

MAPEFLEX PU40

Polyurethane sealant with a low modulus of elasticity



WHERE TO USE

Mapeflex PU 40 has been developed for sealing expansion and contraction joints in horizontal and vertical surfaces. **Mapeflex PU 40** is classified as F - 25 LM according to ISO 11600 Standard.

Mapeflex PU 40 complies with Euronorm EN 15651-1 ("Sealants for façade elements") with performance rating F-EXT-INT-CC and EN 15651-4 ("Sealants for pedestrian walkways") with performance rating PW-EXT-INT-CC.

Some application examples

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

- façades 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 PU 40 is a one-component, thixotropic, polyurethane-based sealant with a low modulus of elasticity developed in MAPEI's own R&D laboratories.

Mapeflex PU 40 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.

The product is ready to use and is available in aluminium cartridges and cartridges equipped with a special extrusion gun from **Mapei Gun** range, which makes the product particularly easy to use.

Its consistency allows for rapid application and once set it may be painted over.

Before painting over **Mapeflex PU 40** it must be fully polymerised. We recommend using elastomeric paint such as **Elastocolor Paint** after treating the surface of the sealant with **Colorite Performance**. Always carry out preliminary tests to make sure the sealant and paint are compatible.

RECOMMENDATIONS

- Do not use on dusty or flaky surfaces.
- Do not use on surfaces which are 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 PU 40** 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, crumbling parts, oil, grease, wax and old paint. To guarantee that the sealant works correctly, the joint must be free to expand and contract. Therefore, it is important that **Mapeflex PU 40** only bonds perfectly to the side walls of the joint, and never to the bottom. 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 **Mapeflex PU 40** and to avoid it sticking to the bottom of the joint, **Mapefoam** 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 OF JOINT	DEPTH OF SEALANT
Up to 10 mm	Same as width
From 11 to 20 mm	10 mm in all cases
More than 20 mm	Half the width

To avoid the sealant spreading out of the joint, and to leave an attractive finish, we recommend using masking tape around the joints. **Mapeflex PU 40** adheres well to the most commonly used absorbent or compact materials used in the building industry without primer, as long as they are perfectly clean and have no dust or form-release compound on their surface. We recommend applying **Primer M**, suitable for absorbent or metal surfaces, or **Primer A**, suitable for non-absorbent substrates, if the surfaces are not solid or clean enough, or if the joints are subject to high mechanical stress or frequent, prolonged contact with liquids, or if they are applied on cementitious surfaces which are still wet. If **Mapeflex PU 40** is applied on surfaces which are not absorbent, such as iron, steel, aluminium, copper, ceramic, glass or zinc-plated or painted sheet, **Mapeflex PU 40** adheres well to surfaces after simply degreasing them with a suitable product. In any case, the application of **Primer M** or **Primer A** will improve adhesion over the years.

Application of primer

Using a brush, apply a thin, uniform layer of **Primer M** or **Primer A**, one-component polyurethane primers, around the edges of the joint. The successive application of sealant must only be carried out once the primer is no longer sticky (20 min. for **Primer M**, 120 min. for **Primer A** at +23°C and 50% H.R.).

Preparation and application of Mapeflex PU 40

Use specific manual caulking guns for 300 ml cartridges or 600 ml soft cartridges from **Mapei Gun** range. Extrude the sealant into the joint in a continuous flow without entraining air. Immediately after applying the product smooth over the surface with a suitable tool kept constantly wet with soapy water.



Application of Primer M or Primer A



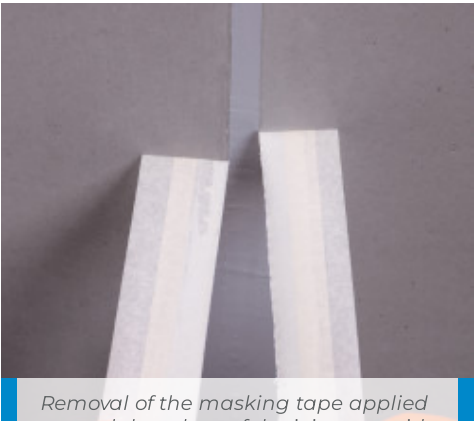
Inserting Mapefoam inside the joint



Application of Mapeflex PU40



Smoothing over Mapeflex PU40



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

CONSUMPTION

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

JOINT SIZE AND CONSUMPTION		
Size of the joint in mm	Linear metres	
	cartridges 300 ml	soft cartridges 600 ml
5 x 5	12	24
10 x 10	3	6
15 x 10	2	4
20 x 10	1.5	3
25 x 12,5	0.9	1.9
30 x 15	0.6	1.3

CLEANING

Mapeflex PU 40 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 2000**.

PACKAGING

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

COLOURS AVAILABLE

Mapeflex PU 40 is available in white and 111 grey. Other colours are available upon request.

STORAGE

Mapeflex PU 40 may be stored for up to 12 months in a cool, dry place.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapeflex PU 40 may cause sensitisation if inhaled and allergic manifestation in subjects sensitive to isocyanates. During use, wear protective gloves and goggles and take the usual precaution for handling chemicals. If the product comes in contact with the eyes or skin, wash immediately with plenty of clean water and seek medical attention. Use suitable protection tools to protect the respiratory system.

For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)	
PRODUCT IDENTITY	
Classification according to EN 15651-1:	F-EXT-INT-CC, class 25 LM
Classification according to EN 15651-4:	PW-EXT-INT-CC, class 25 LM

Appearance:	thixotropic paste
Colour:	white, 111 grey
Density (g/cm ³):	approximately 1.40
Dry solids content (%):	100
Brookfield viscosity at +23°C (mPa·s):	1,000,000 ± 200,000 (rotor F - 5 revs)
APPLICATION DATA (at +23°C and 50% R.H.)	
Recommended application temperature range:	from +5°C to +35°C
Dust dry:	60 min.
Final setting after:	3 mm/24 h - 4 mm/48 h
Set to light foot traffic:	according to the depth of the joint
FINAL PERFORMANCE	
Shore A hardness (DIN 53505):	30
Tensile strength (DIN 53504S3a) (N/mm ²): – after 28 days at 23°C and 50% R.H.:	3
Elongation at breakage (DIN 53504S3a) (%) – after 28 days at 23°C and 50% R.H.:	1,000
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 E - 25 LM
Modulus of elasticity at +23°C (ISO 8339) (N/mm ²):	0.24
Modulus of elasticity at -30°C (ISO 8339) (N/mm ²):	0.31
Springback (%):	85

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of The product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

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