

SP-High Modulus supplied Hi-Panels to the recently launched Stimson 56ft sailing monohull and Marc Deborde 78ft power catamaran

26th September, Auckland, NZ – Two recently launched yachts made the most of the versatile and easy to use Hi-Panel construction solution from SP-High Modulus, the marine business of Gurit. The Stimson 56 *Alcedo* and the Marc Deborde 78 *IETA* are now sailing in the northern and southern hemispheres respectively, and the project teams have reported significant advantages in their construction processes due to the use of infused composite Hi-Panels. *The SP-High Modulus team will be at the Auckland On Water Boat Show this week, where visitors can find out more about both projects, and the company's full range of composite materials and engineering services, by visiting Pavilion 1, Stand 123*.

Having founded and managed a business fabricating swimming pools, Marc Deborde is no stranger to composites, so they were a natural choice for the build of his 78ft power catamaran. He built the boat at his own facility and used a team of relatively inexperienced builders. "We needed to find a way to build the boat that would suit the team's skills, would enable me to manage the project budget closely, and give me reassurance of quality," says Deborde. He chose the Hi-Panel solution particularly because of the larger sized panels SP-High Modulus was able to supply. With the maximum panel size being 9m in length, the topsides of the catamaran were built in just three pieces, so joins were kept to a minimum and structural integrity uncompromised.

"The Hi-Panel system certainly saved us time throughout the build process. The parts were clearly labelled and accurately cut at the SP-High Modulus facility in Auckland, and were extremely easy for my team to assemble, with minimal tooling and no lifting equipment required. The main structure was built in a matter of weeks."

IETA's hull bottom is built with 100kg structural foam, cut into strips onsite and hand laid with epoxy resin. Hi-Panels were used for the topsides, deck and internal structure, with the majority being Corecell™ M-Foam/glass fibre sandwich panels, infused with Prime™ 20 epoxy resin. Marc Deborde and his team supplied the shapes to SP-High Modulus who efficiently nested them on panels according to the laminate required, using its proprietary software. The panels were built by the company's experienced composite technicians, and shapes labelled and cut on the state-of-the-art CNC machines. The shapes were left tabbed in the panels, for ease of stacking in a container and shipping to Marc Deborde in New Caledonia.

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"After having built our 78ft power catamaran with Hi-Panels, we cannot imagine a better way to build a boat," says Deborde. "As well as the principal benefits of time saving and low set-up costs, there was a myriad of other advantages such as ease of storing the panels prior to use. We worked closely with SP-High Modulus - everything was carefully planned and it all went according to the plans. There is quite a lot to organise at the beginning of such a project. Knowing that the fabrication of the structural panels was in the hands of such experienced professionals has been a definite factor in the success of the project."

The Stimson 56 performance cruiser was not the first Hi-Panel boat for naval architects Stimson Yachts. Having previously designed a 6m runabout, the concept was familiar to design principal Christian Stimson: "From the outset, I worked with the builder of the 56, MB Yachts Ltd in the UK, and the client to develop a design and build concept that would make the project viable. Including the sea freighting of panels from Auckland to the builder in the UK, the Hi-Panel system was the most viable option for us."

Stimson Yachts worked with the New Zealand SP-High Modulus engineering team to develop the laminate specification for *Alcedo*. She has a strip-plank cedar hull bottom, with the topsides, deck and internal structure made of Hi-Panels. The panels are Corecell™ M-Foam/glass fibre sandwich panels, infused with Prime™ 20 epoxy resin.

When the Hi-Panel is chosen as the construction solution for a project, there is at the outset some additional work on the part of the designer. The assembly sequence has to be carefully considered, in consultation with the builder, as does the detailing of the panel interfaces. In the case of the 56, Stimson Yachts built a full 3D model, which was then broken down into components before being flattened into 2D shapes for SP-High Modulus to nest and cut. A manual was produced for the builder to ensure the assembly sequence was followed as designed.

"There is additional design work when using the Hi-Panel system," says Stimson, "but this offers advantages further down the line. For example, using the Hi-Panel system means the structural arrangement and other details have to be agreed early on in the process, which is beneficial to the smooth running of the project. The structural weight is known from the outset, which allows the client to make realistic decisions about other design features such as furniture specification and fuel tanks. But the most significant benefit of the Hi-Panel system has to be the time saving in the construction process. The client of the 56 estimates a time saving of around 50% when using the Hi-Panel for the

build of the primary structure compared with more conventional composite fabrication. Now that has to be worth a few extra design hours up front!"

From whichever perspective you're viewing it – the client, the builder or the designer – the Hi-Panel system from SP-High Modulus can offer substantial benefits to yacht construction.

SP-High Modulus fabricates and supplies Hi-Panels from its Auckland and Rhode Island facilities. The maximum panel size is 9m x 2m, and laminates can be made to suit the project's specification, drawing on SP-High Modulus' comprehensive range of products.

Staff will be available at Auckland On Water Boat Show to discuss this product range, which includes glass and carbon fabrics, core materials (Corecell™, Balsaflex®, G-PET and PVCell® G-Foam), prepregs, epoxy laminating resins and adhesives, as well as CNC machining capability and structural engineering services. An exhibit demonstrating the B³ SmartPac for the installation of Volvo IPS drives will be on display, as will a scale model of the Stimson-designed Origami 21ft sailing skiff built with Hi-Panels.

Visit SP-High Modulus at Auckland On Water Boat Show - Pavilion 1, Stand 123

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About Gurit

SP-High Modulus is the marine business of Gurit and currently supplies the superyacht market, high-performance custom, production, and work boat sectors. The companies of Gurit Holding AG, Wattwil/Switzerland, (SIX Swiss Exchange: GUR) are specialised on the development and manufacture of high-end composite materials featuring bespoke physical and chemical characteristics. The comprehensive product range comprises fibre reinforced prepregs, fabrics, structural cores, gel coats, adhesives, resins and consumables as well as certain finished parts, composite process equipment and tooling. Gurit supplies growth markets in Wind Energy, Tooling, Transportation and Marine. The international Group has production sites and offices in Switzerland, Germany, the UK, Canada, Spain, Australia, New Zealand, the USA, Ecuador, India, China and Ecuador.

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