MAPE-ANTIQUE NHL ECO RESTAURA

Multi-purpose, breathable, cement-free, pure natural hydraulic lime mortar with recycled materials applied in layers 2 to 20 mm thick for restoring and levelling off substrates, render and coatings

CE EN 998-1 · GP-CS II · CE EN 998-2 · T-M2,5 · CO_2 FULLY OFFSET IN THE ENTIRE LIFE CYCLE ZERO · CONTAINS RECYCLED RAW MATERIAL · CEMENT

CO_2 FULLY OFFSET PRODUCTS

Mape-Antique NHL Eco Restaura is part of the *CO_2 Fully Offset in the Entire Life Cycle* line of products. CO_2 emissions measured throughout the life cycle of products from the Zero line in 2024 using Life Cycle Assessment (LCA) methodology, have been offset through the acquisition of certified carbon credits in support of forestry protection projects. A commitment to the planet, to people and to biodiversity. For more details on how emissions are calculated and on climate mitigation projects financed through certified carbon credits, visit the webpage zero.mapei.com.

WHERE TO USE

Mape-Antique NHL Eco Restaura is a white, multi-purpose, breathable mortar for rebuilding work and for levelling off all types of substrates, render and mineral coatings on all types of buildings, including those of historic and artistic interest and listed buildings. Applied in a single layer from 2 to 20 mm thick.
May be used for skimming old paintwork or as compensation render on old render and on stone, brick, tuff and mixed masonry.
Breathable pointing and installation mortar for internal and external stone, brick, tuff and mixed masonry, including masonry with an "exposed" finish and masonry of historic and architectonic interest.

Some application examples

- Breathable levelling layers and skim coats on particularly strong lime or lime/cement render before painting.
- Finish natural finish on internal/external macro-porous, dehumidifying render with a rough finish.
- Smoothing over walls, including walls painted with washable acrylic and quartz-based paint, plastic coatings, etc., as long as they are sound, clean and well-bonded, and in combination with **Mapenet 150** or **Mapetherm Net** reinforcing mesh.
- Refurbishing and restoring construction features and elements (friezes, column capitals, stringcourses, gables, etc.).

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- Pointing “exposed-finish” stone, brick and tuff masonry.
- Patching and plumbing facing walls with gaps and/or uneven surfaces.

TECHNICAL CHARACTERISTICS

Mape-Antique NHL Eco Restaura is a one-component, multi-purpose, cement-free, white coloured rendering, skimming and masonry mortar made from natural hydraulic lime, recycled materials, selected limestone sand and special additives and microfibres according to a formula developed in MAPEI Research & Development laboratories.
Mape-Antique NHL Eco Restaura may be applied in layers from 2 to 20 mm thick.
The product complies with EN 998-1 standards and is classified GP: “*General purpose mortar for internal/external render*”, Category CS II. Also, according to EN 998-2, the product is classified as T: "*Thin layer masonry mortar*”, Class M 2.5.

RECOMMENDATIONS

- Do not use **Mape-Antique NHL Eco Restaura** on masonry with rising damp or sulphate salts. In such cases, use a dehumidifying refurbishment cycle such as **Mape-Antique NHL Eco Risana** or **PoroMap Deumidificante**.
- Do not use **Mape-Antique NHL Eco Restaura** for casting into formwork (use **Mape-Antique Colabile** or **Mape-Antique LC** mixed with aggregates of a suitable particle size).
- Do not use **Mape-Antique NHL Eco Restaura** to make consolidating slurry for injection into structures (use **Mape-Antique I**, **Mape-Antique I-15** or **Mape-Antique F21**).
- Do not use **Mape-Antique NHL Eco Restaura** for “reinforced” render (use **Mape-Antique Strutturale NHL**).
- Do not add admixtures, cement or other binders (lime and gypsum) to **Mape-Antique NHL Eco Restaura**.
- Do not apply **Mape-Antique NHL Eco Restaura** if the temperature is lower than +5°C and higher than +35°C.
- Before applying the product make sure the substrate is sound and free of dust.
- Do not use **Mape-Antique NHL Eco Restaura** if there are strong winds and do not apply the product on surfaces exposed to direct sunlight.
- Apply a coat of suitable primer (such as **Primer G** or **Consolidate 8020**) on gypsum-based substrates before applying the product.
- Do not apply thin coats of coloured paint or coating products, otherwise the breathability of **Mape-Antique NHL Eco Restaura** could be affected. Use products from the **Silexcolor** or **Silancolor** ranges, lime-based paint or a water-repelling product such as **Antipluviol S** or **Antipluviol W**.

APPLICATION PROCEDURE

TECHNICAL INFORMATION FOR THE APPLICATION	
Composition of the mix:	100 kg of **Mape-Antique NHL Eco Restaura** 27-29 kg of water
Minimum applicable thickness:	2 mm
Maximum applicable thickness per coat:	20 mm
Recommended application temperature range:	surrounding and substrate temperature from +5°C to +35°C
Pot life of mix:	approx. 1 h

Preparation of the substrate

Mape-Antique NHL Eco Restaura may be applied directly on new builds and on existing masonry in stone, brick, tuff and mixed materials, including buildings of artistic or architectonic interest, as long as it is clean and consistent and has no crumbling areas or traces of dust, dirt, mould or soluble salts. If not, remove all loose parts and any material or substance that could affect adhesion of **Mape-Antique NHL Eco Restaura** with hand or power tools. 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 ETS**, **Consolidante 8020** or **Primer 3296** (refer to the relative Data Sheet). Gaps and uneven areas in masonry must be repaired by patching or tacking with **Mape-Antique NHL Eco Restaura**, **Mape-Antique Allettamento** or **Mape-Antique Strutturale NHL** and pieces of

stone, brick or tuff with characteristics as similar as possible to the original material. If large surfaces need to be rendered, it is recommended to apply 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. On new masonry the substrate must be moistened with water before applying **Mape-Antique NHL Eco Restaura**, whereas existing masonry must be saturated to prevent particularly absorbent substrates drawing water off from the mortar and affecting its final performance properties. Any excess water must be left to evaporate off, 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. If the substrate cannot be saturated with water, it is recommend to moisten it in order for **Mape-Antique NHL Eco Restaura** to adhere correctly. On mixed masonry out of plumb by more than 4-5 cm, which would lead to the layer of render having an irregular thickness, it is recommended to insert Ø 2 mm galvanized mesh with a mesh size of 5 x 5 cm. Fasten the mesh to the masonry with nails, plugs or chemical anchors (such as **Mapefix VE SF**) and leave a small gap between the mesh and the substrate so that it becomes embedded at the mid-point of the render.
If the substrate is irregular and uneven, and on substrates with old paintwork where the layer could be very thin in some areas, it is recommended to embed **Mapenet 150** alkali-resistant glass fibre mesh with a mesh size 4 x 5 mm (in compliance with ETAG 004 Guidelines) between the first and second layer of **Mape-Antique NHL Eco Restaura**.

Preparation of the product

Mape-Antique NHL Eco Restaura must be prepared in a cement mixer when applied by trowel or in a continuous-feed rendering machine when applied with a pump. Even though this product is suitable for application using hand tools, it is recommended to use a rendering machine for 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 to be used for the creation of concrete samples for laboratory tests are reported in the TECHNICAL DATA table.

Application by trowel

After pouring the minimum amount of clean water in the mixer (approximately 6.75 litres for each 25 kg bag of **Mape-Antique NHL Eco Restaura**), slowly add the powdered mortar in a continuous flow. Mix for approximately 2 minutes and check that the blend is well mixed, even and lump-free, and that any lumps of powder that have stuck to the sides or bottom of the mixer are removed. Add a further amount of water if required up to a total of 7.25 litres per bag, including the water added at the start of mixing. Then mix **Mape-Antique NHL Eco Restaura** again for a further 1-2 minutes, depending on efficiency to the mixer, to obtain an even, “plastic” and thixotropic mix.
Apply **Mape-Antique NHL Eco Restaura** in layers of up to 20 mm thick with a trowel, starting from the lower part of the masonry.
If **Mape-Antique NHL Eco Restaura** is used as a levelling compound, moisten the substrate slightly spread the product with a flat metal trowel to a thickness of approx. 2 mm.

Application with a rendering machine

Pour the contents of the bags of **Mape-Antique NHL Eco Restaura** into the hopper of a continuous-feed rendering machine and set the water flow-rate at 340-360 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 this TDS, according to the conditions at the time of product application and the rendering machine used.
If the thickness to be applied is more than 20 mm, **Mape-Antique NHL Eco Restaura** must be applied in several layers. Each layer must be applied without tamping the previous layer. It is recommended to render masonry from a distance of approximately 20 cm so that the product is applied uniformly. After applying the mortar, wait a few minutes and level off the surface with 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 mortar.
Whatever application method is employed, finish off the surface of **Mape-Antique NHL Eco Restaura** with a plastic, wooden, sponge float, or with a power float, a few hours after application, according to the surrounding temperature and weather conditions.
Even though **Mape-Antique NHL Eco Restaura** contains products which contrast the formation of micro-cracks, it is good practice to apply the mortar when the walls to be rendered are 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 36-48 hours. Spray water on the surface or employ other systems to stop the mixing water evaporating off too quickly.

Rebuilding brick masonry

Levelling off and repairing render

Skimming old substrates

Application of the first skim coat of Antique NHL Eco Restaura

Positioning A.R. glass fibre mesh on the first skim coat

Rebuilding a construction feature

Finishing the surface a sponge flat

Coloured finish of a construction element

Painting of rebuilt substrates with Mape-Antique NHL Eco Restaura

FINISH

If a finer-textured finish than the normal tamped finish of **Mape-Antique NHL Eco Restaura** is required, apply a skim coat of a product from the **Mape-Antique FC** range or **Mape-Antique NHL Eco Rasante**, lime or natural hydraulic lime skimming mortars available in various particle sizes. If the surface of the render is to be skimmed and then decorated or protected, use thin layers of a coloured coating product such as **Silexcolor Tonachino** silicate finish or **Silancolor Tonachino** siloxane finish after priming the surface with their corresponding primer (**Silexcolor Primer** or **Silancolor Primer**). As an alternative to the products mentioned above, if just a painted surface is preferred, use **Silexcolor Paint** or **Silancolor Paint** after applying their corresponding primer. Always wait until the render is fully cured, generally 7 days per cm of thickness, before applying thin coats of coloured coating or paint. If the render is not going to be painted or coated, particularly when it will be exposed to rain, it may be protected with a transparent, breathable, water-repellent product

such as **Antipluviol S** solvent-based, siloxane resin impregnator or **Antipluviol W** siloxane resin impregnator in water dispersion or alternatively **Consolidante ETS WR** water-repellent consolidating agent based on ethyl silicate.

CLEANING

Remove **Mape-Antique NHL Eco Restaura** from tools while still fresh with water. Once hardened cleaning is more difficult and must be carried out mechanically.

COLOUR

Mape-Antique NHL Eco Restaura is available in several colours, in addition to the standard one:

IVORY (standard)	
TUFF	
CREAM	
GREY	
BRICK	

CONSUMPTION

Approx. 1.40 kg/m² per mm of thickness.

PACKAGING

25 kg bags.

STORAGE

Mape-Antique NHL Eco Restaura may be stored for 12 months when kept in a dry area in its original 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	
Definition according to EN 998-1:	GP
Definition according to EN 998-2:	T
Consistency:	powder
Maximum size of aggregate:	0.9 mm
Chloride ion content according to EN 1015-17: (minimum requirement according to EN 998-2 ≤ 0.10%)	< 0.10%

TECHNICAL INFORMATION FOR THE PREPARATION OF THE PRODUCT	
Mixing ratio:	100 parts by weight of **Mape-Antique NHL Eco Restaura** with 28% of water
Preparation of the mix:	mix the product in compliance with the standard EN 1015-2

CHARACTERISTICS OF THE FRESH MIX (at +20 °C and 50% R.H.)	
Consistency of mix:	plastic-thixotropic
Bulk density of mix:	1700 kg/m³

FINAL PERFORMANCE
In accordance with curing defined in test methods

Performance characteristic	Test method	Requirements according to EN 998-1 GP – CS II	Requirements according to EN 998-2 T M2.5	Product performance
Compressive strength:	EN 1015-11	CS I (from 0.4 N/mm² to 2.5 N/mm²) CS II (from 1.5 N/mm² to 5 N/mm²) CS III (from 3.5 N/mm² to 7.5 N/mm²) CS IV (≥ 6 N/mm²)	from Class M 1 (> 1 N/mm²) to Class M d (> 25 N/mm²) or multiples of 5	**Category CS II Class M 2.5 (3.0 N/mm²)**
Adhesion to substrate (concrete):	EN 1015-12	declared value and failure pattern (FP)	not required	**≥ 0.5 MPa Failure pattern (FP) = B**
Adhesion to substrate (brickwork):	EN 1015-12	not required	not required	**≥ 0.4 Mpa Failure pattern (FP) = B**
Initial shear strength:	EN 998-2 Appendix C	not required	chart value	**0.15 N/mm²**
Modulus of elasticity after 28 days:	EN 13412	not required	not required	**< 3 GPa**
Capillary absorption:	EN 1015-18	W_C 0 not specified W_C 1 ≤ 0.40 kg/(m²·min^{0,5}) W_C 2 ≤ 0.20 kg/(m²·min^{0,5})	declared value	**W_C 0**
Coefficient of permeability to water vapour (μ):	EN 1015-19	declared value	not required	**μ ≤ 15**
Thermal conductivity ($\lambda_{10,dry}$):	EN 1745	chart value	chart value	**0.53 W/m·K (P = 50%)**
Adhesion on old pain (5 mm thickness): (requirement according to ETAG0040 > 0.08 N/mm²)	-	not required	not required	**0.10 N/mm²**
Reaction to fire:	EN 13501-1	Euroclass	Euroclass	**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

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