



Mape-Antique LC

Cement-free binder for light-coloured dehumidifying mortars for the restoration of damp stone, brick and tuff masonry



WHERE TO USE

- Restoration of stone, brick or tuff buildings damaged by rising capillary dampness (suitable for historical buildings).
- Restoration of structures damaged by sulphate salts.

Some application examples

- As an external dehumidifying render on masonry subject to rising damp.
- As a dehumidifying render on internal masonry subject to rising damp, provided that there is always good ventilation.
- As a dehumidifying render over stone (especially porous, such as those of a lime nature) or brick structures, including burnt bricks (walls, columns, vaulting, etc.) and wherever saline efflorescence exists.
- Restoring stone, brick or tuff renders bonded with mortars which were originally mechanically weak.
- Grouting between stones, bricks and tuff of quarry-faced masonry.

TECHNICAL CHARACTERISTICS

Mape-Antique LC is a light-coloured cement-free powdered hydraulic binder with synthetic fibres and fine additives with pozzolanic activity manufactured from a formula developed in the MAPEI Research and Development laboratories.

Mape-Antique LC must be mixed with sand to manufacture dehumidifying mortars for restoring stone or brick masonry buildings (suitable for historical buildings).

After **Mape-Antique LC** has been mixed with sand and water in a mixer, it forms a sulphate resistant plastic-thixotropic consistency mortar that is easily workable on both vertical surfaces and ceilings.

Mape-Antique LC, according to the 1965 Italian law "Technical characteristics and requirements of hydraulic binders" and the 1972 Italian Ministerial Decree "Norms on the acceptability requirements and testing methods of cementitious aggregates and hydraulic limes", can be defined as hydraulic lime based binder.

After 24 hours the concentration of lime in **Mape-Antique LC** is not significant, while, in conventional binders on the market, the percentage of free lime remains high for years.

Mortars prepared with **Mape-Antique LC** are very similar to the old mortars based on lime, pozzolan-lime or hydraulic lime originally used in the construction of historical buildings in terms of colour, mechanical strength, modulus of elasticity and porosity.

Compared to the original mortars, however, **Mape-Antique LC** based mortars possess a durability that make them virtually indestructible in the face of natural aggressions: rain, freeze-thaw cycles, cracks caused by plastic shrinkage,



Mape-Antique LC



Preparing the mortar for rendering with Mape-Antique LC



Sand used to prepare the mortar rendering



Archaeological dig: Restoring an ancient mosaic floor with Mape-Antique LC

alkali-aggregate reaction, and above all, attack by the sulphate salts that are often present in masonry.

Mape-Antique LC based mortar has the porosity and transpirability properties of antique lime and pozzolan based mortars. This allows for the crystallization of salts in its porosity and a slow and gradual evaporation of capillary flow of rising damp from the foundations.

The technical data sheet (final performances) lists some examples of typical data relating to the principal properties of two **Mape-Antique LC** mortars (fresh and hardened) prepared with two different types of sand (one fine grain, the other larger grain), keeping in mind that the mortar characteristics obtained depend on the quality of sand available, especially its grading range, or the presence of salt and organic impurities.

RECOMMENDATIONS

- Use **Mape-Antique LC** only after having applied a 5 mm thick layer of **Mape-Antique Rinzafo** on the masonry.
- The **Mape-Antique LC** mortar must be applied at a thickness not lower than 2 cm.
- Do not use sand containing silt, clay or organic impurities.
- Do not use dirty equipment (mixer, wheelbarrows, trowels, etc.).
- Do not add cement, additives or other binders (lime or gypsum) to **Mape-Antique LC**.
- Do not use **Mape-Antique LC** for consolidating slurries to be injected in structures (use **Mape-Antique I** or **Mape-Antique F21**).
- **Mape-Antique LC** mortars are not suitable in cases of water ingress, use a waterproofing render.
- Do not apply **Mape-Antique LC** at temperatures below +5°C or over +35°C.
- Apply **Mape-Antique LC** on a clean substrate.

APPLICATION PROCEDURE

Preparing the substrate

Before preparing the mortar it is essential that the substrate to be repaired is carefully prepared. All damaged materials (mortar, stone, brick and tuff) should be removed and new samples procured should resemble the original materials as much as possible both in appearance and substance. In the presence of rising damp, completely remove the renders above the damp area for a minimum height of not less than twice the thickness of the wall. After removing all loose material (dust, grease, etc.) wash the structure with water

to remove efflorescence and soluble salts that are in the masonry. If necessary repeat this several times in order to dissolve any salt on the interface present between the masonry.

Always apply a coat of **Mape-Antique Rinzafo** before using **Mape-Antique LC**.

Preparing the product

Prepare the mortar in an ordinary job site mixer according to the following procedure:

0.5-2.5 mm sand:

- pour 40 kg of fine grain sand graded between 0.5 and 2.5 mm directly into the mixer, add a 20 kg bag of **Mape-Antique LC** and mix with 8.5-9 litres of water;

or:

0.5-5.0 mm sand:

- pour 50 kg of large grain sand graded between 0.5 and 5.0 mm directly into the mixer, add a 20 kg bag of **Mape-Antique LC** and mix with 9-9.5 litres of water.

The product must be mixed in the mixer for at least 5-6 minutes in order to obtain the correct amount of air in the mix. Switch the mixer off to avoid excess trapped air especially when using fine grain sand (0.5-2.5 mm).

Applying the mortar

Apply the mortar with a trowel like any standard render.

The following procedures must be carried out:

- create out-bands to define the thickness;
- apply a 5 mm layer of **Mape-Antique Rinzafo**. Apply a minimum 2 cm thick coat of **Mape-Antique LC** over preceding product which has stiffened but not yet hardened, but do not compress it too much. **Mape-Antique LC** mortar can be applied with a trowel;
- fine tamping should be avoided so surface porosities do not clog. The surface porosity is essential for the water evaporation from the dehumidifying render.

Finishing

Do not finish the **Mape-Antique LC** surface with smoothing compounds or paints that could interfere with the vaporation of the moisture. If a fine grain finishing is desired **Mape-Antique FC** or **Mape-Antique FC/R** smoothing mortars can be used, but they tend to slightly reduce the vapour permeability of the render because they contain fine graded aggregates. Their use is not recommended when the masonry is subject to strong rising damp and in the presence of strong concentrations of soluble salts. In these

TECHNICAL DATA (typical values)**PRODUCT IDENTITY**

Consistency:	powder
Colour:	light coloured
Bulk density (kg/m³):	1050
Storage:	12 months in original sealed packaging in a dry place
Hazard classification according to 99/45 EC:	irritant. Before using refer to the "Safety instructions for the preparation and application" paragraph and the information on the packing and Safety Data Sheet
Customs class:	3824 50 90

FINAL PERFORMANCES IN MORTAR at +23°C and 50% R.H.

	WITH FINE SAND (0.5-2.5 mm)	WITH LARGE SAND (0.5-5 mm)
Composition (kg/m³):		
– Mape-Antique LC:	500	440
– water:	225	200
– sand:	1000	1110
Mass density of the mix (kg/m³):	1600-1800	1700-1850
Flow table (%) (UNI 7044):	70-100 (depending on mixing)	70-100
Compressive strength (N/mm²):		
– 7 days	2-4	2-4
– 28 days	4-6	4-6
Dynamic modulus of elasticity (N/mm²):		
– 28 days	5000	6000
Resistance to sulphates in terms of increase in expansion (%) after 30 days of specimens (40x40x160 mm, cured for 28 days with R.H. = 95% and T = +20°C) immersed in sulphate solution 10% of Na₂SO₄ with those immersed in pure water:	< 0.02	< 0.02
Colour:	white	white

Mape-Antique LC



cases it is recommended to finish with **Silexcolor Tonachino** or **Silexcolor Marmorino**, silicate based coverings available in 34 colours.

As an alternative, paint the render with silicate **Silexcolor Paint**, also available in 34 colours, or add an inorganic pigment to the mix to colour the render before being applied.

For surfaces especially exposed to rain and that do not require tinting, masonry can be protected with a transparent vapour-permeable treatment using **Antipluviol S**, a water-repellent siloxane resin based primer.

After the application of **Antipluviol S**, tinting can not be carried out. Any tinting must be carried out before the application of **Antipluviol S** and must be inorganic pigment based (e.g. iron oxide, chrome, etc.).

It is always recommended to carry out a trial sample in a small area to test compatibility with the paint.

CONSUMPTION

- 5 kg/m² per cm of thickness with sand graded between 0.5 and 2.5 mm.
- 4.4 kg/m² per cm of thickness with sand graded between 0.5 and 5 mm.

Cleaning

Before hardening, the mortar can be removed from tools with water. Afterwards cleaning is very difficult and can only be carried out mechanically.

PACKAGING

20 kg paper bags.

SAFETY INSTRUCTIONS FOR THE PREPARATION AND APPLICATION

It contains special hydraulic binders that when in contact with sweat or any other bodily fluids, produce an alkaline reaction, irritating to skin. When in contact with eyes, it can cause serious damage. Wear protective gloves and goggles.

In case of contact with eyes rinse immediately with plenty of water and seek medical advice.

For further information refer to the safety data sheet.

STORAGE

12 months in a dry and sheltered place in original sealed packaging.

FOR PROFESSIONALS.

WARNING

Although the technical details and recommendations contained in this product report 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 applications: 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.

All relevant references of the product are available upon request



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