Dynamic Stability System for lean but fast teams

Purpose built for coastal and offshore racing with maximized utilization of the Dynamic Stability System (DSS), the Infiniti 52 race yacht appeals to competitors and sailors all around the world.

The 52’ is known to be a size suitable for a variety of races and with the DSS, it is possible to reduce crew sizes by up to 60%. This has been achieved by combining an efficient single transverse DSS foil, powered winches and a swept 3 spreader carbon mast with sail and rig plan. Due to the lightweight materials used in manufacture, the 52’ is optimised for coastal racing whilst also achieving outstanding comfort. All these features make this particular race yacht target a specific market need.

Gurit Engineering is pleased to support the creation of this new Infiniti 52.

“For the Infiniti 52 engineering, the decision to use Gurit was a straightforward one. We have been collaborating for 20 years in an extremely positive way on ground-breaking yachts such as the Baltic 142 “Canova” fitted with DSS and the Infiniti range. We have never had any structural concerns, even with extreme racing and challenging conditions. Gurit’s proven experience in the field of advanced composites is one we have benefitted from on numerous yachts and their customer support is second to none; their reputation as market leader is well deserved.”

Gordon Kay, Founder and MD of Infiniti Yachts
An electric ferry using thermoformed Corecell™ M – for a perfect fit

One major advantage of using Corecell™ M Foam is the ability to thermoform the foam to fit. By applying this construction technique, WEBB saved the weight equivalent of 4 battery units which is a significant result in a build like this, where light-weighting is extremely important for operating efficiencies and sustainability.

Gurit® Corecell™ M is a structural foam core material using a SAN polymer base. It features high toughness and impact resistance characteristics, whilst also offering reliable processing without outgassing for high quality parts. Gurit® Corecell™ M Foam provides an impressive combination of high shear strength with low density, high elongation, high temperature resistance and low resin uptake. It’s been developed as the go-to product for all marine applications. Corecell™ M Foam and the whole Gurit product portfolio is supported by Gurit’s global technical team, who have over 40 years of experience in resin infusion, hand lamination and prepreg processing and can offer on-site support and processing advice for Gurit® Corecell™ customers.

“Wellington Electric Boat Building Company (WEBB) is building the first electric carbon composite passenger ferry in New Zealand and with our partners, Gurit, we recognized the importance of weight control early in the build. The decision to thermoform the Corecell™ M Foam allowed us to save several hundred kgs in overall weight. After some research and help from Gurit, we built an oven to get the material to the correct temperature. Although it took some practice, the team worked hard to refine the process and get the right balance of heat and time. Once we had developed and implemented a repeatable procedure, the production ran smoothly, resulting in each 19m hull weighing in at 600kgs: just on specification! All in all a great result using the best of materials and experience, thank you Gurit.”

Fraser Foote, Managing Director WEBB.

Reliability for slamming performance.
The first recyclable dinghy

Sustainability was the guiding light in the design of the Ecoprimus, the first recyclable dinghy for sailing schools. This groundbreaking dinghy was designed by Primusclass utilizing Northern Light Composites’ 100% natural fiber and rCore technology. Instead of building the racer yacht with classic materials, Northern light Composites opted for natural flax fibres and recycled materials such as Gurit Kerdyn™, a PET core, which was infused under vacuum to meet the demands in terms of stiffness and lightness.

Often, normally recyclable materials lose their recyclability when resin has been applied. This was why a new resin was used in their process which would enable separation of resin and fibers and hence result in reusable polymer. This approach might be a step towards introducing a new type of circular economy in the marine sector.

Restoration of the world’s first TP52 into a zero emissions racer/cruiser

The J-Bird III Restoration project underway in Australia is led by Ian and Annika Thomson, two avid sailors and commercial skippers who also run Ocean Crusaders. Ocean Crusaders is a charity organization which is dedicated to cleaning the oceans, beaches and waterways of the world to ensure they are safe for animals.

The couple had been searching for an ideal project and came across the world’s first TP52, called J-Bird III in a rather poor condition with a completely rotten and sodden deck, no sails and no engine.

J-Bird III will be restored using Gurit advanced composites materials including Kerdyn™ PET core, Ampreg™ 31 epoxy hand laminating resin, PRIME™ 27 infusion resin and carbon fiber for the deck, bulkheads and interior furniture. The Ocean Crusaders team are also planning to utilize Gurit epoxy infused Hi-panels for the deckhouse, deck sides, foredeck, watertight bulkheads as well as light weight panels for interior furniture and walls. The Gurit Hi-panel solution will be designed and structurally engineered by the Gurit team in Auckland and will be manufactured and delivered direct as a kitset ready for installation by Ian.

“Ocean Crusaders are dedicated to looking after our oceans and what better way than to ‘Recycle’ a race yacht that was destined for scrap. With a motto of No Emissions, No Compromise the campaign will turn to an electric engine, yet will race at the front of the fleet. We chose Gurit as they were the original engineers on the project, however the sealer was their recycled PET core which we could use to replace the rotten deck, and their environmentally friendly Bio Resins”

Ian Thomson, Founder / Managing Director Ocean Crusaders
Upwind for rotor sails

Norsepower, Comaxel and Gurit are proud winners of the JEC Innovation Award in the “Maritime Transportation & Shipbuilding” category, which was announced in May. The Norsepower Rotor Sails use advanced composite materials and a leading-edge control system to reduce cargo and passenger vessel fuel consumption. When the wind conditions are favourable, Rotor Sails allow the main engines to be throttled back, saving fuel and reducing emissions. We are also proud to share that our partner Norsepower has taken yet another step towards increased decarbonisation of the marine industry by installing the world’s first tiltable rotor sails solution.  www.norsepower.com

Gurit Marine Regional Contacts:

Customer Support

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Composite Engineering

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