

MasterCrete™ 285 Thix

(Albaria® Struttura 285 Thix)

Puzolanic Lime Based, Repair Mortar Designed for Historical Masonry Buildings

Material Description

MasterCrete™ 285 Thix is puzolanic lime based, cement-free, high strength, thixotropic repair mortar for restoration of historical buildings.

- Ready-pack
- Does not affect the vapour and moisture permeability of the existing building
- Low capillary water absorption
- Efflorescence resistant

Areas of Application

- Repair and strengthening of masonry walls
- Repair and strengthening of arches and vaults
- Repair of lime based plasters
- Strengthening of the masonry walls by using FRP bars in joints of masonry walls
- Repair and strengthening of foundations of masonry structures
- Used as a cement-free concrete by adding aggregates in repair of masonry slabs, domes and walls

Characteristics and Benefits

- Cement free
- High mechanical strength
- High bonding strength
- Water-born salts (alkalis, sulphates, chlorides or nitrates), are limited

Processing Method


(A) Preparation of Substrate

The surfaces should be free of frost, curing membranes, waterproofing treatments, oil stains, laitance, friable material and dust. The surfaces should be wetted before application. If there is a water leakage it must be drained or properly plugged.

(B) Mixing

Add enough water into a clean mixing bucket by using a proper water gauge. Add the powder into the bucket slowly and continuously. Mix the fresh mortar with a proper electrical mixer (400-600 rpm) for 4 minutes until having a homogenous consistency. Let the mortar have rest for 4 minutes and re-mix for 30 seconds.

Technical Properties

Structure of the Material	Includes Puzolanic Lime and Well Graded Natural Aggregate.	
Water Vapour Permeability EN 1745	$\mu < 35$	
Water-Born Salts UNI 11087	Electrical Conductivity $< 80 \mu S.CM^{-1}$ $SO_4 < \%1$ $Na^+ < \%0,05$ $K^+ < \%0,05$	
Capillary Water Absorption UNI EN 1015/18	$0,2 \text{ kg.m}^{-2}.\text{min}-0,5$	
Compressive Strength UNI EN 1015/11	$15-20 \text{ N/mm}^2$	
Modulus of Elasticity UNI EN 13412	$16,000 \text{ N/mm}^2$	
Application Temperature	$+5^{\circ}C + 40^{\circ}C$	

Typical values are obtained from the test results of 4x4x16 mortar prism in 23°C and 50% relative humidity conditions. High temperatures shortens the curing and working time, lower temperatures extends the durations.

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Mixing Ratio

MasterCrete™ 285 Thix	1 kg Powder	20 kg Bag
Water Quantity	0,15-0,17 liter	3,0-3,4 liter
Mixed Density	2,07-2,10 kg/liter	

(C) Processing

MasterCrete™ 285 Thix should be applied to the prepared surface by using trowel. Application thickness should be between 1-5 cm. After the mortar finishes its first setting, some water should be sprayed onto the mortar and the surface should be finished by using steel or wooden trowel. For thicker applications new layer of the mortar should be applied after first layer hardens. In multiple layer applications each layer should be wetted before the new layer.

Cement-free concrete can be prepared by adding aggregates sized 5-20 mm and in a weight ratio of 30-35% of the mortar in screed application. The water ratio can be increased up to 10-15% more.

Open areas should be protected from the rain, wind, etc. Aggressive whether conditions during the first 24-48 hours after finishing repair by using wet clothes, curing membranes etc.

Consumption

17 kg/m² for obtaining 10 mm thick layer

Point to Consider

- During the application the substrate and environment temperature should be between 5-40°C.
- For full curing of material, both the substrate and environment temperature shouldn't be under allowed application temperature.
- Open areas should be protected from the rain, wind, etc. Aggressive whether conditions during the first 24-48 hours after finishing application.

Cleaning of Tools

All the tools and equipments must be cleaned by water after the application. After **MasterCrete™ 285 Thix** is hardened, it can only be removed from the surface mechanically.

Packaging

20 kg bag

Shelf Life

12 months after the production date under appropriate storing conditions. Opened packages have to be stored by tightly sealing the bag/cover and must be used in one week.

Storage

Must be stored in unopened original packing, and in cool and dry environment protected from freezing. In short-term storing, maximum 3 palettes can be stowed on top of each other and delivery has to be according to first in first out system. In long-term storing, the palettes must not be stowed on top of each other.

Health and Safety

It is dangerous to approach the application sites. During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Rules should be used. Due to the irritation effect of the uncured materials, the mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and soap; in case of swallowing, a physician should be consulted immediately. No food or beverages should be brought to the application area. The product should be stored and kept out of reach of children. For detailed information please consult the Material Safety Data Sheet.

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Disclaimer

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