Construction

Sikafloor®-230 ESD TopCoat

2-Part Electrostatically Dissipative Epoxy Floor Seal Coat

Product Description	**Sikafloor®-230 ESD TopCoat** is a two-part, water dispersed, coloured epoxy resin coating. Suitable for use in hot and tropical climates.
Uses	■ For dissipative coloured indoor systems, in conjunction with Sikafloor®-262 AS ■ Suitable for areas with the requirement of lowest electrostatic charge (Body -voltage) and a dissipative surface ■ Typical applications include clean rooms in the electronics industry, microbiology/microchemistry sectors, and production plants in the automobile industry etc.
Characteristics / Advantages	■ Body voltage generation < 100 V (preventing static shocks) ■ Easy application ■ Solvent-free ■ Meets ESD requirements ■ Matt finish ■ Rapid-curing ■ Environmentally friendly
Tests	
Approval / Standards	Conforms to the requirements of ESD STM 97.1-1999, ESD STM 97.2-1999 (Internal Test).

Product Data

Form	Liquid
Appearance / Colours	Resin - part A: coloured Hardener - part B: white RAL 1001, 1015, 7030, 7032, 7035, 7038, 7040, 7042, 7044, 7046, 9002. All colours are approximate. Under direct sun radiation there may be some discolouration and colour deviation; this has no influence on the function and performance of the coating.
Packaging	Part A: 4.98 kg containers Part B: 1.02 kg containers Unipacs: 6 kg (part A+B) ready to mix units

Storage

Storage Conditions/ Shelf-Life

12 months from date of production if stored properly in original, unopened and undamaged sealed containers, in dry conditions at temperatures between +5°C and +30°C.
Comp. A+B must be protected from frost.

Technical Data

Chemical Base

Water dispersed epoxy

Density (at +23°C)

Part A:	~ 1.39 kg/lt	DIN EN ISO 2811-1)
Part B:	~ 1.06 kg/lt	
Mixed Resin:	~ 1.32 kg/lt	

Solid Content

~ 38% (by volume) / ~ 53 % (by weight)

Electrostatic Behaviour

Resistance to earth R_E:	10^5 - 10^7 Ω	(DIN IEC 61340-4-1)
Flooring-footwear resistance in comb. with person:	10^6 - 10^7 Ω	(ESD STM 97.1-1999)
Body voltage generation:	< 100 V	ESD STM 97.2-1999)

Mechanical / Physical Properties

Bond Strength

> 1.5 N/mm² (failure in concrete) (ISO 4624)

Abrasion Resistance

95 mg (CS10/1000/1000) (DIN 53 109 (Taber Abrader Test))

Resistance

Chemical Resistance

Resistant against many chemicals. Please ask for a detailed chemical resistance table.

Thermal Resistance

Exposure*	Dry heat
Permanent	+50°C
Short-term max. 7 days	+80°C
Short-term max. 12 hrs	+100°C

Short-term moist/wet heat* up to +80°C where exposure is only occasional (i.e. during steam cleaning etc.)
*No simultaneous chemical and mechanical exposure.

System Information

System Structure

Primer:	1 x Sikafloor®-156
Earthing connection:	Sika® Earthing Kit
Conductive coat:	1 x Sikafloor®-220 W Conductive
Conductive wearing course:	1 x Sikafloor®-262 AS
Conductive seal coat:	1 x **Sikafloor®-230 ESD TopCoat**
Maintenance layer:	1 - 2 x Kiehl Ceradur

This system configuration must be fully complied with as described and may not be changed.

Application Details

Consumption / Dosage

Conductive seal coat:	0.14 - 0.16 kg/m² per coat
Kiehl Ceradur:	0.015 - 0.025 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 or wastage etc.

Substrate Quality

The surface must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc. Pull-off strength shall be not less than 1.5 N/mm².
If in doubt apply a test area first.

Substrate Preparation	All dust, loose and friable material must be completely removed from Sikafloor®-262 AS preferably by vacuum.

Application Conditions / Limitations

Substrate Temperature	+10°C min, +30°C max.
Ambient Temperature	+10°C min, +30°C max.
Substrate Humidity	≤ 4% pbw moisture content. Test method: Sika-Tramex meter or CM- measurement. No rising moisture according to ASTM (Polyethylene-sheet)
Relative Air Humidity	75% r.h. 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.

Application Instructions

Mixing	Part A : part B = 83 : 17 (by weight)
Mixing Time	Prior to mixing stir part A mechanically. When all of part B has been added to part A, continuously mix for 3 minutes until a uniform mix has been achieved. To ensure thorough mixing pour materials into another container and mix again to achieve a consistent mix. Over mixing must be avoided to minimize air entrainment.
Mixing Tools	**Sikafloor®-230 ESD TopCoat** must be mechanically mixed using a slow speed drill (300 - 400 rpm) and helical mixer or other suitable equipment.
Application Method / Tools	Prior to application, confirm substrate moisture content, relative humidity and dew point. If > 4% pbw moisture content, Sikafloor® EpoCem® may be applied as a T.M.B. (temporary moisture barrier) system. Uniformly spread 1x **Sikafloor®-230 ESD TopCoat** by using a short pile (12 mm) nylon roller.
Cleaning of Tools	Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be removed mechanically.

Potlife

Temperatures	Time
+10°C	~ 60 minutes
+20°C	~ 30 minutes
+30°C	~ 15 minutes

Waiting Time / Overcoatability

Before applying **Sikafloor®-230 ESD TopCoat** on Sikafloor®-262 AS allow:

Substrate temperature	Minimum	Maximum
+10°C	3 days	7 days
+20°C	2 days	5 days
+30°C	1 day	3 days

Before applying Kiehl Ceradur on **Sikafloor®-230 ESD TopCoat** allow:

Substrate temperature	Minimum	Maximum
+ 10°C	36 hours	*
+ 20°C	24 hours	*
+ 30°C	20 hours	*

Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.
*Kiehl Ceradur must be applied in cycles of approx. 3-4 month, depending on frequency of traffic.

Notes on Application / Limitations

This product may only be used by experienced professionals

Freshly applied **Sikafloor®-230 ESD TopCoat** must be protected from damp, condensation and water for at least 24 hours.

Avoid puddles on the surface with the primer.

Apply **Sikafloor®-230 ESD TopCoat** to tack free Sikafloor-262 AS.
Ensure adequate ventilation during application and drying (especially at temperatures <13°C). Otherwise the reaction and drying processes may be impaired.

Maintenance:
Application of a floor-care product (Kiehl Ceradur) is mandatory in order to ensure a long-lasting, high-quality finish and easy cleaning. The application of this material can be executed by machine. KAW Kiehl - Werk und Zentralverwaltung, D-85235 Odelzhausen, Rudolf-Diesel-Straße 6, Tel.: +49 8134 9305-40, Fax: +49 8134 5145. http://www.kiehl-group.com.

If the floor is exposed to mechanical and / or chemical loads, the conductivity must be controlled regularly. In case of wear and tear, the Sikafloor®-230 ESD TopCoat must be refreshed.

Before the application of a conductive flooring system, a reference area has to be applied. This reference area must be assessed and accepted from the contractor/client. The desired result and method of conductivity measurement must be stated in the Specification and Method Statement. The number of conductivity measurements is strongly recommended to be as shown in the table below:

Applied floor area	Number of measurements
< 10 m²	1 measurement / m²
10 - 100 m²	10 - 20 measurements
> 100 m²	10 measurements / 100 m²

The measuring points must have a distance of at least 50 cm to the next measuring point. In case of a measurement lower/higher than required, an additional measurement has to be carried out within 50 cm of the point with the insufficient result.

If several measuring points (R_E) of the final floor are > 3.5 • 10^7 Ω but the walking test (<100 V, IEC 61340-4-5, IEC 61340-5-1, ESD STM 07.2-1999) and/or the system test (< 35 M Ω, IEC 61340-5-1) results are within the requirements, the total area is acceptable.

Placing of earthing plates:
If the Sikafloor® Earthing Kit conductor system (system of anchored brass-plates with stable earth connection) is applied, the instructions for use have to be followed exactly. Every earthing point is able to conduct 100 m². Ensure the longest distance of each point in the area is max. 10 m to the next earthing point. Clean the earthing spots carefully. For longer distances, additional earthing plates have to be placed. If site conditions do not allow placing of additional earthing points, longer distances (>10 m) have to be bridged with copper tapes. The earthing spots have to be connected to the ring-mains. This work must be executed and approved by an electrical engineer and in accordance with any relevant regulations

Numbers of earth connections:
Per room at least 2 earthing points. The optimum number of earth connections depends on the local conditions and should be specified with documents.

The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking - reducing or breaking conductivity.

For exact colour matching, ensure the **Sikafloor®-230 ESD TopCoat** in each area is applied from the same control control batch numbers.)

Construction

Curing Details

Applied Product ready for use

Temperature	Foot traffic	Light traffic	Full cure
+10°C	~ 30 hours	~ 3 days	~ 10 days
+20°C	~ 12 hours	~ 2 days	~ 7 days
+30°C	~ 8 hours	~ 1 day	~ 5 days

Note: Times are approximate and will be affected by changing ambient conditions.

Cleaning / Maintenance

Methods

To maintain the appearance of the floor after application, **Sikafloor®-230 ESD TopCoat** (polished with Kiehl Ceradur) must have all spillages removed immediately and must be regularly cleaned using suitable detergents.

Notes

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.

Local Restriction

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 product uses.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

EU Regulation 2004/42 VOC - Decopaint Directive

According to the EU-Directive 2004/42, the maximum allowed content of VOC Product category IIA / **j** Type **wb**) is 140 / 140 g/l (Limits 2007 / 2010), for the ready to use product.

The maximum content of **Sikafloor®-230 ESD** is < 140 g/l VOC for the ready to use product.

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 should 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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