

## INNO-CRETE FOX HISTO-INJECTION

### Hydraulic Lime Based Injection Mortar Developed for Historic Masonry Buildings

#### Description

**FOX HISTO-INJECTION**, is an injection mortar containing pozzolanic natural hydraulic lime and micronized carbonates, used in the structural repair of masonry building components.

#### Fields of Application

**FOX HISTO-INJECTION** is an injection mortar used for repair purposes in brick, stone and tuff-containing historical buildings, especially at the points where cracks are formed and carrier properties is lost.

- On walls located in sulfated environments,
- In historical masonry domes and vaults,
- In the filling of small and large structural holes,
- In plugging the cracks,
- It is used as injection material in foundations.

#### Advantages

- It can be used even in sulfate-containing environments.
- It does not negatively chemical interact with original building materials or with different materials used during and after the restoration process.
- The superior hydraulic nature of the binder ensures a high degree of penetration of the injection mortar into the structure. With the help of its medium elasticity module, it is ideal for filling small and large holes, even in carrier problems caused by excessive moisture in the original material.
- The injection material used in wall repair provides a perfect harmony with brick, stone and tuff material without impairing the vapor and moisture permeability of the wall.
- Provides controlled expansion preventing plastic shrinkage without causing harmful stresses in the structure to be repaired.
- Thanks to the natural water traps it contains, it allows injection without pre-wetting the surface; It prevents the water from reaching and damaging the frescoes by separating from the injection mortar.
- It can be injected easily and effectively using low pressure pumps, syringes or fine needles with the help of its including new generation super plasticizers based on polycarboxylic ether.
- It does not contain additives and soluble salts (alkalis, sulfates, chlorines or nitrates), the structure of the material does not deteriorate over time.

#### Technical Data

Structure of Material		Pozzolanic natural hydraulic lime And Micronized carbonate
Color		Off white-Light brown
Injection Mortar Grain Size		0.1-30 µm
		D <sub>85</sub> =15 µm
Compressive Strength (TS EN 196)	7 days	>8 N/mm <sup>2</sup>
	28 days	>14 N/mm <sup>2</sup>
Fluidity (numbered 6 DIN CUP)	Starting	<35 seconds
	20 minutes later	<38 seconds
Surface Temperature to be Applied		+5°C / +30°C
Working Time (+20°C)		45 dk.

The above values are given at +23°C and 50% relative humidity. High temperatures shorten the time, low temperatures increase the time.

#### Application Procedure

##### Surface Preparation

The plaster on the surface should be taken in such a way that the entire crack plane can be determined. The concrete surface on which the application will be made should be cleaned of dust, oil and construction waste, and the damaged and loose concrete pieces on the surface should be cleaned. If there is a water leak on the surface, it should be drained or covered with a suitable plug mortar.



### In cracks between 1-5 mm;

Deciding according to the width, depth and ambient conditions of the crack, holes should be drilled at appropriate intervals (~30 - 50 cm) on both sides of the crack plane. These holes should be deep enough to pierce the crack plane and pass to the other side and should be opened at an angle of approximately 45° with the crack plane. Dust and free particles should be removed by squeezing air into the drilled holes, and packers should be nailed into the holes and fixed by tightening. After all packers are placed, packer surrounds and cracks should be covered with **FOX EPOMORTAR FC 510** to ensure tightness. Water should be sprayed on the packers in a dry environment first, this process will allow the water in the crack to react with the resin. According to the environment and weather conditions, the injection process should be started after 24 hours at the earliest, using the appropriate injection apparatus.

### In cracks larger than 5 mm;

Pneumatic hoses should be placed in the crack with appropriate intervals (~75 - 100 cm) by deciding according to the crack width, depth and ambient conditions. Free particles in the crack should be removed with compressed air. After all hoses are placed, hose edges and cracks should be covered with **FOX EPOMORTAR FC 510** and to ensure tightness. Depending on the environment and weather conditions, injection process should be started with **FOX HISTO-INJECTION** using the appropriate injection pump after at least 24 hours.

### Mixing Ratios

For 1 kg of **FOX HISTO-INJECTION** powder, 0.30 liters of water should be added.

### Mixing

The appropriate amount of water is poured into a clean mixing bucket with the help of a scale. **FOX HISTO-INJECTION** is added slowly and mixed with a 400 - 600 rpm mixer for 3-4 minutes until a homogeneous and lump-free mixture is obtained. After resting for about 4 minutes and mixing again for 30 seconds, the material becomes ready to use.

### Application

The prepared mortar is injected into the crack using appropriate injection equipment and apparatus.

### Cleaning of the Tools

After the application, tools and equipment used should be cleaned with water. **FOX HISTO-INJECTION** can only be cleaned from the surface mechanically after it hardens.

### Consumption

1.50 kg of powder should be used to obtain 1 liter of mortar.

### Watch Points

- During the application, the ambient and surface temperature should not be below +5°C and above +35°C.
- The materials to be used must be brought to the application site 1 - 2 days in advance and must adapt to the ambient conditions.
- Mixing must be done with the help of suitable mechanical mixers. Mixing must not be done by hand.
- In order for the material to complete its setting, the ambient and surface temperature must not fall below the minimum allowable temperature.

### Package

10 kg polyethylene reinforced craft bag

### Shelf Life

When stored properly at room temperature, away from direct sunlight, between + 5 °C and + 30 °C, shelf life is 12 months from the date of production. Opened packages should be consumed within 1 week provided that closing their lids.

### Storage

Should be stored in its original package, in a cool and dry place protected from frost. In short-term storage, maximum 3 pallets should be placed on top of each other and the shipment should be made on a first-in, first-out system. In long-term storage, pallets should not be placed on top of each other.



### Safety Precautions

It is dangerous to approach the storage and application areas with fire. Storage and application areas should be ventilated.

During the application, work clothes, protective gloves, goggles, masks in accordance with the occupational health and safety rules should be used. During storage and application, the material should not be contacted with the skin and eyes, if contacted, should be washed immediately with plenty of water and soap, and if swallowed, should be sought medical attention immediately. Foods and drinks should not be taken into the application areas. The material should be stored out of the reach of children.

For detailed information, please refer to the Material Safety Data Sheet.

### Disclaimer

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