



DRIZORO[®] WRAP CONNECT

UNIDIRECTIONAL CARBON FIBRE CORD FOR STRUCTURAL CONNECTIONS OF DRIZORO FRP SYSTEMS

DESCRIPTION

DRIZORO[®] WRAP CONNECT is a unidirectional, high strength carbon fibre threads wrapped in a cylindrical or cord shape with a protective mesh sheath, suitable as fibre connector for the **DRIZORO[®] WRAP** and **DRIZORO[®] CARBOMESH** systems with the existing structures to be strengthened. The cords are available in various diameters.



APPLICATION FIELDS

- Structural connection to be applied and prepared in situ on masonry units (stone, brick, etc...) or concrete structures with carbon FRP systems.
- Anchoring for flexural and shear FRP systems on restoration of concrete/masonry units.
- Near surface mounted strengthening system.

ADVANTAGES

- Increase of connection between FRP systems and existing substrates to be strengthened.
- High tensile strength and fatigue strength.
- Very low weight.
- Long lasting. It withstands almost all chemicals, marine environments and freeze-thaw cycles. It is non-corrosive system.
- Easy and quick to apply. It does not required maintenance.

APPLICATION INSTRUCTIONS

Application Procedure

There are eight main steps in the application procedure of the **DRIZORO[®] WRAP CONNECT** as described below:

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 initial surface abrasion, many defects greater than 5 mm can be exposed. So that before the application of **DRIZORO[®] WRAP CONNECT**, all surface damages such as defects, cavities, honeycombs, peelings should be filled with a repair mortar. For further details, see **DRIZORO[®] WRAP** Technical Bulletin

Step 2. Drilling the holes. Holes must be at least 18/20 mm in diameter, and depth calculated according to the thickness of the masonry/concrete element.

Step 3. Preparation of carbon fibres. Using a scissor or utility cutter, cut a piece to the specified length required for connection leaving at least 15 cm on both ends. Unroll the protective mesh for one ends of the cord to a length equal to the depth of the hole. Open the carbon fibre beam for impregnation with **MAXEPOX[®] CS**. Make sure fibres are completely covered with resin. Cover the impregnated fibres with the protective mesh sheath again. Once portion of cord formed is cured, this is ready to be insert into the hole.

Step 4. Placing of cords and splaying the fibres. Fill the hole with the **MAXFIX[®] ER** epoxy anchoring resin, and then insert the **DRIZORO[®] WRAP CONNECT** into the hole, leaving its end free. The part of cord which has not been inserted into the hole must be splayed open, and then applied directly onto the substrate previously coated with **MAXEPOX[®] CS** to make connector become integral with existing structure.

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 **MAXEPOX[®]-CS** and **MAXFIX[®] 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[®] WRAP 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[®] WRAP CONNECT** application can be cleaned immediately with **MAXEPOX[®] SOLVENT** after use. Once any epoxy-based product (primer, levelling putty or resin) cures, can only be removed by mechanical means.

CONSUMPTION

Estimated consumption for **MAXEPOX[®] CS** is about 1,0-1,5 kg/m² per coat.

Estimated consumption for **MAXFIX[®] ER** depends on the metrics and depth for holes.

These figures are for guidance only and may vary depending on porosity, texture and conditions for substrate, and application method. Perform a preliminary test on-site to ascertain the total consumption exactly under jobsite conditions.

IMPORTANT INDICATIONS

- Prior to the epoxy-based product application, check and confirm the on-site conditions which can affect the **DRIZORO[®] WRAP CONNECT** application: substrate/ambient temperature, moisture level and dust.

- Do not dilute primer or 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.
- If the mixed resin should start to rapidly generate heat or significantly increase in viscosity, stop using it immediately.
- For other uses not specified in this Technical Bulletin, further information or questions regarding the application of the product, consult the Technical Department.

PACKAGING

DRIZORO[®] WRAP CONNECT is supplied in 10 m rolls in a box. It is available in four different diameters: 6, 8, 10, and 12 mm.

STORAGE

DRIZORO[®] WRAP CONECT 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 enters electrical apparatus or machinery, there is the possibility of electric shocks or short-circuiting.

Epoxy-based resins for **DRIZORO[®] WRAP CONECT** can cause irritation to the skin if they come into direct contact. Avoid inhaling primer or resin fumes. It is important that full protective clothing including goggles, rubber gloves and masks are worn when handling these materials. In case of skin contact, wash affected areas with soap and water but do not use organic solvents. If irritation continues, seek medical attention. In case of eye contact rinse immediately and thoroughly with clean water but do not rub prior to seeking medical advice/treatment. In some instances people may suffer from irritation or inflammation without event coming into direct contact with the materials. In such cases, the application work should cease immediately.

Consult the Material Safety Data Sheet for **DRIZORO[®] WRAP CONECT**.

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

TECHNICAL DATA

Product characteristics	
Carbon fibre encased in a protective gauze sheath	
Density, (g/cm ³)	1,82
Tex-linear density	3.200
Tensile strength, (MPa)	4.700
Tensile modulus, (GPa)	250
Elongation at break, (%)	1,9
Impregnated connector	
Tensile strength, (MPa)	1.590
Tensile modulus, (GPa)	215
Elongation at break, (%)	0,74
Resistant section or equivalent surface area of dry fabric, (mm ²)	
- 12 mm	32,75
- 10 mm	27,29
- 8 mm	21,83
- 6 mm	16,38

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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