Only to be applied by a Sika Approved Contractor

Construction

Sikafloor®-220 W Conductive

2-part, electrostatic conductive epoxy primer

Positioning

Description

Sikafloor®-220 W Conductive is a two part, water dispersed, epoxy resin with a high electrostatic conductivity.

Uses

- Sikafloor®-220 W Conductive must be applied as conductive primer underneath all Sikafloor® conductive wearing courses, such as Sikafloor®-262 AS N, 262 AS N Thixo, -235 ESD, -266 ECF CR, -269 ECF CR, -381 AS and -390 AS.
- Electrostatic conductive coatings on concrete and cementitious screeds for different types of industrial use.

Advantages

- Highly electrostatic conductive
- Easy application
- Economical in use

Approval /Standards

Varnishability test according to VW-standard PV 3.10.7 (paint wetting impairment substances (PWIS)) like silicones, HQM GmbH, Test Report 09-09-132-5, 09.2009

Product Data

Appearance / Colours

Resin - part A:	Black, liquid
Hardener - part B:	White, liquid

Packaging

Part A:	4.98kg containers
Part B:	1.02kg containers
Part A+B:	6kg uni-packs

Storage & Shelf Life

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

Technical Data

Chemical Base

Waterborne epoxy

Density

Part A:	1.15kg/l	
Part B:	1.06kg/l	(DIN EN ISO 2811-1)
Mixed Resin:	1.04kg/l	

All density values at +23°C.

Solid Content

~ 34% (by volume) / ~ 44% (by weight)

Electrostatic Behaviour

Typical average resistance to ground: $10^3 \leq R_g \leq 10^4\ \Omega^*$ (DIN EN 1081)

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

USGBC
LEED Rating

Sikafloor®-220 W Conductive conforms to the requirements of LEED

EQ Credit 4.2: Low-Emitting Materials: Paints & Coatings

SCAQMD Method 304-91 VOC Content < 100g/l

System Information

System Structure

Primer:	1 x Sikafloor®-156 or Sikafloor®-161
Earthing connection:	Sika® Earthing Kit
Conductive primer:	1 x Sikafloor®-220 W Conductive
Conductive wearing course:	1 x Sikafloor®-262 AS N or AS N Thixo or 1x Sikafloor®-235 ESD or 1x Sikafloor®-266 ECF CR or 1x Sikafloor®-269 ECF CR or 1 x Sikafloor®-381 AS or 1 x Sikafloor®-390 AS
Conductive seal coat:	1 x Sikafloor®-230 ESD TopCoat (optional)

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

Application Details

Consumption / Dosage

Coating System	Product	Consumption
Primer	Sikafloor®-156 or Sikafloor®-161	0.3 - 0.5kg/m^2
Levelling (optional)	Sikafloor®-156 mortar or Sikafloor®-161 mortar	Refer to PDS of Sikafloor®-156 or Sikafloor®-161
Conductive coat	Sikafloor®-220 W Conductive	0.08 - 0.10kg/m^2
Wearing course	Sikafloor®-262 AS N	~ 2.5kg/m^2
	Sikafloor®-262 AS N Thixo	~ 0.75kg/m^2
	Sikafloor®-235 ESD	Maximum 2.5kg/m^2
	Sikafloor®-266 ECF CR	Maximum 2.5kg/m^2
	Sikafloor®-269 ECF CR	Maximum 2.0kg/m^2
	Sikafloor®-381 AS	~ 2.5kg/m^2
	Sikafloor®-390 AS	~ 2.5kg/m^2
Conductive seal coat (optional)	Sikafloor®-230 ESD TopCoat	~ 0.15kg/m^2

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

Substrate Quality

The concrete substrate must be sound and of sufficient compressive strength (minimum 25N/mm^2) with a minimum pull off strength of 1.5N/mm^2.

The substrate must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc.

If in doubt apply a test area first.

Substrate Preparation

Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve an open textured surface.

Weak concrete must be removed and surface defects such as blowholes and voids must be fully exposed.

Repairs to the substrate, filling of blowholes/voids and surface levelling must be carried out using appropriate products from the Sikafloor®, SikaDur® and SikaGard® range of materials.

The concrete or screed substrate has to be primed or levelled in order to achieve an even surface.

High spots must be removed by e.g. grinding.

All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and/or vacuum.

Application Conditions / Limitations

Substrate Temperature +10°C min. / +30°C max.

Ambient Temperature +10°C min. / +30°C max.

Substrate Moisture Content < 4% moisture content.

Test method: Sika®-Tramex meter, CM - measurement or Oven-dry-method.

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, mix continuously for 2 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®-220 W Conductive must be thoroughly mixed using a low speed electric stirrer (300 - 400rpm) or other suitable equipment.

Application Method / Tools Uniformly spread 1 x Sikafloor®-220 W Conductive using a short pile nylon roller (12mm).

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

Potlife

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

Waiting Time / Overcoating

Before applying Sikafloor®-220 W Conductive on Sikafloor®-156 allow:

Substrate temperature	Minimum	Maximum
+10°C	36 hours	6 days
+20°C	24 hours	4 days
+30°C	12 hours	2 days

Before applying Sikafloor®-235 ESD, 262 AS N, 262 AS N Thixo, 266 ECF CR, 269 ECF CR Sikafloor®-390 AS or Sikafllloor®-381 AS on Sikafloor®-220 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.

Notes on Application / Limitations

This product may only be used by experienced professionals.

Do not apply Sikafloor®-220 W Conductive on substrates with rising moisture.

Apply Sikafloor®-220 W Conductive only on primed or levelled up concrete and screed surfaces.

Do not blind the primer.

Freshly applied Sikafloor®-220 W Conductive should be protected from damp, condensation and water for at least 24 hours.

Only start application of Sikafloor® conductive coat after the primer has dried tack-free all over. Otherwise there is a risk of wrinkling and impairing of the conductive properties.

Tools
Recommended supplier of tools:
PPW-Polyplan-Werkzeuge GmbH, Phone: +49 40/5597260, www.polyplan.com

After the curing of the Sikafloor®-220 W Conductive layer, testing to measure the conductivity is strongly recommended.

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:

Ready applied area	Number of measurements
< 10m^2	6 measurements
< 100m^2	10 - 20 measurements
< 1000m^2	50 measurements
< 5000m^2	100 measurements

In case of values lower/higher as required, an additional measurement has to be carried out, approx. 30cm around the point with insufficient readings. If the newly measured values are in accordance with the requirements, the total area is acceptable

Placing of earthing points:
Please make sure to only use the original Sikafloor® Earthing Kit in order to connect the earthing points. Every earthing point is able to conduct approx. 300m², The earthing points have to be connected to the ring-mains, which has to be carried out and approved by an electrical engineer and in accordance with any relevant regulations or standards.

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.

If 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.

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

Curing Details

Applied Product ready for use

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

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 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.
Health and Safety Information	• To avoid allergic reactions, we recommend the use of protective gloves. Change soiled work clothes and wash hands before breaks and after finishing work. • Local regulations as well as health and safety advice on packaging labels must be observed. • For further information refer to the Sika Material Safety Data Sheet which is available on www.sika.co.nz, or on request. • If in doubt always follow the directions given on the pack or label.
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.

CE Labelling

The harmonized European Standard EN 13 813 'Screed material and floor screeds - Screed materials - Properties and requirements' specifies requirements for screed materials for use in floor construction internally.

Structural screeds or coatings, i.e. those that contribute to the load bearing capacity of the structure, are excluded from this standard.

Resin floor systems as well as cementitious screeds fall under this specification. They have to be CE-labelled as per Annex ZA. 3, Table ZA.1.5 and 3.3 and fulfil the requirements of the given mandate of the Construction Products Directive (89/106):

CE	
Sika (NZ) Ltd 85 – 91 Patiki Road, Avondale Auckland 1026, New Zealand	
08 [1)]	
EN 13813 SR-B1,5	
Primer/sealer (systems as per Product Data Sheet)	
Reaction to fire:	E_{fl}
Release of corrosive substances (**S**ynthetic **R**esin Screed):	SR
Water permeability:	NPD[2)]
Abrasion **R**esistance:	NPD
Bond strength:	B 1,5
Impact **R**esistance:	NPD
Sound insulation:	NPD
Sound absorption:	NPD
Thermal resistance:	NPD
Chemical resistance:	NPD

[1)] Last two digits of the year in which the marking was affixed.

[2)] No performance determined.

[3)] Not broadcast with sand.

CE Labelling

The harmonized European Standard EN 1504-2 'Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 2 : Surface protection systems for concrete' gives specifications for products and systems used as methods for the various principles presented under EN 1504-9.

Products which fall under this specification have to be CE-labelled as per Annex ZA. 1, Tables ZA.1a to ZA 1g according to the scope and relevant clauses there indicated, and fulfil the requirements of the given mandate of the Construction Products Directive (89/106):

Here below indicated are the minimum performance requirements set by the standard. For the specific performance results of the product to the particular tests, please see the actual values above in the PDS.

CE	
0921	
Sika (NZ) Ltd 85 – 91 Patiki Road, Avondale Auckland 1026, New Zealand	
08 [1)]	
0921–CPD–2017	
EN 1504-2	
Surface Protection Product Coating [2)]	
Abrasion resistance (Taber test):	< 3000mg
Permeability to CO_2:	S_D > 50m
Permeability to water vapour:	Class III (S_D > 50m)
Capillary absorption and permeability to water:	$w < 0.1 kg/m^2 \times h^{0,5}$
Resistance to severe chemical attack: [3)]	Class I
Impact resistance:	Class I
Adhesion strength by pull-off test:	≥ 2.0N/mm²
Fire Classification: [4)]	E_{fl}

[1)] Last two digits of the year in which the marking was affixed.

[2)] Tested as a part of a system build-up with Sikafloor®-161 and Sikafloor®-266 ECF.CR.

[3)] Please refer to the Sikafloor® Chemical Resistance Chart.

[4)] Min. classification, please refer to the individual test certificate.

EU Regulation 2004/42

The maximum allowed VOC content acc. to the EU-Directive 2004/42 (Product category IIA / **j** type **wb**) (Limits 2010) in the ready to use product is 140g/l.

VOC - Decopaint Directive

The maximum VOC content of **Sikafloor®-220 W** for the ready to use product is < 140g/l.