

Sikafloor[®] 381 AS

Coating with extremely high chemical resistance
Electrically conductive according to DIN 51 953

Product description:

Self-smoothing, electrostatically conductive 2-component binder based on epoxy resin for extremely high chemical resistance.

solvent-free according to ibh-recommendation

Fields of application:

For the production of electrostatically conductive coatings on concrete or cement screeds according to DIN 51 953. Wearing layer for very high chemical and medium mechanical exposure in production and trade areas.

Properties:

- o **electrostatically conductive according to DIN 51 953**
- o **outstanding chemical resistance**
- o **high mechanical resistance**
- o **abrasion resistant**
- o **quick curing**

Colour shades:

stone grey approx. RAL 7030, pebble grey approx. RAL 7032, dusty grey approx. RAL 7037, other colour shades upon request.

Packaging:

Sikafloor 381 AS: 10 kg, 25 net.

Shelf life:

In original sealed containers and in cool and dry environment approx. 2 years.

Do not apply crystallized resin (curing and drying malfunction)! At temperatures around + 60°C the resin can be liquified again without loss in quality.



Product data.

coating system	product	consumption
priming	Sikafloor 156	0,3-0,5 kg/m ²
if necessary levelling up	Sikafloor 156 mortar	s. technical data sheet Sikafloor 156
electrodes	Sikafloor electrodes	s. application method
conductive coat	Sikafloor 210 Conductive	0,1-0,15 kg/m ²
wearing layer	Sikafloor 381 AS filled up to max. 20% quartz sand 0,1-0,3 mm	2,8 - max. 3,7 kg/m ² mixture

Layer thickness of wearing layer: min. 1,7 mm; max. 2,2 mm.

Mixing ratio:

Sikafloor 381 AS: 90 parts by weight component A
 10 parts by weight component B.

Technical data:

type	testing standard	final curing	mean value
density (binder)	DIN 53 217		1,6 kg/ltr
solids content	DIN 53 216		approx. 100%
compressive strength	EN 196-1	14 d/23°C/50% rh	≥ 80 N/mm ²
flexural strength	EN 196-1	14 d/23°C/50% rh	≥ 55 N/mm ²
tensile strength	DIN 53 455	14 d/23°C/50% rh	≥ 45 N/mm ²
electrical resistance R _E	DIN 51 953		10 ⁴ -10 ⁵ Ohm

Resistance:

Chemical:

Minimum 42 days resistant at +20°C to the following water contaminating chemicals:

1. 3- and 4-Star petrol
2. jet fuel
3. fuel oil EL as per DIN 51 603 part 1 and diesel oil as per DIN 51 601
4. all hydrocarbons (incl. 1.-3.) exclud. 4 a
- 4 a. benzol and benzol containing mixtures
- 4 b. crude oil
5. alcohols, glycoether
6. aliphatic halogen-hydrocarbons _ C₂
- 6 a. all aliphatic halogen-hydrocarbons incl. 6 (incl. methylene chloride)
7. aliphatic ester and ketone
8. aliphatic aldehyde
9. watery solution of organic acids up to 10%
10. mineral acids as well as alkaline hydrolysing salts watery solution (pH < 6) up to 20% concentration, except for hydrofluoric acid and oxidizing acids/salts, sulfuric acid up to 80%
11. anorganic lyes as well as alkaline hydrolysing salts in watery solutions (pH > 8) up to 20%, soda lye up to 50%
12. salt solutions with pH = 6-8.
13. amines (please ask for details)

Additional tested resistance:

amonia solution 33% (7 days). Pure methanole. Sodiumhypochloride solution up to max. 20%., chromic acid 10%, hydrochloric acid 33%.

Mechanical:

Sikafloor 381 AS is highly abrasion resistant and suitable for medium industrial exposure.

Thermal:

Short-term dry heat up to 100°C, cleaning with warm water up to 80°C.

Hints on application.

Condition of substrate:

The substrate must be of sufficient strength (min. compressive strength 25 N/mm²). The surface must be even, fine-gripping, solid, dry (normal humidity < 4%) and free from loose and friable particles. **The pull-off strength should not be below 1,5 N/mm².**

Surface preparation:

Insufficient layers and oily contamination must be removed mechanically, e.g. by sandblasting or grinding. Priming and levelling with Sikafloor 156. Do not broadcast.

Mixing:

Prior to mixing of Sikafloor 210 Conductive and Sikafloor 381 AS stir the respective components A mechanically. Add at once 0,3 pbw quartz sand 0,1-0,3 mm into Sikafloor 381 AS. Mix component A + B intensively in the correct mixing proportions with an electric power stirrer (approx. 300-400 rpm).

Mixing time minimum 3 minutes until a homogeneous mixture is achieved. Fill mixed material into a clean container and mix again shortly.

Application method:

Levelling up:

Rough surfaces need to be levelled first as varying thickness of the Sikafloor 381 AS wearing course will influence the conductivity. Therefore use Sikafloor 156 levelling mortar (see data sheet) for surface textures exceeding 0,5 mm.

Placing of electrodes:

Copper electrodes are fixed (e.g. by Sikafloor copper tape) to the edges of the primed respectively levelled up and cleaned floor surface at distances of not more than 10 m, penetrating into the floor approx. 20-30 cm, running vertically up the walls. Use Sikafloor electrode set or proceed as follows:

From the end of a plastic, insulated strand wire (approx. 4 mm²) the insulation is removed for about 30 cm (individual wires fanned out) and fixed with a self-adhesive copper tape at the end. This should also extend into the floor for approx. 20-30 cm.

The free ends of the copper tape (or strand wire) are drawn up the walls and connected with a ring main or directly to a suitable earth connection. The installation of the ring main or the connection of the copper tapes to the earth connection cables should be carried out by a professional.

Application of Sikafloor 210 Conductive:

Sikafloor 210 Conductive is applied richly by brush or roller to the bare copper electrodes. It is recommended to test the conductivity after the curing of the priming coat.

Attention: Only start application of Sikafloor 210 Conductive after the priming coat has dried tack-free all over. Otherwise there is a risk of wrinkling or impairing of the conductive properties.

Final coating:

Sikafloor 381 AS is poured, spread evenly by means of twinblade-trowel and applied evenly in a layer thickness of approx. 1,7 - **max. 2,2 mm** and then ventilated with a spike roller.

Ambient and surface temperature:

Min. +10°C (but at least 3°C upon dew point)
max. +30°C
Relative air humidity max. 80%.

Pot-life:

	+ 10 °C	+ 20 °C	+ 30 °C
Sikafloor 156	60 min.	30 min.	15 min.
Sikafloor 210 Conductive	8-10 hours	4-6 hours	2-3 hours
Sikafloor 381 AS	approx.60 min.	approx.30 min.	approx.15 min.

Waiting time between applications:

		+ 10 °C	+ 20 °C	+ 30 °C
Sikafloor 156	min. max.	36 hours 6 days	24 hours 4 days	12 hours 2 days
Sikafloor 210 Conductive	min. max.	24 hours 7 days	15 hours 5 days	10 hours 3 days

Final curing:

Sikafloor 381 AS	+ 10 °C	+ 20 °C	+ 30 °C
ready for foot traffic	2 days	24 hours	12 hours
normal exposure	3 days	2 days	24 hours
heavy exposure	7 days	7 days	5 days

Cleaning of implements:

Thinner C.

Precautionary measures:

Component B of Sikafloor 381 AS falls under the dangerous goods regulations (class 8 - alkaline caustic liquid). Observe safety advice printed on label.

In a liquid state the product as well as the thinner contaminate water and should not get into drains, water and soil.

In any case remnants of thinner and material must be disposed according to regulations.

During application in closed rooms, pits and shafts etc. sufficient ventilation must be provided. Keep away open light including welding.

In badly lit rooms only electric safety lamps are permitted. The installed ventilation equipment must be spark-proof.

Further details are contained in our instructions "Health protection and prevention of accidents".

The information given in this data sheet is based on many years experience and is correct to the best of our knowledge. As the information given therein is of general nature, we cannot assume any responsibility nor as regards to patent/trademark rights of third parties. Success will always depend on the peculiarities of the individual case. We also refer to our standard conditions of sale. Please consult our technical department for further information.

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