REINFORCED PLASTER – CRM MASONRY SYSTEM

G-MESH 490

Preformed alkali-resistant impregnated glass fibre mesh for structural strengthening to existing masonry

FIELDS OF APPLICATION

- Strengthening existing walls in solid brick, tufa, and irregular stones.
- Static and seismic improvement and upgrading to existing loadbearing masonry buildings.
- Installation of CRM (composite reinforced mortar) system consisting of **G-MESH 490** alkali-resistant glass fibre mesh and Ruregold **MX-RW High Performance**, **MX-CP Lime**, or **MX-15 Plaster** structural plaster mortars.
- Mesh for structural plasters meets the requirements of the 29/05/2019 Guidelines, published by Decree of the President of the Superior Council of Public Works: "*Guidelines for the identification, qualification and acceptance control of preformed mesh systems in fibre-reinforced polymer matrix composite materials to be used for the structural consolidation of existing constructions using the CRM (Composite Reinforced Mortar) technique*".

PROPERTIES AND ADVANTAGES OF THE SYSTEM

- Alkali resistant GFRP fibreglass reinforcement.
- High tensile Young's modulus of elasticity and excellent mechanical resistance performance.
- Strongly compatible with masonry.
- Also ideal for historic and monumental buildings.
- Reversible.
- Ease of installation.
- Practicality of use.

METHOD OF APPLICATION

SUPPORT PREPARATION

1. Support (pre-existing wall): must be clean and consistent; must not "flake" or produce dust. Remove, manually or if necessary with mechanical tools, all incoherent, crumbly material, dust, moulds, and anything else that could affect the adhesion of the **Ruregold CRM system.**
2. Wet the substrate "to excess", ensure that excess free water is eliminated before applying the Ruregold structural plaster mortar (see technical data sheets for the products **MX-RW**, **MX-CP**, and **MX-15** at **www.ruregold.com**).
3. Support with poor grip: at least 24 hours before applying the **G-MESH 490** and the layer of structural plaster, apply an "undercoat" of the same Ruregold structural plaster mortar.

G-MESH 490 PREPARATION

1. Opening the package: open the roll (width 2 m, length 20 m), taking care with the elastic leader pull on the mesh.
2. Cutting the mesh: use an angle grinder.

IMPLEMENTATION OF THE CONNECTION SYSTEM

1. Application of the mesh to the support: prepare the wall face as appropriate (see support preparation cycle) and position spacers as necessary to keep the mesh detached from the support by approximately 1.5 cm. Then apply the mesh (ideal mesh position: approximately halfway through the thickness of the reinforced plaster).
2. Formation of the connection system:
   - Using a rotary hammer drill, perforate the wall (4/5 perforations per square metre as instructed by the Designer or the Director of Works) to the depth required by the project (for brick and tufa a 6 mm perforation is recommended; for stone, an 8 mm perforation is recommended).
   - Using a rotary hammer drill in percussion mode (excluding rotation if possible) fitted with an SDS-Plus coupling and the specific **HELICAL GUIDE** adapter, install **HELICAL CONNECTOR** to the depth required by the project (for further details see the **Helical Connector** product data sheet at **www.ruregold.com**).
3. Attaching the mesh to the connection system:
   - Apply the **G-MESH 490** by hooking it to the connector for more effective collaboration. For optimal response to stress concentrations at the connector, also apply the appropriate **G-MESH GUSSET**.

4. Internal and external corners: apply **G-MESH ANGLE** element to the corners/edges of the masonry building (to both internal and external faces of the masonry) (see technical sheet at **www.ruregold.com**).
5. Overlaps and superimpositions: provide for overlaps approximately 2 meshes wide, but never less than 150 mm., of **G-MESH 490** and/or **G-MESH ANGLE**

TECHNICAL CHARACTERISTICS

Constituent properties of the GFRP mesh	Glass fibre impregnated with epoxy resin
Weight of the GFRP mesh	490 g/m^2
Load of single weft bar	5 kN
Load of single warp bar	5 kN
Maximum mesh weft load	60 kN/m
Maximum mesh warp load	60 kN/m
Young's modulus of elasticity of the mesh	> 25 GPa
Ultimate elongation of the mesh	1.50%
Mesh opening size	80x80 mm
Packaging	40 m^2 roll (length 20 m, height 2 m)
Application temperature	From +5°C to +35°C

WARNINGS

- The product must be kept dry and unopened, in its original packaging.
- The surface must be protected from weather.

For further technical information, contact Ruregold Technical Support on 02.48011962 – info@ruregold.it.

SPECIFICATION ITEM

Supply and apply preformed GFRP composite (Glass Fibre Reinforced Polymer) mesh, type Ruregold **G-MESH 490,** for the structural consolidation and strengthening of existing brick, tufa, and irregular stone walls. Alkali-resistant mesh weighing 490 g/m^2, square mesh 80 x 80 mm. Tensile strength of weft yarns 60 kN/m and warp yarns 60 kN/m. The preformed GFRP composite mesh is used in the **Ruregold CRM** (Composite Reinforced Mortar) system in combination with (a) the connection system consisting of a **HELICAL CONNECTOR** stainless steel bar and/or a preformed GFRP Ruregold **G-MESH CONNECTOR** and Ruregold **G-MESH GUSSET**, for distributing stress concentrations at the connections; (b) in combination with the Ruregold **G-MESH ANGLE** corner element; and (c) in combination with Ruregold **MX-RW High Performance**/ **MX 15 Plaster**/ **MX-CP Lime** structural mortars. Pre-formed composite GFRP mesh is used for strengthening works to existing walls in walls of solid brick, tufa, and irregular stones. Static and seismic improvement and upgrading to existing loadbearing masonry buildings. Implementation of the CRM system. The system meets the requirements of the May 2019 CRM Guidelines. Preparation of the surfaces and installation of the system must follow the manufacturer's instructions.

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RUREGOLD
INNOVATION & SAFETY FOR BUILDING

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