

ISOFLEX-PU 510

One-component, polyurethane, liquid waterproofing membrane

Description

ISOFLEX-PU 510 is a one-component, polyurethane, liquid waterproofing membrane offering:

- Mechanical, chemical, thermal, UV and weather resistance properties, as it is based on pure, elastomeric, hydrophobic polyurethane resins.
- A continuous, elastic, waterproof, vapor-permeable membrane, without seams or joints.
- Excellent bonding to various substrates, such as concrete, screeds and most waterproofing layers.
- Applicability even to irregular substrates.
- An affordable and reliable solution for waterproofing.
- Availability in white and other colors. When a dark color of ISOFLEX-PU 510 has been chosen as an exposed layer, it is necessary to cover it with a layer of TOPCOAT-PU 720 of the same color.

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

Fields of application

ISOFLEX-PU 510 is suitable for waterproofing:

- Flat roofs and balconies, as an exposed waterproofing membrane
- Under tile layers in kitchens, bathrooms, balconies and flat roofs, as long as quartz sand has been broadcast on its last layer
- Under thermal insulation boards on flat roofs
- In construction works, such as highways, bridge decks, tunnels, etc.
- Foundations
- Gypsum and cement boards
- Old layers of bituminous membranes
- Polyurethane foam
- Metal surfaces

Technical data

Form:	polyurethane prepolymer
Colors:	white
Density:	1.44 kg/l

Viscosity:	5,500 ± 500 mPa·s (+23°C)
Elongation at break: (ASTM D 412)	750 ± 50%
Tensile strength: (ASTM D412)	4.0 N/mm ²
Hardness according to SHORE A:	80 ± 2
Water impermeability: (DIN 1048)	5 atm
Solar Reflectance (SR): (ASTM E903-96)	84%
Infrared Emittance: (ASTM C1371-04a)	0.9
Solar Reflectance Index (SRI) (ASTM E1980-01):	106
Capillary absorption: (EN 1062-3, requirement of EN 1504-2: w < 0.1)	0.01 kg/m ² ·h ^{0.5}
Permeability to CO ₂ : (EN 1062-6)	Sd > 50 m
Water vapor permeability: (permeable, EN ISO 7783-2, Class I < 5m)	Sd = 0.82 m
Adhesion: (EN 1542, requirement for flexible systems with no traffic: 0.8 N/mm ²)	> 2.0 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%), clean, free of grease, loose particles, dust, etc.

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1.1 Concrete substrates

Any existing cavities in concrete should be filled with the appropriate repairing materials in advance. Severe cracks on 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 special primer PRIMER-PU 100 with a consumption of approx. $200\text{g}/\text{m}^2$.

Surfaces with moisture content $> 4\%$ should be primed with the special two-component polyurethane primer PRIMER-PU 140 with a consumption of $100\text{-}200\text{g}/\text{m}^2$.

1.2 Smooth and non-absorbent substrates

Smooth and non-absorbent substrates, as well as bituminous membranes or 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: $150\text{-}200\text{g}/\text{m}^2$.

Depending on the weather conditions, ISOFLEX-PU 510 is applied within 24-48 hours from priming, as soon as the moisture content falls below 4%.

1.3 Metal surfaces

Metal surfaces should be:

- Dry and clean.
- Free of grease, loose particles, dust, etc. that might impair adhesion.
- Free of rust or corrosion that might impair adhesion.

Having been prepared by brushing, rubbing, sandblasting, etc., and then thoroughly cleaned from dust, metal surfaces are primed with the EPOXYCOAT-AC anticorrosive epoxy coating in 1 or 2 layers. EPOXYCOAT-AC is applied by roller, brush or spray. The second layer follows after the first has dried, but within 24 hours.

Consumption: $150\text{-}200\text{g}/\text{m}^2/\text{layer}$.

Application of ISOFLEX-PU 510 should follow within the next 24-48 hours.

2. Application – Consumption

Before application, it is recommended to slightly stir ISOFLEX-PU 510, until fully homogenized. Excessive stirring should be avoided, in order to prevent air entrapment in the material.

a) Total waterproofing of the surface

ISOFLEX-PU 510 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: $\sim 1.0\text{-}1.5\text{kg}/\text{m}^2$, depending on the substrate.

In case of dense, multiple cracks all over the surface, it is strongly recommended to fully reinforce ISOFLEX-PU 510 membrane with 100cm wide polyester fleece strips ($60\text{g}/\text{m}^2$). These placed strips must overlap by 5-10cm. In that case, 2-3 hours after priming, the first layer of ISOFLEX-PU 510 is applied covering the reinforcement to a width of 100cm, and, while still fresh, a strip of polyester fleece is embedded. The same application process is followed in the remaining surface.

Two extra layers of ISOFLEX-PU 510 are applied over the entire surface.

Consumption: $\sim 2.00\text{-}2.25\text{kg}/\text{m}^2$, depending on the substrate.

b) Local waterproofing of cracks

In this case, the primer is applied on the substrate only across the cracks to a width of 10-12cm. Two-three hours after priming, the first ISOFLEX-PU 510 layer is applied and, while still fresh, a 10cm wide polyester fleece strip ($60\text{g}/\text{m}^2$) is embedded lengthwise. Then, two extra ISOFLEX-PU 510 layers are applied along the cracks, completely covering the reinforcement.

Consumption: $\sim 200\text{-}250\text{g}/\text{m}$ of crack length.

c) Waterproofing under tiles

ISOFLEX-PU 510 is applied by brush or roller in 2 layers.

ISOFLEX-PU 510 should be locally reinforced along joints and wall-floor junctions by embedding a 10cm wide polyester fleece strip ($60\text{g}/\text{m}^2$) on its first layer, while it is still fresh.

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After the application of the final layer and while still fresh, quartz sand (\varnothing 0.3-0.8mm) must be broadcast. The quartz sand must be completely dry.

Consumption of quartz sand: approx. 3kg/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 25, ISOMAT AK-ELASTIC, and ISOMAT AK-MEGARAPID.

Tools should be cleaned with SM-16 solvent, while ISOFLEX-PU 510 is still fresh.

Packaging

ISOFLEX-PU 510 is supplied in metal containers of 1kg, 6kg and 25kg.

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-16.
- ISOFLEX-PU 510 is not suitable for contact with chemically treated water of swimming pools.
- Temperature during application and hardening should be between +8°C and +35°C.
- The consumption of ISOFLEX-PU 510 should not exceed 750g/m² per layer.
- Unsealed containers should be used as soon as they are opened and cannot be restored.
- ISOFLEX-PU 510 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 500g/l (2010) for the ready-to-use product.

The ready-to-use product ISOFLEX-PU 510 contains a maximum of 500g/l VOC.



2032

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DoP No.: ISOFLEX-PU 510/1811-01

EN 1504-2

Surface protection products

Coating

Permeability to CO₂: 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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