Armaglass Structura 33

Monolithic, preformed, glass fiber mesh, 33x33 mm mesh

Monolithic GFRP mesh made with glass yarn bars and pultruded epoxy resin. The bars are intertwined with each other through a stitching thread, using a unique technology that allows the formation of joints between the longitudinal and transverse bars with high mechanical resistance. The epoxy resin guarantees the mesh high dimensional stability, alkali resistance and improves the mechanical characteristics. The composite has large square meshes, the size of which is ideal for use with CRM mortars.

CUSTOMS CODE: 7019 6100
COMPONENTS: Single-component
APPEARANCE: Net
AVAILABLE COLORS: Black
PACKAGING AND DIMENSIONS: Roll 100 m²

OBTAINED CERTIFICATIONS AND REGULATIONS

EAD 340392-00-0104 ETA 23/0854
CRM (Composite Reinforced Mortar) systems for strengthening concrete and masonry structures.

FEATURES AND BENEFITS

Armaglass Structura 33 combines lightness and reduced thickness with excellent mechanical characteristics in the warp and weft. It resists atmospheric agents and aggressive environments, giving durability to the composite systems in which it is used. Suitable for any support and perfectly compatible with both cement-based and lime-based mortars.
Advantages:
• Easy installation
• Lightness, reduced thicknesses
• High mechanical performance
• Durability
• Stainless
• Radiolucency
• Zero electrical conductivity

FIELDS OF APPLICATION

The Armaglass Structura 33 fiberglass mesh, combined with our lime-based mortars (Intosana, Unisan) or cementitious (REPAR line) and Armaglass Connector GFRP connectors, is used for the reinforcement of masonry and concrete structures through the reinforced plaster technique (CRM system: Composite Reinforced Mortar). The mesh is a component of our RINFOR SYSTEM systems, which also include GFRP corners, gussets and connectors.
The mesh can also be used as reinforcement for collaborating caps, screeds, restorations with structural mortars on reinforced concrete structures (tunnel linings, port quays, pillars, piles, etc.), especially when located in aggressive environments (marine aerosols, salts de-icers etc.).

ALLOWED SUPPORTS

Concrete - Cement-based or lime-based mortars - Mixed walls (bricks and stones) - Brickworks - Stone walls - Porphyry and natural stones - Calcestruzzo armato - Lime and lime-cement plasters and mortars

PREPARATION OF SUPPORTS

To prepare the support, carefully follow what is indicated in the technical data sheets of the mortar with which the Armaglass Structura 33 mesh is combined.

MODE OF USE

For CRM reinforced plastering interventions:
Cutting the net
Unroll to the required length and preliminarily cut the mesh with a cutting hose with a diamond blade or tinsmith's shears. During the unrolling and handling of the rolls of net, be careful not to damage the net.
Application of the CRM System
Removal of existing plaster or concrete cover and all deteriorated parts. Saturate the support with low pressure water, apply if necessary (due to the conditions of the masonry, the type of mortar used or the thickness of the reinforcement) a rough coat of mortar, manually or with a plastering machine and leave the surface unfinished.
Place the Armaglass Structura 33 mesh on the surface of the masonry to be reinforced. At the overlaps, overlap the mesh bands by at least 15 cm.
GFRP Armaglass Connectors, with improved adhesion and 8mm diameter, are used as connection elements of the reinforcement system. Before installation, mark their arrangement on the support beforehand. Use a rotary drill to make holes with a diameter of 12 mm to house the connector (if working on one side only, the hole must be pushed deep to at least 2/3 of the thickness of the wall). Before inserting the connector into the hole, position the Armaglass Grid 33 GFRP distribution gusset which will be blocked against the mesh during the grouting phase of the connector. Carry out a thorough cleaning of the hole and grout the connector with chemical anchor (Syntech Profix or Syntech Fix EP).
Proceed with spraying or throwing the mortar, in one or more hands. The mortar will entirely cover the GFRP elements with a total thickness according to the design documents. In order to guarantee the structural continuity of the reinforcement system in correspondence with all corner areas (openings, etc.), apply Armaglass Corner 33 GFRP corner piece.
In case of intervention on both faces, two connectors will be inserted, one long and one short (the relative lengths must be chosen according to the thickness of the masonry). Make the 12 mm through hole. At the face where the short connector will be inserted and where the two connectors will overlap, enlarge the hole until reaching a total diameter of the hole equal to approximately 22-24 mm. The overlap between the connectors must be at least 11 cm long. After drilling the holes, carefully clean them with compressed air and inject chemical anchor based on Syntech Fix EP epoxy resin. Before inserting the connectors into the holes, always position GFRP Armaglass Grid 33 distribution gussets which will be blocked against the mesh during the grouting phase of the connectors. Proceed with spraying or throwing the mortar, in one or more hands. The mortar will entirely cover the GFRP elements with a total thickness according to the design documents.
During the mortar curing phase, protect it from thermal stress and conditions of strong evaporation. It is always advisable to cure the mortar in a humid environment for at least 48-72 hours.

APPLICATION METHODS

Apply by hand

KEY FEATURES

- Lenght: 50 m
- Unlimited shelf-life
- UV-resistant
- Suitable for contact with drinking water
- Use wearing protective gloves
- Width: 2 m

TECHNICAL SPECIFICATIONS

Mesh size **33 x 33 mm**

Number of warp threads **30 nr/m**

Number of weft threads **30 nr/m**

Unit weight **830 g/m²**

Two-way texture

Alkali-resistant material

CNR-DT 203/2006
Nominal diameter of single strand (warp) **3 mm**

CNR-DT 203/2006
Nominal diameter of single strand (weft) **3 %**

CNR-DT 200/2004 CNR-DT 203/2006
Nominal Area of Fibers (Weft) **4.5 %**

CNR-DT 200/2004 CNR-DT 203/2006
Nominal Area of Fibers (Warp) **4.5 mm²**

CNR-DT 203/2006
Nominal area of single strand (weft) **7.07 mm²**

CNR-DT 203/2006
Nominal area of single strand (warp) **7.07 mm²**

ISO 11667:1997E
75 %

ISO 1183-1:2004E
Fiber density **2.6 g/cm³**

ISO 1183-1:2004E
Density of the matrix **1.2 g/cm³**

EAD 340392-00-0104 ISO 10406-1:2015
Average tensile load for single bar **5.8 kN**

EAD 340392-00-0104 ISO 10406-1:2015
Average tensile load per unit length **174 kN/m**

EAD 340392-00-0104 ISO 10406-1:2015
Strain at break, characteristic value **1.96 %**

EAD 340392-00-0104 ISO 10406-1:2015
Tensile elastic modulus, average value **40.1 GPa**

EAD 340392-00-0104 ISO 10406-1:2015
Tensile strength, characteristic value **724 MPa**

CONSUMPTION

Use 1.15 m2/m2 of Armaglass Structura 33: the adjacent sheets of fiberglass mesh must be overlapped along the edges by at least 15 cm.

STORAGE AND CONSERVATION

Store the product in its original packing, in a fresh and dry environment, avoiding frost and direct sunlight.

WARNINGS AND PRECAUTIONS

The general information, along with any instructions and recommendations for use of this product, including in this data sheet and eventually provided verbally or in writing, correspond to the present state of our scientific and practical knowledge.
Any technical and performance data reported is the result of laboratory tests conducted in a controlled environment and thus may be subject to modification in relation to the actual conditions of implementation.

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Those wishing to utilise the product are required to determine prior to use whether or not the same is suitable for the intended use, assuming all consequent responsibility.

The technical and characteristic details contained in this data sheet shall be updated periodically. For consultation in real time, please visit the website: www.azichem.com. The date of revision is indicated in the space to the side. The current edition cancels out and replaces any previous version.

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It is forbidden to dispose of the product and/or packaging in the environment.