

# VARNISH-PU 2KW

## Transparent, two-component, water-based, polyurethane varnish

### Description

VARNISH-PU 2KW is a transparent, aliphatic, water-based, two-component polyurethane varnish. The membrane it forms is watertight and resistant to UV radiation; it does not turn yellow and has very good mechanical and chemical resistance. It offers the following advantages:

- Easy application.
- Resistance to UV radiation and weather conditions (rain, frost).
- Resistance to detergents, oils, sea water, alkalis.
- Vapor permeability.
- Resistance to pedestrian and light vehicle traffic.
- Ideal for indoor applications in poorly ventilated spaces, as it is water-based and thus almost odorless.

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

### Fields of application

VARNISH-PU 2KW is suitable for waterproofing and protecting:

- Decorative cement mortars.
- Concrete.
- Natural stone.
- Wood.
- Epoxy paints (e.g. if the final surface is desired to be mat).

### Technical data

#### 1. Properties of the product in liquid form

Form:	two-component, polyurethane resin
Colors:	transparent, satin-mat
Density (A+B):	1.02 kg/l

Viscosity:	200 mPa·sec (at +23°C)
Mixing ratio (A:B):	100:25 by weight
Pot life:	1 h (at +23°C)

#### 2. Properties of the cured membrane

Tensile strength: (ASTM D412)	40 N/mm <sup>2</sup>
Hardness, Shore D:	50
Impact resistance: (ISO 6272)	6 Nm
Water impermeability: (DIN 1048)	5 atm
Capillary absorption: (EN 1062-3, requirement of EN 1504-2: w < 0.1)	0.02 kg/m <sup>2</sup> ·h <sup>0.5</sup>
Permeability to CO <sub>2</sub> : (EN 1062-6)	Sd > 50m
Water vapor permeability: (EN ISO 7783-2, permeable, Class I < 5m)	Sd = 0.66m
Adhesion: (EN 1542)	2.8 N/mm <sup>2</sup>
Artificial weathering: (EN 1062-11, after 2000h)	Pass (no blistering, cracking or flaking)
Reaction to fire: (EN 13501-1)	Euroclass F

### Directions for use

#### 1. Substrate preparation

The substrate must be dry, clean, free of grease, loose particles, dust etc.

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## 2. Mixing

Components A (resin) and B (hardener) are packed in two separate containers, in the correct, predetermined mixing ratio by weight. The whole quantity of component B is added into component A under continuous stirring. The two components should then be mixed for about 2-3 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.

Subsequently, water may be added under continuous stirring (up to 10% by weight, depending on the desired workability). The water must not be added simultaneously with component B, but only after A and B components have been mixed. Before the application, it is advised to let the mixture rest for a few minutes, in order to help entrapped air to escape.

## 3. Application - Consumption

VARNISH-PU 2KW is applied by roller or brush in 2-3 layers. Each layer is applied within 24 hours from the previous one, depending on the weather conditions.

Consumption: 70-120 g/m<sup>2</sup> per layer, depending on the porosity of the substrate.

Tools should be cleaned with water, while VARNISH-PU 2KW is still fresh.

## Packaging

1 kg and 5 kg containers.

## Storage

24 months from production date, if stored in original, sealed packaging, in areas protected from humidity, frost and direct sun exposure.

Recommended storage temperature: between +5°C and +35°C.

It is advised to store component B tightly sealed in its original package, as in case of contact with ambient moisture, it will harden.

## Remarks

- Surfaces with entrapped moisture must be completely dry, prior to the application of VARNISH-PU 2KW.
- Surfaces previously treated with water-repellent impregnations might cause adhesion problems. It is recommended to first perform a trial application in order to check the compatibility of the substrate.
- Temperature during the application and hardening of the product should be between +8°C and +35°C.
- The substrate's moisture content must be under 4% and the ambient moisture under 65%. High ambient moisture can negatively affect the curing of VARNISH-PU 2KW.
- If the temperature is expected to be lower than +8°C or there is a possibility of rain in the next 48h, the application must be postponed.

## Volatile Organic Compounds (VOCs)

According to the Directive 2004/42/CE (Annex II, table A), the maximum allowed VOC content for the product subcategory j, type WB is 140 g/l (2010) for the ready-to-use product. The ready-to-use product VARNISH-PU 2KW contains a maximum of 140 g/l VOC.



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EN 1504-2

DoP No.: VARNISH-PU 2KW/1813-01

Surface protection products  
Coating

Permeability to CO<sub>2</sub>: Sd > 50m

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

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