

Mapelastastic Foundation

Two-component, elastic cementitious membrane for waterproofing concrete surfaces subject to both positive and negative water pressure



WHERE TO USE

Waterproofing concrete and masonry structures subject to positive or negative hydrostatic pressure. It is recommended for foundation walls, car-parks, underground environments, basins, channels and swimming pools.

Some application examples

- Waterproofing concrete retaining walls.
- Waterproofing underground car-parks, cellars, sunken swimming pools and basins and lift wells against the counter-pressure of water.
- Waterproofing breeze-block walls pre-treated with a suitable MAPEI mortar.

TECHNICAL CHARACTERISTICS

Mapelastastic Foundation is a two-component mortar based on cementitious binders, fine-grained selected inert materials, special additives and synthetic polymers in water dispersion, blended according to a formula developed in MAPEI's own research laboratories. When the two components are mixed together, a blend with a plastic consistency is obtained. It may be applied by brush or with a roller on both horizontal and vertical surfaces, at a thickness of at least 2 mm. Thanks to the high content and quality of the synthetic resins, the hardened layer of **Mapelastastic Foundation** is highly flexible and remains stable under all environmental conditions. When mixed, the product is highly thixotropic, which reduces waste to a minimum during

the application phase with a roller. **Mapelastastic Foundation** is completely waterproof against positive pressure, and is waterproof against negative pressure of up to 1.5 atm (15 m column of water). Once cured, it is resistant to soluble salts which are present in sea water or in the ground, such as chlorides and sulphates.

Mapelastastic Foundation also has excellent bonding strength on all cementitious substrates which are solid and clean. All these properties keep structures protected and waterproofed with **Mapelastastic Foundation** perfectly dry over the years.

Mapelastastic Foundation fulfils all the main criteria for the EN 1504-9 Standards (*"Products and systems for the protection and repair of concrete structures: definitions, requirements, quality control and conformity assessment. General principles for the use of products and systems"*) and the minimum requirements for EN 1504-2 Standards (*"Protection systems for concrete surfaces"*).

RECOMMENDATIONS

- Do not use **Mapelastastic Foundation** for coatings with a high thickness (more than 2 mm per coat).
- Do not apply **Mapelastastic Foundation** at temperatures below +5°C.
- Do not apply **Mapelastastic Foundation** on substrates saturated with water (surfaces must dry off before application).

- Do not add cement, inert materials or water to **Mapelastic Foundation**.
- Protect from rain and water contact for the first 24 hours after application.

APPLICATION PROCEDURE

Preparation of the substrate

A) Positive pressure (water under pressure directly onto the finish)

The surface to be treated must be sound and perfectly clean. Remove all cement laitance, flaky parts and traces of powder, grease, oil and stripping compounds by sand-blasting or washing down with high-pressure water. If the structure to be waterproofed and protected with **Mapelastic Foundation** is in a poor condition, remove the damaged parts by hand or mechanical demolition, or by using a hydro-demolition system or a hydro-scarifier. Once the rust has been completely removed by sandblasting, carry out repairs with ready-mixed mortar from the **Mapegrout** range (please refer to the relative Data Sheets). Absorbent surfaces to be treated with **Mapelastic Foundation** must be dampened beforehand with water.

B) Negative pressure (water under pressure seeping through the substrate onto the finish)

Remove all cement laitance, paint, flaky parts and traces of powder, grease, oil and stripping compounds by sand-blasting or washing down with high-pressure water. Remove any gravel clusters and then fill using **Planitop 400**. Construction joints, cracks in reinforced concrete, spacers, pipe-work and other objects which pass through the concrete must be sealed using **Mapeproof Swell**. To seal cracks in the concrete and construction joints, demolish the area to be repaired around the said cracks or construction joint using mechanical means up to a depth of at least 6 cm. Apply **Mapeproof Swell** and then limit its expansion with a 6 cm border of **Mapegrout T40**.

In the presence of water which continuously seeps through, seal off the flow using **Lamposilex** and then continue as described above. For pipe-work and other penetrating objects, demolish the reinforced concrete around these objects, apply a layer of **Mapeproof Swell** and limit its expansion as described above. In the case of localised seeping water, seal the flow using **Lamposilex** hydraulic mortar.

Preparation of the product

Pour component B (liquid) into a suitable, clean container. Then slowly add component A (powder) while stirring with a mechanical mixer. Carefully mix **Mapelastic Foundation** for a few minutes, making sure that no powder remains stuck to the sides or the bottom of the container. Keep stirring for approximately 3 minutes until a perfectly homogenous mix is obtained. Leave the mix standing for approximately 2 minutes so that the polymer is completely

dispersed, and then mix again for up to 2 minutes.

Use a low-speed mechanical mixer for this operation to avoid too much air entering the mix.

Do not prepare the mix by hand.

Application of the product

Mapelastic Foundation must be applied by brush or with a roller within 60 minutes of it being mixed in at least two coats, to give a final thickness of at least 2 mm. If the brush tends to drag the product while applying the first coat, dampen the surface of the substrate. The second coat may be applied approximately 4 hours after the first coat. In all cases, the first coat must be perfectly dry. According to the type of substrate, consumption is approximately 1.65 kg/m² per mm of thickness.

Apply **Mapeband TPE** bonded with **Adesilex PG4** to the dry substrate around expansion joints (please refer to the relative Technical Data Sheets).

Use **Mapeband** bonded to the substrate with **Mapelastic Foundation** around the joints between horizontal and vertical surfaces.

Precautions to be taken during and after application

- No special precautions need to be taken when the temperature is around +20°C.
- During hot weather, it is advisable to keep the product out of direct sunlight before use (powder and liquid).
- After application, and in particularly dry, hot or windy weather, we recommend protecting the surface against rapid evaporation with sheets.

Cleaning

Due to the high bonding strength of **Mapelastic Foundation**, including to metal surfaces, we recommend washing work tools with water before the mortar sets. Once it has set, cleaning may only be carried out by mechanical means.

CONSUMPTION

Application by brush or roller:
1.65 kg/m² per mm of thickness.

PACKAGING

32 kg kits:
component A: 22 kg sacks;
component B: 10 kg cans.

STORAGE

Mapelastic Foundation may be stored for 12 months in its original packaging in a dry place.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapelastic Foundation is not considered a dangerous substance according to current standards and regulations regarding the

TECHNICAL DATA (typical values)

Two-component flexible waterproof membrane for protecting concrete.
Complies with the requirements of EN 1504-2 Standards

PRODUCT IDENTITY

	comp. A	comp. B
Consistency:	powder	liquid
Colour:	grey	white
Dry solids content (%):	100	50
Shelf life:	12 months in original packaging	12 months in a closed place
Hazard classification according to EC 1999/45:	irritant none Before using refer to the "Safety instructions for preparation and application" paragraph and the information on the packaging and Safety Data Sheet	
Customs class	3824 50 90	

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

Colour of mix:	light grey
Mixing ratio:	component A : component B = 2.2 : 1
Consistency:	thixotropic
Density of the mix (kg/cm³):	1,650
Recommended application temperature range:	from +5°C to +40°C
Pot life of mix:	approximately 60 minutes

FINAL PERFORMANCE

	Acceptance limits according to EN1504/2	Performance figures Mapelastic Foundation	
Bond to concrete EN 1542 after 28 days at +20°C and 50% R.H. (N/mm²):	> 0.8	> 1	
Bond to concrete EN 1542 after 7 days at +20°C and 50% R.H. + 21 days in water (N/mm²):	not requested	> 0.7	
Crack resistance EN 1062-7 (crack-bridging) expressed as maximum width of crack (mm):	from class A1 (0.1 mm) to class A5 (2.5 mm)	class A4 (> 1.25 mm)	
Water vapour permeability according to EN ISO 7783/1 – equivalent air thickness Sd (m):	class I: Sd < 5 m vapour permeability)	Sd 2.4 m	μ 1,200
Waterproofing expressed as capillary absorption EN 1062-3 [kg/m²·h^{1/2}]:	< 0.1	< 0.07	
Permeability to carbon dioxide (CO₂) according to EN 1062-6 - diffusion in equivalent air thickness Sd_{CO2} (m):	> 50	> 60	
Impermeability to water under pressure (5 bar for 3 days) positive pressure EN 12390/8 modified - expressed as water penetration:	not requested	no penetration	
Impermeability to water under pressure (1.5 bar for 7 days) positive pressure EN 14891 expressed as water penetration:	not requested	no penetration	
Impermeability to water under pressure 1.5 bar negative pressure - expressed as water penetration	not requested	no penetration	
Flexibility after 28 days DIN 53504 modified - expressed as elongation (%):	not requested	> 60	

Mapelastic Foundation



classification of preparations. However, the usual precautions taken when handling chemical products are recommended. Safety Data Sheet available upon request.

PRODUCT 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.

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

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