



Hexcel Case Study: HiMax™ Carbon Fabrics for the Gunboat 68

**HiMax™ Carbon Multiaxials and PrimeTex®
Carbon Woven Fabrics for the Gunboat 68**



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Hexcel's latest collaboration in the marine market provides leading multihull builder Gunboat, with a highly optimized package of carbon fiber reinforcements for its stunning series of Gunboat 68 yachts.



Gunboat is well known in the sailing world since the brand launched in 2002, creating a new market segment by blending the seaworthiness of a blue water cruising catamaran with the performance of a grand prix racing multihull. Owned by the Grand Large Yachting Group since 2016, Gunboat started to develop its latest design; the Gunboat 68, at a state-of-the-art shipyard in La Grande Motte, France. Sleek, fast, lightweight, and ready to sail the globe, Gunboat 68 is an all-carbon-fiber catamaran crafted by composite specialists using the highest quality raw materials and construction processes.

The first boat was launched in January 2019, and it was at this time SF Composites, part of Hexcel's official distributor network in Europe, started to work with Gunboat and began to optimize the supply chain for the series production of the next yachts. Gunboat's target was to identify a supplier that could deliver the entire package of dry carbon fiber reinforcements used for the 68's hull and deck, with support from Hexcel; SF Composites has proved to be the perfect partner.

HiMax™ and PrimeTex® - The Ultimate Combination for Infused Carbon Structures

The Gunboat 68 series is a complex composite structure that uses vacuum infusion for its largest components – the hull, deck, and superstructure. A wide range of Hexcel HiMax™ carbon fiber multiaxials are used for these parts including 0-90 biaxials, +/-45 biaxials, and infusion specific unidirectional with aerial weights ranging from 300-800 gsm.

In addition, Hexcel's PrimeTex® spread tow woven fabric, a 300 gsm 2x2 twill using 12K carbon fiber, is used as the first ply into the mold, providing a flatter and more uniform surface finish for the final parts which also reduces finishing time for paint preparation.

Hexcel and SF Composites were able to offer Gunboat several key benefits as a single source of all dry carbon reinforcement fabrics. Not only do the HiMax™ multiaxials deliver high product quality consistently, they are also optimized for easy resin flow during infusion - all produced in Hexcel's dedicated carbon fiber multiaxial production unit in the U.K. Working with the Gunboat design office, Hexcel was able to offer fabrics at the exact weights required and cut to specific widths – increasing efficiency on the shop floor and keeping the overall structural weight to a minimum.

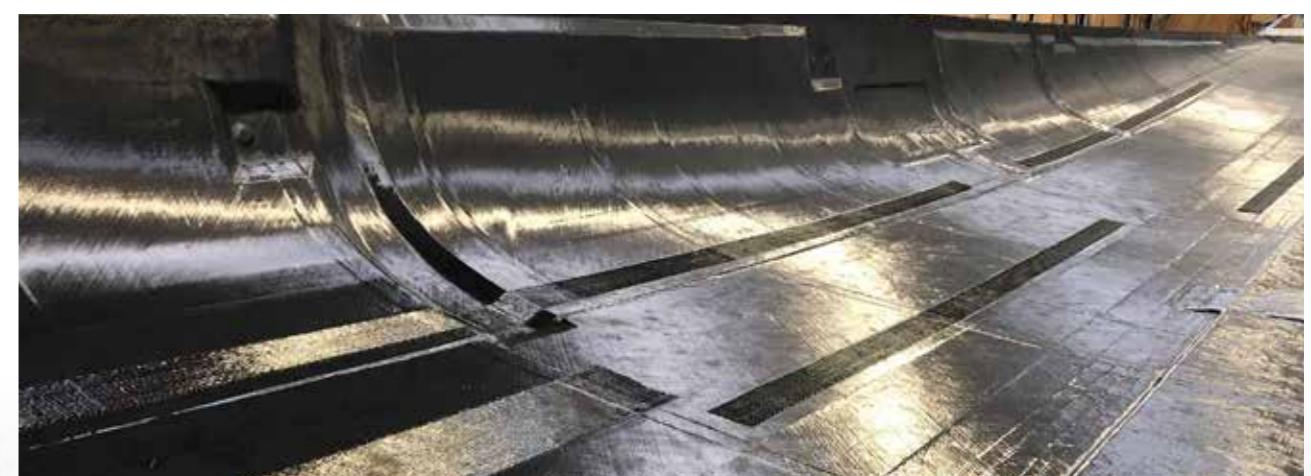
Another key requirement for Gunboat was to have a responsive and reliable supply chain. SF Composites are perfectly positioned to support Gunboat, with its warehouse only a 30-minute drive from the Gunboat yard. With a multi-year supply contract in place, SF Composites ensures it always has a complete boat set of materials on stock. This close communication and efficient supply chain have also seen HiMax™ materials selected for all carbon fiber requirements at Outremer Catamarans, another builder of cruising catamarans and part of the Grand Large Yachting Group.



Hexcel's global distributor network driving supply chain efficiency

The first two Gunboat 68s have been launched and are both cruising the world, while the third, fourth and fifth are still being built, with two of them scheduled to launch this year. Hull Number six will go into production in April 2020, as Gunboat 68 consolidates its position as the leading high-performance, series-built, luxury cruising catamaran on the market.

"We demand the highest quality composite materials for our yachts, but we also look for exceptional service from our suppliers too," said Benoit Lebizay, Gunboat Managing Partner. "Hexcel and SF Composites have become strong partners for us with the Gunboat 68 project, and it's great to work with people who share our passion for delivering the very best carbon fiber products possible."



Hexcel Product Family



**HexTow®
Carbon Fiber**



**HexFlow®
Resins**



**HexMC®-i Molding
Composite**



**HexForce®
Reinforcements**



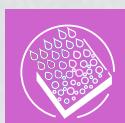
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Laminates &
Pultruded Profiles**



**HexWeb®
Honeycomb Core**



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Advanced
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**Modipur®
Polyurethane**



**HexWeb®
Engineered Core**



**HexPly®
Prepregs**



**Redux® & HexBond™
Adhesives**



**HexTool®
Tooling Material**



**HiMax™
Multiaxial
Reinforcements**



**HexAM®
Additive
Manufacturing**

For more information

Hexcel is a leading worldwide supplier of composite materials to aerospace and industrial markets. Our comprehensive range includes:

- HexTow® carbon fibers
- HexForce® reinforcements
- HiMax™ multiaxial reinforcements
- HexPly® prepgres
- HexMC® molding compounds
- HexFlow® RTM resins
- HexBond™ adhesives
- HexTool® tooling materials
- HexWeb® honeycombs
- Acousti-Cap® sound attenuating honeycomb
- Engineered core
- Engineered products
- Polyspeed® laminates & pultruded profiles

For quotes, orders and product information call our sales office in Austria +43 7229 772-0. For other worldwide sales office telephone numbers and a full address list, please go to:

<http://www.hexcel.com/contact/salesoffice>

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