



## ***CARBON FURLING SYSTEM***

## ***INSTALLATION MANUAL***

**Congratulations, you have purchased a Facnor reefing system. Over 20 years Facnor has gained an excellent reputation in manufacturing furling system that feature innovation and reliability.**

Before beginning assembly, we recommend that you read these instructions carefully so as to familiarize yourself with the parts and the installation of your Facnor Carbon Furling system.

Moreover, all components must be must be stored 12 hours before assembly at the same place in order to avoid temperature and hygrometry discrepancy between the components.

**WARNING! Respect the drying time of the bondings, the Carbon Furling System will take several days to be fitted.**

***If you have any problem please do not hesitate to contact our experienced team.***

FACNOR

Parc d'activité BP222 F50550 St-VAAST-LA-HOUGUE FRANCE

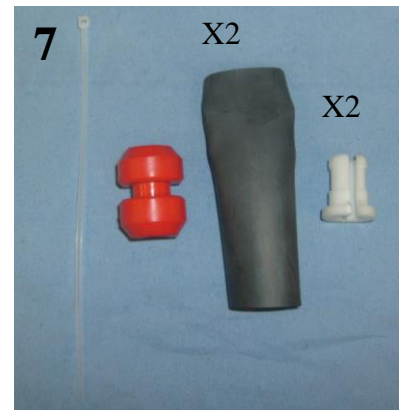
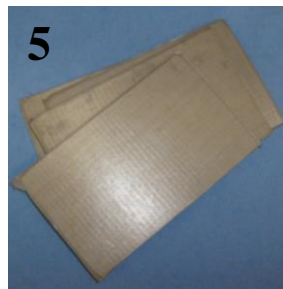
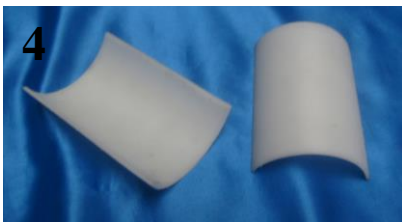
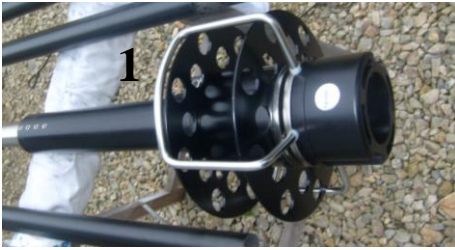
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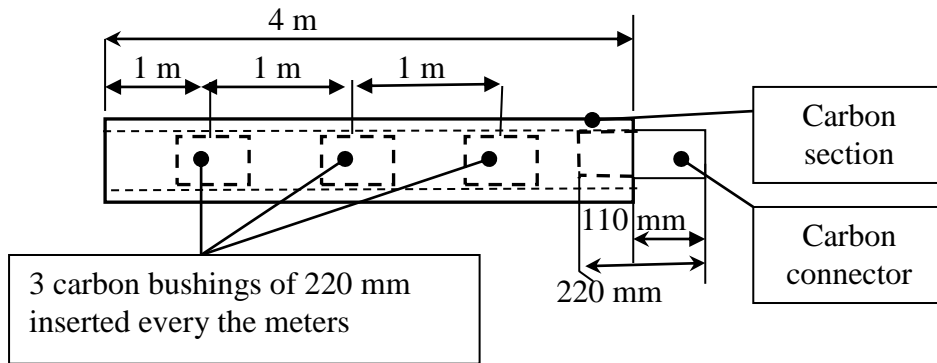
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## 1. Parts

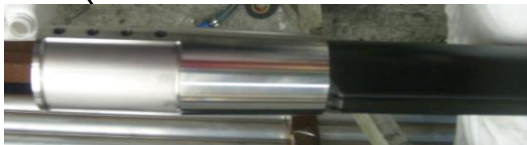
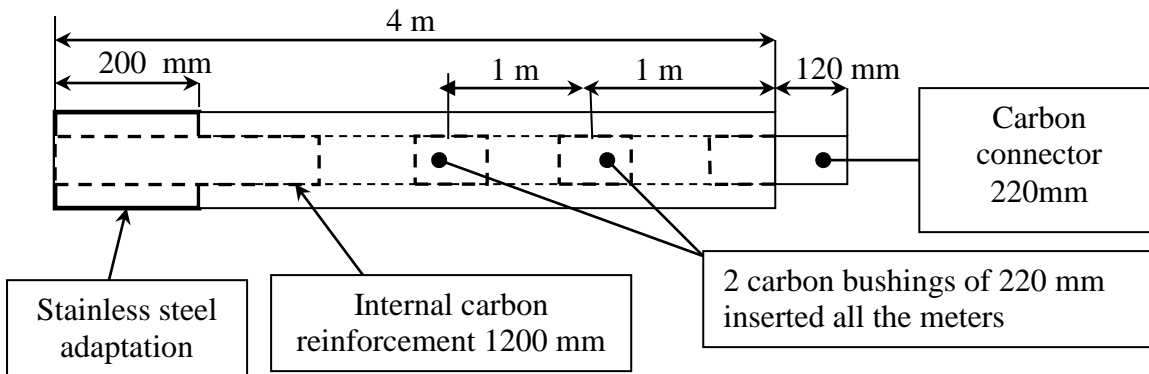


1. LC 290 drum
2. Halyard swivel
3. Epoxy Araldite<sup>®</sup> glue kit ( 1mixers, 1 cartridges)
4. 2 plastic wedges
5. aluminium wedges
6. 2 half up-bearings and 2 screws TFHC M5-12
7. Bearings kits (1 plastic bearings, 2 side stop bushings, 2 half up-bearings,2 heat shrinkable tube,1 COLRING 2.5 x 100)
8. Link plate kit

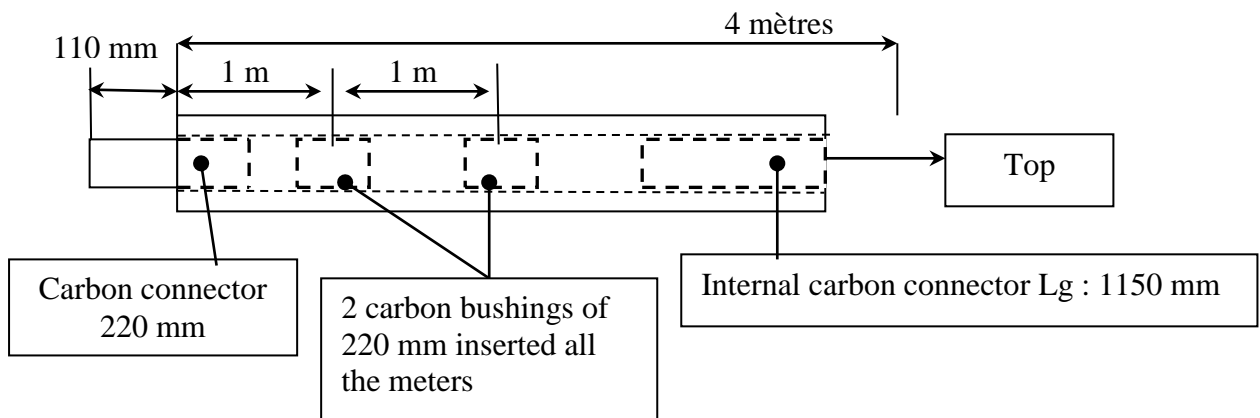
**3 standards sections:**



**1 bottom section:**

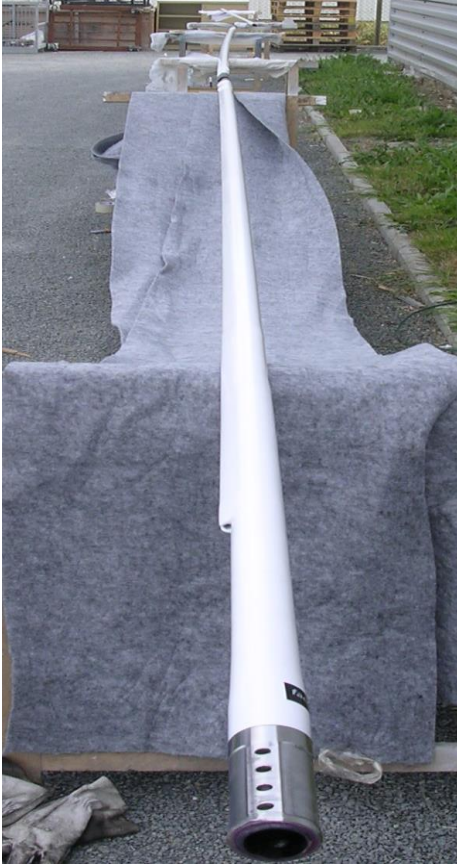


**1 top section:**



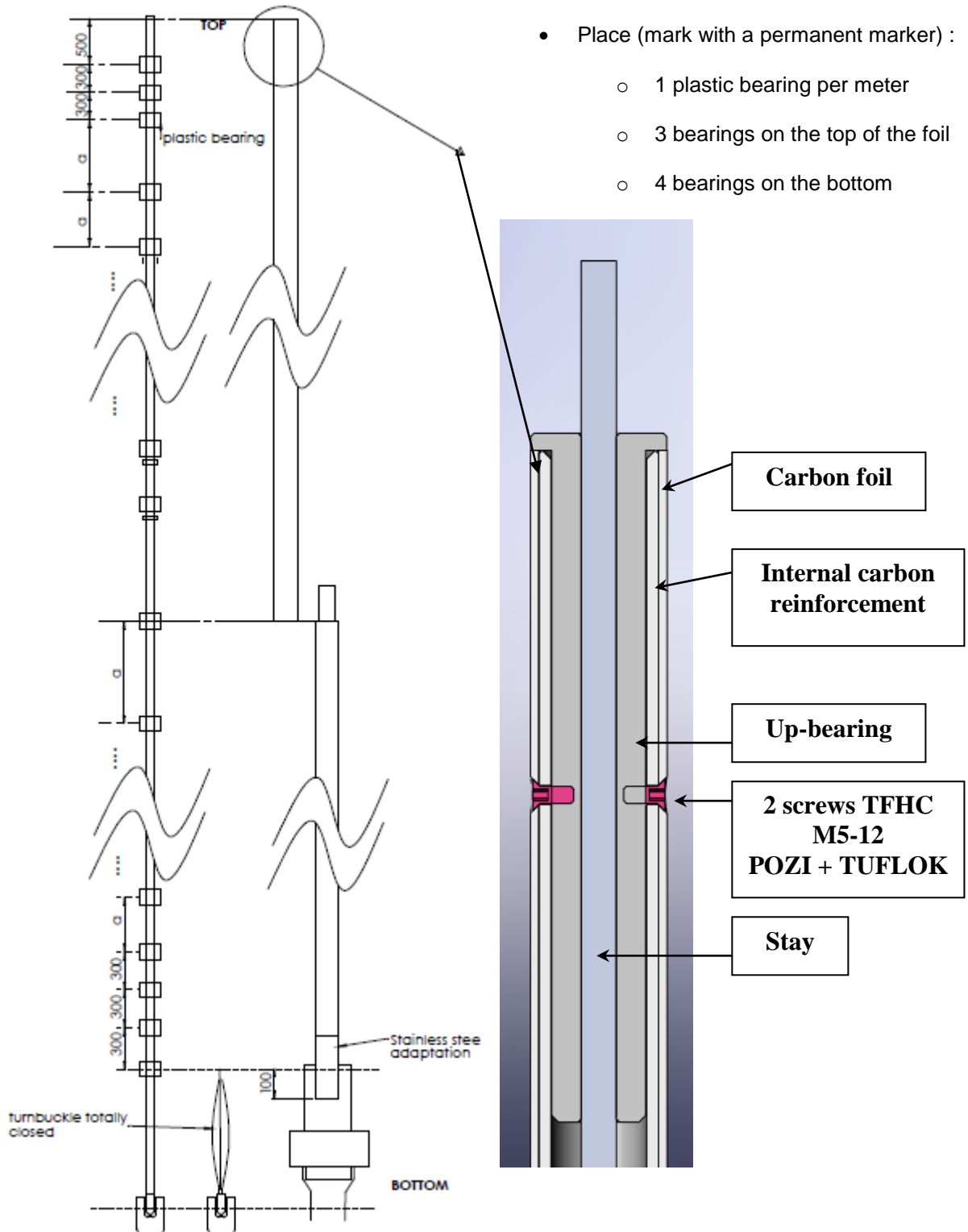
## 2. Preparing assembly

**Safety equipments:** clean gloves & safety glasses



- Place the foil onto wood wedges on a workbench, or on several trestles of exactly the same size.
- Place the stay along the foil

### 3. Positioning bearings

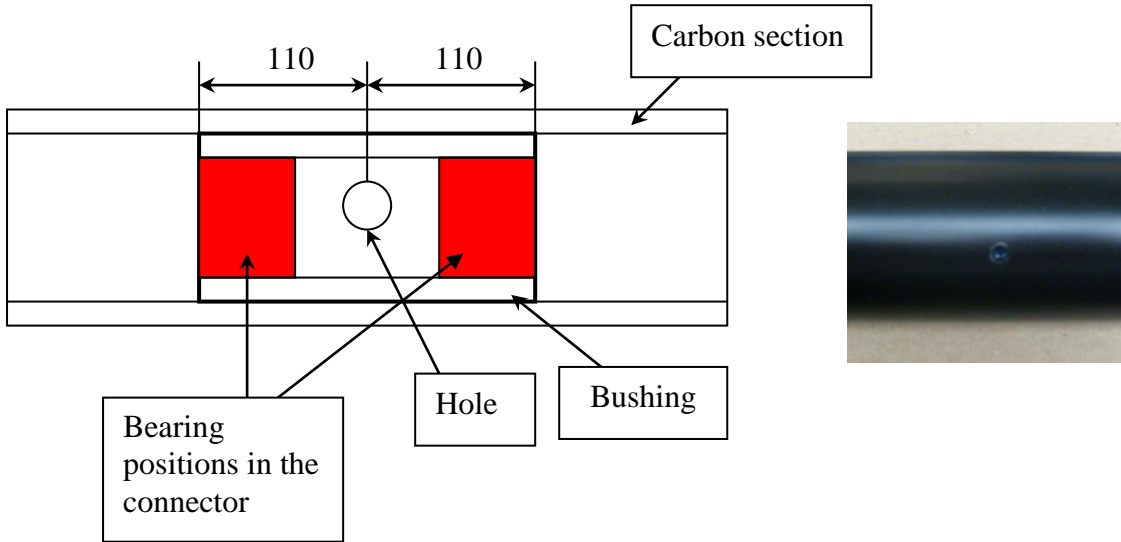


**a = around 1000 mm**

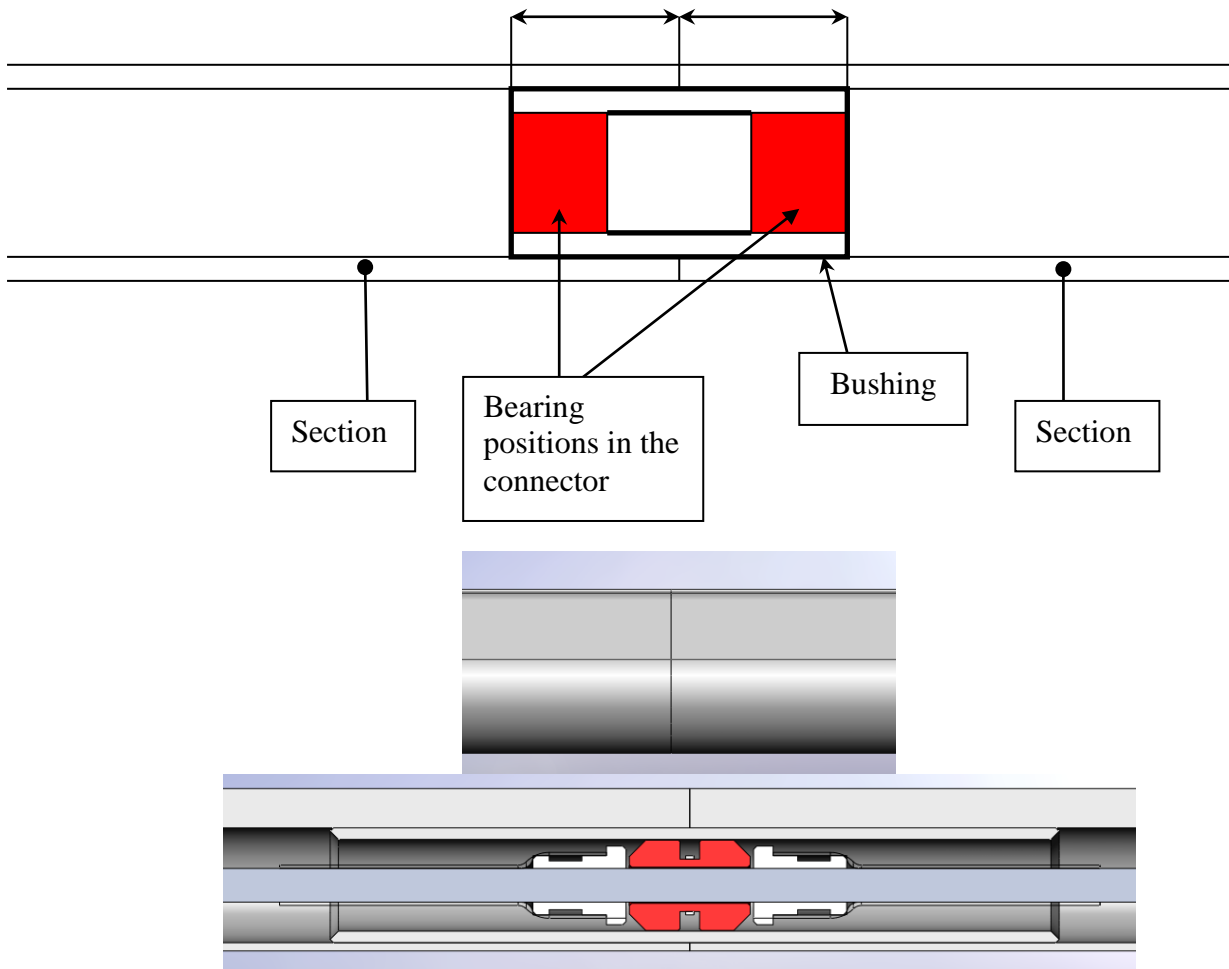
**Warning** : See bearings location on next page “In front of each hole of every section and in between the section

On the section, the holes indicate the position of the bushings. These holes are located in the center of every bushing 220mm.  
The bearings have to be in front of each hole of every section and in between the section.  
The top and bottom position of the bearings have to be inside the bushing.  
Please check: The bearing has to be in front of the hole when the turnbuckle is in its middle adjustment range

**In front of each hole of every section:**

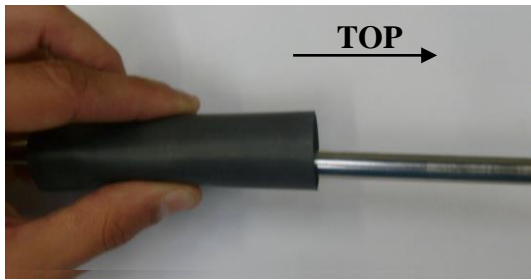


**In between the section :**



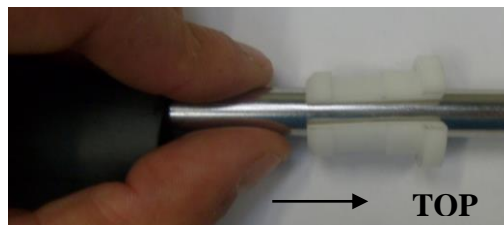
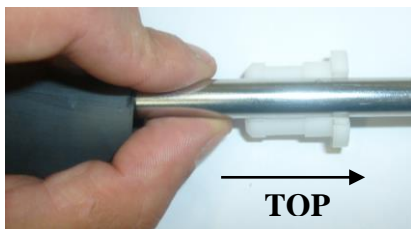
**Assembly bearings :**

1-



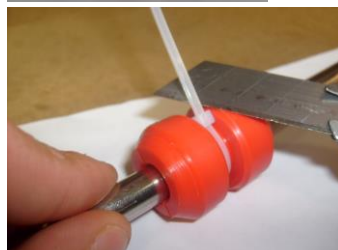
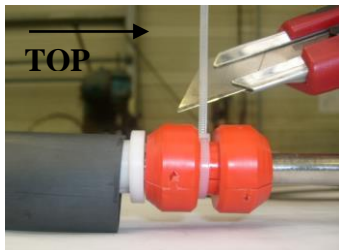
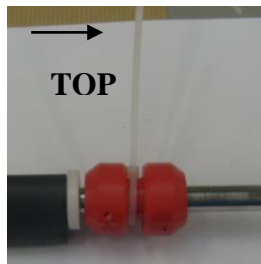
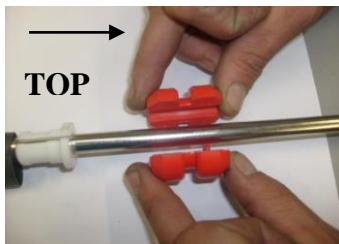
- To insert a heat shrinkable tube on the stay

2-



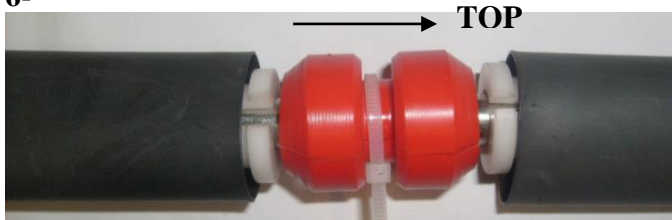
- Clip the side stop bushing around the rod

3-



- Assemble the 2 half bearings in the position  
- Secure it with a colring  
- Cut the colring near the head.

6-



- Clip the side stop bushing around the rod  
- Insert a second heat shrinkable tube on the stay.  
- Leave a space between the side stop bushing and the bearing.

7-



- Heat the heat shrinkable tube with an electrical heater. (To insure a good adhesion, it is necessary to pre heat the rod before.)  
- Final assembly

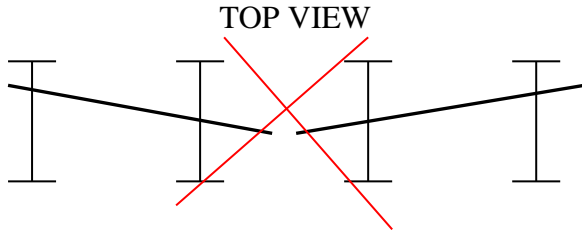


- When all the bearings are fitted on the stay, slide it inside the foil.

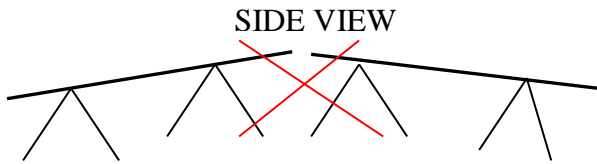
Note: Concerning the up-bearing, this can be fitted towards the end of the installation.

(See page 4)

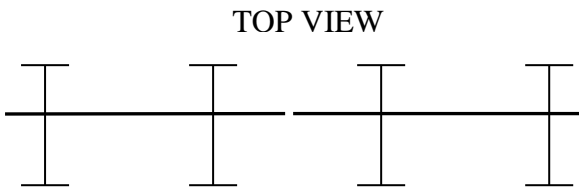
#### 4- Installing the foil before bonding



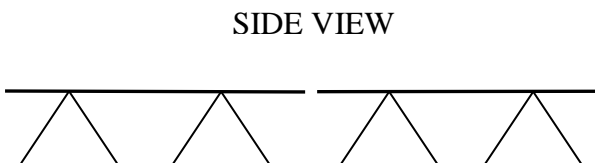
- Test the good connection between the male end female connections.



**WRONG!**



- Make sure the foil continuously as shown.



**RIGHT !**

**Before bonding, surfaces must be clean and dry!**

**During bonding don't move the foil!**

**Weather conditions :**

***Cold weather:***

*Temperature should be higher than 15°C (60°F). If you glue at a lower temperature (10°C (50°F) minimum) gently warm joints and components with a hair dryer to no more than 38°C (100°F), a temperature at which you can still hold the foil comfortably in your hand. If glued in temperature less than 15°C, allow glued foils to cure undisturbed for 48 hours before moving.*

***Warm weather:***

*Adhesives working times (pot life):*

*25°C (77°F) = 50g mix: 2 hours, 100 g mix: 1 hour*

Allow glued foils to cure undisturbed for 24 hours before moving.

**Preparing adhesive:**

1 Araldite® cartridge (made of two components: resin & hardener) is used to bond the different parts, the internal reinforcing parts.

Mix the 2 components for 5 minutes.

Use a new brush to coat, the glue film must be 0,5 mm thick.

## 5. Bonding the foils with Araldite®

1- When guiding the tubes together, take particular caution to be sure that the tubes are straight and level on their support. With the tubes lined up end to end, the luff grooves should be facing opposite directions.

2- In the first time, to dry-clean connector (acetone).

3-



Apply glue araldite 420 on connector with a brush



Apply glue araldite 420 inside of section with a brush

4- Joining the splice:

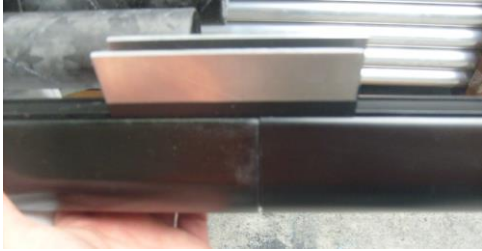
With the tubes lined up end to end, the luff grooves should be facing opposite directions. The tubes are then pushed together while turning 180 degrees in the sometimes (they need to be twisted as they are pushed together and NOT just pushed together straight).



**Note: while pushing and twisting the tubes together, the joints need to be cleaned, of any excess adhesive with special attention to the luff groove areas to insure that NO adhesive runs into or between the luff grooves.**



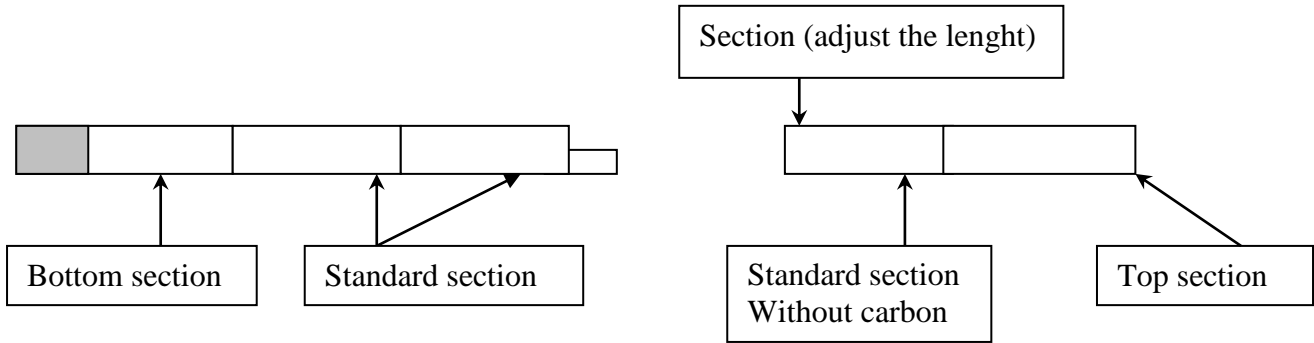
To secure each junction, you'll find a tapered hole in connector and external section. Check before end of glue potlife that these two holes are in front each other. Adjust if necessary. Fit the same araldite glue on supplied screws, and drive the safety screws in place. The screw must be flush to carbon foil external shape. If you drive the safety screw deeper, you may not be able to slide stay and bearings inside the foil.



- Insert the aluminium wedge between the two parts.
- Make sure that grooves are aligned.
  
- If necessary, move slowly the foils in order to have the continuous curve (like on page n°7).
  
- Allow to cure 24 hours.
- Remove tape.
- Remove any excess epoxy using a razor knife.

**Warning! : Remove the glue extra inside at every sticking stage so that the bearings go through.**

**Assembled set**



**WARNING:** Before sticking the different parts, you should not forget to insert the swivel.

**6. Fitting the up-bearing**



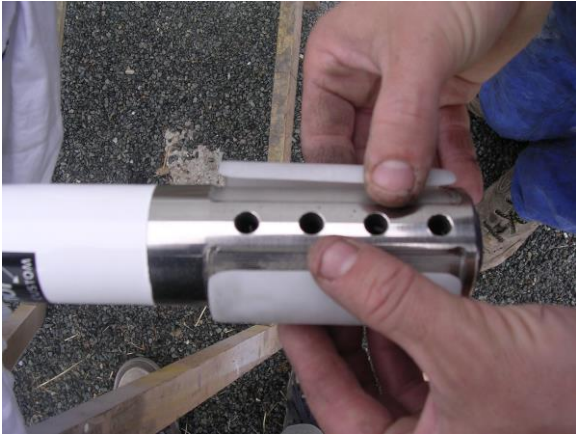
- Before fitting the up-bearing, slide the halyard swivel around the carbon foil.
- Make sure it slides around all joints without any stop.



- Clip the 2 half up-bearings around the stay.
- Slide them inside the top.

## 7. Assembling bottom section connector

- At the top :



- Glue with few Sicaflex<sup>®</sup> the 2 plastic wedges on each side of the stainless bottom of the foil.
- Slide it around the internal turnbuckle fitting.
- Check that holes are aligned.
- Fix the drum with 8 M10 screws and the plastic washers.
- 
- Secure the screws with *soft Loctite*<sup>®</sup> on the thread. (just a drop is necessary)



- At the bottom: Assembly of the link plate kit or the standard pin kit. (See page 2: 7)



***Enjoy your sailing!***