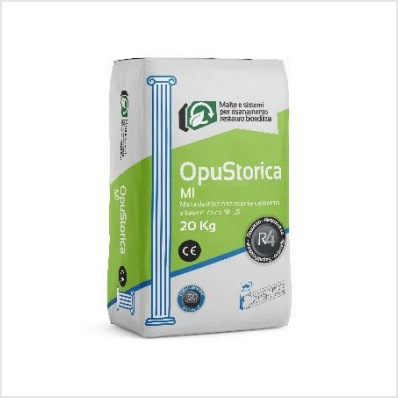

OPUSTORICA MI5

Natural injection mortar, cement-free, based on NHL5 natural hydraulic lime according to EN 459-1 and bio pozzolan. Suitable for low pressure injections for the consolidation of traditional or brick masonry, in particular in restoration, historical recovery and green building.

■ INJECTION MORTAR ■ CLASS M5 ■ CEMENT-FREE

Application

Use

Markings and Certifications

Cement-free injection mortar based on natural hydraulic lime certified NHL5 according to UNI EN 459-1 and Bio Pozzolana, classified M5 and CE marked according to UNI EN 998-2 as type G masonry mortar. The product has high performance breathability characteristics that guarantees the exchange of moist air between the inside and outside of the home, providing healthy environments and living comfort over time. Suitable for low pressure injections for the consolidation of traditional or brick masonry in the green building and historic conservative restoration sectors. Ideal product for restoration operations under the protection of the Superintendencies for Architectural and Environmental Heritage.
CAM – OPUSTORICA MI5 product complies with the requirements established by the Decree of 23 June 2022 regarding the Minimum Environmental Criteria.

PRELIMINARY OPERATIONS

Proceed beforehand by grouting all the lesions and cracks present in the masonry with the **OPUSTORICA IM** or **OPUSTORICA MM** products. In the case of plastered masonry, check the adhesion of the plaster to the support to avoid unwanted sagging.

Drill the masonry with holes with a diameter of 20/25 mm in correspondence with the joints of the bedding mortar and insert the injectors spaced with a 50x50 cm mesh. (4 injectors per m2).

ADVANTAGES & FEATURES

- Cement-free product
- Product formulated with historic low impact binders environmental and formulated in accordance with green building criteria.
- CAM – OPUSTORICA MI5 product complies with the requirements established by the Decree of 23 June 2022 regarding the Minimum Criteria Environmental
- High breathability.
- High chemical and physical-mechanical compatibility with materials anciently used.
- High fluidity and ability to penetrate the masonry.
- Low water-cement ratio and plastic/hydraulic shrinkage plywood.
- Low content of water-soluble salts.
- High durability.

USES

- Low pressure injection intervention: structural reinforcement of masonry, pillars, damaged load-bearing vaults in brick, tuff, stone and mixed masonry.
- Use on «rubble masonry».
- The product has composition characteristics that make it make it suitable for reinforcing masonry work in green building.

Before proceeding with the injection, thoroughly wash the inside of the masonry cavity with water under light pressure through the previously positioned injectors, always proceeding from the highest to the lowest point.

PREPARATION AND APPLICATION

OPUSTORICA MI5 must be mixed with approximately 33-35% of drinking water. It is advisable to introduce 3/4 of the necessary water into the mixer, successively and continuously adding the product and the remaining water until the desired consistency is obtained, homogeneous and free of lumps. The product must not be added with any other component other than the mixing water during preparation and installation.
OPUSTORICA MI5 must be injected into the walls with normal pumps, manual or electric, at low pressure, using injectors fixed in the perforations and proceeding from the lower holes towards the upper ones. From bottom to top, proceed with the injection of **OPUSTORICA MI5** with special manual or electric equipment until the masonry is completely saturated.

CHARACTERISTIC DATA	
Appearance/color	Hazelnut colored powder
Application temperature, °C	+5 a +35 °C
pH in aqueous solution	12
Grain size range, EN 1015-1	0 – 300 µ
Apparent density of the powder	1000 Kg/m3
Apparent density of fresh mortar, EN 1015-19	1900 Kg/m3
Apparent density of the hardened mortar, EN 1015-19	1400 Kg/m3
Mixing water	35 - 38% ca. – 7,4L/sacco da 20kg
Mixture fluidity, EN 445	0 min – 45 s 30 min – 48 s 60 min – 50 s
Yield	1,4 Kg/dm3
Segregatione	Absent

The data reported refers to laboratory tests; in practical construction site applications these can be significantly modified depending on the installation conditions. The user must in any case verify the suitability of the product for the intended use, assuming all responsibility deriving from its use.

PERFORMANCES	EN 998-2 Standard requirement
Compressive strength, EN 1015-11	Class M5
Initial shear strength in combination with masonry elements in accordance with EN	0,15 Mpa (v.t.)
Chloride content, EN 1015-17	≤ 0,1%
Water vapor permeability, EN 1745	15-35 (v.t.)
Water absorption by capillarity, EN 1015-18	≤1 kg/m^2*min^0,5)
Reaction to fire, EN 13501-1	A1

WARNINGS

OPUSTORICA MI5 intended for professional use. Check the integrity of the package before use and do not use the product with lumps. Do not remix the product by adding water once it has started to set. Any color variations in the product from batch to batch are attributable to the use of natural raw materials. Do not add additives or other products to the dough. Use all of the product once the package is opened. The performance characteristics of the product refer to conditions dictated by the reference technical standards.

OPUSTORICA MI5 can be used when the ambient temperature is within the range of 5-35 °C. The hardening of the product is based on hydraulic setting, which is delayed at low temperatures.

The customer is required to verify that the product is suitable for the intended use and to ensure that this technical document is valid and not superseded by subsequent updates. The technical documents can be found on the website www.premierpremiscelati.it

PACKAGING AND SUPPLY	CONSERVATION
20kg bag - Pallet - Silos	**OPUSTORICA MI5** is supplied in anti-humidity bags. It should be stored protected from humidity and used within 12 months from the packaging date

SPECIFICATION ITEM

Consolidation of wall structures by low-pressure injection of Premier OpuStorica MI5, premixed cement-free powder mortar based on pure natural hydraulic lime NHL5 and bio-pozzolan, with calcareous aggregates in a granulometric curve from 0 to 0.1 mm. Characterized by a low content of water-soluble salts, high resistance to sulphates, very high breathability and high fluidity and ability to penetrate masonry. Reaction to fire class A1 (EN 13501-1), compressive strength after 28 days: class M5 (EN 998/2), including making holes and installing nozzles, injection of the hyper-fluid mortar by gravity or under light pressure, closing of the holes, when saturated, and after the hardening of the hyperfluid mortar, removal of the nozzles and sealing of the seats; excluding any peeling of the plaster, any reclamation of degraded areas and drawing up of the joints, any pre- and post-intervention investigations, all subsidies necessary for the execution of the works, estimated per m2 of masonry with a thickness of 50 cm for 4 holes per m2 with quantity of injected mortar of approximately 40 kg/m2.