

ISOFLEX-PU 600

One-component, UV-stable, polyurethane, liquid waterproofing membrane

Description

One-component fast-curing aliphatic polyurethane liquid waterproofing membrane for flat roofs:

- Based on elastomeric, hydrophobic polyurethane resins of excellent mechanical, chemical, thermal, UV and weather resistance.
- Forms a continuous, elastic, waterproof and vapor-permeable membrane, without seams or joints.
- Features excellent adhesion to various substrates, including concrete, cement screed, wood and existing acrylic or hybrid liquid waterproofing membranes.
- Applicable even to irregular substrates.
- It is color-stable, meaning it doesn't turn yellow and no additional coating is required.

Certified according to EN 1504-2 and classified as a coating for surface protection of concrete. Certificate No.: 2032-CPR-10.11. CE marked.

Fields of application

ISOFLEX-PU 600 is suitable for waterproofing:

- Flat roofs and balconies, as an exposed waterproofing membrane.
- Gypsum and cement boards.
- Old layers of bituminous membranes.
- Polyurethane foam.
- Metal surfaces.

Technical data

1. Properties of the product in liquid form

| | |
|------------|-----------------------------------|
| Form: | aliphatic polyurethane prepolymer |
| Colors: | white |
| Density: | 1.37 kg/l |
| Viscosity: | 5,200 ± 300 mPa·s (+23°C) |

2. Properties of the cured membrane

| | |
|----------------------|-------------------------------------|
| Elongation at break: | > 400% (ASTM D 412) |
| Tensile strength: | 9 ± 1 N/mm ² (ASTM D412) |

| | |
|---|---|
| SHORE A hardness: | 77 ± 2 |
| Water impermeability: (DIN 1048) | 7 atm |
| Solar Reflectance (SR): (ASTM E903-96) | 85% |
| Infrared Emittance: (ASTM C1371-04a) | 0.88 |
| Solar Reflectance Index: (SRI) (ASTM E1980-01) | 107 |
| Capillary water absorption: (EN 1062-3: requirement EN 1504-2: w < 0.1) | 0.01 kg·m ² ·h ^{0.5} |
| CO ₂ permeability: (requirement of EN 1062-6, Method A: Sd > 50 m) | Sd = 165 m |
| Vapor permeability: (EN ISO 7783-2, vapor permeable Class I, Sd < 5 m) | Sd = 0.70 m |
| Adhesion: (EN 1542, requirement for flexible systems without traffic: 0.8 N/mm ²) | > 2 N/mm ² |
| Artificial weathering: (EN 1062-11, after 2000 h) | Pass (no blistering, cracking or flaking) |
| Reaction to fire: (EN 13501-1) | Euroclass F |
| Service temperature: | from -40°C to +90°C |

Directions for use

1. Substrate preparation

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

1.1 Concrete surfaces

Any existing cavities in concrete should be repaired in advance.

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

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

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

1.2 Smooth – Non-absorbent surfaces

Smooth and non-absorbent substrates, bituminous membranes or existing acrylic and 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 600 is applied within 24-48 hours from priming, as soon as the moisture content falls below 4%.

1.3 Metal surfaces

The metal surfaces should be:

- Dry and stable.
- Free of materials that might impair adhesion, e.g. dust, loose particles, grease, etc.
- Free of rust or corrosion that may impair adhesion.

Having been prepared by brushing, rubbing, sandblasting, etc., and then thoroughly cleaned from dust, metal surfaces are primed with EPOXYCOAT-AC anti-corrosion epoxy coating in one or two layers. EPOXYCOAT-AC is applied by roller, brush or spray. The second layer follows after the first has dried but within 24 hours. Consumption: 150-200 g/m²/layer.

Application of ISOFLEX-PU 600 should follow within the next 24-48 hours.

2. Application – Consumption

Before application, it is recommended to gently stir ISOFLEX-PU 600 until fully homogeneous. Prolonged stirring should be avoided to prevent air entrapment.

a) Full-surface waterproofing

ISOFLEX-PU 600 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: 1.0-1.5 kg/m², depending on the substrate.

In case of dense, multiple cracks all over the surface, it is strongly recommended to fully reinforce ISOFLEX-PU 600 membrane with 100 cm wide polyester fleece strip (60 g/m²). These placed strips must overlap by 5-10 cm. In that case, 2-3 hours after priming, about two thirds of the container is poured onto the floor and as soon as the material is spread, the polyester fleece is placed on it and is then rolled in to help release the entrapped air.

Then, the remaining content is poured over the polyester fleece and is spread with a roller. Consumption: 2.00-2.25 kg/m², depending on the substrate.

b) Local waterproofing of cracks

In this case, the primer is applied on the substrate, only along the cracks to a width of 10-12 cm. Two-three hours after priming, about two thirds of the ISOFLEX-PU 600 container is poured and while this is still fresh, a 10 cm wide polyester fleece strip (60 g/m²) is placed on it and then rolled to help release the entrapped air.

Then, the remaining content is poured over the polyester fleece and is spread with a roller. Consumption: 200-250 g/m of crack length.

Tools should be cleaned with SM-28 special solvent while ISOFLEX-PU 600 is still fresh.

Packaging

25 kg containers.

Shelf life – Storage

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

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Remarks

- For spray application, it may be diluted only with the special solvent SM-28, up to 10%, depending on the weather conditions.
- ISOFLEX-PU 600 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.
- Each ISOFLEX-PU 600 layer should not exceed 1 mm.
- Unsealed containers must be used at once and cannot be restored.
- ISOFLEX-PU 600 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 600 contains a maximum of 500 g/l VOC.



2032

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EN 1504-2

DoP No.: ISOFLEX-PU 600/1836-01

Surface protection products
Coating

CO₂ permeability: Sd > 50 m

Water vapor permeability: Class I (permeable)

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

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

Artificial weathering: Pass

Reaction to fire: Euroclass F

Dangerous substances comply with 5.3

ISOMAT S.A.

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