



Kimitech WALLMESH MR

ST4-0719

Structural pre-primed, thermosetting, AR glass fibre mesh

DESCRIPTION

Kimitech WALLMESH MR is a preformed structural mesh made of composite material consisting of pre-primed, alkaline-resistant, thermosetting, glass fibers used in combination with mortars from **Basic**, **Betonfix**, and **Tectoria** ranges for CRM reinforcing systems.

USES

Structural reinforcement of masonry structures.

WORKS

- CRM reinforcing system consisting of A.R. fiberglass mesh and NHL-based mortar (**SA93**).
- CRM reinforcing system consisting of A.R. fiberglass mesh and NHL-based mortar, in case of rising damp issues (**SA123**).

APPLICATION

To guarantee the proper cooperation of the reinforced casting with **Kimitech WALLMESH MR** mesh, in case of CRM systems it is necessary to provide an adequate connection systems.

We recommend the use of "L" shaped, pre-formed, thermosetting, fiberglass connectors **Kimitech PLUG VR**. The suggested quantity is 4 connectors for each square meter of intervention.

The reinforcing system designed with **Kimitech WALLMESH MR** is in line with Italian guidelines on qualification of CRM (Composite Reinforced Mortar) systems.

In order to prevent the mesh from being pushed into direct contact with the substrate during application, as it is not incorporated into the casting and because it cannot counteract movements and shrinkage in the short and long term, it is essential to follow this procedure:

- Demolition of existing plaster and detached parts including scarification of bed joints
- Washing and wetting of the surface until SSD conditions

- Possible reconstruction of missing or particularly damaged masonry parts.
- Application of a first rough coat (1,5-2 cm) on the masonry wall
- Installation of the mesh, partially incorporating it in the fresh render mortar, overlapping of the mesh strips for about 15 - 20 cm in order to guarantee mechanical continuity.
- Drilling (diameter 20 mm, of the necessary depth or passing through), cleaning, insertion of the connectors and injection of chemical anchoring
- Application of plaster respecting project needs (1,5-2 cm)

In the case of plasters reinforced with **Kimitech WALLMESH MR** mesh, the skim coating should be carried out upon completion of the plaster curing (wait at least 1 week for each centimeter of thickness, and at least 3 weeks in total), so as to seal any shrinkage cracks that may appear especially for plasters in high thicknesses (in these cases it is always advisable to reinforce pre-painting skim coating with **Kimitech 350** mesh).

PACKAGING

Rolls: Width 100 cm, length 50 m.

Characteristics	Kimitech WALLMESH MR
Zirconium content Zr (%)	>16
Non-primed fabric weight UNI 9311/4	235 g/m ²
Primed fabric weight UNI 9311/4	335 g/m ²
Elastic module of glass	> 45 GPa
Elongation at failure UNI 9311/5	3,5%

Single wire failure load	Warp: 3,15 KN Weft: 3,15 KN
Number of wires per metre	20
Resistance per unit of mesh width UNI 9311/5	Warp: 63±1 N/mm Weft: 63±1 N/mm
Equivalent thickness	Warp: 0,0438 mm Weft: 0,0438 mm
Resistant section	Warp: 43,843 mm ² /m Weft: 43,843 mm ² /m
Average thickness of primed fabric UNI 9311/3	1,7 mm
Mesh size (internal measures)	50 x 50 mm

	Values required for class G45/1000 according to Italian Guide Lines CSLP n.292 of 20-05-19	TYPICAL VALUES
Tensile elastic modul in fiber direction [GPa]	45	72
Tensile strength in fibers direction [MPa]	1000	> 1200

WARNING

Product intended for professional use.

The technical characteristics and application methods stated in this bulletin are based on our current knowledge and experience, but can not lead to any guarantee on our part of the final result of the applied product.

The marking obligations are not related to the intrinsic nature of a given product, but to the use for which a specific material is used: before placing the orders, it will be the customer's responsibility to submit all the available documentation to the works supervision in order to explain the suitability of the materials (in terms of certifications and performance) in relation to the use to which they are intended.

The customer is required to verify that the product is suitable for the intended use and to make sure that the technical bulletin to which it refers is valid and not exceeded by more recent updates.

TECHNICAL SPECIFICATIONS

SK93 - Structural reinforcement with FRCM systems consisting of fiberglass mesh and mortar made of natural hydraulic lime
SK123 - Structural reinforcement with CRM systems consisting of fiberglass mesh and NHL-based mortar on masonry walls affected by rising damp.

(SK93) Demolition of existing plaster and loose parts and scarification of bed joints. Washing and wetting of the surface until SSD conditions are achieved.

Possible reconstruction of missing or particularly damaged masonry parts.

On a saturated substrate with a dry surface, apply a first coat of render to the masonry with a M15 natural hydraulic lime based mortar from Basic or Tectoria ranges by Kimia S.p.A. or similar products.

Installation of glass-fibers mesh Kimitech WALLMESH MR by Kimia S.p.A or a simila product, (to cut the mesh at the openings use shears and/or construction cutters or angle grinder), partially incorporating it into the fresh mortar of the rough coat, overlapping the mesh strips for about 15 - 20 cm in order to guarantee mechanical continuity.

Drilling (diameter 20 mm), pass-throughs (where required the reinforcement on both sides) or for a depth of 2/3 of the wall (in the case of reinforcement of both facades) in the number envisaged by the project (however not less than 3 per square meter), to be carried out in compact areas of the masonry, preferably with rotating tools.

Cleaning, insertion pre-formed, thermosetting, "L" shaped Kimitech PLUG VR connectors by Kimia S.p.A. or a similar product with improved adherence and injection of chemical anchor Kimitech EPOXY CTR by Kimia S.p.A. or a similar product. Wait the first coat is hard enough, then apply the second coat by hand or by machine. In case of thickness bigger than 30 mm, the application must be done in several layers, applying each diffenet coat on the non-smothed previous one. The final skimming caot must be applied only after the proper curing time of the applied plaster.

(SK123) Demolition of existing plaster and loose parts and scarification of bed joints. Washing and wetting of the surface until SSD conditions are achieved. Possible reconstruction of missing or particularly damaged masonry parts.

On a wet substrate with a dry surface, apply a first coat, at least 2 cm of thickness, of render to the masonry using Tectoria M15 by Kimia S.p.A or a similar product.

Installation of glass-fibers mesh Kimitech WALLMESH MR by Kimia S.p.A. or a similar product, (to cut the mesh at the openings use shears and/or construction cutters or angle grinder), partially incorporating it into the fresh mortar of the rough coat, providing an overlap of the mesh strips for about 15 - 20 cm in order to guarantee mechanical continuity.

Drilling (diameter 20 mm), pass-through (where required on both sides) or for a depth of 2/3 of the wall (in the case of reinforcement on only one face) in the number envisaged by the project (in number however not less than 3 per square meter), to be carried out in compact areas of the masonry, preferably with rotating tools.

After cleaning, insertion of preformed, "L" shaped, glass-fibre connectors Kimitech PLUG VR with thermosetting resin and improved adherence by Kimia S.p.A. or a similar product, sealed by means of epoxy resin Kimitech EPOXY CTR by Kimia S.p.A. or a similar product. Once the first coat of mortar set, apply the next coat by trowel or machine device. In case of thickness bigger than 30 mm, the application must be splitted in several layers, applying each next layer on the previous non-smoothed surface.

The skimming coat will be applied after the necessary curing time of the plastering mortar.

- Zirconium content, Zr> 16%;
- Typical elongation at failure (warp): 3,5%;
- Typical elongation at failure(weft): 3,5%;

- Weight of the fabric UNI 9311/4: 335 g / m²
- Tensile failure load of the single wire (warp): 3,15 KN;
- Tensile failure load of the single wire (weft): 3,15 KN;
- Resistance per length unit UNI 9311/5 (warp): 63 N / mm;
- Resistance per length unit UNI 9311/5 (weft): 63 N / mm.
- Equivalent thickness (warp): 0,0483 mm
- Equivalent thickness (weft): 0,0483 mm
- Mesh size: 50 x 50 mm
- Tensile elastic modul in fiber direction: 72 GPa
- Tensile strength in fibers direction: > 1200 MPa

The present reinforcing system will correspond to a G45/1000 class system, certified by a correlated CVT (Italian Technical Assessment) according to the Italian Construction Code NTC 2018 and the procedures of qualification for CRM systems issued by the Italian Higher Council of Public Works.