



## TWO-COMPONENT, CEMENTITIOUS MORTAR FOR WATERPROOFINGS

### MAPELASTIC SMART

#### TECHNICAL CHARACTERISTICS

Mapelastic is a two-component mortar based on cementitious binders, fine-grained selected aggregates, special additives and synthetic polymers dispersed in water. blended according to a formula developed in MAPEI's own research laboratories. When the two components are mixed together, a freeflowing mix is obtained which may be easily applied. even on vertical surfaces. at a thickness of up to 2 mm in one single coat.

Thanks to the high content and quality of the synthetic resins, the cured layer of Mapelastic remains constantly flexible under all environmental conditions and, furthermore, is completely waterproof up to a pressure of 1.5 bar and resistant to the chemical attack of de-icing salts, sulphates, chlorides and carbon dioxide.

Mapelastic has excellent bonding properties to all concrete, masonry, ceramic and marble surfaces, as long as they are sound and sufficiently clean.

This property, together with its resistance to the deteriorating effect of UV rays, a characteristic of this product, ensures that structures protected and waterproofed with Mapelastic have a long service life, even if they are located in areas with particularly rigid climatic conditions, in coastal areas with a saline-rich atmosphere or in industrial areas where the air is particularly polluted.

**Mapelastic** meets the requirements defined by EN 1504-9 ("Products and systems for the protection and repair of concrete structures — Definitions, requirements, quality control' and evaluation of conformity - General principles for the use of products and systems") and the minimum requirements claimed by EN 1504-2 coating (C) according to the PI, MC and IR principles ("Protection systems for concrete surfaces").



#### WHERE TO USE

- Waterproofing and protection of concrete structures, renders and cementitious screeds.

#### SOME APPLICATION EXAMPLES

- Waterproofing of concrete basins used for containing water.
- Waterproofing bathrooms, showers, balconies, terraces, swimming pools, etc. before laying ceramic tile finishes.
- Waterproofing of plasterboard, render or cementitious surfaces. lightweight cement blocks and marine-grade plywood.
- Flexible smoothing layer for light-sectioned concrete structures, including those subjected to minor deformation when under load (e.g. pre-cast panels).
- Protection of renders or concrete with cracks caused by shrinkage, against the infiltration of water and aggressive atmospheric elements.
- Protection, against the penetration of carbon dioxide, of concrete pillars and joists and road and railway viaducts repaired with products from the Mapegrout range, and structures with an insufficient layer of concrete covering on the reinforcement rods.
- Protection of concrete surfaces which may come into contact with seawater, de-icing salts, such as sodium or calcium chloride, and sulphates.



## REGOMMENDATIOIIS

- Do not use **Mapelastic** for thickcoatings {more than 2 mm per coat}.
- Do not apply **Mapelastic** at temperatures below +8°C.
- Do not add cement, aggregates or water to **Mapelastic**.
- Protect from rain and water spillage for thefirst 24 hours after application.
- When Mapelastic is used on large terraces or flat roots that will not be covered with tiles. vapour vents shall be appropriatety positioned accordingto the level of humidity in the substrate {generally every 20-25 m<sup>2</sup>}.

This operation is indispensable when **Mapelastic** is laid on substrates which are particularfy absorb-ent. such as screeds which have been lightened with polystyrene or foamed clay.

## CLEANING

Due to the high bonding strength of **Mepelaetic**, even on metals. it is recommendedto wash work tools with water before the mortar sets. Once it has set. cleaning may only be carried out by mechanical means.

## CONSUMPTION

Manual application:

approx. 1.7kg/m<sup>2</sup> per mm of thickness.

Spray gun application:

approx. 2.2 kg/m<sup>2</sup> per mm of thickness.

## PAGKAGING

Units of 32 kg:

component A: 24 kg bags:

component B: 8kg drums.

Upon request, component B may also be supplied in 1000 kg tanks.

Units of 16 kg:

26kg bags and 14 kg drum.

Mapelastic: two-component flexible cementitious membrane for waterproofing balconies, terraces, bathrooms and swimming-pools, and for protecting concrete in compliance with the requirements of EN 14891 and EN 1504-2 coating (C) principles PI, MC and IR.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

	comp.A	COMP.B
Consistency:	powder	liquid
Color	grey	white
Bulk density (g/cm <sup>3</sup> )	1.4	-
Density (g/cm <sup>3</sup> )	-	1.1
Dry solids content (%)	100	50
Storage:	12 months	24 months
	in its original packaging in a dry place	
Hazard classification according to Directive 1999/45 CE.	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 OF PRODUCT (at +20°C - 50% R.H.)

Color of mix	Grey
Mixing ratio	component A: component B=3:1
Consistency of mix	plastic, trowellable
Density of mix (kg/m <sup>3</sup> )	1,700
Density after application by spray (kg/m <sup>3</sup> )	2,200
Application temperature range	from +5°C to +35°C
Pot life of mix	1 hour

FINAL PERFORMANCES (thickness 2.0 mm)		
	Acceptable limit according to EN 1504-2 coating (C) (PI, MC and IR principles)	Performance figures for Mapelastic
<b>Bond strength to concrete according to EN 1542:</b> - after 28 days at +20°C AND 50% r.h. (N/mm <sup>2</sup> )	For Flexible Systems	1.0
<b>Thermal compatibility to freeze/thraw cycles with de-icing salts, measured as bond strength according to EN 1542 (N/mm<sup>2</sup>)</b>	With No Traffic: > 0.8 With Traffic: >1.5	0.8
<b>Bond strength to concrete according to EN 1542:</b> - after 7 days at +20°C and 50% R.H. +21 days in water (N/mm <sup>2</sup> )	NOT APPLICABLE	0.6
<b>Flexibility according to DIN 53504 mod, expressed as elongation:</b> - after 28 days at +20°C and 50% R.H. (%)	Not Applicable	30
<b>Static crack-bridging at -20°C according to EN 1062-7 expressed as maximum width of the crack (mm):</b>	From Class A1 90.1 Mm) To Class A5 (2.5Mm)	Class A3 (+20°C) (>0.5 Mm)
<b>Dynamic crack-bridging at -20°C according to EN 1062-7 expressed as maximum width of the crack (mm):</b>	From Class B1 To Class B4.2	Class B3.1 (-20°C) No Failure Of The Test Piece After 1,000 Crack Cycles With Movement Of Crack Of Crack From 0.10 To 0.30 Mm
<b>Permeability to water vapour according to EN ISO 7783-1:</b> - equivalent thickness of air S <sub>0</sub> (m):	Class I:sd < 5 M (Permeable To Vapour)	S <sub>0</sub> 3.6   1.800
<b>Impermeability to water, expressed as capillary absorption according to EN 1062-3 (kg/m<sup>2</sup>·h<sup>0.5</sup>):</b>	< 0.1	< 0.05
<b>Permeability to carbon dioxide (CO<sub>2</sub>) according to EN 1062-6</b> - diffusion in an equivalent thickness of air S <sub>Dco</sub> (m):	> 50	> 50
<b>Reaction to fire (Euroclass)</b>	According To Class Declared By Manufacturer	C, S1 - D0
	Acceptable Limit According To En 14891	Performance Figures For Mapelastic
<b>Impremeability to water under preasure according to EN 14891-A.7 (1.5 bar for 7 days of positive lift);</b>	Not Applicable	Not Applicable
<b>Crack-bridging ability at +20°C according to EN 14891-A.8.2 (mm):</b>	> 0.75	0.9
<b>Crack-bridging ability at +20°C according to EN 14891-A.8.3 (mm):</b>	> 0.75	0.8
<b>Initial bond strength according to EN 14891-A.6.2 (N/mm<sup>2</sup>)</b>	> 0.5	0.8
<b>Bond strength after immersion in water according to EN 14891-A.6.3 (N/mm<sup>2</sup>):</b>	> 0.5	0.55
<b>Bond strength after application of heat source according to EN 14891-A.6.5 (N/mm<sup>2</sup>):</b>	> 0.5	1.2
<b>Bond strength after freeze-thraw cycles according to EN 14891-A.6.5 (N/mm<sup>2</sup>):</b>	> 0.5	0.6
<b>Bond Strength after immersion in basic water according to EN 14891-A.6.9 (N/mm<sup>2</sup>):</b>	> 0.5	0.6

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