

# 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 screeds and most waterproofing layers.
- 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.

Also certified as root-resistant according to UNE CEN/TS 14416 EX: 2014.

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.
- Under thermal insulation boards on flat roofs.
- Foundations.

When applied to exposed surfaces, the use of the protective coating 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: (ASTM D 412 / EN 527-3)	> 400%
Tensile strength: (ASTM D 412 / EN 527-3)	> 3 N/mm <sup>2</sup>
Crack-bridging: (EN 1062-7, Method A)	≥ 3 mm (Class A5 > 2.5 mm)
Hardness according to SHORE A:	78-83
Adhesion: (EN 1542)	> 2 N/mm <sup>2</sup>
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/m<sup>2</sup>.

Substrates with moisture content > 4% should be primed with the special primer PRIMER-PU 140, with a consumption of 100-250 g/m<sup>2</sup>.

##### 1.2 Smooth and non-absorbent substrates

Smooth and non-absorbent surfaces, as well as surfaces with bituminous membranes or other old waterproofing layers, 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/m<sup>2</sup>.

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/m<sup>2</sup>, 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/m<sup>2</sup>). 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: 2.20-2.50 kg/m<sup>2</sup>, 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/m<sup>2</sup>) 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/m<sup>2</sup>.

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-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/m<sup>2</sup> per layer.
- When applied to exposed surfaces, the use of the protective coating TOPCOAT-PU 720 with a consumption of 250-350 g/m<sup>2</sup> 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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 <b>2032</b>
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<b>2032-CPR-10.11</b> DoP No.: ISOFLEX-PU 540 / 1869-01 <b>EN 1504-2</b> Surface protection products Coating Permeability to CO <sub>2</sub> : Sd > 50m Water vapor permeability: Class I (permeable) Capillary absorption: w < 0.1 kg/m <sup>2</sup> ·h <sup>0.5</sup> Adhesion: ≥ 0.8 N/mm <sup>2</sup> Reaction to fire: Euroclass F Dangerous substances comply with 5.3

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