

# Duraproof PU 550

## One-component, polyurethane, liquid waterproofing membrane

### Description

**Duraproof PU 550** is a one-component, polyurethane, liquid waterproofing membrane.

- Offers excellent mechanical, chemical, thermal, UV and weather resistance properties, as it is based on pure, elastomeric, hydrophobic polyurethane resins.
- Forms a continuous, elastic, waterproof and vapor-permeable membrane, without seams or joints.
- Has strong adhesion to a variety of substrates, including concrete, screed, and existing acrylic or hybrid liquid waterproofing membranes.
- Application is possible even to irregular substrates.
- Constitutes an affordable and reliable waterproofing solution.

Certified according to EN 1504-2 and classified as a coating for surface protection of concrete.

### Fields of application

**Duraproof PU 550** is suitable for waterproofing

- Flat roofs and balconies as an exposed waterproofing membrane
- Green roofs and flower beds
- 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
- In construction works, such as highways, bridge decks, tunnels, etc.
- Foundations
- Gypsum and cement boards
- Old layers of bituminous membranes.
- Metal surfaces

### Technical data

#### Properties in liquid form

Form:	Polyurethane prepolymer
Colours:	Black, grey, green, white
Bulk density of fresh slurry	$1.45 \pm 0.05$ kg/lit
Solid Content	$90 \pm 1\%$
Viscosity (+25°C):	$5,500 \pm 500$ mPa·s
Pot life (+20°C):	~30 mins

#### Properties of the cured membrane

Elongation at break: (ASTM D 412 / EN 527-3)	> 550%
Tensile strength: (ASTM D 412 / EN 527-3)	6.0 N/mm <sup>2</sup>
Adhesion: (EN 1542)	> 2 N/mm <sup>2</sup>
Crack-bridging: (EN 1062-7, Method A)	≥ 2 mm
SHORE A Hardness:	$60 \pm 5$
Water impermeability: (DIN 1048)	5 atm
Capillary absorption: (EN 1062-3, requirement of EN 1504-2: $w < 0.1$ )	$0.01 \text{ kg/m}^{2 \cdot \text{h}^{0.5}}$
Permeability to CO <sub>2</sub> : (EN 1062-6)	Sd > 50 m
Water vapor permeability: (Vapour permeable EN ISO 7783-2, Class I < 5m)	Sd = 0.82 m
Reaction to fire: (EN 13501-1)	Euroclass F
Service temperature:	from -40°C to +80°C



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## Directions to use

### Substrate preparation

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

#### a) Concrete substrates

Any existing cavities in concrete should be filled with the appropriate repairing materials in advance.

Severe cracks in the substrate must be primed locally and after 2-3 hours (depending on the weather conditions) must be sealed with the polyurethane sealants ELASTOSEAL PU-25 or ELASTOSEAL PU-35.

Concrete with porous surfaces with moisture content < 4% should be treated with the special primer PRIMER-PU 100 with a consumption of approx. 200 g/m<sup>2</sup>. Concrete with sound and hard surface may not require a primer.

#### b) Smooth and non-absorbent substrates

Smooth and non-absorbent surfaces, bituminous waterproofing membranes coated with granules and existing acrylic or hybrid liquid waterproofing membranes must be primed with epoxy primer ECODUR EP PRIMER, in one coat. Consumption: 150- 200 g/m<sup>2</sup>.

Depending on the weather conditions, **Duraproof PU 550** is applied within 24-48 hours from priming, as soon as the moisture content falls below 4%.

#### c) Metal surfaces

Metal surfaces should be:

- Dry and clean.
- Free of grease, loose particles, dust, 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 ECODUR EP PRIMER epoxy coating in 1 or 2 layers.

## Application

Before application, it is recommended to slightly stir **Duraproof PU 550** until fully homogeneous. Prolonged stirring should be avoided to prevent air entrapment.

#### a) Full-surface waterproofing

**Duraproof PU 550** 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 hrs, depending on the weather conditions.

*Consumption: 1.0-1.5 kg/m<sup>2</sup>, depending on the substrate.*

In case of dense, multiple cracks all over the surface, it is strongly recommended to fully reinforce **Duraproof PU 550** membrane with 100 cm wide polyester fleece strips (60 g/m<sup>2</sup> or 120 g/m<sup>2</sup>), which must overlap each other by 5-10 cm. Two-three hours after priming, the first layer of **Duraproof PU 550** is applied to a width of 100 cm 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 **Duraproof PU 550** are applied over the entire surface.

*Consumption: 2.0 – 2.5 kg/m<sup>2</sup>, 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 10-12 cm. Two- three hours after priming, the first **Duraproof PU 550** layer is applied and, while still fresh, a 10 cm wide polyester fleece strip (60 g/m<sup>2</sup> or 120 g/m<sup>2</sup>) is embedded lengthwise. Then, two extra **Duraproof PU 550** layers are applied along the cracks, completely covering the reinforcement.

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



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## c) Waterproofing under tiles

**Duraproof PU 550** is applied by brush or roller in 2 layers.

**Duraproof PU 550** should be locally reinforced along joints and wall-floor junctions by embedding a 10 cm wide polyester fleece strip (60 g/m<sup>2</sup> or 120 g/m<sup>2</sup>) on its first layer while is still fresh.

After the application of the final layer and while still fresh, quartz sand (Ø 0.3-0.6 mm) must be broadcast. The quartz sand must be completely dry. Consumption of quartz sand: approx. 3kg/m<sup>2</sup>.

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 FLEXBOND RX and FLEXBOND HX.

Tools should be cleaned with SM-28 solvent while **Duraproof PU 550** is still fresh.

## Packaging

20kg and 22kg metal container

## Shelf life

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 diluted, depending on the weather conditions up to 10%, only with the special solvent SM-28.
- Duraproof PU 550** 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 **Duraproof PU 550** must not exceed 750 g/m<sup>2</sup> per layer.
- Unsealed containers should be used as soon as they are opened and cannot be restored.

- Duraproof PU 550** is intended for professional use only.

## Health & safety

Avoid direct contact with this product. Use of safety glasses, rubber gloves, and protective clothing is recommended. If contact occurs, wash affected areas with mild soap and water. Keep product out of reach of children.

Refer to Safety Data Sheet for complete health and safety information.

## Notes

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