

Two-component, brushable, aliphatic, polyurethane coating for floors

Description

DUROFLOOR-PU is a two-component, colored, aliphatic polyurethane system. After its application, it forms a strong and elastic membrane that shows excellent resistance to UV radiation.

It is resistant to abrasion, as well as organic and inorganic acids, alkalis, petroleum products, specific solvents, waste, water, sea water and weather conditions. It is at temperatures ranging from -30°C to $+100^{\circ}\text{C}$ in dry loading and up to $+60^{\circ}\text{C}$ in wet loading.

It is classified as SR-B2,0-AR2-IR8, according to EN 13813.

Fields of application

DUROFLOOR-PU is used as a brushable coating on floors that require high elasticity, mechanical and chemical strength. It is suitable for:

- Cement-based substrates, e.g. concrete, cement-mortars or asbestos cement.
- Steel or iron surfaces.
- Existing epoxy floors.
- Refrigerator and freezer rooms, industrial areas, warehouses, laboratories, hospitals, wine factories, slaughter-houses, canned food factories, garages, car workshops, etc.

It is suitable for interior and exterior applications.

Technical data

Basis:	two-component polyurethane resin
Colors:	RAL 7040 (grey) other colors by special order
Viscosity:	approx. 1,400 mPa·s at $+23^{\circ}\text{C}$
Density (A+B):	1.35 kg/l

Mixing ratio (A:B):	100:60.8 by weight
Pot life:	approx. 40 min at $+20^{\circ}\text{C}$
Minimum hardening temperature:	$+8^{\circ}\text{C}$
Shore D hardness:	47
Walkability:	after 24 h at $+23^{\circ}\text{C}$
Successive layer:	after 16 h at $+23^{\circ}\text{C}$
Final strength:	after 7 days at $+23^{\circ}\text{C}$
Wear resistance (EN 13892-4):	140 μm
Impact resistance (EN ISO 6272):	8 Nm
Adhesion: (EN 13892-8)	$> 3.0 \text{ N/mm}^2$
Tensile strength: (ASTM D412)	10 N/mm^2
Elongation at break: (ASTM D412)	49%
Cleaning of tools:	Tools should be cleaned with SM-16 solvent, immediately after use.

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 penetration.

It should also meet the following requirements:

a) Cementitious substrates:

Concrete quality:	at least C20/25
Cement screed quality:	cement content 350 kg/m^3

Age: at least 28 days
Moisture content: less than 4%

b) Iron or steel surfaces:

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, sandblasting, 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 the polyurethane primer PRIMER-PU 100 or with the epoxy primers DUROFLOOR-PSF or DUROPRIMER.

Consumption: 200-300 g/m².

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

Metal substrates should be primed with EPOXYCOAT-AC anti-corrosive epoxy coating.

DUROFLOOR-PU should be applied within 24 hours from priming.

In case DUROFLOOR-PU is 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 DUROPRIMER-W.

3. Mixing of DUROFLOOR-PU

Components A (resin) and B (hardener) are packed in two separate containers, at the correct predetermined mixing ratio by weight. The whole quantity of component B is added into component A. The two components should be mixed for about 5 minutes, using a low-speed mixer (300 rpm). It is important to thoroughly stir the mixture 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-PU is applied by roller in two layers. The second layer is applied after the first one has dried, but within 24 hours.

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

b) Slip-resistant final surface

DUROFLOOR-PU is applied by roller in one layer.

Consumption: approx. 250-300 g/m².

While the layer is still fresh, quartz sand is broadcast (0.1-0.4 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-PU has hardened, any loose grains should be removed with a vacuum cleaner.

Finally, a finishing layer of DUROFLOOR-PU is brushed.

Consumption: 400-600 g/m².

Packaging

DUROFLOOR-PU is supplied in packages (A+B) of 10 kg, with components A and B at 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 polyurethane 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.
- Polyurethane 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, the surface should be thoroughly cleaned and ground before applying the new layer.
- After hardening, DUROFLOOR-PU 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-PU contains a maximum of 500 g/l VOC.


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EN 13813 SR-B2,0-AR2-IR8 DoP No.: DUROFLOOR-PU/1820-01 Synthetic Resin screed material for use internally in buildings
<p>Reaction to fire: F</p> <p>Release of corrosive substances: SR</p> <p>Water permeability : NPD</p> <p>Wear resistance: AR2</p> <p>Bond strength: B2,0</p> <p>Impact resistance: IR8</p> <p>Sound insulation: NPD</p> <p>Sound absorption: NPD</p> <p>Thermal resistance: NPD</p> <p>Chemical resistance: NPD</p>

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