STRUCTURAL MORTAR.

IS IT:

- [ ] *Product*
- [X] *Technology*
- [ ] *Equipment*

APPLICABLE FOR:

- [X] *Restoration*
- [X] *Rehabilitation*
- [ ] *New Construction*

APPLICABLE ON:

- [ ] *1. Foundations and underground structures*
- [X] *2. Vertical structures*
- [ ] *3. Horizontal structures and vertical connections*
- [ ] *4. Roof and terraces*
- [ ] *5. Façade and building envelope*
- [ ] *6. Finishes and completion elements*
- [ ] *7. Integrated services*
- [ ] *8. General strategies for building recovery*

Related companies: *WEBERTEC*

DESCRIPTION

Suitable on the following substrates:

- Mixed masonry
- Brick
- Tuff
- Suitably roughened concrete
- Concrete blocks.

WHY TO USE

Suitable for the consolidation of masonry buildings.

Suitable for seismic improvement and adaptation.

Applicable by hand and machine.

HOW TO USE AND APPLY

Fields of use

- Structural mortar with resistance class M15, based on natural hydraulic lime, for the consolidation and reinforcement of masonry structural elements, also for seismic improvement and adaptation interventions.
- Suitable for making reinforced plasters with stainless steel or composite material mesh.
- Localized recovery of the facade elements, such as string courses, cornices, recovery of out of plumb.
- Unsuccessful interventions, compensation for injuries, re-filing of joints, including weapons.
- Indicated for the reinforcement of infill walls in combination with suitable nets in “anti-overturning” and “anti-breakthrough” protection systems of the piers of the floors.
- Increase of the mechanical characteristics of the masonry vaults through the construction of "reinforced hood".

Tools

- Concrete mixer, trowel, wooden or plastic trowel, aluminum straightedge, plastering machine.

Preparation of the supports

- The substrates must be stable, strong and clean. On old masonry, it is essential to perform a pressure washer or sandblasting until all traces of dirt are completely eliminated, of weak or inconsistent parts, of any saline efflorescence and of any element that may affect its adhesion.
- Recover any cracks or cavities
- Wet the substrate to excess before applying the product.

Application

Plastering

- Ready-to-use product, dose the mixing water until a consistent and plastic mortar is obtained (structural mortar 21 ÷ 23 liters of water per 100 kg of product).
- Apply the mixture in several successive coats on a previously moistened substrate, in thicknesses not exceeding 2 cm and with the use of a plaster holder network up to a maximum of 6 cm. Subsequent layers can be applied when the previous layer has congealed.
- In case of machine application, project on the surface from a distance of about 20 cm in order to obtain a uniform spray pattern. Take care of the maturation of the product during setting, possibly moistening the surface. Points of discontinuity (for example beams, pillars in contact with brick infill) must be reinforced with a strong alkaline fiberglass mesh, which will be applied in the thickness of the plaster and not adhering to the masonry. The net must protrude about 30 cm from the aforementioned points. Fiberglass mesh bands must also be placed diagonally in correspondence with the opening angles of doors and windows.
- To create “traditional” reinforced plasters, place a stainless-steel mesh or an alkali-resistant composite material fixed by nailing, anchoring or by means of suitable connectors to the substrate. The mesh must be positioned in such a way as to result in half the thickness of the plaster

- The characteristics of the reinforcing elements must comply with the designer's prescriptions.
- Apply the product to fully cover the reinforcing element.

Finishes

- It is advisable to use all the finishes of the same company's range.
- In anticipation of covering with plaster, the surface of the product must be left rough.

TECHNICAL CHARACTERISTICS

Product features

- Packaging: 25 kg bags
- Appearance: beige powder
- Shelf life: efficacy performance characteristics: 12 months in unopened packages, protected from moisture.
- Yield per package: approximately 1.45 m2 per cm of thickness

Features of implementation

- Mixing water: 20% -22%
- Temperature of application: + 5 ° C ÷ + 30 ° C
- Lifetime of the dough: 1 hour
- Time to covering: not less than 28 days (recommended)
- Thickness: total maximum (more hands): 6 cm
- Downtime machine: <45 min

* These times calculated at 23 ° C and R.H. 50% are elongated by the low temperature associated with high values of U.R. and reduced by heat.

Technical data

- Grain size: 1.6 mm
- Resistance to compression: 15 MPa (at 28 days)
- Reaction to fire: Euroclass A1
- Adhesion: ≥ 1 N / mm2 - FP: B
- Absorption of water: class W1
- Coefficient of resistance to passage of vapor: μ: 15/35
- Elastic modulus: 9 GPa
- Durability: NPD
- Thermal conductivity: 0.83 W / MK (average value from prospectus P = 50%)

* These values are derived from laboratory tests in the environment conditioned and could be significantly modified by the conditions of implementation.

RECOMMENDATIONS AND OTHER INFORMATION

Ready-to-use product: only add water in the amount indicated.

DO NOT APPLY ON:

- Plaster supports
- Painted
- With poor consistency and not properly prepared
- Frozen supports, during thaw, or at risk of frost in the following 24 hours
- Avoid application in the presence of strong wind, in full sun and protect the treated surface against rapid drying
- Operating temperature +5°C ÷ +30°C
- Total maximum thickness (in multiple hands): 6 cm
- Machine downtime < 45 min

Consumption: about 17 kg / m2 per cm of thickness.

EXAMPLES

https://www.it.weber/intonaci-malte-prodotti-alla-calce/sede-della-provincia-andria-bt

Headquarters of the Province in Andria, Barletta-Andria-Trani, Italy:

View of the courtyard.

View of an interior hall with vaulted ceiling.

REFERENCES / SOURCES AND LITERATURE

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WEBSITE OF THE COMPANY

https://www.it.weber/

IMAGES AND CAPTIONS

Fig.1: Packaged product. © WWW.IT.WEBER

Fig.2: Saint-Gobain Weber solutions used: consolidation of the existing masonry with a thick diffusion system using webertec BTcalce F structural concrete, webertec rete250A fibreglass mesh and webertec elicafix steel bars for reinforced plaster. Restoration of the structural continuity of the masonry by injections of superfluid mortar webertec iniezione 15. New internal plasters webercalce into F finished with webercalce rasatura, both products based on hydraulic lime NHL5. © *WWW.IT.WEBER*

Fig.3: Apllication of structural concrete over fibreglass mesh. © *WWW.IT.WEBER*