

CONIFLOOR EP 455 CR AS

Two-part EP self-levelling conductive coating, high chemical resistant, low emission, statically crack bridging, hard, antistatic accord. to EN 1081 and EN 61340-4-1, (total solid)

Product description

CONIFLOOR EP 455 CR AS is a two component, **low emission, high chemical resistant**, self-levelling, **pigmented, hard** and abrasion resistant **conductive** epoxy coating, "Total Solid accord. to the test methods Deutsche Bauchemie e.V."

Fields of application

CONIFLOOR EP 455 CR AS is used as a coating on mineral, primed (with CONIFLOOR EP 125 CR or others) and with conductive primer CONIFLOOR EP 155 CR AS prepared substrates for indoor floorings with medium to heavy chemical and mechanical strain, where anti-static properties are required. CONIFLOOR EP 455 CR AS is used in our indoor antistatic flooring systems.

Properties

CONIFLOOR EP 455 CR AS exhibits high chemical and mechanical properties and is easy to apply. Due to its hard properties the coating CONIFLOOR EP 455 CR AS is very high chemical resistant and is statically crack bridging up to 0.5 mm (+23°C).

CONIFLOOR EP 455 CR AS fulfils the requirements for **explosion protection in the AS system** build-up. The resistance to earth measured according to DIN EN 1081 in the range of 10^4 to 10^6 ohms and according to EN 61340-4-1 $\leq 10^9$ ohms.

CONIFLOOR EP 455 CR AS is easy to clean and shows a good too high chemical resistance organic and inorganic acids, a variety of alkaline substances, brine, mineral oils, lubricants, and fuels.

The yellowing, which occurs when CONIFLOOR EP 455 CR AS is exposed to UV light, does not affect its mechanical properties.

CONIFLOOR EP 455 CR AS is used in the systems

- CONIFLOOR IEC AS
- CONIFLOOR IEC AS SR

and others.

Technical Data

Mixing ratio	in parts by weight			100 : 24
Density	mix,	at 23 °C	g/cm ³	1.4
Viscosity	mix,	at 23 °C	mPas	1800
Processing time	at 12 °C		min. approx.	20
Re-coating interval / ready for foot traffic	at 20 °C		minimum h	12
			maximum h	24
Substrate and application temperature	minimum		°C	12
	maximum		°C	30
Permissible relative humidity	maximum		%	75
Ready for	mech. strain	at 20 °C	d	7
	light mech. strain	at 20 °C	d	1
	chem. strain	at 20 °C	d	7
Shore D hardness	after 28 d			≤ 78
Resistance to ground (EN 1081)				Ohm $R_g 10^4 - 10^6$
Resistance to ground (EN 61340-4-1)				Ohm $R_g < 10^9$

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 455 CR AS 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 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.

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

CONIFLOOR EP 455 CR AS can then be applied directly to the pre-treated primed and with the conductive layer CONIFLOOR EP 155 CR AS (with copper tapes to earth points connected) prepared substrate. CONIFLOOR EP 455 CR AS is applied using a [rubber tooth squeegee](#). The teeth size of the tool needs to be adjusted to the calculated consumption per 1 m²

Crosswise [spike rolling](#) after application is necessary to [de-aerate](#) the coating and to get [a homogenous spreading of the carbon fibres](#) in the surface. We recommend starting [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 455 CR AS. 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. 24 hours (at 20 °C). Within this period, contact with water can cause foaming on the surface of the coating.

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

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 1.5 N/mm².

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 subbase must contain a moisture barrier (damp proof membrane D.P.M.).

After the pre-treatment, the bond strength of the concrete must be at least 1.5 N/mm².

CONIFLOOR EP 455 CR AS is applied on the pre-treated and with CONIFLOOR EP 125 CR or others primed sub-base.

Then apply the conductive primer CONIFLOOR EP 155 CR AS with copper tapes and at least the conductive self-levelling coating CONIFLOOR EP 455 CR AS.

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

Consumption

The consumption rate of CONIFLOOR EP 455 CR AS is for a conductive self-levelling layer [min. 2.5 kg/m²](#) to achieve layer thickness of minimum 1.7 mm. The tested statically crack bridging properties of 0.4 mm are achieved with this consumption rate.

The [maximum layer thickness](#) should not exceed 2 mm, that a consumption rate of max. 3.0 kg/m².

If CONIFLOOR EP 455 CR AS is used as a slip resistant wear in the system CONIFLOOR IES AS SR, the consumption is min. 1.5 kg/m² until approx. 1.8 kg/m². The wear coat must broadcast with conductive silicon carbide (e.g., F20-F24). For more details, see also the system data sheet.

Additional filling of CONIFLOOR EP 455 CR AS with quartz sand is general not allowed.

As topcoat in the CONIFLOOR IEC AS SR system the [non-conductive topcoat CONIFLOOR EP 455 CR](#) is used. The consumption with the recommended sprinkling of silicon carbide is approx. 0.5 - 0.9 kg/m².

For scratch coats or as a pore sealer, the minimum consumption is approx. 0.6 kg / m². Further information can be found in the description of the system data sheet.

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 155 CR AS conductive layer must be measured.](#)

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

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.

Pack size

CONIFLOOR EP 455 CR AS is supplied in 24.8 kg (metal) working packs. Components A and B are supplied in the correct proportions and delivered separately.

Colour

Standard colours: ca. RAL 7032 (grey)
further colours upon request.

Please consider 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 455 CR AS 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 455 CR AS meets the requirements of the EC 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/l 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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