



Mape-Antique Colabile

Salt-resistant, hi-flow masonry mortar, based on natural hydraulic lime and Eco-Pozzolan, for reconditioning and consolidating masonry



WHERE TO USE

Reconditioning and consolidating stone, brick, tuff and mixed facing walls where the layer of mortar to be applied and the shape of the structure require the use of free-flowing products.

Some application examples

Mixing free-flowing, salt-resistant, volumetrically stable, fluid, high-strength masonry mortars for filling large internal cracks, gaps and cavities when reconditioning and consolidating structures such as:

- foundations, pillars, vaulted roofs and archways;
- “rubble masonries”;
- stone, brick, tuff and mixed masonry in general on existing buildings, including listed buildings of historical or artistic interest.

TECHNICAL CHARACTERISTICS

Mape-Antique Colabile is a free-flowing, cement-free mortar in powder form for reconditioning and consolidating masonry made from natural hydraulic lime, Eco-Pozzolan, fine natural sand, special additives and micro-fibres with very low emission level of volatile organic compounds (EMICODE EC1 R Plus) according to a formula developed in the MAPEI research laboratories. This product is classified G according to EN 998-2 Standards: “*Guaranteed performance, general-purpose masonry mortar for external use on elements with structural requirements*”, class M 15, with compressive strength $> 15 \text{ N/mm}^2$.

When mixed with water in a cement mixer or with a screw-type pump with a separate mixing unit,

Mape-Antique Colabile forms a fluid, volumetrically-stable, salt-resistant mortar which is easy to pour and

pour into formworks and structures with large internal gaps and cavities without segregating.

It may be advantageous to mix **Mape-Antique Colabile** with 0.25% of **Mapecure SRA**, a special curing agent with the capacity to reduce the amount of hygrometric shrinkage of mortar and, as a result, to reduce the risk of cracking during the plastic phase, that is, when the mix goes from the initial setting phase to the initial hardening phase. **Mapecure SRA** acts as an internal curing agent for the mortar and, thanks to its integration with some of the main components in the product, it allows the amount of final shrinkage to be considerably reduced compared with the standard product without the admixture.

Once hardened, the characteristics of the mortar made from **Mape-Antique Colabile**, such as mechanical strength, modulus of elasticity and porosity, are very similar to those of the mortar made from lime, lime-pozzolan or hydraulic lime originally used in the construction of old buildings. Compared with these types of mortar, however, **Mape-Antique Colabile** also has properties which make the product resistant to various chemical-physical aggressive phenomena, such as the presence of soluble salts and alkali-aggregate reactions. Besides, the mortar does not induce the formation of efflorescence and does not release soluble salts.

Mape-Antique Colabile is recommended for layers up to 4 cm thick. For thicker layers we recommend adding 30 to 50% in weight of suitable size aggregates (such as **Gravel 3-5** or **Gravel 6-10**) after consulting our Technical Services Department.

When working on particularly damp internal walls or in cold weather, the setting and hardening times of **Mape-Antique Colabile** are considerably longer and

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Placing formwork in position



Adding Mapecure SRA



Adding Gravel 6-10

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 Colabile** at both the wet and hardened states.

RECOMMENDATIONS

- Do not use **Mape-Antique Colabile** to make consolidating slurry to inject into structures (use **Mape-Antique F21**, **Mape-Antique I** or **Mape-Antique I-15**).
- Do not use **Mape-Antique Colabile** to make transpirant render (use **Mape-Antique Intonaco NHL**).
- Do not use **Mape-Antique Colabile** to make "reinforced" render (use **Mape-Antique Strutturale NHL**).
- Do not use **Mape-Antique Colabile** to skim 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 Colabile**.
- Do not apply **Mape-Antique Colabile** if the temperature is lower than +5°C.

APPLICATION TECHNIQUE

Preparation of the substrate

If wooden formworks are used it is good practice to treat them beforehand with **Form-release agent DMA 1000** so that they don't draw off water from the mortar.

For non-absorbent formworks, on the other hand, such as in plastic or metal, use **Mapeform Eco Oil**.

If a metal reinforcement is employed, use galvanized bars or bars treated with a passivating product (such as **Mapefer 1K**), or bars made from composite material (such as **Maperod**).

This type of material is required because, once carbonated, the pH level of lime-based products is so low that it does not provide sufficient protection for steel reinforcing bars when exposed to damp or humidity, which will cause the metal reinforcement to corrosion. Make sure the reinforcement and/or strengthening is embedded deep enough so that it is covered by a layer of mortar at least 2 cm thick.

Remove all the deteriorated or detached material until the substrate is solid and compact and make sure there are no crumbling areas that could compromise the adhesion of the mortar. Previous repair work must also be removed if it has not perfectly adhered to the substrate. Grout and "seal" any cracks and gaps in the face of the wall from where the mortar could seep out with **Mape-Antique Allettamento**.

Saturate the substrate with water to prevent it drawing off water from the mortar and compromising its final performance characteristics.

Remove any excess water so that the substrate is saturated and the surface is dry (SSD state). Compressed air may be used to speed up this process.

If it is not possible to carry out this operation, wet the substrate to help the mortar adhere correctly. Make sure that the structure has absorbed all the water before pouring the mortar.

Preparation of the product

Mix **Mape-Antique Colabile** in a cement mixer or in the hopper of a screw-type pump with a separate mixer, such as a Putzmeister S 5 or a similar machine. 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. After adding around 3 litres of clean water for every 25 kg bag of **Mape-Antique Colabile** in a cement mixer or in the mixing unit of a screw-type pump, slowly add the powdered mortar in a constant flow. Mix for 3 to 4 minutes and then make sure the mix is well blended and even and that there are no lumps. Make sure there are no traces of powdered mortar stuck to the sides or bottom of the mixer.

For masonry exposed to the open air, if better curing of the product is required, we recommend adding 0.25% of **Mapecure SRA** in weight of the mortar to the mix (0.25 kg every 100 kg of **Mape-Antique Colabile**). Then mix **Mape-Antique Colabile** again for further 2-3 minutes, depending on the efficiency of the mixer, to obtain an even, "fluid" consistency.

Tests to validate the product were carried out using a Putzmeister S 5^{EV}™ with a flow-control unit and the following fittings:

Type of pump	Mixer	Hose	Lance
2L6	vertical axis disk mixer	Ø 35 mm, length 15 m	Standard

Pouring and pumping the product

Pour or pump **Mape-Antique Colabile** into the structure from one side only in a constant flow to help expel any air from inside the element to be regenerated and to fill all the gaps and cavities. Even though it is not necessary to vibrate the product, make sure all the gaps and cavities are completely filled.

To help the mortar flow into the more difficult areas, use wooden laths, round bars or a vibrator. After pouring or pumping **Mape-Antique Colabile** we recommend curing it very carefully to make sure that the mixing water does not evaporate too quickly, particularly in hot and/or particularly windy weather, otherwise surface cracks caused by plastic shrinkage may form. In such cases take special care when curing the mortar, especially during the first 36-48 hours, by spraying water on the surface, or with other systems to prevent the mixing water evaporating off too quickly.

Cleaning

Remove the mortar from tools with water before it hardens. Once hardened cleaning

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Type of mortar (EN 998-2):	G - Guaranteed performance, general-purpose masonry mortar for external use on elements with structural requirements	
Consistency:	powder	
Colour:	white	
Type of binder (EN 459-1):	NHL 3.5 and NHL 5 and Eco-Pozzolan	
Maximum size of aggregate (EN 1015-1) (mm):	2.5	
Bulk density (kg/m³):	2,230	
Chloride content (EN 1015-17) (%):	Requirements according to EN 998-2	Performance of the product
	< 0.1	< 0.05
EMICODE:	EC 1 R Plus - very low emission	

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

Mixing ratio:	100 parts of Mape-Antique Colabile with 12 parts of water (approximately 3 litres of water per 25 kg bag of product) and 0.25% of Mapecure SRA (1 0.25 kg canister every 4 bags of Mape-Antique Colabile)
Consistency of mix:	fluid - free-flowing
Bulk density of wet mortar (EN 1015-6) (kg/m³):	2,050
Porosity of wet mortar (EN 1015-7) (%):	7
Application temperature range:	from +5°C to +35°C
Workability time of wet mortar (EN 1015-9):	approx. 60 mins.

FINAL PERFORMANCE (12% mixing water)

Performance characteristic	Test method	Requirements according to EN 998-2	Performance of product
Compressive strength after 28 days (N/mm²):	EN 1015-11	from Class M 1 (> 1 N/mm ²) to Class M d (> 25 N/mm ²)	18 (Class M15)
Adhesion to substrate (brickwork) (N/mm²):	EN 1015-12	not required	1.0 Failure mode (FP) = B
Slip resistance of steel reinforcing bars (Ø 16 mm) Maximum adhesion stress (N/mm²):	EN 1881 mod. (*)	not required	8
Slip resistance of glass reinforcing bars (Maperod G 40/10) Maximum adhesion stress (N/mm²):	EN 1881 mod. (*)	not required	8
Initial shear strength (N/mm²):	EN 998-2 Appendix C	chart value	0.15
Capillary action water absorption [kg/(m²·min^{0.5}):	EN 1015-18	declared value	0.1
Coefficient of permeability to water vapour (m):	EN 1745 (table A.12)	chart value	15/35
Thermal conductivity ($\lambda_{10,dry}$) (W/m·K):	EN 1745 (table A.12)	chart value	1 (P = 50%)
Modulus of elasticity (N/mm²):	EN 13412	not required	10,000
Reaction to fire:	EN 13501-1	value declared by manufacturer	Class A1
Resistance to sulphates:	Anstett test	not required	high
Saline efflorescence (after semi-immersion in water):	/	not required	absent



Pouring Mape-Antique Colabile into a bucket



Pouring Mape-Antique Colabile into formwork



Close-up of Mape-Antique Colabile after pouring

(*) EN 1881 refers to a pull-out test on steel reinforcing bars anchored in a block of concrete made from a specified composition. For this product, the test was carried out on a masonry substrate made from solid bricks. Because of the nature of the product, the tests were carried out with a pull-out speed applied to the bar of 128 N/second rather than 1,600 N/second as specified in the standard. The steel bars were treated with **Mapefer 1K**.

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is more difficult and must be carried out mechanically.

PACKAGING

25 kg bags.

CONSUMPTION

Approx. 1.83 kg/dm³ (of cavities to be filled).

STORAGE

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

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mape-Antique Colabile is irritant for the eyes. When applying the product, we recommend the use of protective gloves and goggles and to take the usual precautions for handling chemicals. If the product comes into contact with the eyes or skin, wash immediately with plenty of clean 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.

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



This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.



Our Commitment To The Environment
MAPEI products assist Project Designers and Contractors create innovative LEED (The Leadership in Energy and Environmental Design) certified projects, in compliance with the U.S. Green Building Council.

All relevant references for the product are available upon request and from www.mapei.com

