BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-221 W Conductive

Epoxy Water-based Electrostatic Conductive Flooring Primer

PRODUCT DESCRIPTION

Sikafloor®-221 W Conductive is a 2-part, epoxy, water-based, electrostatic conductive flooring primer with increased electrical resistance. It is part of the selected Sikafloor® ECF and ECD flooring systems.

USES

Sikafloor®-221 W Conductive may only be used by experienced professionals.

- As a conductive primer below Sikafloor® electrostatic conductive floor coatings.
- Flooring that needs to comply with the requirements of the standard VDE 100-600.

CHARACTERISTICS / ADVANTAGES

- Water-based
- Easy to apply
- High electrostatic conductivity
- Applied by roller

ENVIRONMENTAL INFORMATION

Conformity with LEED v4 MR credit 4 option 2: Building product disclosure and optimization - Material ingredients.

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.
- Insulation Resistance DIN VDE 0100-600, Sikafloor® MultiDur ES-47 ECF, kiwa, Test report No. P 12174-4-E.
- Insulation Resistance DIN VDE 0100-600, Sikafloor® MultiDur ES-47 ESD, kiwa, Test report No. P 12174-2-E.
- Insulation Resistance DIN VDE 0100-600, Sikafloor® MultiDur ES-48 ECF, kiwa, Test report No. P 12174-3-E.
- Insulation Resistance DIN VDE 0100-600, Sikafloor® MultiDur ES-49 ECF, kiwa, Test report No. P 12174-5-E.
- Insulation Resistance DIN VDE 0100-600, Sikafloor® MultiDur ES-52 ESD, kiwa, Test report No. P 12174-1-E.
- Test of floor IEC 61340-4-1, Sikafloor® MultiDur ES-52 ESD, RISE, Test report No. 9P07719 C.
- IEC 61340-5-1, Sikafloor® MultiDur ES-52 ESD, RISE, Approval No. 230-19-0040.

PRODUCT INFORMATION

Chemical Base	Water-based epoxy		
Packaging	Part A	4,98 kg container	
	Part B	1,02 kg container	
	Part A + B	6 kg unipacks	
	Refer to current price list for packaging variations.		
Shelf Life	12 months from date of production.		
Storage Conditions	The product must be stored in original, unopened and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. Always refer to packaging.		
Appearance / Colour	Part A - resin	black, liquid	
	Part B - hardener	white, liquid	
	Final colour: black		
Density	Part A	1,15 kg/l	(DIN EN ISO 2811-1)
	Part B	1,09 kg/l	
	Mixed Resin	1,14 kg/l	
	Values at +23 °C.		
Solid content by mass	~40 %		
Solid content by volume	~32 %		

TECHNICAL INFORMATION

Electrostatic Behaviour	Typical Average Resistance to Ground:	$Rg \leq 10^4\ \Omega$*	(DIN EN 1081)
	In Combination with a Sika® Electrostatic Conductive Floor Covering:	$Rg \geq 10^7\ \Omega \leq 10^9\ \Omega$*	
	* Readings may vary, depending on ambient conditions (i.e. temperature, humidity, etc.) and measurement equipment.		

SYSTEM INFORMATION

Systems	Reference must be made to the following System Data Sheets: ▪ Sikafloor® Multidur ES-47 ECF ▪ Sikafloor® Multidur ES-47 ESD ▪ Sikafloor® Multidur ES-48 ECF ▪ Sikafloor® Multidur ES-49 ECF ▪ Sikafloor® Multidur ES-52 ESD

APPLICATION INFORMATION

Mixing Ratio	Part A : Part B = 83 : 17 (by weight)
Consumption	~0,08–0,10 kg/m² This figure is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level or wastage, etc. For detailed information, refer to the System Data Sheets.
Ambient Air Temperature	+10 °C minimum / +30 °C maximum
Relative Air Humidity	75 % maximum

Dew Point

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

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).

Pot Life

Temperatures	Time
+10 °C	~120 minutes
+20 °C	~90 minutes
+30 °C	~30 minutes

Curing Time

Before overcoating Sikafloor®-221 W Conductive allow:

Substrate Temperature	Minimum	Maximum
+10 °C	26 hours	7 days
+20 °C	17 hours	5 days
+30 °C	12 hours	4 days

Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

Applied Product Ready for Use

Temperature	Foot Traffic
+10 °C	~26 hours
+20 °C	~13 hours
+30 °C	~8 hours

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: Evaluation and Preparation of Surfaces for Flooring Systems
- Sika® Method Statement: Mixing and Application of Flooring Systems

LIMITATIONS

- Do not apply Sikafloor®-221 W Conductive on substrates with rising moisture.
- The incorrect assessment and treatment of cracks may lead to a reduced service life, reflective cracking, and reducing or breaking the conductivity.
- Apply only on primed or levelled concrete and screed surfaces.
- Do not blind the primer.
- After application, all the products must be protected from damp, condensation and water for at least 24 hours.
- Only start application of the Sikafloor® conductive primer after all the primer has dried tack-free. This prevents the risk of 'wrinkling' affecting the conductive properties.
- After curing of the Sikafloor® conductive primer and before application of the subsequent conductive wearing layers. Conductivity testing of the conductive primer must be carried out. All readings must be below 10^4 Ohm. Resistance to ground: Insulation Tester Metriso 2000 from Warmbier or comparable. Surface Resistance Probe: Carbon Rubber Electrode. Weight: 2,50 kg (+/- 0,25 kg); Diameter: 65 mm (+/- 5 mm); Rubber Pad Hardness: Shore A 60 (+/- 10).
- Only grounding points from the Sikafloor® Earthing Kit may be used to ground the floor.
- Do not use self-adhesive copper tape as this can lead to low conductivity of the floor and would no longer comply with the requirements of the standard: VDE100-610.
- The protective effect is not given at the earthing point or ~10 cm around the earthing point. These areas must be marked accordingly and covered by a rubber mat with a resistance of > 1 M Ohm.
- Sikafloor®-221 W Conductive must only be used as conductive primer in conjunction with Sikafloor®-262 AS N/thixo, Sikafloor®-381 ECF, Sikafloor®-390 ECF and Sikafloor®-235 ESD. Do not use in conjunction with other conductive flooring resins.
- 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.

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

SUBSTRATE QUALITY / PRE-TREATMENT

Cementitious substrates (concrete / screed) must be structurally sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum tensile strength of 1,5 N/mm².
Substrates must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings, laitance, surface treatments and loose friable material.
Cementitious substrates must be prepared mechanically using suitable abrasive blast cleaning or planing / scarifying equipment to remove cement laitance and achieve an open textured gripping surface profile suitable for the product thickness.
High spots can be removed by grinding.
Weak cementitious substrates must be removed and surface defects such as blow holes and voids must be fully exposed.
Repairs to the substrate, filling of cracks, blowholes / voids and surface levelling must be carried out using products from the Sikafloor®, Sikadur® and Sikagard® range of materials. Products must be cured before applying Sikafloor®-221 W Conductive.
All dust, loose and friable material must be completely removed from all surfaces before application of the product and associated system products, preferably by vacuum extraction equipment.

MIXING

Prior to mixing all parts, mix separately Part A (resin) using an electric single paddle mixer (300–400 rpm) or other similar equipment. Mix liquid and all the coloured pigment until a uniform colour / mix has been achieved. Add Part B (hardener) to Part A and mix Part A + B continuously for at least 2 minutes until a uniformly coloured mix has been achieved. To ensure thorough mixing, pour materials into a clean container and mix again for at least 1 minute to achieve a smooth, consistent, homogeneous mix. Excessive mixing must be avoided to minimise air entrainment. During the final mixing stage, scrape down the sides and bottom of the mixing container with a straight edge trowel or spatula at least once to ensure complete mixing. Mix full units only. Mixing time for A+B = >3 minutes.

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APPLICATION

Apply Sikafloor®-221 W Conductive onto the prepared, primed substrate and apply by short pile nylon roller (12 mm), then back roller in two directions at right angles to each other. Ensure a continuous, pore-free coat covers the substrate.
Confirm waiting / overcoating time has been achieved before applying subsequent products.

CLEANING OF TOOLS

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

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.