



Structural connection element in cold-drawn AISI 304 stainless steel
helical shape with high mechanical performance

Structural connection element in AISI 304 stainless steel MATRIX ELISTEEL cold drawn with a helical profile with high mechanical performance. It is used as a dry anchor for structural networks or as a connection element in stitching or reinforcement interventions of structures.

MATRIX ELISTEEL is part of the MATRIX PROTECT FRCM system for the reinforcement of stone, brick or tuff masonry structures using the low-thickness fiber-reinforced plating technique FRCM (Fiber Reinforced Cementitious Matrix).

The MATRIX PROTECT FRCM system complies with the performance standards required in the "Guideline for the design, execution and maintenance of structural consolidation interventions using FRCM reinforcement systems" referred to in Decree no. 627 of 3 December 2019 issued by the Ministry of Public Works.



FRCM STRUCTURAL REINFORCEMENT OF MASONRY

Demolition of the existing plaster until the surface of the wall facing is exposed, with removal of loose or inconsistent parts, scarification of the bedding joints, sealing and patching of any existing lesions; Cleaning of the surface and reconstruction of missing or particularly damaged wall portions, in order to restore structural continuity; Regularization of the surface with mortars from the Premier CALCESTRUTTURA IM line, if necessary. Washing and wetting the surface until saturated.

On a support saturated with water with a dry surface, application of a first layer of roughcast with an average thickness of 5 mm using the natural hydraulic lime-based mortar NHL 3.5 PREMIER CALCESTRUTTURA FINO.

Laying of the PREMIER MATRIX BA 500 (MATRIX BA 300) mesh, partially embedding it in the fresh mortar of the roughcast.

Ensure an overlapping length L_s of the mesh strips of at least 20 cm in order to guarantee the transfer of mechanical stresses.

Making pilot holes Ø 6mm in a number of no less than 4/m², passing through for intervention on both faces, or for a depth of 2/3 of the masonry for application on a single face, to be made preferably with rotary tools.

Cleaning the hole and dry insertion of PREMIER ELISTEEL connectors of variable length depending on the thickness of the masonry, by hammering with special Premier mandrels SDS mandrel applied on a hammer tool.

On the previous layer, which is still damp and not hardened, cover with a second layer of CALCESTRUTTURA FINO lime-based mortar using a trowel or machine until the reinforcement thickness of 10 mm is reached.

CONNECTING SEAMS AND REPAIR OF DAMAGED WALLS

In the case of damaged brick, tuff or stone walls, it is necessary to proceed with the scarification of the mortar joints in the damaged area to allow the insertion of the MATRIX ELISTEEL bars inside the cavity in a direction orthogonal to the development of the lesion. Make a pre-hole with a diameter 2 mm less than the chosen diameter of the helical bar and a length suitable to allow the entire housing of the bar depending on the thickness of the masonry. Blow the hole taking particular care to remove the resulting dust and any friable or detached parts and then wet the support to saturation. The helical bar is driven in using an electric percussion drill using a special PREMIER MANDREL SDS mandrel into the pilot hole previously made. Once the foundation is completely in place, fill the hole using mortar based on pure natural hydraulic lime from the PREMIER CALCSTRUTTURA range



**Compliant with EN 845-1:2003
+ A1:2008**

ADVANTAGES

High tear resistance and large surface section.
Wide range of uses:

- Connector for supporting structural networks.
- Sewing element on damaged exposed or plastered walls.
- Structural reinforcement element on new or existing masonry.

Resistant to any type of degradation. Thanks to the helical shape it does not require resins for fixing and therefore the anchoring is free of filming problems

CONSERVAZIONE STORAGE

Conservare all'asciutto. Keep in a dry place.

AVVERTENZE WARNINGS

Product intended for professional use. Check the integrity of the packaging before use and do not use the product if it is not perfectly packaged. In particular, do not use a product that has been crushed or subjected to traction. 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 updated technical documents can be found on the website: www.premierpremiscelati.it.

All the info on
www.premierpremiscelati.it



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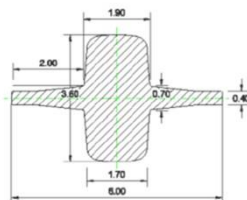
REMEDIACTION, RESTORATION & GREEN BUILDING MATRIX ELISTEEL

Geometric & Mechanical Characteristics :

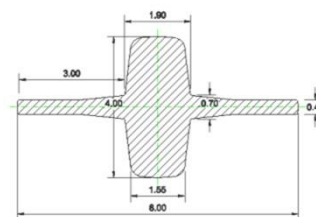
Core	Ø 6	Ø 8	Ø 10
Standard Length	1m	1m	1m
Outer Diameter	6mm	8mm	10mm
Resistant Section	8,9mm ²	10,4mm ²	12,9mm ²
Braking Tensile Load	8,8 kN	12 kN	16 kN
Tensile Strength	994,38 MPa	1153,84 Mpa	1240,03 Mpa
Elastic Modulus	122 Gpa	122 Gpa	122 GPa

Geometric characteristics of the section

Ø 6.0



Ø 8.0



Ø 10.0

