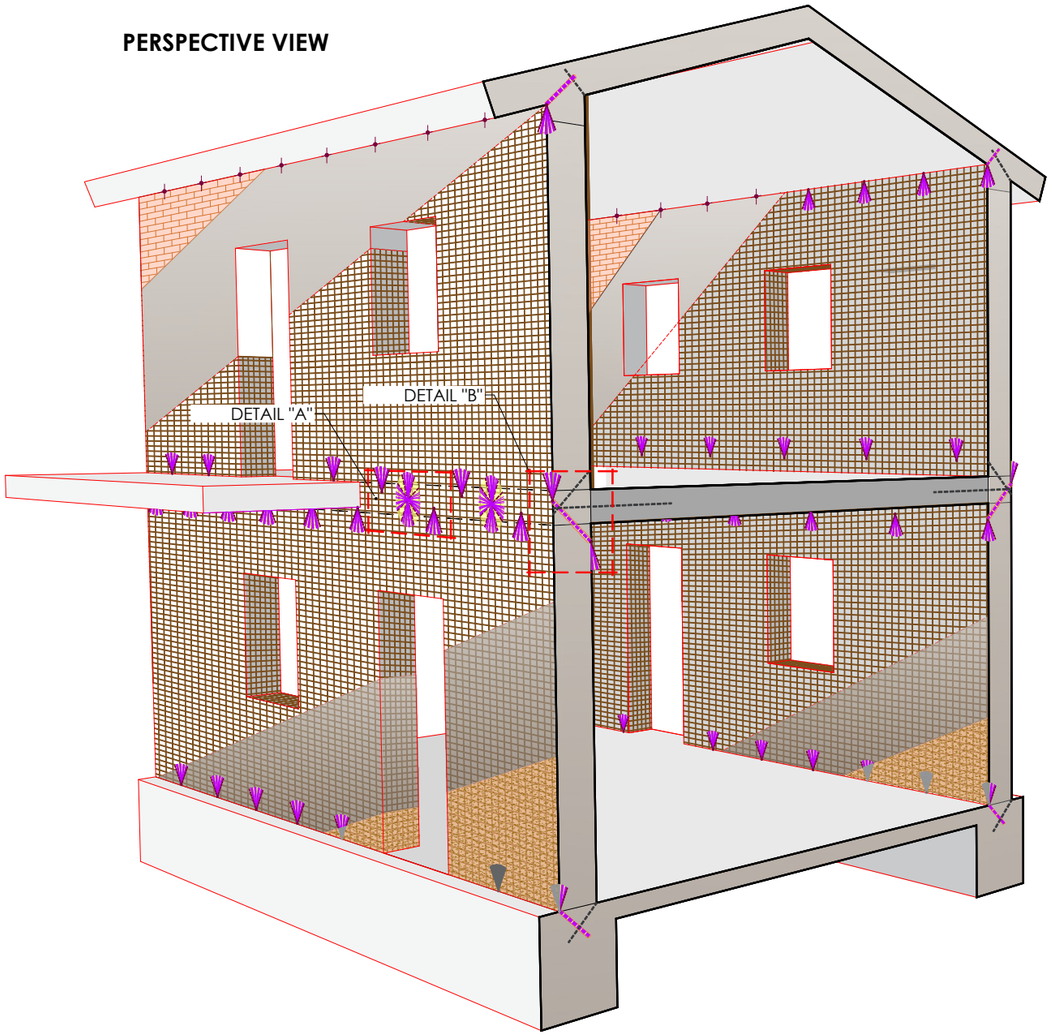
C-MATRIX

F.R.C.M. SYSTEM
MASONRY REINFORCEMENT
APPLICATION PHASES

FIBRE NET composite engineering

PERSPECTIVE VIEW

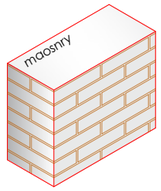


DESCRIPTION OF THE WORKS

NOTE: The system is applicable only if the substrate has an adequate masonry quality index..

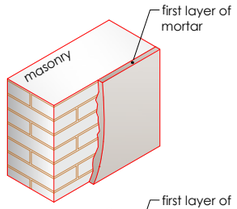
PHASE 0 - Substrate Preparation

All loose, deteriorated, or detached parts must always be removed until sound substrate is reached.
Where possible, it is recommended to rake out the existing mortar joints to a depth ≥ 5 mm.
The application of the strengthening system on sharp edges must be avoided; rounding of edges is recommended with a minimum curvature radius ≥ 20 mm.
Before applying the system, thoroughly clean the surface of dust, grease, efflorescence, and other contaminants by pressure water washing at an appropriate pressure. Allow excess water to evaporate, ensuring that the substrate is saturated but with a dry surface (SSD – saturated surface dry).
To ensure proper adhesion of the reinforcing mortar layer, the surface must be planar and roughened, with a surface roughness index ≥ 1 mm.



PHASE 1 - Application of the First Mortar Layer

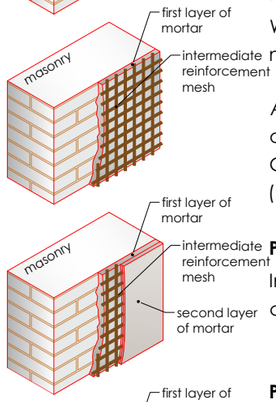
On the surface prepared in accordance with the instructions above, apply a first layer of mortar, ensuring a uniform thickness of approximately 5 mm.
This mortar layer may include the thickness required for geometric regularization of the masonry in order to obtain a planar surface. Application may be carried out using a trowel, float, or plastering pump.



PHASE 2 - Application of the Reinforcement Mesh

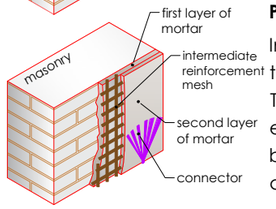
While the mortar is still fresh, proceed with the application of the bidirectional mesh, whether impregnated, sized, or dry. The mesh must be carefully positioned and gently pressed with a flat trowel to ensure it is fully embedded into the mortar layer.

At the mesh overlap joints, both longitudinally and transversely, an adequate overlap of 300 mm must be ensured. Shorter overlap lengths are permitted only if supported by appropriate qualification tests in accordance with the Italian Technical Guidelines 2022 (LL.GG. STC 2022) and/or the relevant EAD.
(✻) Before providing an overlap of less than 300 mm, verify whether qualification test results are available for the system used.



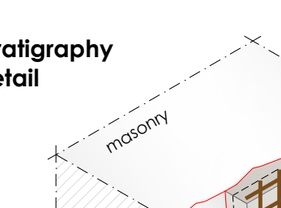
PHASE 3 - Application of the Second Mortar Layer

In order to ensure uniform and adequate coverage of the reinforcement, apply a second layer of mortar, wet-on-wet, taking care to achieve a total uniform thickness of at least 8 m.

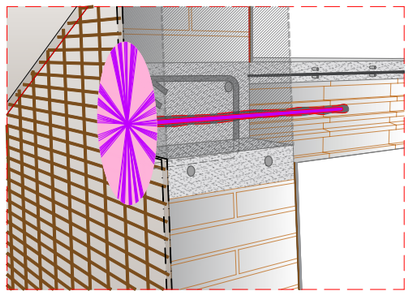


PHASE 4 - Installation of Connections (OPTIONAL)

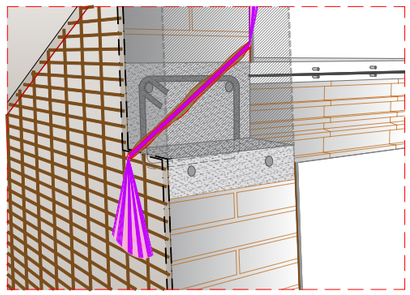
In specific situations where mechanical connection of the reinforcement to the load-bearing structure is required, FB-TUP10... type connectors or other connection systems may be used .
These connectors are inserted through the masonry thickness via pre-drilled holes and embedded within the mortar layer, ensuring effective connection between the strengthening system and the existing structure. Installation of the connectors may be carried out either by the debowing at the reinforcement mesh level (intermediate) or at the final mortar surface (external), in accordance with the project technical specifications or site execution requirements.



Detail "A"
Anchorage of non-passing through connectors
debowed on 1 side



Detail "B"
Anchorage of passing through connectors
debowed on 2 sides



Stratigraphy detail

A = Mortar thickness 4–5 mm
B = thickness of eventual substrate leveling
A+A = thickness of reinforcement

NOTE: The connectors can be debowed above the second mortar layer (solution "A") or above the mesh (solution "B")
BOTH CASES ARE SHOWN ON THE DRAWING

MATERIAL IDENTIFICATION - C-MATRIX system

(Y) INORGANIC MATRIX
(E) REINFORCEMENT
(A1) FB-TUP10-.... (bowed connectors)
(P3) FB-....INTEGRA FIXA-.... (Anchoring resin)

Dimensions are expressed in mm unless otherwise specified.
For the materials table, refer to drawing FRCM 08.

AREA DOWNLOAD