

THE MAST & RIGGING SUPERYACHT COMPANY



photo: Carlo Borlenghi / MAXI RACING 2012

The finest superyacht spars and rigging: World class people, design and infrastructure

FUTURE FIBRES is the leading supplier of composite masts and rigging to superyachts. The company brings together 140 of the best people in the industry with the right combination of experience, intelligence and drive to deliver large, high quality superyacht projects.

State of the art 15,000m² manufacturing facility tailored for superyachts

- 50 metre autoclave
- 40 metre boom oven
- Carbon cables up to dash 1,500 and 80 metres long
- Climate controlled clean room environment
- GL certified production facility
- Dedicated, positive pressurized, painting bay
- Conveniently located in Valencia, Spain

>> ADVANCED DESIGN Composite specific software tools

Each custom project benefits from the best design team and the latest design software allowing for full customisation with the highest levels of safety, quality and performance.

Future Fibres is investing in the latest software / hardware solutions to produce production ready drawings, simplify the production processes, minimize errors and improve accuracy. We have built our design capability on composites specific software – CATIA and Abaqus – as well as on our proprietary **MASTERMIND Pro™** mast design modeling package.

A world class team that understands clients needs

- **Strong team of design engineering experts**
Bringing expertise from a variety of high-tech composite industries – F1, aerospace, marine
- **Design project leaders**
Ensuring close communication with the customer to speed up the design/development stage
- **Prince2 project management methodology**
Guaranteeing a smooth process and on-time delivery
- **Germanischer Lloyd (GL) Certification**
Strong experience in fulfilling GL applications for individual mast projects
- **Seamless integration between mast and rigging design**
Providing improved performance, durability, longevity and usability

MASTERMIND Pro™ For optimized mast design

Future Fibres has invested in a bespoke mast design software package to facilitate live modeling and optimization of the mast design. **MASTERMIND Pro™** allows us to:

- Apply and trim 3D real world sailsets to the model
- Evaluate performance – mast bend curvature, fall off, tube stresses, overall stability
- Refine and retune as required

Result:

Detailed design of mast and rigging with optimised stiffness and weight



>> INNOVATION & PERFORMANCE

Innovation is at the heart of what we do



Our dedicated Innovation Center ensures a constant focus on delivering innovative technology. In the same way, we are partnering with leading suppliers of technology to constantly improve our superyacht mast and rigging packages.

Innovation keeps us one step ahead, making us the standard bearer of the creative expertise of our industry. To maintain this leading role, we challenge the status quo and relentlessly strive for better performance, quality and service.

We constantly challenge Future Fibres specific attributes & strengths

- Custom laminate design and manufacture
- Lightweight, robust and reliable in-house designed halyard locks
- Mould development - the right moulding technology for the right application
- Full composite rigging interfaces
- Carbon nano tube projects for enhanced material performance
- New and improved composite resin systems
- Automation from design to manufacturing
- Rapid prototyping - 3D printing
- New and innovative processing technology ORC, bladders, etc.



FlexC™ Carbon

Future Fibres own unique flexible carbon cable technology provides all the flexibility and handling benefits of a dry fibre cable with the strength, stiffness and fatigue resistance of carbon fibre.



futurefibres
INNOVATION CENTRE

>> COMPOSITE MASTS

Raising the bar in design & manufacture

In 2010, Future Fibres created its mast division with the clear objective to lead the next wave of spar development. The success of this venture has been built on a world class team, an integrated design and build process, and a high technology partner – Persico Spa.



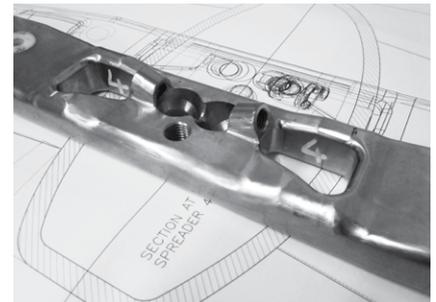
Precision tooling for lighter & stiffer tubes

Our partnership with Persico Spa, the world leading experts in moulding technologies, gives us access to the highest precision tooling. This allows for a lighter, stiffer and stronger tube with:

- Less filler and glue
- Perfect fit and finish, straight out of the mould
- Perfect bonding of external fittings
- Overall build accuracy and consistency
- Modular tooling system providing greater design flexibility
- Significantly reduced production time

Full customisation for performance solutions

Future Fibres has the capability to rapidly design, prototype and produce custom fittings and metal parts with complete control on materials and production processes to offer fully optimised performance solutions.



>> FURLING BOOMS

The worlds largest superyacht booms



Due to their size and shape, superyacht boom production methods differ greatly from masts.

With this in mind, Future Fibres has created a stand-alone boom facility tailored to the construction of large furling booms including:

- Dedicated 40m boom oven
- Climate controlled clean room environment
- Dedicated paint area
- Specialist lifting and moving equipment

Integrated systems for furling performance

Furling booms are one of the most complex systems on a modern superyacht. Their performance and reliability are critical. Future Fibres is working together with leading suppliers to optimize functionality in both hydraulic and electric furling systems with custom latch, mainsheet fast-take-up and luff ramp systems.

“We were hugely impressed with the purpose built facility & the amount of investment that has gone into it. Their European location means customers no longer have to go to the other side of the world for a rig build.” VITTORIO BLENGINI >> Sales Executive, Perini Navi

>> PERFORMANCE RIGGING

Smallest, lightest, strongest, safest

Future Fibres were the first to supply superyacht lateral rigging in 2005 and remain the only composite rigging supplier to have GL Type approval on both carbon and PBO rigging products.

The right fibre for the right application

Considering that no single fibre offers the best solution across all cables or sailing needs, Future Fibres strives to find the right fibre for the right application. Based on the client's specific objectives and the project requirements in terms of weight, windage, usability, durability and price, Future Fibres offers an unbiased recommendation. This could involve Carbon, PBO, Kevlar®, Dyneema™, or a combination of all four.

The worlds smallest, lightest cables

Future Fibres pioneered the use of continuously wound, unidirectional fibre for yacht rigging almost two decades ago. Continuously wound fibre construction offers strength, safety and an ability to maintain a long term performance advantage.

Future Fibres is constantly refining this core technology to leverage its benefits across the full range of available fibres in order to offer THE OPTIMUM solution for any given combination of project and cable requirements.

Carbon - PBO - Kevlar® - Dyneema™

The highest quality composite manufacturing



- **Lean manufacturing environment**
Unrivalled quality record and highest level of accuracy and consistency
- **Industry leading quality control**
Stringent production checks throughout the build process
- **Complete traceability**
Mast and cable design, traceability and product documentation certified by GL
- **Extensive Non Destructive Testing (NDT) capabilities**
Extensive investment in NDT development programme for both masts and rigging
- **Computer Aided Manufacturing**
Offering high quality, precision and consistency



>> FUTURE SERVICE

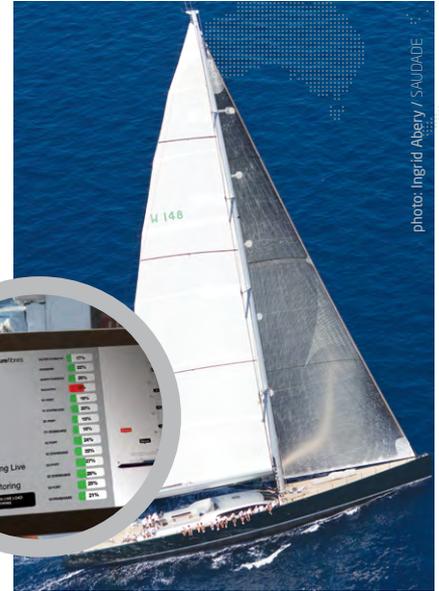
Keeps you sailing no matter what

Future Service is a flagship superyacht service programme providing peace of mind. Our worldwide network of specialist superyacht rigging technicians offer rapid response to keep our clients sailing.

Our dedicated Service team provide bespoke programmes and maintain proactive contact with all our superyachts, liaising on active maintenance and recommended service and replacement schedules.

High performance in a safe environment - NDT & monitoring systems

Future Fibres pioneered NDT testing for carbon rigging, providing the opportunity to see inside the cable and allowing rational judgment on the health of each individual stay. Future Fibres is also at the forefront of developing load monitoring systems for masts and rigging, providing safety and performance benefits.



Building a life-time relationship

When Future Fibres supplies a new mast or set of composite rigging, this is the start of a long term relationship with the superyacht. So, in selecting your composite mast and rigging supplier, a key question is: "Will working together be a pleasure?"

We believe, with Future Fibres, the answer is "Yes".

Future Fibres people are reliable, flexible, knowledgeable and resourceful - the qualities of a true partner. Our customer focus and highly professional approach ensures kept promises, on-time deliveries and an enjoyable customer experience.

We listen, we're available, we customize.

"The mast is looking amazing; the Future Fibres team has done a fantastic job with incredible attention to detail throughout the project."

RICHARD FOSTER >>
Skipper, Swan 34m, Anemos



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