

ISOFLEX-PU 500 THIXO

Thixotropic, one component, polyurethane, liquid waterproofing membrane for vertical, curved and sloped surfaces

Description

Thixotropic, one component, polyurethane, liquid waterproofing membrane for vertical, curved and sloped surfaces.

ISOFLEX-PU 500 THIXO is based on elastomeric, hydrophobic, polyurethane resins of excellent mechanical, chemical, thermal and weather resistance. Thanks to its unique formula, it is easily applied to vertical, curved and sloped surfaces. The product has additionally the following properties:

- Forms a uniform, elastic, waterproof, vapor-permeable sealing layer, without seams or joints.
- Has excellent adhesion to various substrates, like concrete, cement mortars, metal, wood and most waterproofing membranes.
- Application is possible even on irregular substrates.

Fields of application

ISOFLEX-PU 500 THIXO is suitable for waterproofing:

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

Technical data

1. Properties of the product in liquid form

Form:	pre-polymer polyurethane
Color:	white, grey
Density:	1,42 kg/l
Viscosity:	20000-22000 mPa.s (+23°C)

2. Properties of the cured membrane

Elongation at break: (EN-ISO 527)	> 350 %
Tensile strength: (EN-ISO 527)	4 N/mm ²
Hardness according to SHORE A:	78 ± 2
Water impermeability: (DIN 1048)	5 atm
Capillary absorption: (EN 1062-3, requirement of EN 1504-2: w < 0.1)	0.01 kg/m ² ·h ^{0.5}
Water vapor permeability: (EN ISO 7783-2, permeable, Class I < 5 m)	Sd = 0.82 m
Adhesion: (EN 1542, requirement for flexible systems without trafficking 0.8 N/mm ²)	> 2.0 N/mm ²
Artificial weathering: (EN 1062-11, after 2000h)	Pass (no blistering, cracking or flaking)
Reaction to fire: (EN 13501-1)	Euroclass F
Service temperature:	from -40°C to +90°C

ISOFLEX-PU 500 THIXO

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 moisture content <4%, should be treated with the 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-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/m².

Depending on the weather conditions, ISOFLEX-PU 500 THIXO 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 stable.
- Free of materials that may hinder adhesion, e.g. dust, loose particles, grease etc.
- Free of rust or corrosion that may hinder adhesion.

Prepared by brushing, rubbing, sandblasting etc. and then thoroughly cleaned from dust. After preparation, the metal surfaces 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 and within 24 hours.

Consumption: 150-200 g/m²/layer.

Application of ISOFLEX-PU 500 THIXO should follow within the next 24-48 hours.

2. Application - Consumption

Before the application, it is recommended to slightly stir ISOFLEX-PU 500 THIXO, until it becomes homogeneous. Excessive stirring should be avoided though, in order to prevent air entrapment in the material.

a) Total waterproofing of the surface

ISOFLEX-PU 500 THIXO is applied by brush or roller in 2 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: 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 500 THIXO membrane with 100 cm wide strips of polyester fleece (60 g/m²). These placed strips must overlap one another by 5-10 cm. In detail, 2-3 hours after priming, the first layer of ISOFLEX-PU 500 THIXO is applied, in order to cover the reinforcement (to a width of 100 cm), and while still fresh, a strip of polyester fabric is embedded. The same application procedure is followed in the remaining surface.

Then, two extra layers of ISOFLEX-PU 500 THIXO are applied on the entire surface.

Consumption: approximately 2.0-2.25 kg/m², depending on the substrate and type of reinforcement.

ISOFLEX-PU 500 THIXO

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. 2-3 hours after priming, the first ISOFLEX-PU 500 THIXO layer is applied and, while still fresh, a 10 cm wide polyester fleece (60 g/m²) is embedded lengthwise. Two extra ISOFLEX-PU 500 THIXO 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 500 THIXO is applied by brush or roller in 2 layers.

ISOFLEX-PU 500 THIXO should be locally reinforced along joints and wall-floor junctions, by embedding a 10 cm wide polyester fleece (60 g/m²) on its first layer, while it is still fresh. Then, two extra ISOFLEX-PU 500 THIXO layers are applied along the cracks, completely covering the reinforcement.

After applying the final layer and while this 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 500 THIXO has hardened, any loose grains should be removed with a vacuum cleaner.

Tiles should be fixed with a high-performance, polymer-modified tile adhesive, like ISOMAT AK 22, ISOMAT AK 25, ISOMAT AK-ELASTIC, ISOMAT AK-MEGARAPID.

Tools should be cleaned with SM-16 solvent, while ISOFLEX-PU 500 THIXO is still fresh.

Packaging

ISOFLEX-PU 500 THIXO is supplied in metal containers of 1 kg, 6 kg and 25 kg.

Shelf-life/Storage

9 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, as well as at temperatures of less than 10°C, it may be diluted, only with the special solvent SM-16, up to 10%.
- ISOFLEX-PU 500 THIXO is not suitable for contact with chemically treated water of swimming pools.
- Temperature during the application and hardening of the product should be between +5°C and +35°C.
- Substrate temperature must be at least 3°C higher than the dew point, in order to avoid the risk of vapor condensation.
- Unsealed packages must be used as soon as they are opened and cannot be restored.

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 500 THIXO contains a maximum of 500 g/l VOC.

ISOMAT S.A.

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