



Lightweight monohull built to race the waves

The X-Treme 32 is the newest all-round racer from boat builder G-Force Yachts. Built using Divinycell HM and CCG expertise, it is truly lightweight and faster than fast.

G-Force Yachts

With its headquarters in the Netherlands but with clients all over the world, G-Force Yachts manufactures top-quality high-performance monohulls. “Each boat we build, whether it is an X-Treme 26, X-Treme 32 or X-Treme 37, reflects our passion and our pride for what we do,” says founder and CEO Jeroen Wats, who started sailing when he was very young. At age 15 he knew that he wanted to build and develop high-performance racing yachts and after winning the “Cape to Rio Ocean Race” in 20 days in 2003, he decided to found G-Force Yachts and build a faster boat. The first G-Force Yachts vessel, the X-Treme 37, was designed by Reichel/Pugh Yacht Design and in 2006 the relatively small boat won the “Cape to Rio Ocean Race” in just 16 days. The new X-Treme 32, also designed by Reichel/Pugh Yacht Design, is expected to do the same race in 12 days.

X-Treme 32

With the X-Treme 32, G-Force Yachts has aimed to manufacture a top-quality offshore racer while keeping handicap systems in mind. The handicaps change frequently and can reduce a racer’s lifespan. That is why Wats decided to focus on ultimate thrills and performance, and shaving the TCC/GPH down afterwards instead. It is a huge success – G-Force Yachts has created an all-around racer that is beyond smart with a TCC of 1.164 and a GPH of

520.3. The boat is extremely fast and demonstrates speeds never before experienced in a fixed keel monohull.

Key design concepts

In order to go faster, the X-Treme 32 required a substantial weight reduction. The helm is made of pre-preg carbon fiber with an epoxy foam core while the mast and boom are made of carbon fiber. Using Diab's lightweight core material *Divinycell HM* there were benefits to be had, including high specific shear strength. With high compressive properties there is higher resistance to denting and delamination from local impacts vs other foam cores and the higher skin wrinkling strength can hold thinner laminates.

Divinycell HM from Diab

Offering outstanding toughness and strength, *Divinycell HM* is a high performance structural core designed for extremely demanding applications such as fast marine hulls. It combines very high shear strength with an outstanding shear elongation. As a result, *Divinycell HM* is an extremely tough product, capable of absorbing high dynamic impacts and slamming loads. Divinycell HM's elongation exceeds the requirements of ISO 12215, GL and ABS rules to allow for reduced safety factors in structural calculations, providing a lighter, yet strong structure. Its high compressive properties provide excellent resistance to denting and skin wrinkling of thin skins.

The best from all parts of the world

Benefitting from the engineering expertise from *Composites Consulting Group (CCG)* and the molding skills of the Spanish-based company Xuquer, the X-Treme 32 has been designed to sail fast, reducing the wetted surface to a minimum in the event of the boat listing slightly and to increase its stability if it does. The project has involved a naval architect from the USA, engineers from CCG in Australia and boat builders from the Netherlands. With core materials from Swedish-based Diab and molding expertise from Spain, the X-Treme 32 has benefitted from truly global expertise.

Composites Consulting Group (CCG)

CCG is an independent Diab Group company providing specialty composite technology services. With a broad competence including everything from design and engineering to testing, tooling, process optimization and training, they can realize the full value of composite designs.

Xuquer

Xuquer is a technology-based company, dedicated mainly to the design and production of molds, prototypes and pieces of various materials, within the extensive world of composites.