

MAPE-ANTIQUE RINZAFFO

Salt-resistant, transpirant scratch-coat mortar, based on lime and Eco-Pozzolan, used as first layer when applying de-humidifying, transpirant and “structural” renders



WHERE TO USE

Repairs to old masonry deteriorated by the presence of capillary rising damp, including on buildings of historical and artistic interest.

Repairs to masonry deteriorated by the disintegrating action of concentrated salts.

Rebuilding old lime-based render deteriorated by the action of atmospheric agents and environmental conditions or by ageing.

New transpirant and “structural” render on weak or particularly difficult masonry.

Some application examples

Mape-Antique Rinzafo must be used as the first layer for:

- internal and/or external macro-porous, de-humidifying render on walls with capillary rising damp.
- De-humidifying render on stone, brick, tuff or mixed masonry with saline efflorescence.
- De-humidifying render on masonry in lagoon areas or close to the sea.
- New de-humidifying render or reconstructing old lime-based render on stone, brick, tuff and mixed masonry, including on buildings of historical and artistic interest with a conservation order or under the protection of the National Trust.
- New transpirant and “structural” render on particularly difficult masonry, such as in stone or mixed material, or on masonry which is porous or weak.

TECHNICAL CHARACTERISTICS

Mape-Antique Rinzafo is a pre-blended, cement-free scratch-coat mortar in powder form made from lime, Eco-Pozzolan, natural sand, special additives and micro-fibres according to a formulation developed in MAPEI's research laboratories. This product is classified as GP according to EN 998-1 Standards: “General purpose mortar for internal/external render”, category CS IV.

When mixed with water in a continuous-feed rendering machine or cement mixer, **Mape-Antique Rinzafo** forms a salt-resistant, transpirant scratch-coat mortar with a semi-fluid consistency which is easy to apply by trowel or with a rendering machine on both vertical surfaces and ceilings.

When used as the first layer for de-humidifying, transpirant and “structural” render, **Mape-Antique Rinzafo** improves the bond, even out the absorption of substrates and slows down the transfer of salts.

The properties of mortar made using **Mape-Antique Rinzafo**, such as mechanical strength, modulus of elasticity and porosity, are very similar to mortar made using lime, lime-pozzolan and hydraulic lime originally used in the construction of old buildings.

Compared with these types of mortar, however, **Mape-Antique Rinzafo** also has properties which make the product resistant to various chemical-physical aggressive phenomena, such as the presence of soluble salts, freeze-thaw cycles, the leaching action of rainwater, alkali-aggregate reactions and the formation of cracks caused by plastic shrinkage.

When working on particularly damp internal walls or in cold weather, the setting and hardening times of **Mape-Antique Rinzafo** are considerably longer and much more time than usual must be allowed for the product to cure. The product may give off a different odour for a while when curing under such conditions and may turn green in some areas. The

odour and green colour will gradually disappear as the product and wall dry out until it takes on its characteristic light colour.

Typical values are shown in the Technical Data table (see Application Data and Final Performance sections) which refer to the main characteristics of **Mape-Antique Rinzafo** at both fresh and hardened states.

RECOMMENDATIONS

- If there is capillary rising damp and soluble salts, apply a layer of **Mape-Antique Rinzafo** approximately 5 mm thick before applying the layer of macro-porous, de-humidifying render (**Mape-Antique MC** o **Mape-Antique CC** o **Mape-Antique LC**, mixed with aggregates with a suitable grain size).
- On particularly difficult masonry, such as in stone or mixed material, or on masonry which is porous or weak, use **Mape-Antique Rinzafo** for the first layer to improve the bond of the render to be applied later and to even out the absorbency of the substrate.
- Do not use **Mape-Antique Rinzafo** for casting into formwork (in such cases use **Mape-Antique LC** mixed with aggregates with a suitable grain size).
- Do not use **Mape-Antique Rinzafo** to make consolidating slurry for injection into structures (use **Mape-Antique I** or **Mape-Antique F21**).
- Do not use **Mape-Antique Rinzafo** for rendering.
- Do not use **Mape-Antique Rinzafo** as installation mortar (use **Mape-Antique Allettamento** or **Mape-Antique Strutturale NHL**).
- Never add additives, cement or other binders (lime and gypsum) to **Mape-Antique Rinzafo**.
- We recommend analysing the walls before applying the product to determine the concentration level of salts in the walls.
- Do not apply **Mape-Antique Rinzafo** if the temperature is lower than +5°C.

APPLICATION PROCEDURE

Preparation of the substrate

On masonry with capillary rising damp and soluble salts, completely remove the deteriorated render either manually or with mechanical means to a height of approximately 50 centimetres above the deteriorated area, and in all cases to a height of at least twice the thickness of the wall. Remove all traces of loose or crumbly material, dust, mould and any other element which could compromise the bond of **Mape-Antique Rinzafo** until the substrate is clean, sound and compact. Then clean the wall with low-pressure water jets to remove any efflorescence or soluble salts present on the surface. Repeat this operation several times if necessary.

Gaps and uneven areas in the masonry must be repaired by patching or tacking with **Mape-Antique MC**, **Mape-Antique Allettamento** or **Mape-Antique Strutturale NHL** in combination with pieces of stone, brick or tuff with characteristics as similar as possible to the original material.

Saturate the substrate with water to prevent it from absorbing water from the mortar and compromising its final performance characteristics. Excess water must be left to evaporate off, so that the masonry is saturated and the surface is dry. Compressed air may be used to speed up this process. If the substrate cannot be saturated with water, we recommend that it is at least dampened to allow the mortar to bond correctly.

Apply a layer of **Mape-Antique Rinzafo** approximately 5 mm thick to completely cover the substrate to be rendered, to improve the bond, even out the absorption of the substrate before setting the de-humidifying render.

On mixed walls or on walls out of plumb by more than 4-5 cm, which would lead to the layer of render having an irregular thickness, we recommend inserting Ø 2 mm zinc-plated metallic mesh with a mesh size of 5 x 5 cm before applying **Mape-Antique Rinzafo**. The mesh must be fixed in place to the wall with nails, chemical anchoring (such as **Mapefix PE SF**) plugs with a small gap between the wall so that it becomes embedded in the middle of the layer of render.

Preparation of the product

Prepare **Mape-Antique Rinzafo** in a vertical cement mixer if the product is to be applied by trowel or in a continuous-feed rendering machine if the product is to be applied mechanically. Even though **Mape-Antique Rinzafo** is suitable for application using manual techniques, we recommend using a rendering machine to apply the product on large surfaces to obtain a better yield. Small amounts of the product may be prepared using a low-speed electric drill with a mixing attachment. Mixing the product by hand is not recommended.

Application of the product

Application with a rendering machine

Pour the content of the sacks of **Mape-Antique Rinzafo** into the hopper of a continuous-feed rendering machine (such as a PFT G4 or G5, Putzmeister MP 25, Turbosol or similar) and set the flow-rate at 440-460 l/h, according to the type of machine used, until a "plastic" consistency is obtained. Tests to validate the product were carried out using a Putzmeister MP 25 with the following fittings:

Stator Rotor	Mixer	Tube	Lance
D6 Power	Standard	Ø 25 mm,	Standard, 14 mm nozzle

Apply a single layer of **Mape-Antique Rinzafo** approximately 5 mm thick to completely cover the substrate to be rendered, starting from the lower part of the wall.

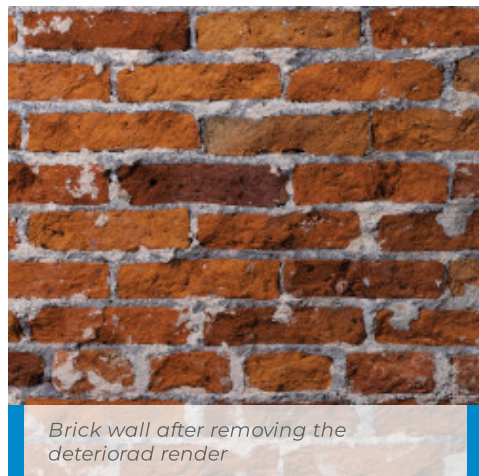
We recommend applying the "scratch-coat" from a distance of approximately 20 cm so that the product is applied evenly. After application, do not press or smooth over the mortar. Wait until **Mape-Antique Rinzafo** has started to set before applying the de-humidifying, transpirant or "structural" render.

Even though **Mape-Antique Rinzafo** contains products which constrict 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. 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 (5 litres per 20 kg bag of **Mape-Antique Rinzafo**), 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 that no material has stuck to the sides and bottom of the mixer. Add a further amount of water if required up to a total of 5.5 litres per bag, including the water added at the start of mixing. Then mix the **Mape-Antique Rinzafo** again for a further 2-3 minutes, according to the efficiency of the mixer, to obtain an even, "plastic" and thixotropic blend.

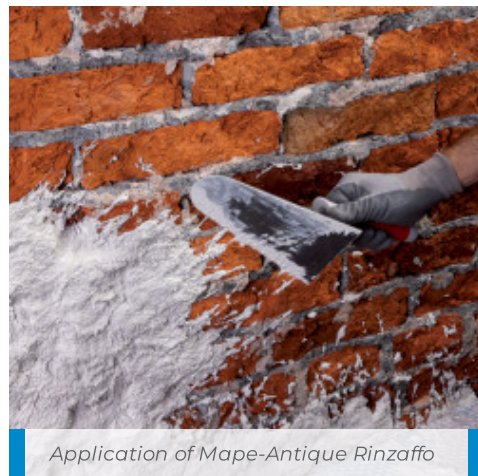
Apply a layer of **Mape-Antique Rinzafo** approximately 5 mm thick to completely cover the substrate to be rendered, starting from the lower part of the wall.



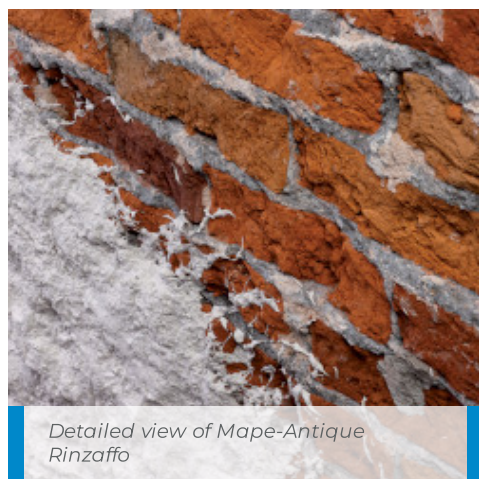
Brick wall after removing the deteriorated render



Preparation of Mape-Antique Rinzafo



Application of Mape-Antique Rinzafo



Detailed view of Mape-Antique Rinzafo

CLEANING

Mortar may be removed from tools with water before it hardens. Once hardened, cleaning is much more difficult and must be carried out mechanically.

PACKAGING

20 kg bags.

CONSUMPTION

7.5 kg/m² (per 5 mm thick layer).

STORAGE

Store **Mape-Antique Rinzafo** for 12 months in a dry, covered environment in its original, unopened packaging.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mape-Antique Rinzafo contains special hydraulic binders, that when in contact with sweat or other body fluids cause corrosion and damage to eyes. It is recommended to wear protective gloves and goggles and to take the usual precautions for handling of chemicals. If the product comes in contact with the eyes or the skin wash immediately with plenty of water and seek medical attention.

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

Type of mortar (EN 998-1):	GP: "General purpose mortar for internal/external render"
Consistency:	powder
Colour:	white
Maximum size of aggregate (EN 1015-1) (mm):	2.5
Bulk density (kg/m ³):	1,250

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

Mixing ratio:	100 parts of Mape-Antique Rinzafo with 25-27.5 parts of water (5-5.5 litres of water per 20 kg bag of product)
Consistency of mix:	semi-fluid
Bulk density of fresh mortar (EN 1015-6) (kg/m ³):	1,850
Porosity of the mortar while still fresh (EN 1015-7) (%):	6
Application temperature range:	from +5°C to +35°C
Workability time of fresh mortar (EN 1015-9):	approx. 60 minutes
Thickness to be applied (mm):	5

FINAL PERFORMANCE (26% mixing water)

Performance characteristic	Test method	Requirements according to EN 998-1	Performance of product
Compressive strength after 28 days (N/mm ²):	EN 1015-11	CS I (from 0.4 to 2.5)	> 10 (Category CS IV)

		CS II (from 1.5 to 5.0)	
		CS III (from 3.5 to 7.5)	
		CS IV (≥ 6)	
Bond strength to substrate (N/mm ²):	EN 1015-12	declared value and failure mode (FP)	≥ 0.7 failure mode (FP) = B
Capillary action water absorption [kg/(m ² ·min ^{0.5})]:	EN 1015-18	from Category W 0 to Category W 2	Category W1
Coefficient of permeability to water vapour (μ):	EN 1015-19	declared value	≤ 30
Thermal conductivity ($\lambda_{10, dry}$) (W/m·K):	EN 1745	tabulated value	0.73
Reaction to fire:	EN 13501-1	value declared by manufacturer	Class E
Resistance to sulphates:	Anstett Test	not required	high
Saline efflorescence: (after semi-immersion in water):	/	not required	absent

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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