



Mapeflex PU40



Polyurethane sealant with a low modulus of elasticity



WHERE TO USE

Mapeflex PU40 has been specially developed for sealing expansion and fraction joints in horizontal and vertical surfaces, including those which are subject to occasional chemical attack by hydrocarbons.

Some application examples

Sealing internal and external expansion and distribution joints subject to movement up to 25% in:

- facades on civil and industrial buildings;
- pre-fabricated concrete panels;
- industrial floors subject to vehicular traffic;
- concrete floors for car-parks, supermarkets, shopping centres and warehouses;
- concrete walls and general internal and external vertical structures where the use of a thixotropic product is required.

TECHNICAL CHARACTERISTICS

Mapeflex PU40 is a single component, thixotropic, easy-to-apply polyurethane-based sealant with a low modulus of elasticity, made according to a formula developed in MAPEI's own R&D laboratories.

Mapeflex PU40 hardens following its reaction with the humidity in the surrounding air and, because of its special characteristics, offers a guarantee of a long service life. It may be used on both horizontal and vertical surfaces.

The product is ready to use and is available in 300 ml aluminium cartridges and 600 ml soft cartridges equipped with a special extrusion gun, which makes the product particularly easy to use.

Because of its thixotropic consistency, it is quick to apply and once hardened, may be painted over.

Mapeflex PU40 is classified as F - 25LM according to ISO 11600 Standards and is certified as EMICODE EC1 R by GEV Institute.

RECOMMENDATIONS

- Do not use on dusty or flaky surfaces.
- Do not use on surfaces which are very damp.
- Do not use on surfaces which are dirty with oil, grease or stripping compounds, the bonding could be compromised.
- Do not use on bituminous surfaces where the bleeding of oil may be present.
- Do not apply **Mapeflex PU40** if the temperature is lower than +5°C.

APPLICATION PROCEDURE

Preparation of the surface to be sealed:

All the surfaces to be sealed must be dry, sound and free of dust, crumbly parts, oil, grease, wax and old paint. To guarantee that the sealant works correctly, the joint must be free to stretch and shrink. Therefore, it is important that **Mapeflex PU40** only bonds perfectly to the side walls of the joint, and must not touch the bottom.

Mapectex PU40



Application of Primer AS



Inserting Mapefoam inside the joint



Application of Mapectex PU40

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

| | |
|---|--|
| Appearance: | thixotropic paste |
| Colour: | white, grey |
| Density (g/cm³): | approximately 1.3 |
| Dry solids content (%): | 100 |
| Brookfield viscosity at +23°C (mPa·s): | 1,300,000 ± 200,000 (rotor F - 5 revs) |
| Storage: | 12 months in its original, unopened packaging |
| Hazard classification according to EC 1999/45: | harmful. Before using refer to the "Safety instructions for preparation and application" paragraph and the information on the packaging and Safety Data Sheet |
| EMICODE: | EC1 R - very low emission |
| Customs class: | 3909 50 00 |

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

| | |
|---|-------------------------------------|
| Recommended application temperature range: | from +5°C to +40°C |
| Dust dry: | after 4 hours |
| Final setting after: | 24 hrs (per 2 mm of thickness) |
| Set to light foot traffic: | according to the depth of the joint |

FINAL PERFORMANCE

| | |
|---|---------------------|
| Shore A hardness (DIN 53505): | 25 |
| Tensile strength (DIN 53504S3a) (N/mm²): - after 7 days at 23°C: | 2.8 |
| Elongation at breakage (DIN 53504S3a) (%): - after 7 days at 23°C: | 1,600 |
| In service temperature: | from -40°C to +70°C |
| Resistance to UV rays: | excellent |
| Elongation in service (continuous use) (%): | 25 |
| Classification according to ISO 11600: | class F - 25LM |
| Modulus of elasticity at +23°C (ISO 8339) (N/mm²): | 0.33 |
| Modulus of elasticity at -20°C (ISO 8339) (N/mm²): | 0.45 |

The size of the joint must be calculated so that, when in service, it expands less than or equal to 25% of its initial size.

To regulate the depth of **Mapecflex PU40** and to avoid it sticking to the bottom of the joint, **Mapecfoam** closed-cell, expanded polyurethane flexible cord with a suitable diameter must be inserted beforehand in the joint. The depth of the sealant is defined according to the table below:

| Width/depth ratio | | |
|-------------------------|-------|-------|
| Dimensions of the joint | Width | Depth |
| Up to 10 mm | 1 | 1 |
| From 10 to 30 mm | 2 | 1 |

To avoid the sealant spreading out of the joint, and to leave an attractive finish, we recommend using masking tape around the joints.

Mapecflex PU40 bonds well even without the use of a primer on substrates which are solid, free of dust and perfectly clean and dry. We recommend applying **Primer AS** if concrete, mortar, wood, natural stone and terracotta surfaces are not solid enough, if they have a slightly powdery surface or if the joints are subject to high mechanical stress or frequent, prolonged contact with liquids.

We also recommend applying **Primer AS** on cementitious surfaces which are still fresh. If **Mapecflex PU40** is applied on surfaces which are not absorbent, such as iron, steel, aluminium, copper, ceramic, glass or zinc-plated or painted sheet, its bonding capacity is good. However, to further improve bonding, we recommend that, under certain conditions, the material is treated with **Primer M**.

Application of Primer AS

Use a brush to apply **Primer AS**, single component, transparent, epoxy-isocyanate primer in solvent for absorbent substrates around the edges of the joint. According to the porosity of the substrate, two coats of **Primer AS** may be applied. The sealant must only be applied when the primer is no longer sticky (after approx. 60 minutes at +23°C and 50% R.H.).

Application of Primer M

Using a brush, apply a thin, uniform layer of **Primer M** primer single component, solvent-free polyurethane primer for non-absorbent surfaces around the edges of the joint. The successive application of sealant must only be carried out once the primer is no longer sticky (after approximately 40 minutes at +23°C and 50% R.H.).

Preparation and application of Mapecflex PU40

Use specific manual caulking guns for 300 ml cartridges or 600 ml soft cartridges.

CONSUMPTION

According to the size of the joint. Consult the table below for consumption of the product:

| CONSUMPTION TABLE | |
|-------------------------|------------------|
| Size of the joint in mm | Metres in length |
| 5 x 5 | 24 |
| 10 x 10 | 6 |
| 15 x 7.5 | 5.3 |
| 20 x 10 | 3 |
| 25 x 12.5 | 1.9 |
| 30 x 15 | 1.3 |

Cleaning

Mapecflex PU40 may be removed from surfaces, tools, clothing etc. with toluene or alcohol before the hardening reaction takes place. After hardening, it may only be removed mechanically or with **Pulicol**.

PACKAGING

Boxes of 20 (600 ml soft cartridges) and 12 (300 ml soft cartridges) units.

COLOURS AVAILABLE

Mapecflex PU40 is available in white and grey (other colours available upon request).

STORAGE

Mapecflex PU40 may be stored for up to 12 months in a cool, dry place.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapecflex PU40 is harmful, and may cause sensibilization if inhaled by those who are allergic. When handling the product, use protective goggles and gloves, and make sure the area is well ventilated. Seek medical attention in the case of giddiness or fainting. Further information is available on the product's Safety Data Sheet.

FOR PROFESSIONALS USE.

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.



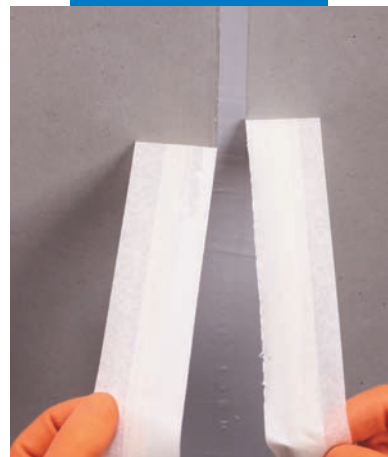
This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gesellschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.



Our Commitment To The Environment
More than 150 MAPEI products assist Project Designers and Contractors create innovative LEED (The Leadership in Energy and Environmental Design) certified projects, in compliance with the U.S. Green Building Council.



Smoothing over
Mapecflex PU40



Removal of the
masking tape applied
around the edges of
the joint to avoid
rough edges

**All relevant references
for the product are available
upon request and from
www.mapei.com**

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