



# Mape-Antique LC

**Salt-resistant hydraulic binder based on lime and Eco-Pozzolan, to be mixed with aggregates in various grain sizes to make de-humidifying renders and masonry mortars**



## WHERE TO USE

Repairs to masonry deteriorated by the presence of capillary rising damp and soluble salts, including on buildings of historical and artistic interest.  
Rebuilding lime-based render deteriorated by the action of atmospheric agents and environmental conditions or by ageing.  
For new load-bearing and buffer walls or for rebuilding old walls.  
Pointing stone, brick, tuff and mixed “natural-finish” masonry.

## Some application examples

- Mortar for macro-porous de-humidifying render for restoring masonry deteriorated by capillary rising damp and soluble salts on old buildings, including those of historical and artistic interest with a conservation order or under the protection of the National Trust.
- New de-humidifying render or reconstructing old lime-based render on stone, brick, tuff and mixed masonry.
- Masonry mortar for building and/or reconstructing stone, brick, tuff and mixed facing walls.
- Masonry mortar for pointing stone, brick, tuff and mixed “natural-finish” masonry.
- Masonry mortar for touching-up and plumbing facing walls with gaps and/or uneven surfaces.

## TECHNICAL CHARACTERISTICS

**Mape-Antique LC** is a cement-free hydraulic binder in powder form for de-humidifying render and masonry mortar made from lime, Eco-Pozzolan, fine mineral fillers, special additives and micro-fibres according to

a formulation developed in MAPEI research laboratories.

When mixed with water in a cement mixer, **Mape-Antique LC** forms a salt-resistant, macro-porous, de-humidifying render and masonry mortar with a plastic-thixotropic consistency which is easy to apply by trowel or by casting according to the blend and type of mortar prepared.

Once hardened, the properties of mortar made using **Mape-Antique LC**, such as mechanical strength, modulus of elasticity and porosity, are very similar to mortar made using lime, lime-pozzolan or hydraulic lime originally used in the construction of old buildings. Compared with these types of mortar, however, **Mape-Antique LC** also has properties which make the product resistant to various chemical-physical aggressive phenomena, such as the presence of soluble salts, freeze-thaw cycles and alkali-aggregate reactions. When working on particularly damp internal walls or in cold weather, the setting and hardening times of the preblended mortars with **Mape-Antique LC** 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 LC** at both fresh and hardened status.

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Mixing mortar on site with locally-sourced aggregates



Application of de-humidifying render mixed on site



De-humidifying render rebuilding a wall using mortar on site

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

Consistency:	powder
Colour:	white
Bulk density (kg/m <sup>3</sup> ):	1,050

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

Composition (kg/m <sup>3</sup> ):	Blend No. 1 sand 0.5-2.5 mm	Blend No. 2 sand 0.5-5 mm	Blend No. 3 gravel 0-8 mm
- Mape-Antique LC:	500	450	400
- aggregate:	1,000	1,150	1,300
- water:	225	210	200
Consistency of blend:	plastic-thixotropic		
Bulk density of fresh mortar (EN 1015-6) (kg/m <sup>3</sup> ):	1,725	1,810	1,900
Application temperature range:	from +5°C to +35°C		
Workability time of fresh mortar (EN 1015-9):	approx. 60 minutes		

### FINAL PERFORMANCE

Performance characteristic	Test method	Performance of product		
Compressive strength after 28 days (N/mm <sup>2</sup> ):	EN 1015-11	4	5	7
Bond strength to substrate (brickwork) (N/mm <sup>2</sup> ):	EN 1015-12	> 0.3 Failure pattern (FP) = B		
Thermal conductivity ( $\lambda_{10, dry}$ ) (W/m·K):	EN 1745	0.70	0.77	0.83
Reaction to fire:	EN 13501-1	Class A1		
Resistance to sulphates:	Anstett Test	high		
Saline efflorescence: (after semi-immersion in water):	/	absent		

## RECOMMENDATIONS

- In the presence of capillary rising damp and soluble salts, apply the de-humidifying render made from **Mape-Antique LC** after applying a layer of **Mape-Antique Rinzafo** approximately 5 mm thick.
- De-humidifying render made from **Mape-Antique LC** must be applied in layers at least 20 mm thick.
- Do not use sand containing mud or clay.
- Do not use **Mape-Antique LC** to make consolidating slurry for injection into structures (use **Mape-Antique I** or **Mape-Antique F21**).
- Do not use **Mape-Antique LC** for skimming render (use **Mape-Antique FC Ultrafine**, **Mape-Antique FC Civile** or **Mape-Antique FC Grosso**).
- Never add additives, cement or other binders (lime and gypsum) to **Mape-Antique LC**.
- If the structures to be restored suffer from intense capillary rising damp and high concentrations of soluble salts, we recommend forming a horizontal

chemical barrier (such as with **Mapestop** or **Mapestop Cream**) before applying the de-humidifying render, to reduce the ingress of damp into the masonry as much as possible.

- We recommend analysing the walls before applying the product to determine the concentration level of salts in them.
- Do not apply **Mape-Antique LC** 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 the de-humidifying cycle of **Mape-Antique Rinzafo** and

**Mape-Antique LC** 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 LC**, **Mape-Antique Allettamento** or **Mape-Antique Strutturale NHL** in combination with pieces of stone, brick or tuff with similar characteristics 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. If there is capillary rising damp, before spreading **Mape-Antique LC**, always apply a layer of **Mape-Antique Rinzafo** approximately 5 mm thick to completely cover the substrate to improve the bond of the render, even out the absorption of the substrate and slow down the transfer of the salts.

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 a Ø 2 mm zinc-plated metallic grid with a mesh size of 5 x 5 cm before applying **Mape-Antique Rinzafo**. The grid must be fixed in place to the wall with nails, chemical anchoring (such as **Mapefix PE SF**) or plugs with a small gap between the wall so that it becomes embedded in the middle of the layer of render. Form levelling strips with the mortar or place vertical guides in position to define the correct planarity and thickness of the render.

#### **Preparation of the product**

Prepare the render or masonry mortar with a vertical cement mixer. Small amounts of the product may be prepared using a low-speed electric drill with a mixing attachment. Mixing of the product by hand is not recommended. After pouring the minimum amount of clean water required into the mixer (8.5-10 litres per bag of product according to the size and dosage of aggregate), add the aggregate and slowly add the powdered **Mape-Antique LC** while mixing. Mix for approximately 5 minutes until completely blended, making sure that no material has stuck to the sides and bottom of the mixer, to form an even, "plastic" and thixotropic blend.

#### **Application of the product**

##### **De-humidifying render**

If a layer of **Mape-Antique Rinzafo** has been applied, for example on masonry with capillary rising damp and soluble salts, wait until this layer has "set" and then apply a layer of de-humidifying render made from **Mape-Antique LC** at least 20 mm thick with a trowel, starting from the bottom of the wall. If the thickness to be applied is greater than 30 mm, several coats must be applied. Each layer must be applied without tamping the

previous layer. After applying the mortar, wait a few minutes and level off using an aluminium H-type or blade-type straightedge by passing over the surface horizontally and vertically until it is flat. Remove the vertical guides, if they have been used, and fill the gaps with the render.

Finish the surface of the de-humidifying render with a plastic, wooden or sponge float a few hours after application, according to the surrounding temperature and conditions. Never press down on the surface of the mortar otherwise the porosity of the render would reduce and, as a result, evaporation of the damp in the masonry would be obstructed.

Even though **Mape-Antique LC** 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 render, especially during the first 36-48 hours. Spray water on the surface or employ other systems to prevent the mixing water from evaporating too quickly.

#### **Application of the product**

##### **Masonry mortar**

If the mortar is used to point "natural finish" masonry, apply the mortar between the blocks with a slight pressure to help it bond well. Any excess mortar must be removed immediately after application, including from masonry construction elements. If necessary, clean the joints with a damp sponge or with a millet brush.

For "natural finish" masonry, form a "laying bed" and then lay the construction elements in place by pressing them down well to make sure they are held in position. Remove excess mortar with a trowel.

#### **FINISHING COAT**

If a finer-grained surface finish than the normal finish of the de-humidifying render is required, apply a layer of **Mape-Antique FC Ultrafine**, **Mape-Antique FC Civile** or **Mape-Antique FC Grosso** skimming compounds with different grain sizes. Even though **Mape-Antique FC Ultrafine** and **Mape-Antique FC Civile** may be applied on any type of lime-based render, including macro-porous de-humidifying render, the ultra-fine or fine grain structure of these skimming compounds tends to reduce vapour permeability of the render. In such cases, it is better to use silicate-based **Silexcolor Tonachino** or siloxane-based **Silancolor Tonachino**, coloured coating products applied in thin coats after applying their corresponding primers (**Silexcolor Primer** and **Silancolor Primer**).

Always wait until the render and skimming layer, if applied, are completely cured before painting the surface or applying any other type of finishing product. Paint the surface with **Silexcolor Paint** or **Silancolor Paint** after applying their corresponding primers. For constructions particularly exposed to rain, if the render does not require any coating, it may be protected with a transparent

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water-repellent product such as **Antipluviol S** siloxane resin impregnator in solvent or **Antipluviol W** siloxane resin impregnator in water dispersion.

## 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

Approximate consumption (per cm of thickness):

- 5.0 kg/m<sup>2</sup> (with fine sand 0.5-2.5 mm);
- 4.5 kg/m<sup>2</sup> (with coarse sand 0.5-5 mm);
- 4.0 kg/m<sup>2</sup> (with gravel 0-8 mm).

## STORAGE

Store **Mape-Antique LC** 12 months in a dry, covered environment 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](http://www.mapei.com).

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 website [www.mapei.com](http://www.mapei.com)

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