BUILDING TRUST

SYSTEM DATA SHEET

Sikagard® WallCoat WS-11 ESD

Water-based Epoxy and Polyurethane Combination ESD Wall Coating System

PRODUCT DESCRIPTION

Sikagard® WallCoat WS-11 ESD is a water-based, epoxy and polyurethane combination, Electrostatic Discharge (ESD) Wall Coating System. The System is designed to dissipate electrostatic charges (ESD) and protect personnel and sensitive equipment in electrostatic protected areas (EPA).

USES

Sikagard® WallCoat WS-11 ESD may only be used by experienced professionals.

Resin wall coating on cementitious substrates for:
- Electrostatic protected areas (EPA)
- Areas requiring the lowest electrostatic charge (low BVG (Body Voltage Generation)) and dissipative surface
- Electronic production areas
- Automotive production plants
- Chemical production plants
- Laboratories
- Fireworks factories
- Pharmaceutical production areas
- Explosive storage and handling areas
- Explosive dust environments
- Microbiology/microchemistry production areas
- Telephone exchanges
- Workshops
- Computer / server rooms
- Interior use only

CHARACTERISTICS / ADVANTAGES

- Thickness ~0,3–0,5 mm
- Low VOC emissions top coat
- Easy to apply
- Easy to refurbish, top coat can be recoated
- Easy to clean
- Conforms to the requirements of ANSI/ESD S20.20 and IEC 61340-5-1
- Smooth matt surface finish

ENVIRONMENTAL INFORMATION

- Conformity with LEED v2009 IEQc 4.2: Low-Emitting Materials - Paints and Coatings - Sikafloor®-305 W ESD.

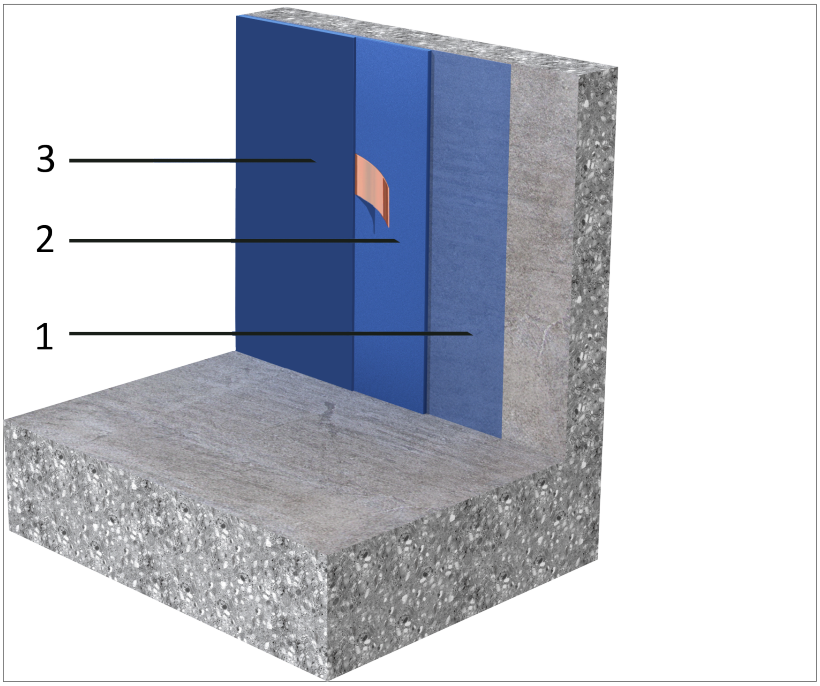
APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to EN 1504-2 - Surface protection product for concrete - Coating.
- CE Marking and Declaration of Performance to EN 13813 - Resin screed material for internal use in buildings.

SYSTEM INFORMATION

System Structure

Sikagard® WallCoat WS-11 ESD ~0,3–0,5 mm:



Layer	Product
1. Primer	1 × Sikagard® Wallcoat N
2. Intermediate Layer & Earthing Connection	1 × Sikagard® Wallcoat N + Sika® Earthing Kit
3. ESD Wall Coating	2 × Sikafloor®-305 W ESD

The System structure layers as described in table must not be changed.

Composition

Primer & Intermediate Layer:	Water-based epoxy
ESD Wall Coat	Water-based polyurethane

Appearance

Smooth matt finish

Colour

Available in a limited number of colour shades such as: RAL 1001, RAL 3012, RAL 5015, RAL 6021, RAL 7011, RAL 7032, RAL 7035, RAL 7037, RAL 7038 and RAL 9018.
Be aware that the colour of the layer below has to be approximately adjusted to the colour of the final layer.

Nominal thickness

~0,3–0,5 mm

TECHNICAL INFORMATION

Electrostatic Behaviour

Typical Average Resistance to Ground	R_g < ~ 10^5–$10^7\Omega$	(IEC 61340-4-1)

Readings may vary depending on ambient conditions (i.e. temperature, humidity, etc.) and measurement equipment.

APPLICATION INFORMATION

Consumption

Layer	Product	Consumption
1. Primer	Sikagard® Wallcoat N + 5% water by weight	1 × ~0,15–0,20 kg/m²
2. Intermediate Layer	Sikagard® Wallcoat N	1 × ~0,15–0,25 kg/m²
3. Earthing Connection	Sika® Earthing Kit	1 earthing point per ~200–300 m². Minimum 2 per room
3. ESD Wall Coat	Sikafloor®-305 W ESD + 10% water by weight	2 × ~0,15 kg/m² per coat

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

Product Temperature

+10 °C minimum / +30 °C maximum

Ambient Air Temperature

+10 °C minimum / +30 °C maximum

Relative Air Humidity

During curing, the humidity must not exceed 75 %. There must be a sufficient supply of fresh air or a dehumidifier to remove excess moisture from cured water based products.

Dew Point

Beware of condensation. The substrate and uncured applied floor materials must be at least +3 °C above dew point to reduce the risk of condensation or blooming on the surface of the applied product.

Substrate Temperature

+10 °C minimum / +30 °C maximum

Substrate Moisture Content

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

Waiting Time / Overcoating

Before applying Sikagard® Wallcoat N on Sikagard® Wallcoat N diluted with 5% water allow:

Substrate Temperature	Minimum	Maximum*
+10 °C	3 hours	7 days
+20 °C	3 hours	7 days
+30 °C	2 hours	7 days

Before applying Sikafloor®-305 W ESD on Sikagard® Wallcoat N allow:

Substrate Temperature	Minimum	Maximum*
+10 °C	3 hours	7 days
+20 °C	3 hours	7 days
+30 °C	2 hours	7 days

Before applying Sikafloor®-305 W ESD on Sikafloor®-305 W ESD allow:

Substrate Temperature	Minimum	Maximum*
+10 °C	48 hours	10 days
+20 °C	24 hours	8 days
+30 °C	16 hours	7 days

* If the maximum waiting time is exceeded, the coating must to be lightly abraded e.g. with a 3M™ Brown Stripper disc, belt or pad.
Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

Applied Product Ready for Use

Temperature	Light exposure	Full cure
+10 °C	~5 days	~10 days
+20 °C	~3 days	~8 days
+30 °C	~2 days	~7 days

Times are approximate and will be 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

- Sika® Method Statement: Sikafloor®-Cleaning Regime
- Sika® Method Statement: Mixing and Applications of Flooring Systems
- Sika® Method Statement: Evaluation and Preparation of Surfaces for Flooring Systems
- Sika® Method Statement: Sikafloor®-305 W ESD
- Individual Product Data Sheets within the Flooring System

LIMITATIONS

- Do not apply Sikagard® WallCoat WS-11 ESD on substrates with permeating moisture.
- Uncured material reacts in contact with water (foaming).
- During application, care must be taken that no sweat falls onto the fresh Sikafloor® products. Wear head and wrist bands.
- The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking.
- Sikafloor®-305 W ESD must be diluted with 10 % water.
- Apply Sikafloor®-305 W ESD only to tack-free Sikagard® Wallcoat N.
- When applying Sikafloor®-305 W ESD, lower consumption can cause roller marks, gloss differences and irregular surface structure. Higher consumption results in water retention and can cause pigment floatation as well as unsatisfactory conductivity.
- Ensure adequate ventilation during application and drying especially at temperatures less than +13 °C, otherwise the reaction and drying processes may be affected.
- If the wall is exposed to chemical and / or mechanical loads, the conductivity must be checked regularly. If necessary to maintain the specified conductivity, Sikafloor®-305 W ESD must be refreshed. This must be coordinated with the authorised ESD-representative or equivalent.
- For exact colour matching, ensure the Sikagard® WallCoat WS-11 ESD in each area is applied from the same control batch numbers.
- If temporary heating is required, do not use gas, oil, paraffin or other fossil fuel heaters, these produce large quantities of both CO_2 and H_2O water vapour, which may adversely affect the finish. For heating, use only electric powered warm air blower systems.
- Sika® does not assume any liability for possible changes in the composition of the recommended cleaning and maintenance agents and their effects on the floor characteristics.
- Measurement results can be affected by ESD clothing, ambient conditions, measurement equipment, cleanliness of the floor and test personnel.
- If there are increased demands on the cleanability, Sikafloor®-305 W ESD can be over coated with the static dissipative floor polish "Jontec ESD" or "Jontec Destat" from Diversey Care or equivalent. Refer to the cleaning regime of Sikafloor®-305 W ESD.

All measurement values for the Sikagard® WallCoat WS-11 ESD system stated in the System Data Sheet (except those referring to proof statements) were measured under the following conditions:

Ambient Conditions:	+23 °C / 50 %
Measurement Device for the 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)

If values are lower / higher than required, additional measurements must be carried out, ~30 cm around the point where the faulty readings are located. If the remeasured values are in accordance with the requirements, the total area is acceptable.
Installation of earthing points: Refer to Sika® Method Statement: Mixing and Applications of Flooring Systems.
Numbers of earth connections per room: Minimum of 2 earthing points. The optimum number of earth connections depends on the local conditions and must be specified on available drawings or other contract documentation.

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.

DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

According to the EU-Directive 2004/42, the maximum allowed content of VOC (Product category IIA / j type wb) is 140 g/l (Limit 2010) for the ready to use product.
The maximum content of Sikafloor®-305 W ESD is < 140 g/l VOC for the ready to use product.

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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