

ISOFLEX-PU 540

One-component, polyurethane, liquid waterproofing membrane

Description

ISOFLEX-PU 540 is a one-component polyurethane liquid waterproofing membrane.

- Based on pure elastomeric, hydrophobic polyurethane resins, it offers high mechanical and chemical properties to the product.
- Forms a seamless, joint-free, elastic, waterproof and vapor-permeable membrane.
- Has excellent adhesion to a variety of substrates, such as concrete, cement screed and existing acrylic or hybrid liquid waterproofing membranes.
- Applicable even to irregular substrates.

Certified according to EN 1504-2 and classified as coating for surface protection of concrete. Certificate No.: 2032-CPR-10.11. CE marked. ISOFLEX-PU 540 has been successfully tested by a third-party laboratory for resistance to root penetration, according to CEN/TS 14416:2014.

Fields of application

ISOFLEX-PU 540 is suitable for waterproofing:

- Under tiles in wet areas (bathrooms and kitchens), balconies, auxiliary rooms, etc., as long as quartz sand has been previously broadcast on its last layer.
- Flat roofs and balconies.
- Green roofs and flower beds.
- Under thermal insulation boards on flat roofs.
- Foundations.

When applied to exposed surfaces, the use of the protective coating TOPCOAT-PU 710 or TOPCOAT-PU 720 is required.

Technical characteristics

1. Properties of the product in liquid form

Form:	polyurethane prepolymer
Colors:	black, grey
Density:	1.48 ± 0.02 kg/l
Viscosity:	3,500 ± 1,500 mPa·s (at +23°C)

2. Properties of the cured membrane

Elongation at break:	> 400%
(ASTM D 412 / EN 527-3)	
Tensile strength:	> 3 N/mm ²
(ASTM D 412 / EN 527-3)	
Crack-bridging:	≥ 3 mm
(EN 1062-7, Method A)	(Class A5 > 2.5 mm)
Hardness according to SHORE A:	78-83
Adhesion:	> 2 N/mm ²
(EN 1542)	
Service temperature:	from -30°C to +80°C

Directions of use

1. Substrate preparation

In general, the substrate must be dry (moisture content < 4%), clean, free of grease, loose particles, dust, etc.

1.1 Concrete substrates

Any existing cavities in concrete should be repaired in advance.

Severe cracks in the substrate must be primed locally and after 2-3 hours (depending on the weather conditions) must be sealed with the polyurethane sealants FLEX PU-30 S or FLEX PU-50 S.

Concrete and other porous surfaces with moisture content < 4% should be treated with the primer PRIMER-PU 100, with a consumption of approx. 200 g/m².

Substrates with moisture content > 4% should be primed with the special primer PRIMER-PU 140, with a consumption of 100-250 g/m².

1.2 Smooth and non-absorbent substrates

Smooth and non-absorbent surfaces, bituminous waterproofing membranes coated with granules and existing acrylic or hybrid liquid waterproofing membranes must be primed with the water-based epoxy primer EPOXYPRIMER-500, thinned with water up to 30% by weight. The product is applied by brush or roller in one coat.

Consumption: 150-200 g/m².

Depending on the weather conditions, ISOFLEX-PU 540 is applied within 24-48 hours from priming, as soon as moisture content falls below 4%.

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2. Application – Consumption

Before application, it is recommended to slightly stir ISOFLEX-PU 540 until a homogeneous mixture is formed. Extensive stirring should be avoided to prevent air entrapment.

a) Full-surface waterproofing

ISOFLEX-PU 540 is applied by brush or roller in two layers. The first layer is applied 2-3 hours after priming and while PRIMER-PU 100 is still tacky. The second layer should be applied crosswise after 8-24 hours, depending on the weather conditions. Consumption: 1.2-1.5 kg/m², depending on the substrate.

In case there are dense, multiple cracks all over the surface, it is strongly recommended to fully reinforce ISOFLEX-PU 540 membrane with 100 cm wide strips of polyester fleece (60 g/m²). These placed strips must overlap by 5-10 cm. In that case, 2-3 hours after priming, the first layer of ISOFLEX-PU 540 is applied covering the reinforcement to a width of 100 cm and, while still fresh, a strip of polyester fleece is embedded. The same application process is followed over the remaining surface. Two extra layers of ISOFLEX-PU 540 are applied over the entire surface. Consumption: >2.50 kg/m², depending on the substrate.

b) Local waterproofing of cracks

In this case, the primer is applied to the substrate only across the cracks, to a width of 10-12 cm. Two-three hours after priming, the first ISOFLEX-PU 540 layer is applied and, while still fresh, a 10 cm wide polyester fleece strip (60 g/m²) is embedded lengthwise. Then, two extra ISOFLEX-PU 540 layers are applied along the cracks completely covering the reinforcement. Consumption: 220-250 g/m of crack length.

c) Waterproofing under tiles

ISOFLEX-PU 540 is applied by brush or roller in two layers.

ISOFLEX-PU 540 should be locally reinforced along joints and wall-floor junctions by embedding a 10 cm wide polyester fleece strip on its first layer, while still fresh.

After the application of the final layer and while it is still fresh, quartz sand (Ø 0.3-0.8 mm) must be broadcast. The quartz sand must be completely dry. Consumption of quartz sand: approx. 3 kg/m².

After 24 hours, any loose grains should be removed with a high suction vacuum cleaner. Tiles should be fixed with a high-performance, polymer-modified tile adhesive, such as ISOMAT AK-22, ISOMAT AK-23 XXL, ISOMAT AK-25, ISOMAT AK-ELASTIC and ISOMAT AK-MEGARAPID.

Tools should be cleaned with SM-28 solvent while ISOFLEX-PU 540 is still fresh.

Packaging

Metal containers of 25 kg.

Shelf life – Storage

12 months from production date if stored in original, unopened packaging at temperatures between +5°C and +35°C. Protect from direct sunlight and frost.

Remarks

- In case of application by spray, it may be diluted, depending on the weather conditions, up to 10%, only with the special solvent SM-28.
- ISOFLEX-PU 540 is not suitable for contact with chemically treated water of swimming pools.
- Temperature during the application and hardening of the product should be between +8°C and +35°C.
- The consumption of ISOFLEX-PU 540 should not exceed 750 g/m² per layer.
- When applied to exposed surfaces, the use of the protective coating TOPCOAT-PU 720 with a consumption of 250-350 g/m² for two layers is required.
- Opened containers should be used at once and cannot be re-stored.
- ISOFLEX-PU 540 is intended for professional use only.

Volatile Organic Compounds (VOCs)

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

The ready-to-use product ISOFLEX-PU 540 contains a maximum of 500 g/l VOC.

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2032

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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: Euroclass F

Dangerous substances comply with 5.3

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