RINOL *EP-C523*

Our products are “total solid” in accordance with the **test method of Deutsche Bauchemie e.v.**

1 General Information

Product Description/Use

RINOL EP-C523 is a pigmented, ready-to-use 2-component coating compound made from high-quality epoxy resin. RINOL EP-C523 forms join-free, non-porous flooring coatings which also withstand heavy freight traffic and footfall. As a self-levelling cover layer, RINOL EP-C523 can also be mixed with silica sand at a ratio of 1:0.7 (for example Geba sand by Dorfner 0.08-0.25 mm at 23°C – other silica sands may have a negative effect on deaeration, levelling, etc.)

The product can also be used as a sealant or base colour and in this case is not mixed with silica sand.
After mixing with the appropriate hardener, RINOL EP-C523 is used as a top coat for industrial floorings that must satisfy high demands in terms of mechanical and chemical stability, can be easily cleaned and exhibit good levels of resistance to fuels and lubricants and most solvents and chemicals.
If desired, the product can also be supplied in an unpigmented form to be coloured using coloured pastes.

Substrate Preparation

The substrate must be capable of bearing a sufficient load (compressive strength at least 25 N/mm^2). The adhesive pull strength must be at least 1.5 N/mm^2. Compatibility with older coatings must be checked by the fabricator. Dense or hard surfaces may lead to problems in terms of bonding if the substrate is not prepared adequately. We recommend applying over a test area in this case. The substrate must be clean ad free from release agents.
In general it must be checked whether the substrate is open-pore, porous, etc. since in these cases bubbles and pores may be formed in the coating. This should be checked by the fabricator and remedied if necessary.
Before applying RINOL EP-C523, the substrate is primed with a primer RINOL EP P202, RINOL EP P201, RINOL EP P206 or RINOL EP P211 in accordance with respective product data sheets.
Depending on the desired evenness, RINOL EP-C523 is applied directly over the primer or over an EP levelling layer. The RINOL EP-C523 cover layer must be laid no later than 24 h (20°C) after the previously applied layer or after the previous layer was scattered with silica sand accordingly. The substrate must form a film and be free from pores, since bubbles and/or pores may otherwise be formed by the air rising from the substrate.
If a high level of roughness or uneveness is noted before applying the coating, it must be levelled with RINOL EP L300 using a leveller or spreading spatula (see the corresponding product data sheets).

Technical Data	
Liquid mixture (A+B)	
1. Density (20°C)	approx. 1.40 g/cm^3
2. Packaging unit size (2-component container)	25 kg
3. Colours	see RINOL colour chart, others available on request
4. Shelf life/storage	6 months at 5–20°C store **above freezing** and out of direct sunlight (even during transport)

Technical Data	
Cured material (without addition of silica sand)	
1. Tensile strength (DIN EN 196 / ASTM C 190)	Approx. 45 N/mm^2
2. Compressive strength (DIN EN 196 / ASTM C 109)	Approx. 70 N/mm^2
3. Flexural strength (DIN EN 196 / ASTM C 348)	Approx. 60 N/mm^2
4. Shore D hardness (DIN 53505 / ASTM D 2240) after 7 days/23°C	Approx. 75

Technical Data	
Liquid mixture (A+B)	
1. Processing time (20°C)	approx. 20–25 min.
2. Processing/material/room temperature:	15–25°C (min. 3 degrees above the dew point, even during laying and curing)
3. Material consumption of binder per mm layer thickness, depending on substrate composition	unfilled (A+B) 1800–2000 g/m^2
4. Can be walked on (20°C)	after approx. 24 hours
5. Subsequent layer (20°C)	within 12–24 hours.
6. Full load-bearing capacity mechanical (20°C) chemical (20°C)	 after 7 days after 28 days
7. Rel. humidity	< 80% (during the entire laying and curing phase)

Care should be taken to ensure that no silicone-containing or other materials which could interfere with the reaction come into contact with RINOL EP C523 both before and during the curing phase.

Manufacturer:
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2 Laying Instructions

Processing

The product is supplied in 2-component containers in the exact mixing ratio.
Before processing, the material must be heated at least to ambient temperature (room and floor temperature).
The A-component must be stirred for approx. 2-3 minutes, and then the B-component is emptied completely into the A-component. Both components must be mixed homogeneously for 2-3 minutes using a suitable electric stirring tool. The inclusion of air in the stirring process must be avoided. The mixture should be poured into a different container and then stirred again briefly.
Top layer: The silica sand (weight ratio 1:0.7 at 23°C) must be stirred in homogeneously. RINOL EP-C523 is poured onto the surface to be coated and spread over the area using a serrated spatula Polyplan no. 48 in an appropriate layer thickness (approx. 2 mm). To achieve uniform layer thicknesses the toothed rows of the spatula must be checked regularly and replaced if necessary. The surface must be subsequently treated/deaerated crosswise using a spiked roller. The fabricator must wear shoes with a spiked sole in order to walk on the liquid coating.
RINOL EP-C523 can also be used without additional silica sand (as a self-levelling top coat with toothed strip Polyplan no. 25 in approx. 1 mm layer thickness). As a sealant or base, colour application is carried out using a fur fabric roller.
When producing broadcast coatings or coatings containing chips, the broadcasting or scattering of chips must take place within the processing time. The same applies when working with a spiked roller.

Sealant

Primer: RINOL EP P201 or RINOL EP P202 (0.3-0.5 kg/m^2)
Sealant: 2 x RINOL EP C523, every layer (0.25-0.3kg/m^2).

The primer should form a continuous, tight, closed resin film. In order to optimise the coverage capacity on rough surfaces, RINOL EP C523 can be mixed with up to 0.5 % fixing agent RINOL X960. With light colours (for example yellow, orange) 2 applications are recommended for good coverage capacity.
Unevenness of the substrate and traces of dirt cannot be covered by thin layers of sealant. The material is distributed using a rubber spreader and is rerolled uniformly crosswise using a short-pile roller.

The fabricator should carry out their own tests on-site.

Reworking

If reworking within 24 hours following application, the cover layer will not have to be ground down further. Any reworking after this time is only possible following careful grinding down and subsequent suctioning off of the sanding dust, since otherwise bonding may be impaired.

Maintenance

In order to preserve the properties of the synthetic resin floor covering in the long term, we recommend regular maintenance. Please ask for a copy of our RINOL maintenance guide for further information.

Possibilities for layering and more detailed information regarding the laying of RINOL products can be found in the RINOL Technical Guide.

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Safety measures
For information on handling the product please refer to the valid safety data sheet and the Chemicals Regulations regarding the handling of coating materials (M004/M023). Suitable protective clothing and goggles must be worn during processing.
Skin contact with liquid resins can be harmful to health and may lead to allergies.

Colour
Almost all colours are possible. Slight variations in colour are unavoidable owing to the raw materials. Light colours (yellow, orange, etc.) may exhibit slight differences in colour in the long term owing to the addition of silica sand. Epoxy resins are not generally colour-stable in the long term under the effects of UV and weathering and tend to turn yellow. Artificial UV light can also modify the colour and could also lead to yellowing. The technical properties remain.

Note
The specification values given are approximate values ascertained by us and do not constitute guaranteed properties. Consequently, no liability claims may be derived from the product data sheet.

Please also note that only the most recent version of the technical data sheet is valid and replaces all previous data sheets.

Important note
In addition to ambient temperature, floor temperature is of key importance.
As a basic principle the chemical reactions are delayed at low temperatures. The reworking time and the time until the floor can be walked on are thus extended.
Higher viscosities of the products also cause an increase in material consumption.
At higher temperatures the chemical reactions are shortened and the reworking time and the time until the floor can be walked on are reduced. The material should generally be protected during processing against exposure to water. Furthermore, the material must be protected against direct exposure to water for approx. 24 hours (at 20 °C) following application. During this period exposure to water (for example dew, condensation) could lead to whitening (carbamate formation) on the surface or the surface could become sticky at these points and this could impair adhesion to subsequent coatings.

As a basic principle, protect against the infiltrating action of moisture from the rear face, including during use.

Note
The Geba silica sand from Dorfner was added at a material- and substrate temperature of 23°C and all values are based on the above-mentioned temperature. Other sand types affect the product properties, such as levelling, appearance, deaeration, filling level and consumption. Lower temperatures reduce the levelling and deaeration properties as well the filling degree. The silica sand must be fire-dried. The silica sand must not, in any case, be moist.

Legal note:
Owing to the different materials, substrates and differing working conditions, no guarantee in terms of result or adhesion for whatever reason and/or legal nature can be assumed by RINOL Italia/RCR Flooring Products.
For the rest, the most recent general terms of business of RINOL Italia Research & Technology and RCR Flooring Products GmbH apply and can be requested from us or viewed, in their most recent version, at www.rcrflooringproducts.de and printed out. We reserve the right to make changes to the product specifications.

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CE marking:

DIN EN 13813 “screed mortars, screed materials and screeds - properties and requirements” (Jan. 2003) specifies requirements of screed mortars which are used for floor constructions in interior spaces. This standard also covers synthetic resin coatings and sealants. Products which conform to the above-mentioned standard are provided with the CE marking.

CE RINOL Italia Research & Technology Srl Via Chiarugi 76/U I-45100 Rovigo
05 [1] EN 13813 SR-B1,5 –IR4
1119-CPR-0833 09 EN 1504-2

Synthetic resin screed/coating for internal use in buildings (superstructures in accordance with techn. data sheets)	
Reaction to fire	$B_{FL-S}1$
Water permeability	NPD [2]
Abrasion resistance	NPD [2]
Bond	B 1.5
Impact resistance	IR 4
Impact sound insulation	NPD [2]
Noise absorption:	NPD [2]
Chemical resistance	NPD [2]

-1) the last two numbers of the year in which the CE marking was applied
-2) NPD = no performance determined;

CE marking: 1504-2
Flooring systems which are subjected to mechanical stresses and products thereof which comply with DIN EN 1504-2 must also satisfy the requirements of DIN EN 13813.
DIN EN 1504-2 “products and systems for the protection and maintenance of concrete structures – part 2: surface protection systems for concrete“ specifies the requirements for the surface protection methods “hydrophobing impregnation“, impregnation and coating. The relevant data sheet can be requested as necessary.

European Regulation 2004/42 (Decopaint Directive)
The maximum content of VOC (product category IIA/ j type sb) as permitted by European Regulation 2004/42 is 500g/l (limit 2010) in the ready-to-use state. The maximum content of RINOL EP C523 in the ready-to-use state is < 500 g/l VOC.

GIS Code: WGK RE 1
Further information regarding the GIS code can be obtained from Wingis online at http//www.wingis-online.de/wingisonline/

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