

CONIFLOOR EP 433 ESD

(old CONIFLOOR 433 ESD)

Two-part EP structure coating, conductive, hard, volume conductive, accord. to EN 61340-4-1, 4-5 and 5-1, textured surface, (total solid)

Material description

CONIFLOOR EP 433 ESD is a coloured, two component, ESD compliant floor coating based on liquid, volume conductive (free of salt) epoxy resin, "Total Solid accord. to the test methods Deutsche Bauchemie e.V." which has a smooth, textured orange peel finish.

Areas of application

CONIFLOOR EP 433 ESD is used as a structural coating on cementitious substrates in order to fulfil ESD requirements. The substrate is primed with CONIFLOOR EP 110, EP 112 or EP 116LE however; there is **no** mandatory requirement for any additional **conductive primer layer**. Copper tape should be installed underneath the CONIFLOOR EP 433 ESD and connected to earthing points at maximum distance between each copper tapeline of 8-10 m.

CONIFLOOR EP 433 ESD is intended for use in indoor areas with light to medium mechanical stress.

CONIFLOOR EP 433 ESD is also suitable as an over coating to refresh existing epoxy resin coatings.

Attributes

CONIFLOOR EP 433 ESD is characterised by its mechanical strength and good abrasion resistance after curing.

CONIFLOOR EP 433 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 < 10^9 ohms and the body voltage by walking test accord. to EN 61340-4-5 is < 100 volt.

CONIFLOOR EP 433 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 433 ESD is used in the system

CONIFLOOR IET ESD

or other systems.

Mix Ratio	Parts by weight A: B		4: 1
Density	Mixture, at 23 °C	g/cm ³	1.39
Viscosity	Mixture, at 23 °C	mPas	thixotropic
Working Time	at 23 °C	min.	30
Recoating Interval	at 23 °C at 23 °C	min. h max. h	14 36
Application Temperature	minimum maximum	°C °C	10 30
Permissible Relative Humidity	maximum	%	75
Shore D hardness	after 28 d		80
Resistance to ground (EN 61340-4-1)		Ohm	min. R _g < 10 ⁹
Resistance system (EN 61340-4-5) Body voltage / walking test (EN 61340-4-5)		Ohm	min. R _s < 10 ⁹
		Volt	< 100

These figures are approximate values. The values are not to be used to create specifications!

Technical data



Application instructions

Please also note the information in our general processing guidelines.

CONIFLOOR EP 433 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.

In order to achieve a homogeneous consistency and ensure complete mixing, A and B components must be thoroughly mixed with a slow-speed drill and paddle at approx. 300 rpm. Take care to cover the bottom and sides of the mixing vessel.

Mixing should be carried out for approx. 2-3 minutes to obtain a homogeneous and streak-free consistency.

Transfer the mix to a second, clean container and mix again for another two minutes to ensure complete mixing of the thixotropic material.

The temperature of the components during the mixing process should be between 15 and 25°C.

The mixed material should be applied immediately. CONIFLOOR EP 433 ESD should be applied to the prepared and primed substrate using a notched trowel or a toothed rake with metal or rubber teeth, (e.g., Multitool A3 tooth size).

After application, the coating is rolled <u>in one direction</u> with an open celled foam <u>textured</u> roller making sure that an even and consistent surface profile is achieved.

Both the application time of CONIFLOOR EP 433 ESD and the curing of the flooring are essentially determined by the temperature of the material, substrate and the environment. At low temperatures, the chemical reactions are generally delayed; this also extends the pot life, traffic and recoating times. Conversely, at high temperatures, chemical reactions are accelerated so that the above times are shortened accordingly.

To ensure complete curing of CONIFLOOR EP 433 ESD, the average temperature of the substrate must not fall below the lowest recommended application temperature.

Following application, the material must be protected from direct contact with water for at least 24 hours (min. 20°C). During this time, the effect of water on the surface can lead to white discolouration and carbamate formation on the coating.

The relative humidity must not exceed 75 %.

Consumption

Depending on the temperature of the material and substrate, the required amount is at least approx. 500 g/m^2 to max. 700 g/m^2 .

<u>Note:</u> If the max. required amount is substantially exceeded, restructuring of the CONIFLOOR EP 433 ESD thixotropic coating may be required by re-rolling with the textured roller.

Should additionally slip resistance of the CONIFLOOR EP 433 ESD be required (as in the CONIFLOOR IET ESD system), the addition of silicon carbide of grain size F36 = 425-600 μ m at 10 % by weight into the coating material is possible. The total application quantity will remain unchanged.

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: When a conductive layer is used you should measure before applying the conductive coating, the CONIFLOOR EP 150 conductive layer.

Surface of coating system	Number of measurements
< 10 m ²	1 measurement / m ²
10 – 100 m²	10 – 20 measurements
> 100 m ²	10 measurements / 100 m ²

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

On completion of work and in the event of work interruptions, all tools intended to be used again must be cleaned with SOLVENT 44 or equivalent, e.g., isopropanol.

Substrate condition

Cementitious substrates must be sound, dry, finely roughened and load-bearing; they should be free from laitance, loose and crumbly areas, as well as substances which impair adhesion such as oil, grease, rubber abrasion, paint residues or similar.

The substrate should be mechanically prepared, preferably by encapsulated dust-free shot blasting; and if required, by milling and subsequent shot blasting or grinding followed by a final vacuuming of the surface to be coated.

The substrate to be coated must have an average bond strength of at least 1.5 N/mm² (check, e.g., with Herion equipment, pulling speed 100 N/s).

Any residual moisture in the substrate must not exceed 4 %.

The substrate temperature must be at least 3 °C above the prevailing dew point temperature.

The substrate to be coated must be protected against rising humidity (water vapour pressure) by means of a suitably intact DPM.



CONIFLOOR EP 433 ESD is applied on the pre-treated and with CONIFLOOR EP 110, EP 112 or EP 116 LE primed sub-base.

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

Then apply the conductive primer CONIFLOOR 150 and at least conductive the self-levelling coating CONIFLOOR EP 433 ESD.

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

Packaging

CONIFLOOR EP 433 ESD is supplied in 25 kg units comprising of separate A and B components filled at a specific mixing ratio in metal pails.

Colours

ca. RAL 7038, others on request

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

Storage

Well-sealed original containers must be stored in a dry place between 15 and 25 $^\circ\text{C}.$

Avoid direct sunlight and temperatures below the storage temperature.

Before use, check the best before date stated on the containers.

Safety precautions

CONIFLOOR EP 433 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 content:

CONIFLOOR EP 433 ESD meets the requirements of EU Directive 2004/42/EC.

The limit value for products ready for use (product type according to table IIA j Type sb) is:

Level II (from 2010) <500 g/I VOC.

When ready to use, this product contains less than 500 g/l VOC.



CE and UKCA marking: See Declaration of Performance

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competence involved in the application of the product are beyond our control.

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