

RI-STRUTTURA**PAVEMENT REINFORCEMENT SYSTEM****TECHNICAL DATA SHEET**

RI-STRUTTURA System (C.R.M.) is qualified with CE marking according to EAD 340392-00-0104 – CRM (Composite Reinforced Mortar) Systems for strengthening concrete and masonry structures.

RI-STRUTTURA is the reinforcement system by Fibre Net composed of preformed GFRP meshes made by alkali-resistant glass fibers and thermosetting resins, combined with structural mortars, also NHL lime based. This system guarantees important, uniform and widespread structural improvement of the mechanical and ductility properties with a low increase in terms of stiffness of the GFRP elements.

RI-STRUTTURA guarantees high durability thanks to the absence of corrosion.

RI-STRUTTURA PAVEMENT REINFORCEMENT SYSTEM

APPLICATION FIELD

The presence of mechanical stresses acting on the historical pavements, due to urban traffic or to the presence, even temporary, of heavy concentrated loads, can determine sagging or rutting phenomena that damage the surface flatness, with damage to materials and people. In addition, the need to use historic streets and squares for the passage of underground services often alters the stratigraphy that make up the "package" road, creating noticeable subsidence and dangerous irregularities.

The need to provide the historical pavements with an effective reinforcement, durable and compatible with the needs of preservation of the artifact, such as to ensure the flatness and regularity of the surface, is answered in the **RI-STRUTTURA** system. The technique involves the creation of a screed reinforced with a GFRP preformed mesh, which allows you to create a stable base with good mechanical performance for the subsequent installation of the floor, whether it is made with the original stone materials or through a new construction.

The use of a reinforcement allows a better distribution of loads and avoids the formation of localised cracks and ruttings and subsidence with a long-lasting and effective intervention. The use of radio-transparent materials such as GFRP does not hinder the research and monitoring of underground services through electronic instruments.

SYSTEMS COMPONENTS

FBMESH – GFRP MESH

GFRP mesh produced with Textrusion™ technology, provided with CE marking, whose bars are made of long glass fibers, impregnated with epoxy-vinylester thermosetting resin.



Characteristics	FBMESH_T96	FBMESH_T192
Mesh dimension	33x33 / 66x66 / 99x99 mm	66x66 / 99x99 mm
Minimum wire section	8,9 mm ²	14,1 mm ²
Roll size (external)	Ø 50÷70 x 200 cm	Ø 50÷70 x 200 cm
Tensile resistance (wire)(characteristic) value ⁽²⁾	4,3 kN	5,5 kN
Young's modulus ⁽²⁾	25000 MPa	25500 MPa
Resistance at the mesh joint (characteristic) value ⁽²⁾	0,25 kN	0,43 kN
Wire failure strain ⁽²⁾	1,45 %	1,50 %
Wire tensile strength (characteristic) value ⁽²⁾	365 MPa	395 MPa
Reaction to fire ⁽³⁾	A2-s1, d0, Class B-s1, d0 Class	B-s1, d0 Class

CHARACTERISTICS

- Excellent mechanical characteristics
- Lightness e low thickness
- High corrosion resistance
- Different mortars compatibility
- Non-magnetic, radiotransparent, dielectric

ADVANTAGES

- Durability
- Widespread and homogeneous mechanical improvement
- Masonry breathability
- Ease and speed of application, worksite safety
- Reversibility
- Reduction of costs and time for handling and installation
- Reduction in overall intervention costs
- Reduction of heat bridges at connection points

RI-STRUTTURA PAVEMENT REINFORCEMENT SYSTEM

INSTALLATION PROCEDURE

1. Pavement study and material analysis;
2. Placement of the GFRP FBMESH, overlapping the mesh sheets side by side for at least 15 cm;
3. Realization and laying of the pavement.

SPECIFICATION ITEM

RI-STRUTTURA is qualified with CE marking according to EAD 340392-00-0104 – CRM (Composite Reinforced Mortar) Systems for strengthening concrete and masonry structures.

Consolidation of pavements, made by supplying and laying on the entire surface of preformed network in fiber reinforced composite material G.F.R.P. (Glass Fiber Reinforced Polymer) mesh _____ mm, FBMESH_____ of Fibre Net, or equivalent, CE marked, consisting of glass fiber and vinylester-epoxy thermosetting resin, tensile strength characteristic of each bar \geq _____ kN, minimum section _____ mm² and having n° _____ bars/meter/side, average tensile modulus N/mm² _____, elongation at break _____, average axial stiffness EA _____ kN, characteristic knot tearing strength \geq _____ kN, provided with durability certificate in alkaline environment PH 12 for 1000 hours attesting a residual strength \geq 85%.

Recyclable material in compliance with CSI protocols.

Excludes: scrap, overlays, binder pour for slab formation, and any other material or workmanship not specified.

Note 1: Where applicable.

Note 2: The values of mechanical properties refer to the minimum value in the direction of weft (transverse flat yarns) and warp (longitudinal twisted yarns).

Mesh	Fire reaction class
FBMESH33x33T96AR	B-s1, d0
FBMESH66x66T96AR	A2-s1, d0
FBMESH99x99T96AR	A2-s1, d0
FBMESH66x66T192AR	B-s1, d0
FBMESH99x99T192AR	B-s1, d0

The purchaser is responsible for verifying the suitability of the products described in this document for its intended use and purposes. Fibre Net SpA assumes no responsibility for improper use of the material. The customer is required to verify that this sheet and the data reported therein are valid for the product batch of his interest and are not outdated as replaced by subsequent editions and / or new product formulations or certifications. The customer is invited to contact our Technical Department in advance. This edition cancels and replaces any previous one.