

The top management of AXXON have an experience for more than 30 years in carbon mast manufacturing. Since its beginning, AXXON has been able to develop in all areas that require high flexibility and reliability.

The quality and performance of carbon products depend on its conception but also on its manufacturing processes which are very labor intensive. At AXXON the priority is put on the quality and performance needed to satisfy even the most demanding customer who searches for the best product at a reasonable price.

AXXON Composites team is dedicated to engineering, production and marketing of a state of the art carbon fiber products by using most advanced technologies : pre-preg carbon, autoclave curing, female tooling manufacturing process. The know-how and the technical expertise combined with the enthusiasm and the experience produce a very competitive and professional team.

Weight



Catana 70'

First thing coming through your mind when you are talking about a carbon mast is obviously the weight saving, but besides that, the center of gravity is very critical. A lighter top mast head will induce less pitching and less heeling, which improves performance and comfort. The optimum weight saving can only be achieved by using pre-preg material cured in autoclave.

Windage



Vismara 62' Mills

Another important criteria when sailing is the aerodynamic. The quality of the carbon material gives us the possibility to keep the weight down with the proper stiffness and at the same time to reduce the dimension of the section which results in a huge advantage as far as windage.

Stiffness



Brenta 80DC

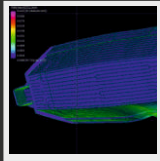
A carbon mast is stiffer, is pumping less and maintains a tighter head stay, with the main and the jib working more efficiently.

Structure



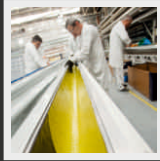
Design

The structural analysis and design of the mast are made by our engineers using finite element analysis softwares, but also rig calculation programs, taking care of the boat specifications, sailing angle, sailing program, mast geometry, sails configuration but also crew weight.



Plant

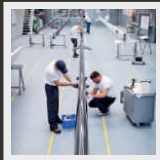
The 3600 m² Axxon building is divided into a 850 m² air-conditioned lamination room, assembling room, painting booth, warehouse and offices.



Axxon has a staff of 50 qualified people, split into several department : sales, administrative, design, structural analysis, lamination, assembling, painting, machining and transport.

Made from aluminium and carbon, Axxon has always a tooling system adapted to boats from 10 to 50 meters.

The autoclave and paint booth have each 50 meters long.

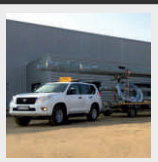


Transport

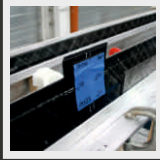
It's useless to produce masts if you cannot deliver them. In order to ensure a flexible and secure shipping all over Europe, AXXON handles delivery with its own equipment :

Truck with trailer for masts up to 50 m

Pick up with trailer for masts up to 25 m



Production process

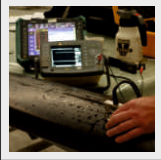


Engineering and calculations

For this stage AXXON uses an experienced team of engineers who calculate, panel by panel, the forces applied to the mast taking in consideration various elements such as program of the boat, righting moment, chain plates location and the sail plan itself. This information is translated into a lamination plan which positions the various layers and local doublers as well as the fiber orientation.

Mast plan

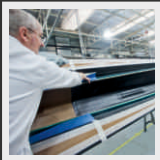
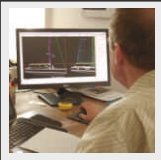
The AXXON design office draws the mast plan along with the details drawing where the different elements of a mast are finalized : spreaders, sheaves, goose neck, chain plates...



Lamination

It's the stage where the various layers of pre-preg carbon are positioned into the female toolings. Debulking are done after each layer off axis material and the vacuum.

Using pre-preg carbon will give you 2 advantages : Perfect control of the fiber-resin ratio which gives us a very precise weight estimate & optimum orientation of the unidirectional fibers which guarantees maximum compression strength (impossible to obtain in the filament winding process).



Autoclave

The curing in autoclave under pressure gives us a perfect laminate with minimum void and a perfect control of the curing temperature (8h curing going up to 125°).

Machining

Machining of carbon masts requires a high level skill with special diamond toolings in order to manufacture a top quality product with no risk of delamination and respecting the finest tolerance.



Finish and assembling

AXXON applies 3 to 12 layers of varnish or paint in order to protect the resin and fibers from the UV. All pieces are controlled, assembled and fit on the mast. The electric and electronic cable are run into a conduit tight up inside the mast and various brackets are fixed to the mast.

Winners choose Axxon



Class 40



Mini Maxi World Champion
Vismara 62' Mills



Aston Harald M32

AXXON SCORE BOARD

1st and 2nd place at TRANSAT JACQUES VABRE 2015, 7 AXXON masts in TOP 10 - Class 40

1st place at MAXY YACHT ROLEX CUP 2015 - Mini Maxi World Championship

1st and 2nd place at FASTNET RACE 2015 - IRC 3 - IRC 4 - Class 40

1st and 2nd place at ROUTE DU RHUM 2014, 9 AXXON masts in TOP 10 - Class 40

1st, 2nd, 3rd place at LES SABLES HORTA LES SABLES 2015 - Class 40

1st, 2nd, 4th, 5th place at SPI OUEST 2015 - IRC 2

1st place at the COWES WEEK 2013 - 2014 - 2015 - IRC 2

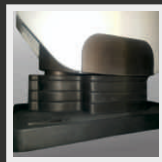
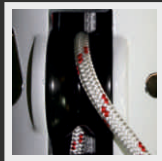
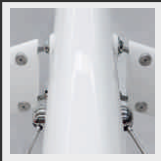
1st place at the FASTNET RACE 2013 overall

1st place at the ROUND THE ISLAND 2015 - IRC 3

1st, 2nd, 3rd place at TRANSAT JACQUES VABRES 2013 - Class 40

Masts Specifications and Options

Specifications and options include a large variety of choices. It will take too much space to include all of them but you will find enclosed some samples :



Specifications

Head mast, long or short, with or without backstay, with or without 2:1
Sheave with spectacle, seagull sheave
Head stay with toggle or with lashing
Runner tang

Spreaders, diamonds
Spinnaker ring
Goose neck
Vang bracket
Mast step with or without sheave pin
Mast step for lashing block

Options

Electronic bracket
Mast head LED light
Hook
Carbon spreaders
Boomerang carbon spreaders
Carbon radar bracket
LED deck light
Spinnaker pole track

Switch track
Halyard tensioner
Winch bracket
Foldable mast step
Halyard jammer
Carbon goose neck
Carbon vang bracket
Internal or external mast jack

Booms



All booms are built with pre-preg material cured in female toolings, in autoclave at 125° degrees giving a perfect smooth finish.

Standard Boom

AXXON offers more than 20 different sections for a range of boats up to 150 feet.

Max Depth Boom

Specially designed for racing, AXXON offers a range of carbon core sandwich booms with a maximum depth for a minimum weight.

V Booms

AXXON manufactures 2 types of V booms : Canoe and Park Avenue. Very convenient for stocking the main sail, they improve the overall appearance of your boat.

V Booms



The canoe boom distinguish itself from the Park Avenue through its floor, much lower, which allows to stock the full main sail inside the boom. The V boom structure is made of three beams of monolithic unidirectional HR carbon fiber linked together with a carbon-foam sandwich.

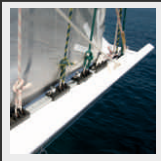
Equipments



Rear carbon sheave box for out haul and 3 reefs
Aluminum goose neck
anodized with bronze bushing,
with 4 sheaves

Aluminum vang bracket
Reef line dead end on lashing pin
1 padeye for boom topping lift
2 x 3 rope padeyes for lazy-jack

Options



Out haul track with 1 out haul
car and 3 reef cars
Carbon vang bracket
Hydraulic out haul

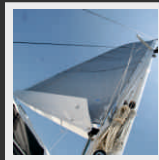
Hydraulic Magic trim
for main sheet
Track for sail cover
Bolt rope track for bimini
LED cockpit lights

Finish

Two options : Clear coated - Painted in various colors. Inside non slipping finish.

Assembly

All fittings are bonded to the boom to avoid corrosion.





The innovative carbon mast company

AXXON COMPOSITES

www.axxoncomposites.com – sales@axxoncomposites.com

12 rue Pasteur 77170 BRIE COMTE ROBERT - France - TEL : + 33 6 10 31 31 36

Sos Cristianului, DN 73, Km 5, OP 1, CP 255 - 500073 BRASOV - Romania - TEL : + 40 7 52 01 02 03 - FAX : + 40 2 68 25 74 27

