



# Mapegum PU 1K

**One component, solvent-free flexible polyurethane membrane for waterproofing new and old balconies and terraces, without removing the old ceramic tiles**

## **WHERE TO USE**

Waterproofing new terraces and balconies, or old terraces and balconies which are already tiled.

### **Some application examples**

- Waterproofing new balconies and terraces before laying ceramic and stone floors.
- Waterproofing layer applied directly on top of ceramic and natural stone floors on balconies and terraces which are subject to water leakages.
- Bonding all types of ceramic and natural stone floor tiles on **Mapegum PU 1K**, when used as a waterproofing membrane.
- Waterproofing wooden work tops before laying ceramic and natural stone tiles.

## **TECHNICAL CHARACTERISTICS**

**Mapegum PU 1K** is a polyurethane-based, moisture curing waterproofing membrane, produced using technology developed in MAPEI's R&D Laboratories, with the following characteristics:

- One component, ready-to-use, does not require pre-mixing. If stored correctly, remaining quantities of the product may be used again at a later date.
- May even be used by applicators allergic to epoxy-polyurethane products.
- Easy-to-apply using a trowel.

- Does not contain solvents or other substances which give off unpleasant odours.
- May be used either as a waterproofing membrane or as adhesive.
- Soundproofing properties if used both as a waterproofing membrane and as an adhesive, forms a flexible layer which absorbs noise caused by footsteps.

## **RECOMMENDATIONS**

- Do not apply **Mapegum PU 1K** on wet substrates.
- Do not apply **Mapegum PU 1K** on substrates subject to continuous rising damp.
- Do not apply **Mapegum PU 1K** at temperatures below +5°C.
- Do not apply **Mapegum PU 1K** on bitumen layers.
- Protect **Mapegum PU 1K** against rain or accidental contact with water for at least 24 hours after application.
- **Mapegum PU 1K** must always be protected by laying ceramic tiles.
- If subject to heavy chemical attack, use **Mapegum EPX**.

## **APPLICATION PROCEDURE** **Waterproofing new terraces**

Make sure that the substrate is solid, clean, dry,

well-cured and free of all substances which may prevent good bonding. Traces of cement laitance on the surface of concrete slabs or cement screeds must be removed.

Make sure that the surface has the correct slope to allow water to run off. If the slope has to be modified, **Adesilex P4** may be used for thicknesses up to 2 cm.

In order to guarantee correct waterproofing, proceed as follows:

- a. Waterproof all corners between the substrate and perimeter walls using **Mapeband** or **Mapeband PE 120**, bonded to the surfaces using **Mapegum PU 1K**.
- b. If present, waterproof distribution joints on the substrate using the same technique.
- c. Blend in waterproofing applications inside drain holes using special **Mapeband** or **Mapeband PE 120** shaped pieces.
- d. Apply **Mapegum PU 1K** in an even layer over the entire surface to be waterproofed. For application purposes, we recommend using a MAPEI No. 5 notched trowel as follows:
  1. apply a feathering layer of **Mapegum PU 1K** to even off the surface using the smooth side of the trowel;
  2. immediately apply a uniform layer of the product using the notched side of the trowel. Pass over the surface of **Mapegum PU 1K** using the smooth face of the trowel to obtain a uniform layer of at least 1.5-2 mm thick.
- e. For applications of ceramic or natural stone tiles using a cementitious or polyurethane adhesive from the MAPEI range, such as **Mapegum PU 1K** or **Ultrabond P990 1K**, the surface of **Mapegum PU 1K** must be covered with a layer of **Quartz 1.2**. This operation is not required if the tiles are laid using epoxy-polyurethane or epoxy adhesive, such as **Keralastic** or **Kerapoxy**. In all cases, natural stone tiles must only be laid once the layer of **Mapegum PU 1K** membrane has hardened (approximately 12 hours at +23°C and 50% R.H.).
- f. The tiles may only be laid after removing the excess **Quartz 1.2** which has not bonded, using a cementitious or polyurethane-based adhesive, such as **Kerabond / Kerabond T** mixed with **Isolastic** or with **Keraflex Maxi** at high temperature conditions. At low temperatures, we recommend using a quick-setting adhesive, such as **Granirapid** or **Elastorapid**.

### Waterproofing of old terraces and balconies

Make sure that the existing tiles are perfectly bonded to the substrate.

Tiles which are not well bonded must be removed and then bonded in place using **Granirapid** or **Elastorapid**.

Wash the floor using sodium hydroxide/water solution and rinse off with clean water.

If the slope of the floor needs to be corrected, use **Adesilex P4** before applying the waterproofing layer.

Once the applications of **Adesilex P4** have completely hardened (approx. 12-24 hours,

according to temperature and thickness), the waterproofing layer may be applied as described in the previous paragraph.

### Sealing partially-used containers

In order to conserve unused quantities of the product, remove as much air as possible from the aluminium bag to avoid the formation of surface skin, and seal it well. Use a plastic tie or other similar system to form a good seal. Place the bag in the plastic tub.

### Cleaning

**Mapegum PU 1K** may be removed using alcohol or other cleaning solutions, such as **Cleaner L** whilst still fresh. Once hardened, it must be removed mechanically or with **Pulicol**.

### CONSUMPTION

1.5 kg/m<sup>2</sup> per mm of thickness.

### PACKAGING

15 kg aluminium bags contained in plastic drums.

### STORAGE

12 months in its original, well-sealed container stored under normal conditions.

### SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

**Mapegum PU 1K** is harmful and when in contact with the eyes, it may cause irritation. If inhaled, it may be irritating for those subjects sensitive to such products. We recommend the use of protective gloves and goggles when handling the product and to avoid inhaling the vapours given off. In case of accident or if you feel unwell, seek medical attention.

FOR PROFESSIONALS.

### WARNING

*While the indications and guidelines contained in this data sheet correspond to the company's knowledge and wide experience, they must be considered, under all circumstances, merely as an indication and subject to confirmation only after long-term, practical applications. Therefore, anybody who undertakes to use this product, must ensure beforehand that it is suitable for the intended application and, in all cases, the user is to be held responsible for any consequences deriving from its use.*

**All relevant references  
for the product are available  
upon request and from  
[www.mapei.com](http://www.mapei.com)**

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

<b>Consistency:</b>	creamy paste
<b>Colour:</b>	beige
<b>Density (g/cm<sup>3</sup>):</b>	1.5
<b>Dry solids content (%):</b>	100
<b>Free monomers (%):</b>	< 1
<b>Brookfield viscosity at +23°C (mPa·s):</b>	42,000 ± 5,000 (Rotor 7 - 50 RPM)
<b>Storage:</b>	12 months
<b>Hazard classification according to EC 1999/45:</b>	harmful. Before using refer to the "Safety instructions for preparation and application" paragraph and the information on the packing and Safety Data Sheet
<b>Customs class:</b>	3909 50 00

### APPLICATION DATA (at +23°C and 50% R.H.)

<b>Recommended application temperature range:</b>	from +5°C to +35°C
<b>Time to complete hardening of a 2 mm-thick layer:</b>	12 hours
<b>Set to light foot traffic:</b>	12-14 hours
<b>Waiting time before laying ceramic tiles:</b>	12-14 hours

### FINAL PERFORMANCES

<b>Mechanical characteristics after 7 days at +23°C and 50% R.H. + 14 days at +50°C:</b> - Tensile strength (DIN 53504) (N/mm <sup>2</sup> ): - Elongation at breakage (DIN 53504) (%): - Tear strength (ISO 34-1) (N/mm):	1.6 140 10.5
<b>Shore A hardness (DIN 53505):</b>	65
<b>Adhesion to concrete after 1 week at 23°C - 50% R.H. (N/mm<sup>2</sup>):</b>	1.3
<b>Vapour-resistance coefficient (η) (according to UNI 8202 at 23°C and 50% R.H.):</b>	1,350
<b>In service temperature range:</b>	from -20°C to +70°C
<b>Chemical resistance:</b> - 5% lactic acid: - 5% acetic acid: - 3% hydrochloric acid: - 3% potassium hydroxide:	excellent excellent excellent excellent
<b>Waterproofing according to EN 12390/8 Modified (7 bar for 24 h):</b>	waterproof
<b>Fracture covering capacity: crack-bridging at failure after 7 days at +23°C and 50%.R.H:</b>	3 mm at -20°C

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