

Two-component, roller- applied epoxy coating

Description

DUROFLOOR-R is a two-component, colored epoxy system, offering high strength and abrasion resistance. It is resistant to organic and inorganic acids, alkalis, petroleum products, waste, water, sea water and weather conditions. It is also resistant to temperatures from -30°C to +100°C in dry loading and up to +60°C in wet loading. It is classified as SR-B2,0-AR0,5-IR4, according to EN13813.

Fields of application

DUROFLOOR-R is used as a roller- applied coating on floors that require high mechanical or chemical strength. It is suitable for cement-based substrates, e.g. concrete, cement-mortars or asbestos cement, as well as for steel or iron surfaces in industrial areas, warehouses, laboratories, hospitals, wine factories, slaughterhouses, canned food factories, garages, car workshops etc.

It is also suitable for food contact surfaces, according to W-347, ISO 8467.

It complies with LEED requirements (Rule 1113 – SCQAMD) regarding Volatile Organic Compound (VOC) Limits, categorized as Industrial Maintenance (IM) coatings, Code 19, Voc Limit: <100 g/l.

Technical data

Basis:	two-component epoxy resin
Colors:	RAL 7032 (sand grey) RAL 7035 (light grey) RAL 7040 (grey) RAL 3009 (redbrown) RAL 1015 (beige) RAL 1013 (white-beige) RAL 6021 (light green) RAL 5024 (pastel blue) other colors by special order
Viscosity:	approx. 1,900 mPa·s at +23°C

Density (A+B):	1.46 kg/l
Mixing ratio (A:B):	100:25 by weight
Pot life:	approx. 40 min at +20°C
Minimum hardening temperature:	+8°C
Water absorption: (ASTM D 570)	0.29% w/w (24 h)
Reaction to fire (EN 13501-1):	B _{fl} - s1*
Hardness according to SHORE D:	80
Walkability:	after 24 h at +23°C
Successive layer:	after 16 h at +23°C
Final strength:	after 7 days at +23°C
Abrasion resistance: (ASTM D 4060, TABER TEST, CS 10/1000/1000)	76.6 mg
Compressive strength: (DIN EN 196-1)	51 N/mm ²
Flexural strength: (DIN EN 196-1)	32 N/mm ²
Adhesive strength:	> 3 N/mm ² (breaking point of concrete)

Cleaning of tools:
Tools should be cleaned with SM-12 solvent immediately after use.

*With epoxy primer DUROFLOOR-PSF as a system. . Report No 17/14153-890 M1, APPLUS Laboratories – LGAI, Spain, June 2017.

Directions for use

1. Substrate preparation

The flooring surface should be:

- Dry and stable.
- Free of materials that prevent bonding, e.g. dust, loose particles, grease etc.
- Protected from underneath moisture attack.

Also, it should meet the following requirements:

a) Cementitious substrates:

Concrete quality: at least C20/25
Cement screed quality: cement content
350 kg/m³
Age: at least 28 days
Moisture content: less than 4%

b) Iron or steel surfaces:

It should be free of rust or any corrosion that may prevent bonding.

Depending on the nature of the substrate, it should be prepared by brushing, grinding, sand blasting, water blasting, shot blasting, etc. Then, the surface should be cleaned from dust with a high suction vacuum cleaner.

2. Priming

Cementitious surfaces should be primed with DUROFLOOR-PSF or DUOPRIMER epoxy primers.

Consumption: 200-300 g/m².

After the primer has dried, any existing imperfections (cracks, holes) should be filled using DUROFLOOR-R mixed with quartz sand with 0-0.4 mm particle size (or Q35 quartz sand) at a proportion of 1:1.5 up to 1:2 by weight or using DUROFLOOR-PSF mixed with quartz sand with 0-0.4 mm particle size (or Q35 quartz sand) at a proportion of 1:2 up to 1:3 by weight.

Metallic substrates should be primed with EPOXYCOAT-AC anti-corrosive epoxy coating. DUROFLOOR-R should be applied within 24 hours from priming.

In case DUROFLOOR-R will be applied after the first 24 hours, quartz sand with 0.4-0.8 mm particle size should be spread on the surface, while the primer is still fresh, in order to ensure good bonding. After the primer has hardened, any loose grains should be removed with a high suction vacuum cleaner.

Wet substrate

In case the substrate contains humidity levels in excess of 4% or it is a fresh concrete substrate (3-28 days), then it should be primed with the three-component, water-based primer DUOPRIMER-W.

3. Mixing of the components

Components A (resin) and B (hardener) are packed in two separate containers, at the correct predetermined mixing proportion by weight. Before the application it is recommended to slightly stir component A for 1 min. The whole quantity of component B is added into component A. The two components should be mixed for about 3 minutes with a low-speed mixer (300 rpm). It is important to stir the mixture thoroughly near the sides and bottom of the container, to achieve uniform dispersion of the hardener.

4. Application - Consumption

Depending on the required form of the final surface, there are two cases of application:

a) Smooth final surface

DUROFLOOR-R is applied by roller in two layers. The second layer should be applied after the first one has dried, but within 24 hours.

Consumption: Approx. 250-300 g/m²/layer.

b) Slip-resistant final surface

DUROFLOOR-R is applied by roller in one layer.

Consumption: approx. 250-300 g/m².

While the layer is still fresh, quartz sand is broadcast (0.1-0.8 mm or 0.4-0.8 mm particle size, depending on the desired anti-slip effect).

Consumption of quartz sand: approx. 3 kg/m².

After DUROFLOOR-R has hardened, any loose grains should be removed with a vacuum cleaner. Finally, a finishing layer of DUROFLOOR-R is brushed.

Consumption: 400-600 g/m².

Packaging

DUROFLOOR-R is supplied in packages (A+B) of 10 kg, with components A and B having a fixed proportion by weight.

Shelf-life - Storage

12 months from production date, if stored in original sealed packaging, in areas protected from humidity and direct sun exposure. Recommended storage temperature between +5°C and +35°C.

Remarks

- The workability of epoxy materials is affected by temperature. The ideal temperature of application is between +15°C and +25°C, for which the product obtains optimal workability and curing time. Room temperature below +15°C will expand the curing time, while temperatures above +30°C will reduce it. It is recommended to mildly preheat the product in the winter, and store the product in a cool room before application in the summer.
- Bonding between successive layers may be severely affected by the intervention of moisture or dirt between them.
- Epoxy layers should be protected from moisture for 4-6 hours after application. Moisture may whiten the surface or/and make it sticky. It may also disturb hardening. Faded or sticky layers in parts of the surface should be removed by grinding or milling and laid again.
- In case the time between the application of successive layers is longer than predicted or in case old floors are going to be overlaid again, the surface should be thoroughly cleaned and ground before applying the new layer.
- In case DUROFLOOR-R will be used on vertical or inclined surfaces an epoxy flow regulator should be added at a ratio of 2.0% by weight.
- After hardening, DUROFLOOR-R is totally safe for health.
- Before application, consult the directions for safe use and precautions written on the package.

Volatile Organic Compounds (VOCs)

According to the Directive 2004/42/CE (Annex II, table A), the maximum allowed VOC content for the product subcategory j, type SB is 500 g/l (2010) for the ready-to-use product. The ready-to-use product DUROFLOOR-R contains 60 g/l VOC.



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08

DoP No.: DUROFLOOR-R/1800-01
EN 13813 SR-B2,0-AR0,5-IR4
Synthetic Resin screed material for use internally in buildings

Reaction to fire: B_{fi} - s1

Release of corrosive substances: SR

Water permeability : NPD

Wear resistance: AR0,5

Adhesion: B2,0

Impact resistance: IR4

Sound insulation: NPD

Sound absorption: NPD

Thermal resistance: NPD

Chemical resistance: NPD



DUROFLOOR-R



2032

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18

2032-CPR-10.11D

DoP No.: DUROFLOOR-R / 1863-01

EN 1504-2

Surface protection products

Coating

Permeability to CO₂: Sd > 50m

Water vapor permeability: Class I (permeable)

Capillary absorption: $w < 0.1 \text{ kg/m}^2 \cdot \text{h}^{0.5}$

Adhesion: $\geq 0.8 \text{ N/mm}^2$

Reaction to fire: B_{fl} - s1

Dangerous substances comply with 5.3

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