

ISOFLEX-PU 550

Two-component, solvent-free, polyurethane, liquid waterproofing membrane

Description

ISOFLEX-PU 550 is a two-component, solvent-free, polyurethane, liquid waterproofing membrane.

- It is based on hydrophobic, polyurethane resins of excellent mechanical, chemical and thermal resistance.
- It forms a uniform, elastic, waterproof, vapor-permeable sealing layer, without seams or joints.
- It has excellent adhesion to various substrates, like concrete, cement mortars, wood and most waterproofing membranes.
- Application is possible, even on irregular substrates.

It is ideal for indoor use (e.g. waterproofing under tiles), as it is solvent-free and almost odorless.

Certified as material suitable for contact with potable water according to the requirements of RD140/2003 (Spanish Regulation that establishes sanitary criteria for water intended for human consumption based on 80/778 / EEC)".

Certified with the CE marking as a coating for surface protection of concrete, according to EN 1504-2.

Fields of application

ISOFLEX-PU 550 is suitable for waterproofing:

- Underneath tiles in kitchens, bathrooms, balconies, roofs and flat roofs, as long as quartz sand has been previously broadcasted on its last layer.
- Under thermal insulation boards on flat roofs.
- In construction works, highways, tunnels, for waterproofing bridge decks, etc.
- Concrete or metal tanks with potable water.

Technical data

1. Properties of the product in liquid form

Form:	polyurethane prepolymer
Color:	grey
Density (A+B):	1.35 kg/l
Mixing ratio	100:25 by weight
Viscosity:	5,500 mPa·s (at +23°C)

2. Properties of the cured membrane

Elongation at break: (ASTM D 412)	70%
Tensile strength: (ASTM D412)	4.8 N/mm ²
Hardness according to SHORE A:	80 ± 2
Water impermeability: (DIN 1048)	5 atm
Capillary water absorption: (EN 1062-3: requirement EN 1504-2: w < 0.1)	0.01 kg·m ² ·h ^{0.5}
CO ₂ permeability: (EN 1062-6):	Sd > 50 m
Vapor permeability: (EN ISO 7783-2, vapor permeable Class I, Sd < 5 m)	Sd = 0.80 m
Adhesion: (EN 1542):	3.0 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
Temperature resistance:	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.

Intense cracks on the substrate 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.

Concrete and other porous surfaces with a moisture content < 4%, should be treated with the epoxy primer DUROFLOOR-PSF, at a consumption of approx. 200 - 300 g/m².

Additionally, concrete and other porous surfaces with moisture content < 4% could be also treated with the special primer PRIMER-PU 100, at 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, at a consumption of 100-200 g/m².

1.2 Smooth - non-absorbent surfaces

Smooth and non-absorptive 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: 150-200 g/m².

Depending on the weather conditions, ISOFLEX-PU 550 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 may hinder adhesion.
- Free of rust or corrosion that may hinder adhesion.

Prepared by brushing, rubbing, sandblasting etc. and then thoroughly cleaned from dust. After the preparation are primed with the EPOXYCOAT-AC anti-corrosive 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: 150-200 g/m²/layer.

Application of ISOFLEX-PU 550 should follow within the next 24-48 hours.

2. Application - Consumption

Components A (resin) and B (hardener) are packed in two separate containers, at the correct predetermined mixing ratio by weight. First, component A should be mixed. Then, the whole quantity of component B is added into component A and the two components are mixed for about 3 minutes with a low-speed mixer (300 rpm). It is important to stir the mixture thoroughly near the sides and bottom of the container, to achieve uniform dispersion of the hardener.

α) Total waterproofing of the surface

ISOFLEX-PU 550 is applied by brush or roller in 2 layers. The first layer is applied as soon as the primer has dried. The second layer should be applied crosswise after 8-24 hours, depending on the weather conditions.

In areas of severe cracks, it is recommended to locally reinforce ISOFLEX-PU 550 with a 10cm wide polyester fleece (60 g/m²) along the cracks. In that case, 2-3 hours after priming, the first layer of ISOFLEX-PU 550 is applied along the cracks and, while still fresh, the 10cm wide polyester fleece is embedded lengthwise.

ISOFLEX-PU 550



Then, two extra layers of ISOFLEX-PU 550 are applied over the entire surface.

Consumption: approx. 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 thoroughly reinforce ISOFLEX-PU 550 membrane with 100cm wide strips of polyester fleece (60 g/m²). These strips must overlap one another by 5-10 cm. In that case, 2-3 hours after priming, the first layer of ISOFLEX-PU 550 is applied to a width of 100 cm (as wide as the reinforcement), and while that layer is still fresh, a strip of polyester fleece is embedded. The same application procedure is followed until the remaining surface is covered. Then, two additional layers of ISOFLEX-PU 550 are applied, covering the entire reinforcement.

Consumption: approximately 2.00-2.25 kg/m², depending on the substrate and type of reinforcement.

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. As soon as the primer has dried, the first ISOFLEX-PU 550 layer is applied and, while still fresh, a 10cm wide polyester fleece (60 g/m²) is embedded lengthwise.

Finally, two extra ISOFLEX-PU 550 layers are applied along the cracks, completely covering the reinforcement.

Consumption: approximately 200-250 g/m of crack length.

c) Waterproofing under tiles

ISOFLEX-PU 550 is applied by brush or roller in two layers.

It is recommended to locally reinforce the waterproofing membrane along the joints and wall-to-floor junctions, applying a polyester fleece (60 g/m²) on the first (fresh) layer of ISOFLEX-PU 550. Then, two additional layers of ISOFLEX-PU 550 are applied along the joints, so that the reinforcement is completely covered.

After applying the final total layer and while it is still fresh, quartz sand (Ø 0.3-0.8 mm) must be broadcasted. The quartz sand must be completely dry.

Consumption of quartz sand: approx. 3 kg/m². After ISOFLEX-PU 550 has hardened, any loose grains should be removed with a high-suction vacuum cleaner.

When installing ceramic tiles, it is recommended to use high-quality, polymer-modified tile adhesives, like ISOMAT AK 22, ISOMAT AK 25, ISOMAT AK-ELASTIC, ISOMAT AK-MEGARAPID.

Tools should be cleaned with SM-16 special solvent, while ISOFLEX-PU 550 is still fresh.

Packaging

12.5 kg (A+B) containers.

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 sun exposure and frost.

Remarks

- In case of application by spraying, it may be diluted, only with the special solvent SM-16 up to 10%, depending on the weather conditions.
- ISOFLEX-PU 550 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 550 layer should not exceed 0.7 mm.
- Unsealed packages must be used at once and cannot be restored.



ISOFLEX-PU 550



Volatile Organic Compounds (VOC)

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 ISOFLEX-PU 550 contains a maximum of 500 g/l VOC.



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14

EN 1504-2

DoP No.: ISOFLEX-PU 550/1835-01

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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