

# VARNISH-PU 650 MF

## One-component, transparent, aliphatic polyurethane coating, satin finish

### Description

VARNISH-PU 650 MF is a one-component, transparent, aliphatic polyurethane coating used for satin finish over ISOFLEX-PU 650.

VARNISH-PU 650 MF is watertight, elastic and shows excellent resistance to mechanical and chemical loads. Being UV-stable, it features non-yellowing properties.

Consists of high-quality elastomeric and hydrophobic resins, which help maintain its transparency and elasticity in the long term.

The system of ISOFLEX-PU 650 and VARNISH-PU 650 MF offers the following advantages:

- Easy application.
- Effective waterproofing and protection of surfaces coated with old tile layers.
- Continuous membrane, without seams or joints.
- Stability to UV radiation.
- Resistant to weather conditions (rain, frost).
- Resistance to detergents, oils, sea water.
- Resistance to pedestrian traffic.

### Fields of application

The system of ISOFLEX-PU 650 and VARNISH-PU 650 MF is ideal for waterproofing and protection of:

- Flat roofs, terraces and balconies covered with glazed tiles, ceramic tiles, natural stone, wood, microcement coatings, screeds, etc.
- Walls made of glass bricks, natural stone, etc.
- Light domes, atriums and greenhouses made of glass, plastic materials (polycarbonate sheets), etc.

### Technical data

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

Form:	polyurethane prepolymer
Color:	transparent
Density:	0.99 ± 0.1 kg/l
Viscosity:	180 ± 50 mPa·s (at +23°C)

#### 2. Properties of the cured membrane

Elongation at break: (EN-ISO 527)	> 100 %
Tensile strength: (EN-ISO 527)	27 N/mm <sup>2</sup>
Bond strength to ISOFLEX-PU 650: (EN 1542)	> 2 N/mm <sup>2</sup> (tile failure)
Bond strength to concrete: (EN 1542)	> 2 N/mm <sup>2</sup> (concrete failure)
Artificial weathering: (EN 1062-11, after 2000 h)	Pass (no blistering, cracking or flaking)
Reaction to fire: (EN 13501-1)	Euroclass F
Tack-free time: (at +23°C, 40-50% RH) (EN ISO 2811-1)	6-8 hrs
Service temperature:	from -40°C to +90°C

### Directions for use

#### Application of the system ISOFLEX-PU 650 and VARNISH-PU 650 MF

##### 1. Substrate

The substrate must be completely dry, clean, free of grease, loose particles, dust, old paints, etc. Surfaces with trapped moisture (e.g. under tiles) must be left to dry completely prior to the application of ISOFLEX-PU 650.

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**1.1** Non-porous surfaces (e.g. glazed tiles, glass bricks) should be treated with the special adhesion promoter PRIMER-S 165. The surface is cleaned with a cloth that has been soaked with the promoter. The cloth must be frequently changed. The first layer of ISOFLEX-PU 650 is applied 20-30 min after the application of PRIMER-S 165. The adhesion promoter cleans the surface and increases the bond strength of ISOFLEX-PU 650. PRIMER-S 165 should not be applied to transparent plastic materials (e.g. polycarbonate sheets).

**1.2** Porous surfaces should be primed with PRIMER-PU 150. PRIMER-PU 150 is thoroughly stirred and uniformly applied to the substrate by brush, roller or spray. The first layer of ISOFLEX-PU 650 is applied 3-4 hours after the application of PRIMER-PU 150. Consumption of PRIMER-PU 150: approx. 200-250 g/m<sup>2</sup>.

## 2. Application of ISOFLEX-PU 650

ISOFLEX-PU 650 should be slightly stirred before application. Excessive stirring should be avoided in order to prevent air entrapment in the material.

ISOFLEX-PU 650 is applied by roller in 2-3 layers. Each subsequent layer follows after 12-18 hours, depending on the weather conditions, and not later than 24 hours.

Consumption: approx. 0.8-1.2 kg/m<sup>2</sup>, in 2-3 layers, depending on the type of the substrate. Tools should be cleaned with SM-16 solvent, while ISOFLEX-PU 650 is still fresh.

## 3. Application of VARNISH-PU 650 MF

VARNISH-PU 650 MF is applied at least 12 hours after the application of the final layer of ISOFLEX-PU 650.

Before application, it is recommended to slightly stir VARNISH-PU 650 MF. Extensive stirring should be avoided in order to prevent air entrapment in the material.

VARNISH-PU 650 MF is applied by roller in 1 layer.

Consumption: approx. 0.1 kg/m<sup>2</sup>, per layer.

Tools should be cleaned with SM-16 solvent while VARNISH-PU 650 MF is still fresh.

### Packaging

VARNISH-PU 650 MF is supplied in tin buckets of 0.75 kg, 4 kg and 9 kg.

### Shelf life – Storage

9 months from date of production if stored in original, unopened packaging, in a frost-free and dry place.

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

### Remarks

- Surfaces that have been treated in the past with hydrophobic impregnations might show adhesion problems. It is recommended to perform a trial application first, in order to check the compatibility of the substrate.
- VARNISH-PU 650 MF is not suitable for contact with chemically treated water of swimming pools.
- Low temperatures retard the curing of ISOFLEX-PU 650 and VARNISH-PU 650 MF. High temperatures accelerate the curing of ISOFLEX-PU 650 and VARNISH-PU 650 MF.
- High atmospheric humidity may affect the final finish of ISOFLEX-PU 650 and VARNISH-PU 650 MF.
- In case of application of ISOFLEX-PU 650 on polycarbonate sheets please consult the Technical Support Department.
- Temperature during application and hardening should be between +8°C and +35°C.
- Unsealed packages shall be used at once and cannot be restored.

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## Volatile organic compounds (VOCs)

According to Directive 2004/42/CE (Annex II, table A), the maximum allowed VOC content for the product subcategory i, type SB is 500 g/l (2010) for the ready to use product. The ready to use product VARNISH-PU 650 MF contains max < 500 g/l VOC.



2032

**ISOMAT S.A.**  
17<sup>th</sup> km Thessaloniki – Ag. Athanasios  
P.O. BOX 1043, 570 03 Ag Athanasios,  
Greece

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DoP No.: VARNISH-PU 650 MF / 1868-01

**EN 1504-2**

Surface protection products

Coating

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

Water vapor permeability: Class I (permeable)

Capillary absorption: w < 0.1 kg/m<sup>2</sup>·h<sup>0.5</sup>

Adhesion: ≥ 0.8 N/mm<sup>2</sup>

Reaction to fire: Euroclass F

Dangerous substances comply with 5.3

## ISOMAT S.A.

BUILDING CHEMICALS AND MORTARS

### MAIN OFFICES - FACTORY:

17th km Thessaloniki - Ag. Athanasios Road,  
P.O. BOX 1043, 570 03 Ag. Athanasios, Greece,  
Tel.: +30 2310 576 000, Fax: +30 2310 722 475

[www.isomat.eu](http://www.isomat.eu) e-mail: [info@isomat.eu](mailto:info@isomat.eu)

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