



## RI-STRUTTURA FBMESH66X66T192AR GFRP MESH - Mesh 66x66 mm

The GFRP mesh **FBMESH66X66T192AR** is a component of the RI-STRUTTURA SYSTEM – Reinforced Plaster Technique (CRM) (Composite Reinforced Mortar), qualified with CE marking.

**FBMESH66X66T192AR** Preformed GFRP (Glass Fiber Reinforced Polymer) mesh, manufactured by Fibre Net SpA with Textrusion™ technology, mesh 66x66mm. The alkali resistant mesh bars are made of fiberglass strands soaked with a thermosetting resin. Glass fibers and epoxy-vinyl ester thermosetting resin are worked and weaved orthogonally to obtain a monolithic square mesh sized specified as below. The weaving is made with multiple twisted warp and flat weft embedded into the warp yarns.



# RI-STRUTTURA FBMESH66X66T192AR

## TECHNICAL DATA

	Description	
Commercial Name	FBMESH66X66T192AR	
Manufacturer	Fibre Net SpA	
Mesh size (mm)	66 x 66	
Weight (g/m <sup>2</sup> )	842	
Roll size (cm)	Ø 50÷70 (external) x 200	
Fiber Nature	Alkali resistant glass	CE Marking – Equivalence Assessment n.9946 17- 12-2020
Nature of Matrix	Thermosetting epoxy-vinyl ester type	

## MECHANICAL CHARACTERISTICS (MESH)

Property	M.U.	Minimum Value between the two directions		Reference regulations
		Medium	Characteristic	
Tensile strength	MPa	485	395	ISO10406-1:2015 – CRM System Qualification
Tensile resistance for unit of length	kN/m	105	82.5	ETA-19/0004 ISO 10406-1:2015
Tensile resistance	kN	7.0	5.5	
Joint tearing resistance	kN	0.93	0.43	ETA-19/0004
Young's modulus	GPa	25.5		ISO10406-1:2015 – CRM System Qualification
Ultimate strain	%	1.5		

## GEOMETRICAL CHARACTERISTICS (MESH)

Property	M.U.	Value		Reference regulations
		Weft wire (flat threads)	Warp wire (twisted threads)	
Cross-sectional diameter dimensions <sup>(2)</sup>	mm	5.22	4.24	CNR-DT 203/2006
Nominal section of each bar	mm <sup>2</sup>	21.4	14.1	CNR-DT 203/2006 ACI 44.3R-04 ISO 10406-1:2015
Nominal area of fibers	mm <sup>2</sup>	7.2	7.2	CNR-DT200/2004 CNR-DT203/2006
Bars/meter for each side	N°	15	15	
Mesh size	mm	66x66		

# RI-STRUTTURA FBMESH66X66T192AR

## PHYSICAL CHARACTERISTICS (MESH)

Property		M.U.	Value		Reference regulations
			Weft wire (flat threads)	Warp wire (twisted threads)	
Fiber content (average value, minimum between weft and warp)	by weight	%	70		ISO 11667:1997(E)
	by volume		50		
Density	fiber	Kg/m <sup>3</sup>	2600		ISO 1183-1:2004 (E)
	matrix	Kg/m <sup>3</sup>	1200		
Glass transition temperature		°C	92		ISO 11357-2:2013
Operating temperature limits		°C	-15 ÷ +77		-
Water Resistance, (1000 hours) residual values	Tensile strength	%	100		ETA-19/0004
	Young's modulus		89		
Saltwater Resistance, (1000 hours) residual values	Tensile resistance	%	91		
	Young's modulus		90		
Alkali Resistance	Tensile resistance	%	96		
	Young's modulus		87		
Reaction to fire		-	Note 1		EN 13501-1:2009

### PROPERTY

- Preformed GFRP
- Bidirectionality
- Does not conduct electric currents
- Non-magnetic
- radiolucency
- Stainless

### BENEFITS

- Excellent mechanical characteristics
- Durability
- Recyclability
- Resistance to atmospheric agents
- Lightness and manageability
- Speed and ease of application
- Compatibility with the masonry and with lime or cement-based mortars
- Reversibility
- Thin thickness

# RI-STRUTTURA FBMESH66X66T192AR

## INDICATIONS ON THE APPLICATION OF THE SYSTEM

For applications according to the reinforced plaster technique C.R.M. (Composite Reinforced Mortar) integrate the mesh in the middle of the mortar bed, and make sure that the end sections are overlapped by 15 cm to guarantee mechanical continuity.

Refer to installation instructions on masonry and concrete of the RI-STRUTTURA System (CRM) contained in ETA-19/0004 d.d. 28/02/2019, the Fibre Net technical specifications for details on the applications of the network and the design indications of the specific intervention.

## PACKAGING

Meshes are delivered in standard coils 2 m height, with a total area between 40 and 100 m<sup>2</sup>. Special heights may be produced on demand. Standard pallets: 4 coils.

## CONDITIONS OF HANDLING AND STORAGE

Meshes must be stored in a covered and dry place, protected against rain and direct sunlight.

The user must refer to the most recent Safety Data Sheet.

The material shall be protected against any deposit or contact with dust, grease, oil or any material capable to reduce the adhesion between mesh and mortar. Care shall be taken during transport, handling and storage in order to avoid the breaking of threads due to excessive flexural efforts (folding, blows, etc.).

## SAFETY INSTRUCTIONS

During transport and handling use protective overalls and glove, goggles and safety face mask. In case of contact with skin, rinse with water and soap. In case of contact with eyes, rinse with water and seek medical advice if irritation persist. For information and advice about safety standard and about the use and conservation of the products, please refer to the current Safety Data Sheet.

## RECYCLABILITY

Fibre Net SpA has the "CSI RECYCLABLE COMPOSITES" certification for FRP products. GFRP FBMESH66X66T192AR is included in the products certified by CSICERT and is therefore wholly recyclable.



## SPECIFICATION ITEM

**FBMESH66X66T192AR** Pre-formed mesh in fiber-reinforced composite material G.F.R.P. (Glass Fiber Reinforced Polymer) by Fibre Net, or equivalent, for structural consolidation of floors, vaults, masonry walls, made by bricks, stone, tuff, limestone or concrete blocks. Component of the RI-STRUCTURE system according to the Reinforced Plaster Technique C.R.M. (Composite Reinforced Mortar), with ETA according to specific EAD, due to gravitational actions, wind and earthquake. Alkali resistant mesh, with monolithic square mesh – size 66x66 mm – manufactured by Fibre Net with Textrusion™ technology. Bars are made of fiberglass strands soaked with a thermosetting resin. Weaving with multiple twist warp and flat weft inserted between the warp fibers, minimum thickness 4 mm, with n.15 Bars for each side meter (side), composite tensile strength 395 MPa, nominal section of each bar  $\geq 14,1 \text{ mm}^2$  composite Young's modulus  $\geq 25500 \text{ N/mm}^2$ , characteristic tensile resistance for each bar wire  $\geq 5,5 \text{ kN}$ , ultimate strain 1,5%, characteristic Joint tearing resistance  $\geq 0,43 \text{ kN}$ .

Decay of tensile strength and elastic modulus for the humid, alkaline and saline environment <15%.

# RI-STRUTTURA FBMESH66X66T192AR

Note 1 The evaluation of the reaction to fire is determined according to the norm EN 13501-1:2007 + A1 2009. The minimal response to fire according to this classification it depends on the type of mesh:

Mesh type	Class of mortar used and his thickness	Reaction to fire
FBMESH33x33T96AR	A1 – sp. 25 ÷ 50 mm	B-s1, d0
FBMESH66x66T96AR	A1 – sp. 25 ÷ 50 mm	A2-s1, d0
FBMESH99x99T96AR	A1 – sp. 25 ÷ 50 mm	A2-s1, d0
FBMESH66x66T192AR	A1 – sp. 25 ÷ 50 mm	B-s1, d0
FBMESH99x99T192AR	A1 – sp. 25 ÷ 50 mm	B-s1, d0

Note 2 Value calculated in the hypothesis of circular cross section from the nominal section of each bar.

The purchaser is responsible for verifying the suitability of the products in this document for the use and purposes it aims at. 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 advantage. This edition cancels and replaces any previous one.