Technical Datasheet

VARNISH-PU 2KW

Transparent, UV-stable, 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 vehicular traffic
- Ideal for indoor applications in poorly ventilated spaces, as it is water-based and almost odorless

Certified according to EN 1504-2 and classified as a coating for surface protection of concrete. CE marked. Certificate No: 2032-CPR-10.11.
Certified as suitable for use on surfaces intended to come into contact with foodstuffs. Certificate No.: 100-069757, TZUS.

Fields of application

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

- Decorative microcements
- Concrete
- Natural stone
- Wood
- Epoxy paints (e.g. if a matt finish is desired)

Technical data

1. Properties of the product in liquid form

Form:	two-component, polyurethane resin
Colors:	transparent, satin-matt
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^2
Hardness according to Shore D: (ISO 868)	63
Impact resistance: (ISO 6272)	6 Nm
Water impermeability: (DIN 1048)	5 atm
Abrasion resistance: (CS10/1000/1000) (ASTM D 4060)	≤ 45 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 < 5 m)	S_d = 0.66 m
Adhesion: (EN 1542)	2.8 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

VARNISH-PU 2KW

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 packed in two separate containers, in the correct, predetermined mixing ratio by weight.
All of component B is added to component A under continuous stirring. The two components should be mixed for 2-3 min 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.
Then, 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 application, it is advised to let the mixture rest for a few minutes to help entrapped air escape.

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

12 months from production date if stored in original, sealed packaging, in areas protected from humidity, frost and direct sunlight.
Recommended storage temperature: between +5°C and +35°C.
It is advised to store component B tightly sealed in its original packaging, 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 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 chance of rain in the next 48 h, the application must be postponed.
- VARNISH-PU 2KW 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 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.

ISOMAT S.A.
BUILDING CHEMICALS, MORTARS & PAINTS
HEADQUARTERS – THESSALONIKI, GREECE
17th km Thessaloniki – Ag. Athanasios Road
P.O. BOX 1043, 570 03 Ag. Athanasios, Greece
T +30 2310 576000
www.isomat.eu e-mail: support@isomat.eu

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