

PRODUCT DATA SHEET

Sikafloor®-230 ESD TopCoat

2-PART ELECTROSTATIC DISSIPATIVE EPOXY FLOOR SEAL COAT

PRODUCT DESCRIPTION

Sikafloor®-230 ESD TopCoat is a two part, water dispersed, coloured epoxy resin coating.

USES

Sikafloor®-230 ESD TopCoat may only be used by experienced professionals.

Sikafloor®-230 ESD TopCoat is used as:

- Dissipative coloured indoor system, in conjunction with Sikafloor®-262 AS
- Particularly suitable for areas with requirements for the lowest electrostatic charge (low BVG (Body Voltage Generation)) and dissipative surface.
- Typical applications include clean rooms in the electronics industry, microbiology/microchemistry sectors, production plants in the automobile industry etc.

CHARACTERISTICS / ADVANTAGES

- Body voltage generation < 20 V
- Easy application
- In accordance with general ESD requirements
- Matt finish
- Rapid-curing
- Water dispersed
- Fulfils ESD-requirements at > 12 % RH/+23°C*

ENVIRONMENTAL INFORMATION

- Conformity with LEED v4 MRc 2 (Option 1): Building Product Disclosure and Optimization – Environmental Product Declarations
- Conformity with LEED v4 MRc 4 (Option 2): Building Product Disclosure and Optimization - Material Ingredients
- Conformity with LEED v2009 IEQc 4.2: Low-Emitting Materials - Paints and Coatings

APPROVALS / STANDARDS

- Water dispersed, coloured, epoxy resin roller coat according to EN 1504-2: 2004 and EN 13813, DoP 02 08 01 02 037 0 000001 2017, certified by Factory Production Control Body No. 0921, certificate 2017, and provided with the CE-mark.
- * Testing of electrostatic properties in accordance to IEC 61340-5-1, SP Institute, Test Report F900355:A, February 2009.
- Conforms to the requirements of ANSI/ESD S20.20-2007 and IEC 61340-5-1. (Internal Test)
- Testing of electrostatic properties in accordance to IEC 61340-5-1, SP Institute, Test Report 3FO016808:A, and Test Report 3FO016808:B, February 2014
- Approval for ESD protective products acc. IEC 61340 from the SP Technical Research Institute of Sweden. DNo 230-13-0277 and DNo. 230-13-0276, January 2014.

PRODUCT INFORMATION

Chemical Base	Water dispersed epoxy		
Packaging	Part A	4.98 containers	
	Part B	1.02 kg containers	
	Unipacks	6 kg (part A+B) ready to mix units	
Appearance / Colour	Resin - part A	coloured, liquid	
	Hardener - part B	white, liquid	
	ca. RAL 1001, 1015, 7030, 7032, 7035, 7038, 7040, 7042, 7044, 7046, 9002. All colours are approximate. Under direct sun light there may be some discolouration and colour deviation; this has no influence on the function and performance of the coating.		
Shelf Life	12 months from date of production.		
Storage Conditions	The packaging must be 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.		
Density	Part A	~ 1.39 kg/l	(DIN EN ISO 2811-1)
	Part B	~ 1.06 kg/l	
	Mixed Resin	~ 1.32 kg/l	
	All Density values at +23°C		
Solid content by weight	~ 53 %		
Solid content by volume	~ 38%		

TECHNICAL INFORMATION

Abrasion Resistance	~ 95 mg (CS10/1000/1000)	(DIN 53 109 (Taber Abraser Test))	
Tensile Adhesion Strength	> 1.5 N/mm ² (failure in concrete)	(ISO 4624)	
Chemical Resistance	Resistant to many chemicals. Please contact Sika technical service.		
Thermal Resistance	Exposure*	Dry heat	
	Permanent	+50°C	
	Short-term max. 7 d	+80°C	
	Short-term max. 12 h	+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.		
Electrostatic Behaviour	Resistance to ground ¹⁾	$R_g < 10^9 \Omega$	(IEC 61340-4-1)
	Typical average resistance to ground ²⁾	$R_g \leq 10^7 \Omega$	(DIN EN 1081)
	Body voltage generation ²⁾	< 100 V	(IEC 61340-4-5)
	System Resistance (Person/Floor/Shoe) ³⁾	< 35 M Ω	(IEC 61340-4-5)
		¹⁾ In accordance with IEC 61340-5-1 and ANSI/ESD S20.20. ²⁾ Readings may vary, depending on ambient conditions (i.e. temperature, humidity) and measurement equipment. ³⁾ Or < 10 ⁹ Ω + body voltage generation of < 100 V, in case of readings > 35 M Ω .	

SYSTEM INFORMATION

Systems	Please refer to the System Data Sheet of:	
	Sikafloor® Multidur ES-24 ESD	Smooth, unicolour conductive epoxy floor covering with ESD Roller Coating
	Sikafloor® Multidur ES-40 ESD	Smooth, unicolour epoxy floor covering with ESD Roller Coating

APPLICATION INFORMATION

Mixing Ratio	Part A : part B = 83 : 17 (by weight)			
Consumption	Conductive seal/roller coat	0.14-0.16 kg/m ² per coat		
	Conductive wall coat	max. 0.10 kg/m ² 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. For detailed info, please refer to the system related System Data Sheets.				
Ambient Air Temperature	+10 °C min, +30 °C max.			
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 other disturbance of the surface on the floor finish.			
Substrate Temperature	+10 °C min, +30 °C max.			
Substrate Moisture Content	< 4 % pbw moisture content. Test method: Sika®-Tramex meter, CM - measurement or Oven-dry-method. No rising moisture according to ASTM (Polyethylene-sheet)			
Pot Life	Temperatures	Time		
	+10 °C	~ 60 minutes		
	+20 °C	~ 30 minutes		
	+30 °C	~ 15 minutes		
Curing Time	Before overcoating 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.				
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.			

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

The surface must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments. All dust, loose and friable material must be completely removed from the surface preferably by vacuum. Pull-off strength shall be not less than 1.5 N/mm². If in doubt apply a test area first.

MIXING

Prior to mixing, stir part A mechanically. When all of part B has been added to part A, mix continuously 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 minimise air entrainment.

Mixing Tools

Sikafloor®-230 ESD TopCoat must be thoroughly mixed using a low speed electric stirrer (300 - 400 rpm) or other suitable equipment.

APPLICATION

Prior to application, confirm substrate moisture content, relative humidity and dew point. Uniformly spread 1x Sikafloor®-230 ESD TopCoat by using a short pile (12 mm) nylon roller. After proper curing the application of the maintenance layer Ceradur is mandatory. For further details please refer to the paragraph Maintenance and/or to the related system data sheet.

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened and/or cured material can only be removed mechanically.

MAINTENANCE

Application of the maintenance layer CERADUR:

In order to ensure a long-lasting, high-quality finish and easy cleaning, the application of a floor care product (Kiehl Ceradur) is mandatory. The application of Ceradur can be executed by machine or by using a flat mop. Detailed information: 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>. Possibly arising strips with application of CERADUR disappear usually after short service life. To maintain the appearance of the floor after application, Sikafloor®-230 ESD TopCoat (polished with Ceradur) must have all spillages removed immediately and must be regularly cleaned using suitable detergents. The floor area must daily be cleaned using a mild alkaline cleaner such as TORVAN (Kiehl). Mixing ratio: < 0.6% in water. Method of and equipment for the cleaning of the area will depend upon size and manpower available. For large areas equipment such as a Taski (Diversey) or Kaercher scrubber drier would be advantageous. Generally no undiluted cleaning agent should remain for longer time on the surface. Basic cleaning in the first 2 weeks is not permitted, only dry cleaning e.g. by broom. In the following 2 weeks only cleaning with a mop is recommended. For further details please refer to the Information Manual "Cleaning & Maintenance of Sikafloor® Systems".

FURTHER DOCUMENTS

Substrate quality & Preparation

Please refer to Sika Information Manual: "EVALUATION AND PREPARATION OF SURFACES FOR FLOORING SYSTEMS".

Application instructions

Please refer to Sika Information Manual: "MIXING & APPLICATION OF FLOORING SYSTEMS".

Maintenance

Please refer to "Sikafloor®- CLEANING REGIME".

LIMITATIONS

- Freshly applied Sikafloor®-230 ESD TopCoat must be protected from damp, condensation and water for at least 24 hours.
- Apply Sikafloor®-230 ESD TopCoat onto tack free Sikafloor®-262 AS N or Sikafloor®-263SL/264.
- Ensure adequate ventilation during application and drying (especially at temperatures < 13°C). Otherwise the reaction and drying processes may be impaired.
- Possibly arising strips with application of CERADUR disappear usually after short service life.
- For possible changes in the composition of the recommended cleaning- and maintenance agents and their effects on the floor characteristics, Sika does

not take over liability.

- 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. This must be coordinated with the authorized ESD-representative or comparable.
- Under certain conditions, underfloor heating combined with high point loading, may lead to imprints in the resin.
- If heating is required do not use gas, oil, paraffin or other fossil fuel heaters, these produce large quantities of both CO₂ and H₂O water vapor, which may adversely affect the finish. For heating use only electric powered warm air blower systems.
- The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking - reducing or breaking conductivity.
- For exact color matching, ensure the Sikafloor®-230 ESD TopCoat in each area is applied from the same batch. Please control batch numbers.
- Please note: ESD clothing, ambient conditions, measurement equipment, cleanliness of the floor and the test person have a substantial influence on the measurement results.

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.

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.

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.

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 (Limits 2010) for the ready to use product.

The maximum content of Sikafloor®-230 ESD TopCoat 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 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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Product Data Sheet

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