Technical Datasheet

ISOFLEX-PAS 660

UV-stable, polyaspartic, liquid waterproofing membrane

Description

ISOFLEX-PAS 660 is a two-component, aliphatic, polyaspartic (cold polyurea), liquid waterproofing membrane:

- Based on elastomeric, hydrophobic, polyaspartic resins, featuring thus excellent mechanical, chemical, thermal, UV and weathering properties.
- Forms a continuous, elastic, waterproof and vapor-permeable membrane, without seams or joints.
- Provides excellent adhesion to various substrates, like concrete, cement screeds, wood and most waterproofing membranes.
- Applicable even to irregular substrates.
- Does not turn yellow, meaning it is color-stable, and does not require any additional coating.

Certified according to EN 1504-02 and classified as a coating for surface protection of concrete. CE marked.

Fields of application

ISOFLEX-PAS 660 is ideal 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
- gypsum and cement boards
- old layers of bituminous membranes
- polyurethane foam
- metal surfaces

It can also be applied as a protective topcoat over aromatic hot spray-applied polyurea.

Technical data

1. Properties of the product in liquid form

Form:	polyaspartic resin
Colors:	white
Density (A+B):	1.34 kg/l
Mixing ratio:	57:43 by weight
Viscosity:	4.400 mPa·s (+23ºC)

2. Properties of the cured membrane

Elongation at break: (EN-ISO 527)	> 400%
Tensile strength: (EN-ISO 527)	10±1 N/mm^2
SHORE A hardness:	91
SHORE D hardness:	39
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)	S_d > 50 m
Vapor permeability: (EN ISO 7783-2, vapor permeable Class I, S_d < 5 m)	S_d = 0.72 m
Solar Reflectance (SR): (ASTM E903-12)	84%
Infrared Emittance: (ASTM C1371-04a)	0.89
Solar Reflectance Index (SRI): (ASTM E1980-01)	106
Adhesion: (EN 1542, requirement for flexible systems with no 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
Drying time: (+23ºC, 50% R.H.)	4 h
Pot life: (+23ºC, 50% R.H.)	100 min
Service temperature:	from -40ºC to +90ºC

Directions for use

1. Substrate preparation

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

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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 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 g/m^2.
Surfaces with moisture content > 4% should be primed with the special two-component polyurethane primer PRIMER-PU 140, with a consumption of 150-250 g/m^2.
Depending on the weather conditions, ISOFLEX-PAS 660 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 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 layer.
Consumption: 150-200 g/m^2.
Depending on the weather conditions, ISOFLEX-PAS 660 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 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 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-PAS 660 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. At first, component A should be mixed.
Then, the entire contents 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-PAS 660 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: ~ 1.0-1.5 kg/m^2, depending on the substrate.

In case of dense, multiple cracks all over the surface, it is strongly recommended that ISOFLEX-PAS 660 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-PAS 660 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-PAS 660 are applied on the entire surface.
Consumption: ~ 2.0-2.25 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-PAS 660 layer is applied and, while still fresh, a 10 cm wide polyester fleece strip (60 g/m^2) is embedded lengthwise. Two extra ISOFLEX-PAS 660 layers are applied along the cracks, completely covering the reinforcement.
Consumption: ~ 200-250 g/m of crack length.

c) Waterproofing under tiles
ISOFLEX-PAS 660 is applied by brush or roller in two layers. ISOFLEX-PAS 660 should be locally reinforced along joints and wall-floor junctions by embedding a 10cm wide polyester fleece strip (60g/m^2) on its first layer, while still fresh.

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Then, two extra ISOFLEX-PAS 660 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 0.3-0.8mm must be broadcast. The quartz sand must be completely dry.
Consumption of quartz sand: approx. 3kg/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 25, ISOMAT AK-ELASTIC, and ISOMAT AK-MEGARAPID.

Tools should be cleaned with SM-28 special solvent, while ISOFLEX-PAS 660 is still fresh.

Packaging

5 kg (A+B) and 25 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

- In case of application by spray, it may be diluted only with the special solvent SM-28, up to 10%, depending on the weather conditions.
- ISOFLEX-PAS 660 is not suitable for contact with chemically treated water of swimming pools.
- Temperature during the application and hardening of the product should be between +5ºC and +35ºC.
- Each ISOFLEX-PAS 660 layer should not exceed 1 kg/m^2.
- Unsealed containers must be used at once and cannot be restored.
- ISOFLEX-PAS 660 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-PAS 660 contains a maximum of 500 g/l VOC.

CE

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EN 1504-2

Surface protection products

Coating

Permeability to CO_2: Sd > 50m

Water vapor permeability: Class I (permeable)

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

Adhesion: ≥ 0.8 N/mm^2

Reaction to fire: Euroclass F

Dangerous substances comply with 5.3

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