

ARMOGRIP

ARAMID FIBRE CONNECTORS FOR STRUCTURAL ANCHORING OF ARMOSHIELD CARBON-FIBRE TAPES



The **ARMOGRIP** connectors are anchoring devices made of high-strength aramid fibres woven in bundles resulting in a hollow braid around a spring; ideal for structural anchoring and interconnections in reinforcement systems with carbon-fibre fabrics and tapes of the ARMOSHIELD line. Available in various lengths, they are applied by simply impregnating them with ARMOFIX MT or MTX epoxy bonding adhesives depending on the type of application.

BENEFITS

- ✓ High mechanical resistance to traction, chemicals and corrosion.
- ✓ Increased resistance without weight gain.
- ✓ Light and easy to apply.
- ✓ High resistance to aggressive substances and to alkali hydroxides.
- ✓ Reliability and durability of the system.

WHERE TO USE

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



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SUBSTRATES PREPARATION

The surface to be treated, if damaged, should be carefully prepared before introducing connectors or bars.

CLEANING AND RESTORATION

- ▶ **Remove all loose and crumbling parts** from the area to be restored, by taking care not to damage the structures; **remove stains, efflorescences or residues of oil**, grease, varnish, dust, dirt, form-release agents, etc.;
- ▶ **Before any work on walls and vaults** the surface must be carefully brushed and dedusted. Any cracks must be saturated with ARMOLIME line mortars, specifically used to treat masonry structures or for lime-based grouts.
- ▶ **On well-preserved concrete** substrates proceed with a simple sandblasting process. In case of deteriorated substrates, remove the damaged layer by means of milling or hydroblasting.
- ▶ **The rebars**, if present, must exhibit no rust or residues that might cause corrosion. To this purpose proceed with sandblasting or brushing. Milling by hydrosandblasting the substrate effectively cleans the rebars too, thus making sandblasting not necessary. Then the rebars must be treated with the passivating product DRACOSTEEL inhibiting corrosion.
- ▶ If necessary, proceed with the substrate restoration and with the volumetric reconstruction of concrete with mortars of the FLUECO line. For restoring edges or micro-cracks the product ARMOFIX MTL can be used. In the presence of fissures and cracks, restore the structure's load-bearing capacity and monolithic nature, by injecting highly diffusive special resins (EPOX INIEZIONE R.M.2 or R.M.3).

ARRANGEMENT OF HOUSING HOLES

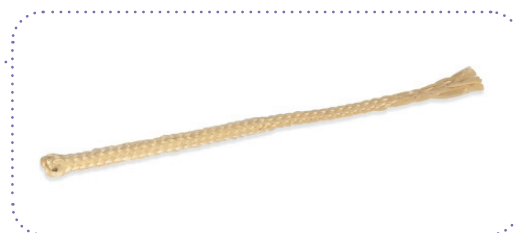
Drill the holes in the wall according to the connector size, whose diameter is comprised between 14 and 18 mm and with a depth of at least 12 cm. The actual sizes will be evaluated on the basis of the size and type of wall, as defined by the designer. The edges of the outer profile of the hole must be rounded (minimum radius 1 cm), whereas dust and loose material must be removed by vacuum cleaner.

PRIMING

Proceed then with the application of ARMOPRIMER 100 by brush (or pipe cleaner) inside the holes. For particularly absorbent substrates a second coat of product may be applied.

ARMOGRIP PREPARATION

The sizes of the aramid thread must be calculated according to the wall thickness on specific indication by the designer, by taking into account that the outer thread length be at least 20 cm. Other sizes than those available may be carried out upon request.



APPLICATION

The unidirectional aramid fibre connector **ARMOGRIP** is used in combination with the carbon-fibre fabrics ARMOSHIELD C for anchoring the existing structures to the reinforcement system. While positioning the carbon-fibre tapes ARMOSHIELD C, in accordance with the prescriptions of the relative technical sheets, special attention must be paid to the holes made previously, where the aramid connectors shall be housed: the weave of the carbon-fibre fabrics must be gently enlarged to uncover the hole, by taking care not to break the fibres, to allow the connectors to protrude.

SELECTION AND APPLICATION OF THE ADHESIVE PRODUCT

According to the type of hole to be filled, the following must be used:

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

Prepare the product by mixing as specified on the technical sheet.

CONNECTOR APPLICATION

Introduce **ARMOGRIP** into the hole and proceed with impregnation and filling of the connector cavity for its entire length with suitable resin injected by using a cartridge. The end portion of the aramid connector which has not been impregnated, coming 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, then on the fibres opened like a fan. In order to protect the connector, on the coat of resin which is still fresh apply a portion of carbon-fibre fabric ARMOSHIELD C of such a size to adequately cover the thread completely, trying to make no wrinkles. The fabric must be impregnated again with epoxy resin, by using the special spiked roller, to facilitate the product permeation into the fibres. Where finishing is also requested, quartz sand must 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 RECOMMENDATIONS

Do not apply the product at temperatures below +5°C. The presence of humidity might affect the proper product adhesion. Protect the surfaces from rain and wind for at least 24 hours with temperatures up to 15°C. With lower temperatures protect the surfaces for at least 3 days.

PACKAGING AND STORAGE

ARMOGRIP is available in lengths from 10 to 50 cm with diameter 12 mm. Upon express request, different lengths may also be made according to the project's surface. Store the product in its original packaging indoors in a dry location at a temperature not below +10°C.

PRODUCT CHARACTERISTICS

APPEARANCE	Hollow thread consisting of interwoven filaments around a spring
FIBRE TYPE	High-strength aramid fibre
AVAILABLE DIAMETERS	12 mm

PERFORMANCE CHARACTERISTICS

STRAND TENSILE STRENGTH	2900 MPa
LENGTHWISE MODULUS OF ELASTICITY	120 GPa
ELONGATION AT BREAKAGE	2.5%
CONNECTOR TENSILE STRENGTH	56 kN
STRAND SECTION	0.239 cm ²

AVAILABLE SIZES

TYPE	THREAD LENGTH	CONNECTOR LENGTH
A10F20	20 cm thread	10 cm
A20F20	20 cm thread	20 cm
A30F20	20 cm thread	30 cm
A50F30	30 cm thread	50 cm

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.