

ARMOGRIP C

UNIDIRECTIONAL CHORDS IN CARBON FIBER FOR STRUCTURAL INTERCONNECTIONS



ARMOGRIP C unidirectional chords are made of high-strength carbon fibres arranged in parallel bundles and wrapped by an elastic gauze; they are ideal for structural anchoring and interconnections when reinforcing structures with tapes and plates of ARMOSHIELD line. They are available in diameters of 6, 8, 10 and 12 mm and are applied by simply impregnating them with ARMOFIX MTX or MTX epoxy bonding adhesives depending on the type of application.

BENEFITS

- ✓ High mechanical tensile strength, chemical resistance and resistance to corrosion.
- ✓ It improves the resistance without increasing weight.
- ✓ Lightweight and easy to apply.
- ✓ High resistance to aggressive agents and alkaline hydroxides.
- ✓ System's reliability and durability.



WHERE TO USE

- ▶ Structural connections of reinforcements carried out with the ARMOSHIELD system.
- ▶ Anchoring of structural reinforcements of vaults, continuous and discontinuous wall, load bearing structures in stone or tuff and concrete structures.

SUBSTRATES PREPARATION

If the surface to be reinforced is deteriorated, prepare it carefully before inserting the connectors or bars.

CLEANING AND RESTORATION

- ▶ Remove all loose and crumbling parts from the area to be restored, taking care not to damage the structures; remove stains, efflorescences, residues of oil, grease, varnish, dust, dirt, form-release agents, etc.
- ▶ If working on masonry and vaults, clean the surface by brushing and dedusting. Any crack shall be saturated with mortars of ARMOLIME line which are specifically designed to treat masonry structures, or with fluid grouts based on lime.
- ▶ On well preserved concrete substrates clean by simply sandblasting. In the presence of deteriorated substrates, remove the damaged layer by milling or hydroblasting.

- ▶ If there are reinforcement bars, remove all traces of rust or residues that could trigger their corrosion by sandblasting or brushing. Hydroblasting effectively cleans the bars, so that sandblasting is not needed. Now treat the reinforcement bars with DRACOSTEEL, the passivating corrosion inhibitor.
- ▶ If necessary, restore the substrate and carry out the volumetric reconstruction of concrete with mortars of FLUECO line. For reconstructing edges and repairing hairline cracks it is possible to use ARMOFIX MTL. In the presence of fissures and cracks, restore the load-bearing capacity and the structure's monolithic nature by injecting special high-diffusion resins (EPOX INIEZIONE R.M.2 or R.M.3).

DRILLING THE HOLES

Drill the holes on the masonry according to the size of the connector to be used, with a diameter between 12 and 16 mm and at least 2 cm deeper than the connector's depth. The actual sizes will be evaluated on the basis of the size and type of masonry, as defined by the designer. Round the edges of the hole outer profile (minimum radius of 1cm), and remove dust and loose material by vacuum cleaner.

PRIMING

Apply ARMOPRIMER 100 primer inside the holes by brush or pipe cleaner. For particularly absorbent substrates you can apply a second coat of product.

PREPARATION OF ARMOGRIP C

The connector's size shall be calculated according to the size of the masonry, taking into account that the length of the external thread must be at least 20 cm. Take a section of thread out from its protective gauze, impregnate it with ARMOFIX MT and reposition the gauze on the section previously extracted. Make sure that the fibres are adequately impregnated with resin. The surface of the section impregnated with resin shall be treated with quartz sand to facilitate the connector's application. After the impregnating resin has hardened, apply the connector.

APPLICATION

ARMOGRIP C unidirectional carbon fibre connector is used in combination with ARMOSHIELD C carbon fibre fabrics in order to connect the existing structures and the reinforcement system. During the positioning of ARMOSHIELD C carbon fibre tapes, which must be carried out observing the related technical data sheets instructions, pay particular attention near the holes previously drilled, where connectors will be inserted: the fabric's weft shall be gently widen until the hole is exposed, taking care not to break the fibres thus allowing the connectors to come out of the holes.

ADHESIVE SELECTION AND APPLICATION

The adhesive selection must be made according to the type of hole to be filled:

- ▶ ARMOFIX MT, epoxy adhesive for horizontal applications in the floor or in the extrados of vaults.
- ▶ ARMOFIX MTX, thixotropic adhesive for vertical applications.

Prepare the product observing the mixing ratio specified in the technical data sheet.

CONNECTOR APPLICATION

Insert the connector prepared as described previously, to help expel the excess resin from the hole. Carry out this operation carefully and slowly to avoid an excessive loss of product and the creation of voids. The connector portion which has not been impregnated and comes out of the hole (thread) should be opened like a fan and fixed to the surface surrounding the hole by resin impregnation. The adhesive should be applied first on the surface to be bonded and then on the fibres opened like a fan. In order to protect the connector, take a portion of ARMOSHIELD C carbon fibre fabric of a size which enables the full covering of the thread and apply it over the first coat of resin while it is still fresh taking care not to create creases. The fabric shall be impregnated again with epoxy resin using a specific spiked roller to facilitate penetration through the fibres. Where a finishing is envisaged, quartz sand should be applied over the fresh resin coat.

PRECAUTIONS

Use rubber gloves and safety glasses while applying and cleaning. Avoid contact of resin with skin, mucous membranes and eyes; if contact occurs, wash with plenty of water and neutral soap.

LAYING PRECAUTIONS

Do not apply the product at temperatures below + 5°C. The presence of moisture may affect the proper bonding of the adhesive. Protect the surfaces from rain and wind for at least 24 hours if the temperature does not drop below 15° C, and for at least 3 days if the temperature is lower.

PACKAGING AND STORAGE

ARMOGRIP C is available in various diameters and is supplied in boxes containing 10 metres rolls. Store the product in its original packaging, indoors in a dry location at a temperature of not less than + 10°C.



PRODUCT FEATURES

APPEARANCE	Unidirectional fibres wrapped in protective gauze
FIBRE TYPE	High-strength carbon fibre
AVAILABLE DIAMETERS (mm)	8-10-12
PACKAGING	10 m roll

STRAND FEATURES

SPECIFIC GRAVITY (g/cm ³)	1.82
MECHANICAL TENSILE STRENGTH (MPa)	4700
MODULUS OF ELASTICITY (GPa)	250
ELONGATION AT BREAKAGE (%)	1.9

FEATURES OF THE IMPREGNATED CONNECTOR

ELONGATION AT BREAKAGE (N/mm ²)	2400
LONGITUDINAL MODULUS OF ELASTICITY (GPa)	210
DEFORMATION AT BREAKAGE (%)	1,14
RESISTANT SECTION (mm ²):	8 mm diameter - 21.83
	10 mm diameter - 27.29
	12 mm diameter - 32.75

Legal notice - SLCMP version dated 01.03.2017

In the technical specifications herein, Draco Italiana s.p.a. used the indicators therein specified, with the relevant standards.

Please check if this Sheet and the figures therein contained apply to the product batch you are interested in or if they have been overridden by any later release. If in doubt, check whether this Sheet matches the one applicable at the time of finalising the sales agreement, at www.draco-edilizia.it, and/or contact our Engineering Department.

No advice provided by our staff, either verbally or in writing at your request, about the potential applications of the Products shall be binding under the sales agreement or shall be considered an integral part of the agreement. Such advice is based on our experience and on the best available practical and/or scientific knowledge; as such, it shall not be binding or conditional on the buyer or user. Please try our products first to find out whether they are fit for your intended use or application; in any case, you shall be solely responsible for your choice.