

MAPESTOP

Agent applied by injection made from micro-emulsion, concentrated silane and siloxane used to form a chemical barrier against capillary rising damp



WHERE TO USE

Realization of an horizontal chemical barrier for new and existing walls, including those of historical or artistic interest, affected by the presence of capillary rising damp.

Some application examples

This system is used to block and/or considerably reduce the rising damp coming from elements below ground level through the capillary pores present in all construction materials, particularly when carrying out renovation work on:

- existing stone, solid brick, tuff and mixed masonry in lagoon areas or near to water courses or the sea;
- rubble masonries, as long as they have been consolidated beforehand by injecting consolidating slurries;
- masonry where previous barriers are no longer efficient, such as bituminous sheets or membranes;
- masonry made from cellular concrete blocks;
- recently constructed masonry, as long as it is made from solid and not perforated bricks;
- existing masonry, including masonry of historical or artistic interest, and the masonry of listed buildings.

TECHNICAL CHARACTERISTICS

Mapestop is a concentrated silane and siloxane-based silicone micro-emulsion which is diluted on site with drinking water before use at a rate of 1:15-19. Once diluted, **Mapestop** remains stable for approximately 24 hours at normal temperatures. We recommend, therefore, that the mix is applied within 24 hours of preparation by impregnating it slowly into the masonry with low pressure injectors connected to a suitable pneumatic pump.

Due to the small size of the particles in **Mapestop** micro-emulsion (20 to 60 μm), the mixture is able to penetrate very deeply into the masonry with rising damp to form an efficient, long-lasting, horizontal, chemical hydrophobic barrier.

RECOMMENDATIONS

- Use **Mapestop** within 24 hours of diluting it with water.
- Do not use **Mapestop** on disjointed and/or uneven rubble masonries. Prior to using the product, all internal cavities must be filled by injecting super-fluid, cement-free, lime and Eco-Pozzolan based slurry from the **Mape-Antique** line, lime-cement based slurry (such as **MapeWall Inject & Consolidate**) or cement-based slurry (such as **Stabilcem** or **Stabilcem ARS**).
- Do not use **Mapestop** as a protective, water-repellent treatment for “exposed” masonry or render against water splashing onto the surface (use **Antipluviol W** or **Antipluviol S**).
- If the masonry is to be rendered, wait 3-4 weeks after applying the chemical barrier so that any moisture present in the area above the barrier has time to evaporate.
- If there is a high flow of capillary rising damp or a high concentration of soluble salts in the structure to be restored, we recommend applying dehumidifying render from the **Mape-Antique** or **PoroMap** line to help to eliminate any small amount of damp or moisture that is not intercepted by the chemical barrier.
- Do not use **Mapestop** if the temperature is lower than 0°C.

APPLICATION PROCEDURE

Preparation of the substrate

Before injecting the chemical barrier, the type of masonry must be identified to decide which type of installation needs to be carried out.

On disjointed and/or uneven rubble masonries, all internal cavities must be filled by injecting super-fluid, cement-free, lime and Eco-Pozzolan based slurry from the **Mape-Antique** line, lime-cement based slurry (such as **MapeWall Inject & Consolidate**) or cement-based slurry (such as **Stabilcem** or **Stabilcem ARS**). Use **Mape-Antique F21** on walls with smaller cavities or frescoes. Grout and “seal” any cracks and gaps in the face of the wall from where the slurry could seep out with **Mape-Antique**.

If the masonry is particularly compact, for example stone masonry or masonry made from solid bricks, tuff or blocks of cellular concrete, drill holes in the masonry and inject the mixture as described in the next section.

On rendered masonry, only remove the render once the barrier has been injected so that the render holds the mixture injected into the masonry.

Drilling the holes

Drill a series of 15-16 mm diameter holes in the masonry at a downward angle of around 5-10° if the mixture is to be injected using a low pressure injection system, or 12 mm holes if the mixture is to be inserted into the masonry using the slow diffusion system, in which case use the **Mapestop Kit Diffusion** system. Drill the holes to a depth of around 2/3 the thickness of the wall about 15-20 cm above floor or ground level at a pitch of 20-25 cm.

For walls less than 50-60 cm thick, or which are accessible from one side only, create the chemical barrier on one side only by drilling two staggered rows of holes, while for walls thicker than 60 cm, we recommend creating a barrier on both sides of the wall using the same procedure as described previously.

After drilling the holes, clean them out with compressed air to remove all traces of dust and residues of material.

Fasten the diffuser cups or injectors in place, depending on which application method has been selected. For fixing the diffusers follow what indicated in the instructions for use within the packaging of **Mapestop Kit Diffusion**.

Preparation of the mixture

To prepare the mixture, pour 15-19 litres of drinking water for each 1 kg can of product into a suitable, clean container and slowly add **Mapestop** while mixing using a drill with a mixer attachment until the mixture is thoroughly blended.

Once the mixture has been prepared as described above, it must be injected within 24 hours.

Injecting the mixture

Inject the mixture into each hole using the gravity method through the **Mapestop Kit Diffusion** cups or with a low pressure pneumatic pump (max 1 bar) until the area to be impregnated is completely saturated.

It is generally better to use the low pressure pump method for particularly damp masonry so that the mixture flows more easily into the pores saturated with water.

After injecting the chemical barrier, remove all the injectors or diffuser cups from the holes. Any original render that is still on the wall must be completely removed within 24-48 hours.

Wait around 3-4 weeks so that any moisture in the masonry above the area injected with the chemical barrier has time to evaporate off. The amount of time required depends on the amount of damp in the masonry, the thickness of the masonry, the type of material used to build the masonry and the amount of ventilation or direct sunlight to which the structure is exposed.

After the drying-out period, fill and “seal” each hole using one of the mortars used previously.

If there is a high flow of capillary rising damp or a high concentration of soluble salts in the structure to be restored, we recommend applying dehumidifying render from the **Mape-Antique** or **PoroMap** line to help to eliminate any small amount of damp or moisture that is not intercepted by the chemical barrier.



Preparing the holes



Drilling the holes



Inserting the injectors in the holes



Detail of the staggered rows of holes



Preparing the mixture



Pouring the mixture into the diffuser cups

CLEANING

Clean tools used to prepare and inject **Mapestop** with water.

PACKAGING

1 kg metal can with integrated spout and 10 kg metal drums.

CONSUMPTION

Depending on the absorbency of the masonry. Typical consumption rate: 8-9 kg/m of mixture for a 40 cm thick wall, corresponding to 0.4-0.6 kg/m of neat product.

		Consumption rate of the mixture (*) (kg/m)	Consumption rate of Mapestop (kg/m)
Masonry (cm)	20	4-4.5	0.2-0.6
	30	6-6.75	0.3-0.45
	40	8-9	0.4-0.6
	50	10-11	0.5-0.75
	60	12-13.5	0.6-0.9
(*) 1 kg of Mapestop + 19 litres of water			

STORAGE

12 months in a dry, covered area in its original, unopened packaging.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapestop is inflammable. We recommend storing away from naked flames and sparks, to avoid smoking, to prevent the build up of electrostatic energy and to work in well ventilated areas. It is also corrosive and may damage the eyes. It is recommended to use protective gloves and goggles and to take the usual precautions for handling chemicals. If the product comes in contact with the eyes or 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	
Appearance:	liquid
Colour:	yellow-brown
Silane/siloxane content (%):	approx. 100
Dimension of particles (µm):	20-60
Density (DIN 51757) (g/cm ³):	0.98
Viscosity at +25°C (DIN 51562) (mPa·s):	1-10
APPLICATION DATA OF THE MIXTURE	
Mixing ratio:	1 part of Mapestop with 15-19 parts of water (15-19 litres of water per 1 kg can of product)
Consistency of mixture:	liquid
Colour of mixture:	yellow-light brown
Application temperature:	from 0°C to +30°C
Stability of mixture:	24 hours

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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2005-4-2018-gb

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