MasterBrace CON

High-strength carbon or glass yarn rope from the MasterBrace FIB (Fiber Reinforced Polymer) system.

MATERIAL DESCRIPTION

MasterBrace CON is a fibrous reinforcement consisting of carbon or glass threads, held together by a sort of gauze, as in the following figure.
It can be applied in combination with the structural resins of the MasterBrace line, or of the MasterEmaco line.
MasterBrace CON is used to make structural connections between existing structures and reinforcements made with FRP fabrics or nets.

FIELDS OF APPLICATION

It is used for anchoring and transferring stresses from the reinforcement plane (made for example with MasterBrace FIB) and the reinforced structure, for example on masonry structures.

FEATURES AND BENEFITS

MasterBrace CON is characterized by:

- extreme lightness;
- high tensile strength (higher than harmonic steel strands);
- excellent durability against all aggressive chemicals present in concrete such as alkaline hydroxides, chlorides and sulphates;
- excellent adhesion to the expansive cementitious or resin matrix.

PACKAGING

10 m rolls

STORAGE

Store the product in a covered, cool and dry place (5 ÷ 30°C) away from direct contact with the sun, fire or open flames.

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Essential characteristics	MasterBrace CON 12 CFS	MasterBrace CON 10 CFS	MasterBrace CON 10 GF	MasterBrace CON 8 CFS
Diameter	12 mm	10mm	10 mm	8 mm
Characteristic tensile modulus of elasticity, ASTM D3039	230 GPa	230 GPa	65 GPa	230 GPa
Ultimate deformation, ASTM D3039	1.4 %	1.4 %	4 %	1.4 %
Characteristic Tensile Strength of the composite, ASTM D3039	2500 MPa	2500 MPa	1200 MPa	2500 MPa
Characteristic tensile strength of the fiber	5128.9 MPa	5128.9 MPa	2580 MPa	5128.9 MPa
Thermal expansion coefficient	10^{-7} K^{-1}	10^{-7} K^{-1}	5·10-6 K-1	10^{-7} K^{-1}
Electrical resistivity	$1,6 \cdot 10^{-5}$ Ω·m	$1,6 \cdot 10^{-5}$ Ω·m	insulating	$1,6 \cdot 10^{-5}$ Ω·m
Equivalent area of dry tissue	31.40 mm^2	25,91 mm^2	25,91 mm^2	21.24 mm^2

APPLICATION SHEET

APPLICATION OF REINFORCEMENT AND DRILLING

MasterBrace CON is generally applied to complete a reinforcement system already applied. For particular applications it can be implemented simultaneously with the reinforcement system, but this involves difficulties at the application level. Therefore, we will generally proceed with the preliminary implementation of the second reinforcing fabric or mesh
the methods indicated in the project and according to the installation procedures indicated in the relative technical data sheet of the FRP material selected in the project.
In the case of fabric application, care must be taken to try to widen the fibers of the fabric in the application phase in correspondence with the subsequent positioning area of MasterBrace CON (to avoid drilling the fibers where the drilling will subsequently be performed).
In the case of network application, obviously the hole must be made in correspondence with the void inside the mesh of the network itself.
To make the connection, a hole of adequate diameter (at least 18-20 mm) must first be made for a depth generally not less than 20 cm and in any case in compliance with the design specifications. Then we will proceed to dedust and clean the support using compressed air or a suitable system.

APPLICATION

We will initially proceed to cut with scissors at the foot of the MasterBrace CON work in the desired length, according to the design indications (keeping the gauze). It is advisable to carry out this operation by setting up a simple work table or in any case keeping the product well clean.
At this point, MasterBrace CON will be applied to the structure to be consolidated using a suitable adhesive product for anchoring MasterBrace CON according to the geometry of the hole:

- MasterFlow 960 or MasterInject 1360 for applications on holes on the ground or inclined below the horizontal;
- MasterFlow 920 AN or for applications on holes with axis from the horizontal to the overhead.

We will proceed by filling part of the hole previously made and slowly inserting and alternating for short stretches the clockwise rotation to the counterclockwise one the portion of MasterBrace CON previously cut (keeping the gauze), inside the hole itself for the length request.
For the correct mixing and application of the above products, please refer to the relative technical data sheets.
We will then proceed to fix the non-grouted part on the level of the previously made reinforcement. You must first proceed with the preparation of the gluing plan:

- if it consists of epoxy resin (as in the case of the previous application of fabrics or mesh with MasterBrace SAT 4500, for correct mixing and application refer to the relative technical data sheet).

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We will start by simply cleaning the bonding surface with a suitable diluent and / or sanding the surface itself, then proceeding to dust it off;

- if it consists of cement mortar (as in the case of application of carbon or glass mesh with skimming from the MasterEmaco line), the mortar itself must be cleaned with suitable means, and then the application of a suitable primer (MasterBrace P 3500, for correct mixing and application refer to the relative technical data sheet).

We will then proceed to remove the MasterBrace CON gauze (the part that holds the carbon or glass yarn) in the part to be "sfioccare". It will therefore be necessary to proceed by opening the MasterBrace CON staple with a radial pattern (or according to the design indications in order to create the required connection) and its subsequent gluing by impregnating the staple with MasterBrace SAT 4500 resin, following the application methods indicated in the relative technical data sheet, as well as the relative indications for the correct curing and protection of the adhesive.

WARNINGS

The products of the MasterBrace line are for professional use. For further information, consult the Master Builders Solutions Italia Spa area technician.

SAFETY INSTRUCTON

This product is an article, and pursuant to Regulation (EC) No. 1907/2006 of the European Parliament and of the Council concerning the registration, evaluation,
the authorization and restriction of chemicals (REACH) and subsequent amendments and as such there is no Safety Data Sheet.

OTHER SERVICES

For price analysis, specifications, supplementary brochures, references, reports and technical assistance, visit the website www.master-builders-solutions.com/it-it or contact infomac@mbcc-group.com.

Scan the QR code to visit the product page and download the latest version of this datasheet.

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