Technical Datasheet

ISOFLEX-PUA 580

Cold-applied polyurea waterproofing membrane

Description

ISOFLEX-PUA 580 is a two-component, cold-applied polyurea (polyaspartic) waterproofing membrane:

- Based on elastomeric, hydrophobic polyaspartic resins, featuring thus excellent mechanical, chemical, thermal, UV and weather resistance properties.
- Forms a continuous, elastic, waterproof and vapor-permeable membrane, without seams or joints.
- Provides excellent adhesion to a variety of substrates, including concrete, cement screed, wood and existing acrylic or hybrid liquid waterproofing membranes.
- Applicable even to irregular substrates.

ISOFLEX-PUA 580 (white) has been successfully tested by a third-party laboratory for its high solar reflectance, which improves building energy efficiency and, in turn, reduces cooling costs, making it an ideal solution for cool roofs.
Certified according to EN 1504-2 and classified as coating for surface protection of concrete. CE marked.

Fields of application

ISOFLEX-PUA 580 is suitable for waterproofing:

- flat roofs and balconies, as an exposed waterproofing membrane
- under tiles 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
- gypsum and cement boards
- old layers of bituminous membranes
- polyurethane foam
- metal surfaces

Technical data

1. Properties of the product in liquid form

Form:	polyaspartic resin
Color:	white
Density (A+B):	1.41 kg/l
Mixing ratio:	66:34 by weight
Viscosity:	2,000 mPa·s (+23°C)

2. Properties of the cured membrane

Elongation at break: (EN-ISO 527)	350 ± 50 %
CO_2 permeability: (EN 1062-6)	Sd > 50 m
Tensile strength: (EN-ISO 527)	9 ± 1 N/mm^2
SHORE D hardness:	52
Solar Reflectance (SR): (ASTM E903-12, ASTM G159-98)	79%
Infrared Emittance ε (±0,02): (ASTM C1371-04a)	0.90
Solar Reflectance Index (SRI): (ASTM E1980-01)	99
Adhesion: (EN 1542, requirement for flexible systems without 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
Drying time: (+23°C, 50% R.H.)	4 h
Pot life: (+23°C, 50% R.H.)	40 min
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 locally primed 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.

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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 g/m^2.
Depending on the weather conditions, ISOFLEX-PUA 580 is applied within 2-4 hours from priming and as soon as the moisture content falls below 4%.
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/m^2.

Depending on the weather conditions, ISOFLEX-PUA 580 is applied within 4-5 hours from priming and as soon as the moisture content falls below 4%.

1.2 Smooth – Non-absorbent surfaces
Smooth and non-absorbent surfaces, bituminous waterproofing membranes coated with granules and existing acrylic or 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 layer.
Consumption: 150-200 g/m^2.

Depending on the weather conditions, ISOFLEX-PUA 580 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 dust, loose particles, grease, rust, corrosion, etc. 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 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 one has dried, but within 24 hours.
Consumption: 150-200 g/m^2/layer.

Application of ISOFLEX-PUA 580 should follow within the next 24-48 hours.

2. Application – Consumption
Components A (resin) and B (hardener) are packaged in two separate containers, at the correct predetermined mixing ratio by weight. First, component A should be mixed. Then, all of component B is added to 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 walls and bottom of the container to achieve uniform dispersion of the hardener.

a) Full-surface waterproofing
ISOFLEX-PUA 580 is applied by brush or roller in two layers. The second layer should be applied crosswise after 8-24 hours, depending on the weather conditions.
Consumption: 1-1.5 kg/m^2 depending on the substrate.

In case of dense, multiple cracks all over the surface, it is strongly recommended that ISOFLEX-PUA 580 membrane be fully reinforced with 100 cm wide strips of polyester fleece (60 g/m^2). These placed strips must overlap by 5-10 cm. In that case, after priming, the first layer of ISOFLEX-PUA 580 is applied and, while still fresh, a strip of polyester fleece (100 cm wide) is embedded. The same application process is followed in the remaining surface. Then, two extra layers of ISOFLEX-PUA 580 are applied over the entire surface.
Consumption: > 2.50 kg/m^2, 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. After priming, the first ISOFLEX-PUA 580 layer is applied and, while still fresh, a 10 cm wide polyester fleece strip (60 g/m^2) is embedded lengthwise. Two extra ISOFLEX-PUA 580 layers are applied along the cracks, completely covering the reinforcement.
Consumption: 200-250 g/m of crack length.

c) Waterproofing under tiles
ISOFLEX-PUA 580 is applied by brush or roller in two layers. ISOFLEX-PUA 580 should be locally reinforced along joints and wall-floor junctions by embedding a 10 cm wide polyester fleece strip (60 g/m^2) on its still fresh first layer.

The technical information and instructions supplied in this datasheet are based on the knowledge and experience of the Research and Development Department of our company and on results from long-term applications of the product in practice. The recommendations and suggestions referring to the use of the product are provided without guarantee, since site conditions during the applications are beyond the control of our company. Therefore, the user is responsible for confirming that the chosen product is suitable for the envisaged application. The present edition of this technical datasheet automatically cancels any previous one concerning the same product. | Edition: 05.05.2026

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Then, two extra ISOFLEX-PUA 580 layers are applied along the cracks, completely covering the reinforcement. After applying the final layer and while this is still fresh, quartz sand with particle size 0.3-0.8 mm must be broadcast. The quartz sand must be completely dry.
Consumption of quartz sand: approx. 3 kg/m^2.

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-24 CRYSTAL GEL, ISOMAT AK-25, ISOMAT AK-ELASTIC, and ISOMAT AK-MEGARAPID.

Tools should be cleaned with SM-28 special solvent while ISOFLEX-PUA 580 is still fresh.

Packaging

15 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 sunlight and frost.

Remarks

- For spray application, it may be thinned only with the special solvent SM-28 up to 10%, depending on the weather conditions.
- ISOFLEX-PUA 580 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.
- Each ISOFLEX-PUA 580 layer should not exceed 1 kg/m^2.
- Unsealed containers must be used at once and cannot be restored.
- ISOFLEX-PUA 580 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 j, type SB, is 500 g/l (2010) for the ready-to-use product.
The ready-to-use product ISOFLEX-PUA 580 contains a maximum of 500 g/l VOC.

CE

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CPR-2032-10.11

DoP No.: ISOFLEX-PUA 580 / 1893-01

EN 1504-2

Surface protection products

Coating

Permeability to CO_2: Sd > 50 m

Water vapor permeability: Class I (permeable)

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

Adhesion strength by pull off test: ≥ 2.0 N/mm^2

Artificial weathering: No visual defects

Reaction to fire: Euroclass F

Dangerous substances comply with 5.3

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