



# DRIZORO<sup>®</sup> CARBO CONNECT

## PRE-FORMED CARBON FIBER CONNECTOR FOR STRUCTURAL REINFORCEMENT OF CONCRETE WITH FRP SYSTEMS



Single-wire connection



Double-wires connection

### DESCRIPTION

**DRIZORO<sup>®</sup> CARBO CONNECT** is a high strength carbon fibre threads wrapped in a cylindrical shape, suitable as connector of **DRIZORO<sup>®</sup> WRAP** and **DRIZORO<sup>®</sup> CARBOMESH** systems with the concrete structure to be reinforced. It is available in various diameters.

### APPLICATION FIELDS

- Structural reinforcement of concrete, brick, masonry, wood, etc.
- Anchoring and connecting FRP systems in all kind of civil works, residential buildings, historical buildings, heritage, etc.

### ADVANTAGES

- Easy and quick system to be applied in-situ, it does not require special tools or equipments.
- Considerable savings of application in execution time and labor cost.
- Efficiency and efficacy of execution.

### APPLICATION INSTRUCTIONS

*Step 1. Concrete Surface Preparation:* The surface to be strengthened must be sound, dry and clean, free from dirt, remains of paints, gypsum, efflorescences, greases, oils, as well as de-moulding agents, curing agents or any coating, which could affect the adhesion. After the surface preparation, many defects greater than 5 mm can be exposed. So that before the application of **DRIZORO<sup>®</sup> CARBO CONNECT**, all surface

damages such as defects, cavities, honeycombs, peelings should be filled with a repair mortar.

*Step 2. Drilling the holes.* After the application of reinforcing has been applied on the concrete or brick structure, a series of holes are made in the structure (drilling also the applied reinforcement), as many holes as the connectors to be applied.

The hole depth will be the same as the length of the rigid part of the Linker rod plus approx. 2 cm. The diameter will be about 2/3 mm larger than the **DRIZORO<sup>®</sup> CARBO CONNECT**.

*Step 3. Preparation of carbon fibres.* Once the holes have been made, they must be thoroughly cleaned by blowing out the dust with compressed air. At this point, **MAXFIX<sup>®</sup> ER** resin is injected in the hole and the rigid part of **DRIZORO<sup>®</sup> CARBO CONNECT** is inserted, leaving the soft part hanging. The amount of the resin injected will be such as to fill the free space between the hole and the rigid carbon shaft completely; this is accomplished only if resin can be seen coming out at the front when inserting the linker. It is now possible to glue the soft carbon fiber part to the flat reinforcing surface applied previously, so that the whole becomes a single uniform body. The reinforcement must then be resined all-round the soft part, which can then be opened in "star" formation. A final surface coating resin, applied manually with a spatula or brush, concludes operation.

## Application Conditions

Do not apply if rain, contact with water, condensation, dampness and dew is expected within the first 24 h after application.

Do not apply with substrate and/or ambient temperature is at or below 8 °C, or when are expected to fall below 8 °C within 24 h after application. Do not apply to frozen or frost-covered surfaces.

Ambient and surface temperature must be at least 3 °C higher than dew point. Do not apply with R.H. higher than 85 %. Check relative humidity and dew point before application. With low temperatures, high humidity levels or both, use dry and warm air in order to get the suitable conditions, such as with an electric powered air blower system.

Temperatures above 30 °C lead a quick-setting between components and heat production, so the pot life is greatly reduced.

## Curing

Curing time for **MAXFIX<sup>®</sup> ER** depends on substrate/ambient temperature. It varies from 3,5 to 7 hours and from 4 to 24 hours for primer and anchoring resin respectively.

Care should be taken at the work site to keep rain, sand, dust, etc., away from the concrete surface retrofitted with **DRIZORO<sup>®</sup> CARBO CONNECT**. Use of protective sheets is recommended and care must be taken to keep the protective sheets from touching the application until is fully cured.

## Cleaning

All tools and equipment used for **DRIZORO<sup>®</sup> CARBO CONNECT** application can be cleaned immediately with **MAXEPOX<sup>®</sup> SOLVENT** after use. Once any epoxy-based product (primer, levelling putty or resin) cures, can only be removed by mechanical means.

## IMPORTANT INDICATIONS

- Prior to the epoxy-based product application, check and confirm the on-site conditions: substrate/ ambient temperature, substrate/ ambient humidity, dew point, etc..

- Do not dilute resin with any organic solvent. It may decrease the tensile strength and other properties of the cured laminate.
- After mixing the main agent and hardener, be sure to use it within its pot life. Once the mix starts to heat or increase noticeably its viscosity, stop using it immediately.
- For other uses not specified on this Technical Bulletin or further information, consult the Technical Department.

## PRESENTATION

**DRIZORO<sup>®</sup> CARBO CONNECT** is supplied in different diameters. Please, check the Technical Data for types and dimensions.

## STORAGE

**DRIZORO<sup>®</sup> CARBO CONNECT** has an indefinitely shelf life in its unopened and undamaged original sealed packaging. Store in a cool, dry and covered place, protected from moisture, freezing and away from direct exposure to sunlight at temperatures above 5°C.

## SAFETY AND HEALTH

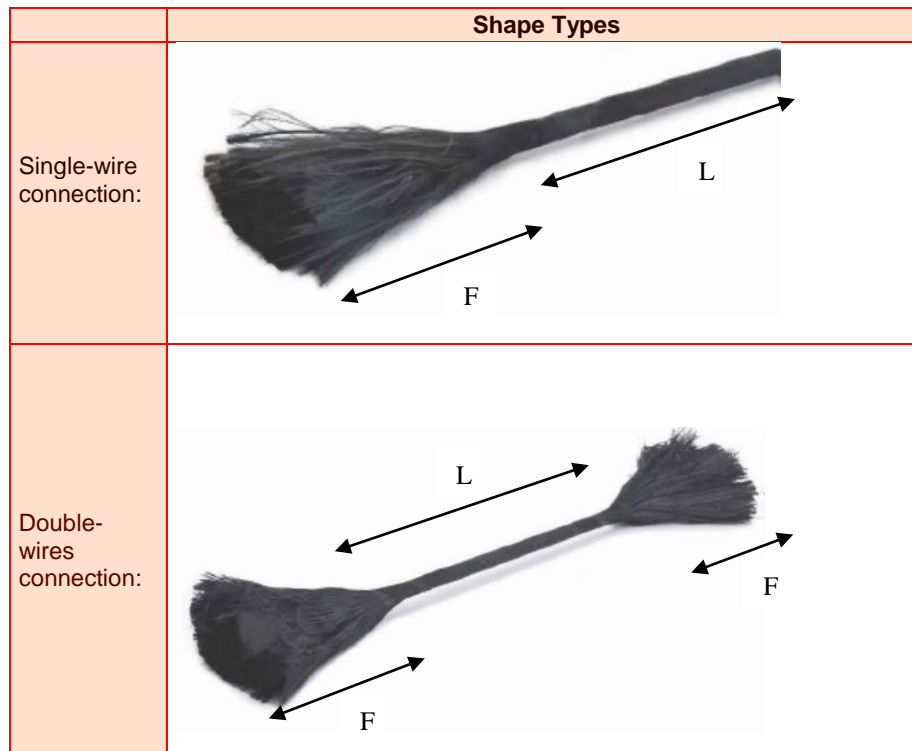
Carbon fiber is a highly conductive material. Therefore, if it comes in contact with electrical apparatus or machinery, there is risk of electric shocks or short-circuiting.

Wear full protective clothing including goggles, rubber gloves and masks during application. In case of skin contact, wash affected areas with soap and water. In case of eye contact rinse immediately and thoroughly with clean water but do not rub. If irritation continues, seek medical attention.

Consult the Material Safety Data Sheet for **DRIZORO<sup>®</sup> CARBO CONNECT**.

Disposal of the product and its packaging should be carried out according to the current official regulations and it is responsibility of the final user of product.

## TECHNICAL DATA



| TYPE                     | Diameter (mm) | Dimensions              |                             | Tensile modulus (GPa) |
|--------------------------|---------------|-------------------------|-----------------------------|-----------------------|
|                          |               | L (Thread central part) | F (Non-thread lateral part) | E                     |
| Single-wire connection:  | 6             | 20                      | 15                          | 140                   |
|                          | 8             | 20                      | 15                          | 140                   |
|                          | 10            | 20                      | 15                          | 140                   |
|                          | 12            | 20                      | 15                          | 140                   |
| Double-wires connection: | 6             | 20                      | 15                          | 140                   |
|                          | 8             | 20                      | 15                          | 140                   |
|                          | 10            | 20                      | 15                          | 140                   |
|                          | 12            | 20                      | 15                          | 140                   |

## GUARANTEE

The information contained in this leaflet is based on our experience and technical knowledge, obtained through laboratory testing and from bibliographic material. **DRIZORO®**, **S.A.U.** reserves the right to introduce changes without prior notice. Any use of this data beyond the purposes expressly specified in the leaflet will not be the Company's responsibility unless authorised by us. We shall not accept responsibility exceeding the value of the purchased product. The data shown on consumptions, measurement and yields are for guidance only and based on our experience. These data are subject to variation due to the specific atmospheric and jobsite conditions so reasonable variations from the data may be experienced. In order to know the real data, a test on the jobsite must be done, and it will be carried out under the client responsibility. We shall not accept responsibility exceeding the value of the purchased product. For any other doubt, consult our Technical Department. This version of bulletin replaces the previous one.



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