



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 with a roller or by spray 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 sound 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 according to PI-MC-IR principles (*"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).

Mapelast^{ic} Foundation



Application of Mapelast^{ic} Foundation by roller on a substrate evened out using Planitop HDM Maxi



Through element sealed using Mapeproof Swell



Retaining wall waterproofed after casting using Mapelast^{ic} Foundation

- Do not add cement, inert materials or water to **Mapelast^{ic} 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 **Mapelast^{ic} 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 technical data sheets). Absorbent surfaces to be treated with **Mapelast^{ic} 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 **Mapelast^{ic} 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

Mapelast^{ic} Foundation must be applied 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.

Applying the product by spray

Mapelast^{ic} Foundation may also be applied by spray using a rendering machine with a smoothing and finishing lance with a nozzle up to 10 mm diameter, and an air compressor with a capacity of at least 800 l/min. The final thickness must be at least 2 mm. After applying the first layer, wait until it has cured (approximately 4 hours) and then apply a second layer. Consumption with this method is 2.2 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 **Mapelast^{ic} 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 **Mapelast^{ic} 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 roller:
1.65 kg/m² per mm of thickness.
Application by spray:
2.2 kg/m² per mm of thickness.

Mapelastic Foundation: Two-component flexible waterproof membrane for protecting concrete.
Complies with the requirements of EN 1504-2 Standards, PI, MC and IR principles

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

	comp. A	comp. B
Consistency:	powder	liquid
Colour:	grey	white
Dry solids content (%):	100	54
Hazard classification according to Directive 1999/45 CE:	irritant Before using refer to the "Safety instructions for preparation and application" paragraph and the information on the packaging and Safety Data Sheet	none

APPLICATION DATA OF PRODUCT (at +20°C - 50% R.H.)

Colour of mix:	light grey
Mixing ratio:	component A : component B = 2.2 : 1
Consistency:	thixotropic
Density of mix (kg/m³):	1,650
Recommended application temperature range:	from +5°C to +40°C
Pot life of mix:	approximately 60 minutes

FINAL PERFORMANCE (2.0 mm thickness)

	Acceptance limits according to EN 1504-2 (PI, MC, IR principles)	Performance figures Mapelastic Foundation	
		Sd	μ
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)	2.4 m	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	> 300	
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 negative pressure - expressed as water penetration	not requested	no penetration	
Flexibility after 28 days DIN 53504 modified – expressed as elongation (%):	not requested	> 60	
Reaction to fire:	Euroclass	E	
	Acceptable limit according to EN 14891	Performance figures Mapelastic Foundation	
Impermeability to water under pressure according to EN 14891-A.7 (1.5 bar for 7 days of positive lift):	no penetration	no penetration	
Crack-bridging ability at +20°C according to EN 14891-A.8.2 (mm):	> 0.75	2.0	
Initial bond strength according to EN 14891-A.6.2 (N/mm²):	> 0.5	1.1	
Bond strength after immersion in water according to EN 14891-A.6.3 (N/mm²):	> 0.5	0.65	
Bond strength after application of heat source according to EN 14891-A.6.5 (N/mm²):	> 0.5	1.2	
Bond strength after freeze-thaw cycles according to EN 14891-A.6.6 (N/mm²):	> 0.5	0.7	
Bond strength after immersion in basic water according to EN 14891-A.6.9 (N/mm²):	> 0.5	0.75	



Mapelastic Foundation spread on by roller to waterproof against water in counter pressure



Mapelastic Foundation spread on by trowel to waterproof against water in counter pressure

Bond values according to EN 14891 measured using **Mapelastic Foundation** and a C2-type cementitious adhesive according to EN 12004

Mapelastic Foundation



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.

The product complies with the conditions of Annex XVII to Regulation (EC) N° 1907/2006 (REACH), item 47.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapelastic Foundation component A contains cement that, when in contact with sweat or other bodily fluids, produces an irritant alkaline reaction and allergic reactions in those predisposed.

Wear protective clothing, gloves and eye/face protection.

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

PRODUCT FOR PROFESSIONAL USE.

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 web site www.mapei.com

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



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