

# CONIFLOOR EP 436 ESD

(old CONIFLOOR 436 ESD)

**Two-part EP self-levelling coating, volume conductive (salt and fibre free), hard, accord. to EN 61340-4-1, 4-5 and 5-1 for ESD protected areas (EPA), (total solid)**

## Product description

CONIFLOOR EP 436 ESD is a two component, self-levelling, pigmented, **volume conductive (salt free)**, hard and resistant, **low emission** epoxy coating, "Total Solid accord. to the test methods Deutsche Bauchemie e.V." for ESD protective zones.

## Fields of application

CONIFLOOR EP 436 ESD is used as a coating on mineral, primed (with CONIFLOOR EP 110, EP 112 or EP 116 LE) and with conductive primer, CONIFLOOR EP 150 prepared substrates for indoor floorings with light to medium mechanical stress, where ESD properties are required. CONIFLOOR EP 436 ESD is used in our indoor ESD protected areas as flooring system.

## Properties

CONIFLOOR EP 436 ESD is characterised by its mechanical strength and good abrasion resistance after curing.

CONIFLOOR EP 436 ESD AS fulfils the requirements for EPA (ESD protected areas).

The resistance to earth measured according to EN 61340-4-1 is  $< 10^9$  ohms, the resistance (footwear-person-floor) accord. to EN 61340-4-5 is  $\leq 10^9$  ohms (old standard  $\leq 3.5 \times 10^7$  ohms) and the body voltage by walking test accord. to EN 61340-4-5 is wide  $< 100$  volt ( $< 30$  V).

CONIFLOOR EP 436 ESD is resistant to water, seawater, wastewater, mineral oils, lubricants, and fuels as well as a variety of alkalis, diluted acids, and salt solutions.

Yellowing which may be noticeable due to UV exposure does not affect the mechanical and technical properties.

CONIFLOOR EP 436 ESD is used in the systems

- CONIFLOOR IES ESD (N)
- CONIFLOOR IES AS-ESD SR
- CONIFLOOR COLORQUARZ AS-ESD LE

or other systems.

## Technical Data

Mixing ratio	in parts by weight			100 : 32
Density	mix,	at 23 °C	g/cm <sup>3</sup>	1.35
Viscosity	mix,	at 23 °C	mPas	2550
Processing time		at 12 °C	min. approx.	25
Re-coating interval / ready for foot traffic		at 20 °C	minimum h	12
			maximum h	48
Substrate and application temperature	minimum		°C	10
	maximum		°C	30
Permissible relative humidity	maximum		%	75
Ready for	mech. strain	at 20 °C	d	5
	light mech. strain	at 20 °C	d	1
	chem. strain	at 20 °C	d	7
Shore D hardness	after 28 d			82
Resistance to ground (EN 61340-4-1)			Ohm	min. $R_g < 10^9$
Resistance system (EN 61340-4-5)			Ohm	min. $R_s < 10^9$ und
				min. $R_s < 3.5 \times 10^7$
Body voltage / walking test (EN 61340-4-5)			Volt	$< 100$ V
				$< 30$ V

*Above figures are guide values and should not be used as a base for specifications!*

## Application method

Please also [note the information in our general processing guidelines](#).

CONIFLOOR EP 436 ESD is supplied in the correct proportions of component A (resin) and component B (hardener). Before mixing, the A component must be stirred up by machine, then the B component is poured into the container of the A component and ensure that the pail containing component B is [emptied](#) completely.

To achieve a homogenous mix, thoroughly mix with a slowly rotating mixing device at about 300 rev/min. Ensure that the mixing device reaches side and bottom areas of the mixing vessel. The [mixing process](#) takes [at least 2-3 minutes](#) and should be performed until the blend is [homogenous](#) and streak free.

[Pour](#) the mix into another [clean](#) pail and mix it again for 1 additional minute to avoid mixing faults.

The [temperature](#) of the components should be between 15-25 °C.

CONIFLOOR EP 436 ESD is preferred applied using a notched [rubber squeegee](#), scraper, or a notched trowel ([preferred rubber](#)) The teeth size of the tool needs to be adjusted to the calculated consumption per 1 m<sup>2</sup>.

Cross-wise [spike rolling](#) after application is necessary to [de-aerate](#) the coating. We recommend to [start with spike rolling only about 5 - 10 minutes after applying](#) the coating.

The ambient and substrate temperature influences working life and curing time of CONIFLOOR EP 436 ESD. At low temperatures, the chemical reactions are slowed down; this lengthens the pot life, re-coating interval and open time. High temperature and humidity accelerate chemical reactions, so the contrary is true.

To fully cure the material, the substrate and working temperature must not fall below the minimum.

After application, the material should be protected from direct contact with water for approx. 12-24 hours (at 15 °C). Within this period, contact with water can cause stickiness or white discolouration (carbamate formation) of the surface.

The relative [humidity](#) level may not exceed [75%](#).

## Consumption

The [consumption rate](#) of CONIFLOOR EP 436 ESD for a layer of at least [1.5 mm](#) is [approximately 2.0 kg/m<sup>2</sup>](#). The maximum layer thickness is not limited by the volume-conductive properties with regard to the conductive properties, but we recommend applying max. 5 mm.

Further filling with fire-dried quartz sand is for self-levelling coatings permitted.

When used as a slip resistant wear coat in the CONIFLOOR IES AS-ESD SR and CONIFLOOR COLORQUARZ AS-ESD LE systems, the consumption is 0.8 - 1.2 kg / m<sup>2</sup>, depending on the system structure, here the support grain QS 0.3-0.8 mm mixed in with approx. 10%

over which the wear coats are scratched onto the conductive primer. The scattering is done with coordinated conductive quartz sand mixtures.

## Note for checking the conductivity:

To check the conductivity, the guideline values actual state of the art report "Conductive coatings for industrial floors" Deutsche Bauchemie e.V. recommended. Note: [Before applying the conductive coating, the CONIFLOOR EP 150 conductive layer must be measured](#).

Surface of coating system	Number of measurements
< 10 m <sup>2</sup>	1 measurement / m <sup>2</sup>
10 – 100 m <sup>2</sup>	10 – 20 measurements
> 100 m <sup>2</sup>	10 measurements / 100 m <sup>2</sup>

Distance of the measuring points at least 50 cm. Measured e.g., with a Metriso 2000 or 3000 measuring device. The measured value of the conductive layer should not exceed 10-15 kOhm. If the required measured value is not reached, further measurements must be done within 50 cm, which should then reach the measured value.

## Cleaning agent

Re-usable tools should be cleaned carefully with CLEANER 44 or e.g. isopropanol.

## Substrate condition

Cement bound substrates to be coated must be firm, dry, load bearing and free of loose and brittle particles and substances, which impair adhesion such as oil, grease, rubber skid marks, paint, or other contaminants.

A pre-treatment of the substrate by grit or shot blasting, high-pressure water jetting, grinding or scabbing including the necessary post-treatment is mandatory.

After the pre-treatment, the bond strength of the concrete must be at least 1.5N/mm<sup>2</sup>.

The [moisture level](#) must not exceed [4 %](#).

The [temperature](#) of the substrate must be at least [3°C](#) above the current dew point temperature.

The sub base must contain a moisture barrier (damp proof membrane D.P.M.).

CONIFLOOR EP 436 ESD is applied to the primed substrate prepared with conductive sopper strips and CONIFLOOR 150 conductive layer.

If the surface roughness is  $\geq 0.5\text{mm}$ , an additional levelling layer with CONIFLOOR EP 110, EP 112 or EP 116LE must be taken into account which is not sprinkled with QS. The recoating time of CONIFLOOR EP 110, EP 112 or EP 116LE must be considered.

As for the rest the sections of the requirements concerning substrates to be coated shown in the according guidelines apply.

## Pack size

CONIFLOOR EP 436 ESD is supplied in 25 kg (metal) working packs. Components A and B are supplied in the correct proportions and delivered separately.

## Colour

Standard colours: ca. RAL 7035, further colours upon request. The variety of colours has been expanded due to the new formulation.

**Please take into account** that due to the conductive surcharges there are **colour differences to the standard** product which are not a defect.

## Storage

Store in unopened pails under dry conditions at a temperature range of 5-25 °C.

Do not expose to direct sunlight.

Before use, please see "best before" date on the pail / drum.

## Safety precautions

CONIFLOOR EP 436 ESD is non-hazardous in its cured condition.

For protective measures, transport regulations and waste management please refer to the Material Safety Data Sheet of the product.

## VOC contents

CONIFLOOR EP 436 ESD meets the requirements of the EC directive 2004/42/EC.

The maximum allowable VOC content for Product Category IIA j Type Lb products (in the ready to use state) is:

Stage II (from 2010) < 500 g/l VOC

In the ready to use state, this product contains less than 500 g/l VOC.



## CE and UKCA marking:

See Declaration of Performance

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