MAPEWALL INTONACA & RINFORZA

High-strength fibre-reinforced natural hydraulic lime-based breathable rendering and masonry mortar with very low emission level of VOC for making structural render, even “reinforced” (CRM) and installation mortar



BENEFITS AND FEATURES

- High performance render
- For render and “reinforced” (CRM) render
- High breathability
- Ideal for all types of masonry
- NHL-based

CO_2e FULLY OFFSET PRODUCTS

Residual Greenhouse Gas emissions measured throughout the life cycle of this product using Life Cycle Assessment (LCA) methodology, verified and certified with EPDs, have been offset for the year 2026 through the acquisition of carbon credits in support of forestry protection projects. For more details on emission calculations and offsetting projects, visit mapei.com.

WHERE TO USE

High-strength mortar suitable for machine or manual application used to make breathable render for existing stone, brick, tuff and mixed masonry, including on buildings of historical or artistic interest.

“Reinforced” render with metal or composite mesh and mortar joints for consolidating, strengthening and renovating weak masonry.

In particular, **MapeWall Intonaca & Rinforza** in combination with **Mapenet EM 30**, **Mapenet EM 40** or **Mapenet EMR 33/66/99**, alkali-resistant fibreglass meshes pre-engineered, can be used for the creation of **CRM (Composite Reinforced Mortar)** reinforced plasters certified CVT by the CSLLPP in accordance with the reference Guideline.

Some application examples

- New internal and/or external high-performance breathable render on stone, brick, tuff and mixed masonry.
- New render or renovating existing render on masonry, including on buildings of historical or artistic interest.

- New render “reinforced” with galvanized or steel mesh or composite material (such as **Mapenet EM 30**, **Mapenet EM 40** or **Mapenet EMR 33/66/99**) on weak masonry.
- FRCM Systems combined with **Mapegrid B550.**
- New render on which a ceramic or stone covering should be installed.
- Reinforced extrados vault with composite or metal strengthening mesh (such as **Mapenet EM 30**, **Mapenet EM 40** or **Mapenet EMR 33/66/99**) on the outer face of vaulted roofs.
- Levelling off uneven surfaces on the outer face of vaulted roofs.
- Pointing between stone, brick and tuff elements on “exposed” masonry.
- Mortar joints, including joints “reinforced” with rebar or composite material (such as **Maperod**), and steel cords (such as **MapeWrap SG FIOCCO**) using the repointing technique.
- Building facing walls with high-performance masonry mortar in compliance with standards applied in seismic zones.
- “Plumbing” and “touching-up” facing walls with gaps and/or uneven surfaces.

TECHNICAL CHARACTERISTICS

MapeWall Intonaca & Rinforza is a ready-mixed, powdered breathable rendering and masonry mortar with very low emission level of volatile organic compounds (EMICODE EC1 Plus) made from natural hydraulic lime (NHL 3.5 and NHL 5), reactive inorganic compounds, natural sand, special admixtures, and micro-fibres, according to a formula developed in the MAPEI research laboratories.

This product is classified as GP according to EN 998-1 Standards: “*General purpose mortar for internal/external render*” with guaranteed performance characteristics, category CS IV.

It is also classified as G according to EN 998-2 Standards: “*Guaranteed-performance, general-purpose masonry mortar for external use on elements with structural requirements*” Class M 15, in that it reaches a compressive strength level of > 15 N/mm^2.

When mixed with water in the hopper of a continuous-feed rendering machine or in a cement mixer, **MapeWall Intonaca & Rinforza** forms a breathable rendering and masonry mortar with a plastic-thixotropic consistency which is easy to apply by spray or trowel. Thanks to its special composition, **MapeWall Intonaca & Rinforza** has an extremely low rate of hygrometric shrinkage which drastically reduces the risk of cracks forming in the mortar.

Typical values are shown in the Technical Data table (see Application Data and Final Performance sections) which refer to the main characteristics of **MapeWall Intonaca & Rinforza** at both the wet and hardened states.

RECOMMENDATIONS

- Do not use **MapeWall Intonaca & Rinforza** for pouring into formwork (use **Mape-Antique Colabile**).
- Do not use **MapeWall Intonaca & Rinforza** to make consolidating slurry for injection into facing walls (use **MapeWall Inietta & Consolida**, **Mape-Antique I**, **Mape-Antique I-15** or **Mape-Antique F21**).
- Never add admixtures, cement or other binders (lime and gypsum) to **MapeWall Intonaca & Rinforza**.
- Wait until **MapeWall Intonaca & Rinforza** is completely cured before skimming the surface or applying a thin layer of coloured coating.
- Do not apply coloured paint or thin layers of coating products that could significantly affect the breathability of **MapeWall Intonaca & Rinforza**. Use a skimming product from the **Mape-Antique FC** or **Planitop** ranges, products from the **Silexcolor** or **Silancolor** range, lime-based paint, or a water-repelling product such as **Antipluviol S** or **Antipluviol W**.
- For renders with total thickness > 3 cm, apply a first coat of product with a thickness of at least 1 cm by pressing it down firmly on the previously prepared substrate (a notched trowel can be used for this purpose) in order to create a suitable bonding layer.
- Do not apply **MapeWall Intonaca & Rinforza** if the temperature is lower than +5°C.

APPLICATION PROCEDURE

TECHNICAL INFORMATION FOR APPLICATION PROCEDURE	
Mix composition:	100kg of **MapeWall Intonaca & Rinforza** 16-18 kg of water
Minimum applicable thickness :	10 mm
Maximum applicable thickness per coat:	30 mm
Recommended application temperature:	Surrounding and substrate temperature from +5 °C to +35 °C
Pot life od mix:	approx. 1h

Preparation of the substrate

Remove all traces of existing render and loose or crumbling material, dust, mould and any other material or substance that could affect the adhesion of **MapeWall Intonaca & Rinforza** with either hand or power tools until the substrate is clean, sound and compact. Remove all deteriorated and loose mortar before pointing the joints between masonry elements.

Clean the masonry with low-pressure water jets to remove any efflorescence or soluble salts present on the surface. Repeat this operation several times if necessary.

If weak substrates need to be consolidated, apply several coats of **Consolidante 8020** or **Consolidante ETS** or **Primer 3296** (follow the instructions on the relative Technical Data Sheets).

Fill any gaps and uneven areas in the masonry using the “plumbing” and “touching-up” techniques with **MapeWall Intonaca & Rinforza** as a base mortar and pieces of stone, brick or tuff with characteristics as similar to the original material as possible.

If large surfaces need to be rendered, we recommend applying the product with a continuous-feed rendering machine and to place vertical guides on the walls to help apply the specified thickness and achieve the flatness required.

Before applying **MapeWall Intonaca & Rinforza** the substrate must be partially saturated to prevent the substrate absorbing water from the mortar and affecting its final performance characteristics. Excess water must be removed so that the masonry is saturated and the surface is dry (s.s.d. condition). Compressed air may be used to speed up this process.

For creating reinforcing render or reinforced extrados vault, put the metal mesh or composite material (such as **Mapenet EM 30**, **Mapenet EM 40** or **Mapenet EMR 33/66/99**, pre-primed, alkali-resistant glass fibre mesh) on the existing masonry and fasten it in place after having applied a first coat of render. When using metal mesh (not considered as CRM), fasten it in place with nails or plugs or with metal connectors. When using composite mesh, fasten it in place with **Mapenet EM Connector** or **Mapenet EMR Connector**, special “L” shaped connectors made from alkali-resistant glass fibre and thermosetting, vinylester-epoxy resin. Fasten the connectors to the masonry with **Mapefix VE SF** styrene-free, vinyl resin-based chemical anchor. The recommended number of fasteners to be used is 4-5/m^2. Whatever type of strengthening mesh is used, it must be set at a certain distance from the substrate so that it lies at the mid-point of the total thickness of the finished render.

The two layers between which the mesh is embedded must be applied fresh on fresh, with a maximum applicable thickness of 30 mm per layer.

When carrying out strengthening work using the “reinforced” mortar joints technique with rebar or composite material, (such as **Maperod**) they must be placed at a depth which guarantees they are covered by a layer of mortar at least 2 cm thick.

Preparation of the product

Prepare **MapeWall Intonaca & Rinforza** in the hopper of a continuous-feed rendering machine if applied by spray or in a cement mixer if applied by trowel. Even though this product is suitable for the application using hand tools, we recommend using a rendering machine for the application on large surfaces to obtain a higher yield. Small amounts of the product may be prepared using an electric drill at low speed with a mixing attachment. Mixing by hand is not recommended.

The instructions for the preparation of the render for laboratory test samples can be found in the TECHNICAL DATA section.

Application of the product

Application with a rendering machine

Pour the contents of the bags of **MapeWall Intonaca & Rinforza** into the hopper of a continuous-mix rendering machine and set the water flow-rate at 320-340 l/h, depending on the type of mixer (rotor/stator) used, until a "plastic", consistency is obtained.

The render may be applied with single-phase or three-phase continuous rendering machines equipped with a mixer (rotor/stator) that is suitable to the maximum nominal diameter of the aggregates in the render, which is mentioned in the product's TDS.

Note: differences may arise compared to the figures in the TECHNICAL DATA (typical values) table included in thus TDS, according to the conditions at the time of product application and the rendering machine used.

Apply a single layer (up to 30 mm) thick of **MapeWall Intonaca & Rinforza**, starting from the bottom working upwards. If the total thickness to be applied is more than 30 mm, apply **MapeWall Intonaca & Rinforza** in several layers. Each layer must be applied without tamping the previous one.

We recommend applying the render from a distance of approximately 20 cm so that the product is applied evenly. After applying the render, wait a few minutes and level off the surface using an aluminium "H"-type or blade-type straight edge by going over the surface horizontally and vertically until it is flat.

Remove the vertical guides which were previously attached to the wall and fill the gaps with the same render.

Finish off the surface of **MapeWall Intonaca & Rinforza** with a plastic, wooden or sponge float a few hours after application, depending on the surrounding temperature and conditions.

Even though **MapeWall Intonaca & Rinforza** contains products which contrast the formation of micro-cracks, it is good practice to apply the mortar when the wall is not exposed to direct sunlight and/or wind. In such cases, such as during hot and/or particularly windy weather, take special care when curing the mortar, especially during the first 24-36 hours. Spray water on the surface or employ other systems to prevent the mixing water evaporating off too quickly.

Application by trowel

After pouring the minimum amount of clean water required into the mixer (approx. 4 litres for each 25 kg bag of **MapeWall Intonaca & Rinforza**), slowly add the powdered mortar in a continuous flow. Mix for approximately 3 minutes and check that the blend is well mixed, even and free of lumps and remove any powder that has stuck to the sides or bottom of the container.

Add more water if required up to a maximum of 4.5 litres per bag including the water added at the start of mixing. Mix **MapeWall Intonaca & Rinforza** again for a further 2-3 minutes, depending on the efficiency of the mixer, to form an even, "plastic" and thixotropic mix.

Apply **MapeWall Intonaca & Rinforza** in layers of up to 30 mm thick, starting from the lower part of the wall.

If the product is used as masonry mortar on facing walls or for "plumbing" and "touching-up", form an installation bed beforehand and then apply the masonry elements by pressing them into the mortar with a light pressure until they are in the correct position. Remove excess mortar with a trowel.

If the mortar is used for pointing, the thickness applied must be at least 2 cm.

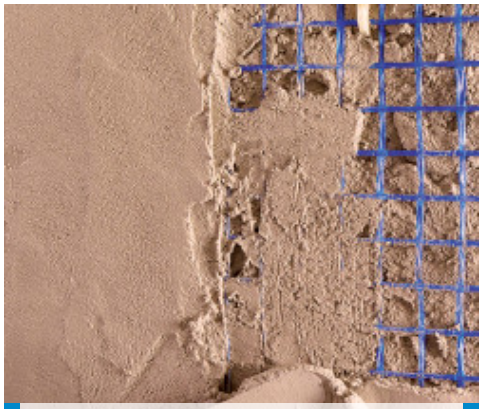
On "exposed" masonry, remove any excess product and clean the facing wall with water and a sponge float.<



*Preparing the holes for **Mapenet EM Connector***



*Placing **Mapenet EM 40***



*Application of the second layer of **MapeWall Intonaca & Rinforza***



*Levelling **MapeWall Intonaca & Rinforza** with a straight-edge*



Levelling the substrate



*Bonding of ceramic covering over **MapeWall Intonaca & Rinforza***

FINISHING COAT

If finer-textured finish than the normal floated finish of **MapeWall Intonaca & Rinforza** is required, apply a skim coat of one of the products from the **Mape-Antique Rasante**, **Mape-Antique FC** or **Planitop** ranges of skimming mortars, which are available in various textured finishes. If required, **Mapenet 150**, alkali-resistant glass fibre mesh, may also be embedded in the skimming mortar (please refer to the relative data sheet of the product used).

If, on the other hand, a skim coat, decoration and protection of the surface of the render at the same time is needed, use a coloured finish product, such as **Silexcolor Tonachino** silicate-based coating or **Silancolor Tonachino** siloxane-based coating, after priming the surface with their corresponding primer (**Silexcolor Base Coat** or **Silancolor Base Coat**). As an alternative to the products mentioned above, if the surface of the render needs only to be painted, use **Silexcolor Paint** or **Silancolor Paint** after priming the surface with their corresponding primer (**Silexcolor Primer** or **Silancolor Primer**).

Always wait until the render is completely cured, usually around 7 days per cm of thickness, before skimming the surface or applying any other type of finishing product.

If the render is not going to be finished-off, especially on constructions particularly exposed to rain, it may be protected with a transparent, breathable, water-repellent product such as **Antipluviol S**, siloxane resin-based impregnator in solvent, or **Antipluviol W**, siloxane resin-based impregnator in water dispersion.

CLEANING

Remove mortar from tools with water before it hardens. Once hardened cleaning is more difficult and must be carried out mechanically.

PACKAGING

25 kg bags.

COLOURS AVAILABLE

Beige and grey.

CONSUMPTION

approx. 16 kg/m² (per cm of thickness).

STORAGE

12 months in a dry, covered area in its original, unopened packaging.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.com.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY	
Type of mortar according to EN 998-1:	GP
Type of mortar according to EN 998-2:	G
Consistency:	powder
Maximum size of aggregate:	2.5 mm
Chloride ion content according to EN 1015-17(minimum requirements according to EN 998-2 ≤ 0.10%):	< 0.05 %
EMICODE:	EC1 Plus - very low emission

TECHNICAL INFORMATION FOR PRODUCT PREPARATION	
Mixing ratio:	100 parts of **MapeWall Intonaca & Rinforza** with 17% of water
Preparation of the mix:	mixing by drill at low speed until a homogeneous mixture with the characteristic volume mass is obtained

CHARACTERISTICS OF FRESH MIX (at +20°C - 50% R.H.)	
Colour of mix:	beige or grey
Consistency of mix:	thixotropic
Bulk density of mix:	1900 kg/m^3

FINAL PERFORMANCE According to curing time defined in the test methods				
Performance characteristic	**Test method**	**Requirements according to EN 998-1**	**Requirements according to EN 998-2**	**Performance of product**

Compressive strength:	EN 1015-11	CS I (from 0.4 to 2.5 MPa) CS II (from 1.5 to 5 MPa) CS III (from 3.5 to 7.5 MPa) CS IV (≥ 6 MPa)	from class M1 (≥ 1 N/mm²) to class M d (d ≥ 25 N/mm²) or multiple of 5	> 15 N/mm² (Category CS IV) (Class M 15)
Adhesion to substrate:	EN 1015-12	declared value and failure pattern (FP)	not required	≥ 1.0 MPa Failure pattern (FP) = B
Initial shear strength:	EN 998-2 Annex C	not required	chart value	0.15 N/mm²
Static modulus of elasticity after 28 days:	EN 13412	not required	not required	10 GPa
Capillary action water absorption:	EN 1015-18	W_c0 not specified $W_c1 \leq 0{,}40$ kg/(m²·min$^{0.5}$) $W_c2 \leq 0{,}20$ kg/(m²·min$^{0.5}$)	declared value	W_c2
Water vapour permeability factor:	EN 1015-19	declared value	not required	$\mu \leq 25$
Thermal conductivity ($\lambda_{10,dry}$):	EN 1745	chart value	chart value	0.71 W/m K (P = 50%)
Reaction to fire:	EN 13501-1	Euroclass	Euroclass	Class A1

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.

The values declared in the TECHNICAL DATA table (typical values) were obtained in compliance with test methods and curing cycles defined in the technical standards referenced therein. Therefore, please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

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

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation.

The most up-to-date TDS can be downloaded from our website www.mapei.com.

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

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