Technical Datasheet

VARNISH-PU 2K

Transparent, two-component, polyurethane varnish

Description

VARNISH-PU 2K is a transparent, aliphatic, 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 traffic and light vehicle traffic.

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

Fields of application

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

- Decorative microcements.
- Concrete.
- Natural stone.
- Wood.
- Metal surfaces.
- Epoxy paints (e.g. as protection of EPOXYCOAT-S inside swimming pools). It provides resistance to chalking and discoloration, caused by UV radiation.

Technical data

1. Properties of the product in liquid form

Form:	two-component, polyurethane resin
Colors:	transparent (gloss or satin)
Density (A+B gloss):	0.95 kg/l
Viscosity (gloss):	128 mPa·sec (+23°C)
Density (A+B satin):	0.98 kg/l
Viscosity (satin):	400 mPa·sec (+23°C)
Mixing ratio (A:B):	100:30 by weight
Pot life:	1.5 h (at +23°C)

2. Properties of the cured membrane

Tensile strength: (ASTM D412)	38 N/mm^2
Water impermeability: (DIN 1048)	5 atm
SHORE D Hardness:	70
Abrasion resistance: (CS17/1000/1000) (ASTM D 4060)	≤ 35 mg
Capillary absorption: (EN 1062-3, requirement of EN 1504-2: w < 0.1)	0.02 kg/m^2·h$^{0.5}$
Permeability to CO_2: (EN 1062-6)	S_d > 50 m
Water vapor permeability: (EN ISO 7783-2, permeable, Class I < 5m)	S_d = 0.27 m
Adhesion: (EN 1542)	2.9 N/mm^2
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.

2. Mixing
Components A (resin) and B (hardener) are packaged in two separate containers, at the correct, fixed mixing ratio by weight. The entire contents of component B is added to component A. The two components should be mixed for about 2-3 minutes, using a low speed mixer (300 rpm). It is important to thoroughly stir the mixture near the sides and bottom of the container, to achieve uniform dispersion of the hardener.
It is advised to let it rest for a few minutes after mixing, in order to help entrapped air escape.

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3. Application – Consumption
VARNISH-PU 2K is applied by roller or brush. 2-4 layers are required, depending on the porosity and the use of the substrate. Each layer is applied within 24 hours from the previous one, depending on the weather conditions.
Consumption: 70-120 g/m^2 per layer, depending on the porosity of the substrate.

Tools should be cleaned with SM-28 while VARNISH-PU 2K is still fresh.

Packaging

1 kg and 5 kg containers.

Shelf life – 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 packaging, since in the event of contact with ambient moisture, it will harden.

Remarks

- Surfaces with entrapped moisture must be completely dry, prior to the application of VARNISH-PU 2K.
- Application on epoxy systems must be done 1-2 days after their application and provided they have dried.
- When applied in swimming pools, the pool must be filled with water at least 7 days after the application of VARNISH-PU 2K.
- Surfaces where water-repellent impregnations have been applied in the past 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 2K.
- 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.
- VARNISH-PU 2K 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 VARNISH-PU 2K contains a maximum of 500 g/l VOC.

CE

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2032-CPR-10.11

EN 1504-2

DoP No.: VARNISH-PU 2K/1812-01

Surface protection products
Coating

Permeability to CO_2: Sd > 50m

Water vapor permeability: Class I (permeable)

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

Adhesion: ≥ 0.8 N/mm^2

Artificial weathering: Pass

Reaction to fire: Euroclass F

Dangerous substances comply with 5.3

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