Contact Sika technical service for information on choosing the right primer for your project.
2. Conductive Primer + Earthing connection	Sikafloor®-220 W Conductive + Sikafloor® Conductive Set
3. Wearing layer or roller coat	Sikafloor®-2350 ESD filled 20 % with quartz sand 0.1–0.3 mm or Sikafloor®-2350 ESD unfilled

Composition	Epoxy
Appearance	Smooth, gloss finish
Colour	Cured system colour Available in the approximate colours RAL 1000, RAL 1001, RAL 1014, RAL 1019, RAL 3012, RAL 5012, RAL 5024, RAL 6000, RAL 6010, RAL 6020, RAL 6021, RAL 6027, RAL 6033, RAL 6034, RAL 7001 RAL 7005, RAL 7011, RAL 7015, RAL 7021, RAL 7024, RAL 7030, RAL 7032, RAL 7035, RAL 7037, RAL 7038, RAL 7040, RAL 7042, RAL 7045, RAL 7046, RAL 7047, RAL 9002, NCS S 3500-N
Nominal thickness	0.8 mm to 2 mm

TECHNICAL INFORMATION

Tensile adhesion strength	≥ 1.5 MPa	(EN 1542)
Reaction to fire	Class B _{fl} -s1	(EN 13501-1)
Resistance to UV exposure	Will discolour and chalk/fade with UV exposure. Only use internally with no UV exposure.	

Electrostatic behaviour

Resistance to ground	$R_G < 10^9 \Omega$	(IEC 61340-4-1)
Typical average resistance to ground	$R_G < 10^5\text{--}10^6 \Omega$	
Body voltage generation	$< 100 \text{ V}$	(IEC 61340-4-5)
System resistance	$R_G < 10^9 \Omega$	

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 $< 30 \text{ volts}$ 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.schuhweeger.de.

APPLICATION INFORMATION

Consumption	Layer	Product	Consumption
	Primer	Sikafloor®-160 Sikafloor®-161	$1\text{--}2 \times \sim 0.3\text{--}0.5 \text{ kg/m}^2$
	Levelling (optional)	Sikafloor®-160 Sikafloor®-161	Refer to the individual Product Data Sheet.
	Conductive Primer + Earthing connection	Sikafloor®-220 W Conductive + Sikafloor® Conductive Set	$1 \times 0.08\text{--}0.10 \text{ kg/m}^2$ 1 earthing point per $\sim 200\text{--}300 \text{ m}^2$, 2 per room minimum.
	Wearing layer	Sikafloor®-2350 ESD filled with 20% quartz sand 0.1-0.3 mm	Maximum 2.5 kg/m^2
	Roller coat	Sikafloor®-2350 ESD unfilled	$\sim 0.8 \text{ kg/m}^2$

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

Ambient air temperature	Maximum	$+30 \text{ }^\circ\text{C}$
	Minimum	$+15 \text{ }^\circ\text{C}$
Relative air humidity	Maximum	80 % r.h.
Dew point	Refer to the individual Product Data Sheet.	
Substrate temperature	Maximum	$+30 \text{ }^\circ\text{C}$
	Minimum	$+15 \text{ }^\circ\text{C}$
Substrate moisture content	Refer to the individual Product Data Sheet.	

Waiting time to overcoating

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

Before applying Sikafloor®-2350 ESD on Sikafloor®-220 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.

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® and Sikagard® evaluation and preparation of surfaces
- Sika Method Statement — Sikafloor® mixing and application

IMPORTANT CONSIDERATIONS

Substrate must be free from rising moisture.

The concrete substrate must be sound and of sufficient compressive strength (minimum 25 N/mm²) and a minimum pull off strength of 1.5 N/mm².

The substrate must be clean, dry and free of all contaminants

If in doubt apply a test area first

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing 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 m ²	6
≥ 10 m ² and < 100 m ²	10 to 20
≥ 100 m ² and < 1000 m ²	50
≥ 1000 m ² and < 5000 m ²	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.

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 declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

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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System Data Sheet

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