

MARINE NEWSLETTER

September 2023

CONTENTS

New IMOCA 60, *STAND AS ONE* · Gurit expertise in sustainable transportation options · AYRO Oceanwings 363 – RoRo *Canopée* · *Ino Noir* – Queen of the Seas · SWS 108 Hybrid *Gellicieux* · Impact testing on marine panels: Composites vs aluminum · Merino Boatworks reducing labour and build time · Sustainability news · Gurit tradeshow · Contacts

New IMOCA 60, *STAND AS ONE* features Gurit Composite Engineering services and materials

Gurit's Paolo Manganeli, head of Gurit Composite Engineering, was honoured to be present at the unveiling of the new IMOCA 60 *STAND AS ONE* in June. Gurit provided engineering consultancy and a full suite of materials to its build.

STAND AS ONE was designed by David Raison, and is a sister ship to Jean Le Cam's *Tout Commence En*

Finistère – Armor Lux. To save time, cost, and resources, *STAND AS ONE*'s skipper Eric Bellion worked with Le Cam and Raison to create an efficient design that does not use foils but rather has daggerboards, is scow-like in shape, and cost nearly €3 million less than a new foiling IMOCA.

We wish Eric Bellion and the team great success!





Gurit expertise in sustainable transportation options

The Damen Waterbus 2907 Hybrid

With a wide range of composite materials and technologies available, Gurit has the experience to help customers develop the ideal structural solutions for sustainable transportation particularly for the electrification of marine vessels.

Electrification of marine vessels

Gurit's engineering team is building up a sound knowledge base and expertise in the electrification of maritime vessels particularly in the 10-40m workboat / ferry sector. Here are some of our recent projects:

- **Damen Waterbus** - Gurit provided full composite structural engineering for the Damen Waterbus 2907 Hybrid, meeting Bureau Veritas standards. This public transport, serving Rotterdam-Drechtsteden is efficient in terms of weight, hull design and systems, with interiors featuring natural and recycled materials. Damen Shipyards has been in business for nearly 100 years, with a focus on sustainable, state-of-the-art maritime solutions.
- **Chase Zero** The 10m hydrogen fuel cell powered chase boat, designed and built by Emirates Team New Zealand has impressive range – around 165 nautical miles at about 30 knots on a full tank of green hydrogen.

- **Bluegame** - Bluegame, a Sanlorenzo Group brand, is designing and building a hydrogen-powered chase boat for *American Magic*, challenger for the 37th America's Cup. The 100% carbon fibre foil-assisted boat will have a max speed of 50 knots.



Photo credit: Bluegame



Photo credit: Soel Yachts

■ **Soel Yachts** - The Soel Shuttle 14, designed and engineered for efficient clean solar electric propulsion with low weight playing a key role. For construction, the Soel Shuttle 14 used a production-friendly vacuum infused E-glass sandwich laminate which balances durability and low weight.

■ **WEBBCo** – *Ika Rere*, a 19m passenger ferry built by WEBBCo, with composite materials and engineering by Gurit, recently won the Energy Globe New Zealand Award. The Energy Globe - The World Award for Sustainability is a renowned environmental prize, with participants from more than 180 nations submitting entries for the awards, which are presented on a national and international level.

The award was presented to Fraser Foote and Jeremy Ward from Wellington Electric Boat Building Company by Karl Hartleb, Consul General & Trade Commissioner for

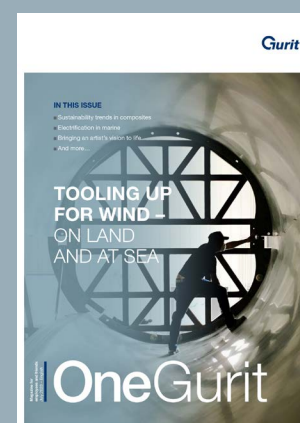
Advantage Austria. Also attending the award handover is Viktoria Wagner, Deputy head of Mission Austrian embassy and Hubert Kuzel, an associate with the Austrian Embassy.



How Gurit is leading the charge

You can read more about how we do this in the 'Composites Enabling Electrification' article in the July issue of [OneGurit Magazine](#), where we delved into the significant benefits of a lightweighting approach, comparison of different structural materials and fuel approaches, how composites can make electrification commercially viable, the environmental gains, as well as explaining how digitally designed composites make for flexible and faster manufacturing.

<https://www.gurit.com/publications/>



AYRO Oceanwings 363 – RoRo *Canopée*

Canopée is the first modern wind powered ship dedicated to service the Ariane 6, a European [expendable launch system](#) which has been under development since the early 2010s by [ArianeGroup](#) on behalf of the [European Space Agency](#) (ESA). The 121-metre ro-ro (roll on-roll off) vessel recently had four wing sails installed.

The wing sails were designed by Ayro, who designed the wingsail for BMW Oracle Racing's winning America's Cup yacht in 2010, and whose unique Oceanwings® technology aims to reduce fuel consumption and carbon emissions in the shipping sector.

Gurit's European & New Zealand Engineering teams collaborated with Ayro on the development of the Oceanwings 363 for *Canopée*. Gurit provided composite structural engineering support for the main and secondary mast, as well as the boom and the crane.



The ship, fitted out by Jifmar Guyane and operated by its joint venture Alizés with Zéphir & Borée on behalf of Ariane group, is now undergoing sea trials.

Ino Noir – Queen of the Seas

In Greek mythology, Ino was known as queen of the seas, and in a naming nod to her wine-dark hull, *Ino Noir* was launched earlier this year by Carrington Boats. The 45' speedster, designed by Shaun Carkeek, is a coastal/offshore focused yacht with strong inshore capabilities. Featuring Gurit SE 75 prepreg, her powerful hull shape, along with the combination of low weight and high stability, earned *Ino Noir* the Clarion Cup in the 2023 Fastnet Race for the first British yacht home.



©Georgie Altham/Photoboat

Gurit composite engineering supports new SWS 108 Hybrid *Gellicieux*

Gurit congratulates Southern Wind on the launch of the SW108 hybrid yacht *Gellicieux*. Gurit Composite Engineering provided services to the build, which also features our Corecell™ M structural foam and the PRIME™ 37 resin infusion system. *Gellicieux* is the first in Southern Wind's series of Smart Custom designs, providing advanced technology and performance,

along with long-passage comfort required in her owner's brief. While the diesel-electric hybrid propulsion system added some weight overall, the team refined the design by increasing sail area and righting moment to ensure competitive speeds of nearly 21 knots, along with exceptional stability. Gurit wishes *Gellicieux* and her owners fair winds.



Impact testing on marine panels: Composites vs aluminum

Gurit offers a wide range of mechanical testing for marine applications.

Objective

Gurit engineers at our Auckland-based IANZ accredited test lab regularly test marine panels to determine the impact resistance and weight savings of composite construction vs alloy construction.

Impact Test Demonstration

In the guide on page 6 we will demonstrate the steps for impact testing of hull bottom composite panels with varied carbon skin thicknesses, and an aluminum hull bottom panel using the drop test rig from up to 3m height with a 16kg weight.

Test Panels

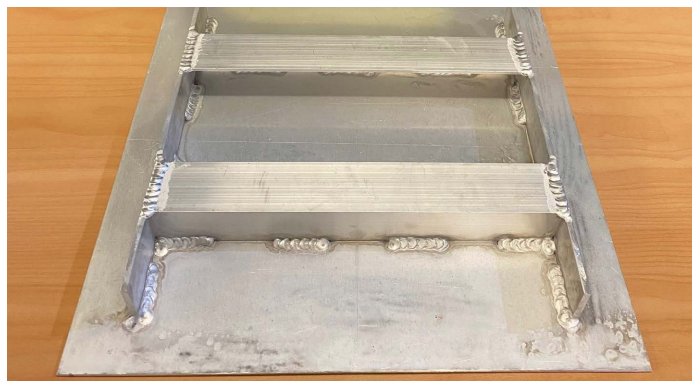
Hull bottom laminates for high speed 40m vessel:

1. Mixed density Corecell™ 130/200 with carbon outer skin to DNV recommendations
2. Marine grade alloy panel with same scantling design

Panel sizes (l x w) 400mm x 400mm



1. Composite test panel, Corecell™ with carbon skin



2. Alloy test panel

Panel Testing Process

Step 1

Apply PPE as required. Conduct Health & Safety check, ensure area is free of hazards.



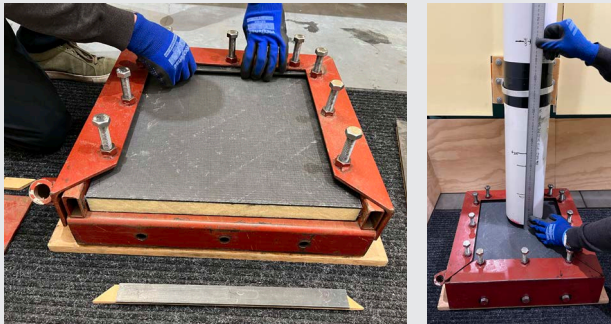
Step 2

Ensure rig set up is functioning correctly, check all parts.



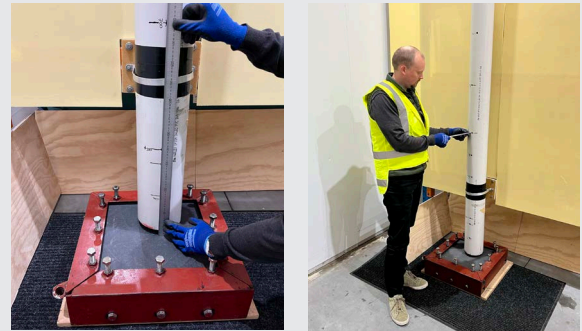
Step 3

Load sample panel into fixture / fasten.



Step 4

Hoist the 16kg weight to desired height – in this demonstration heights are 700mm & 1050mm.



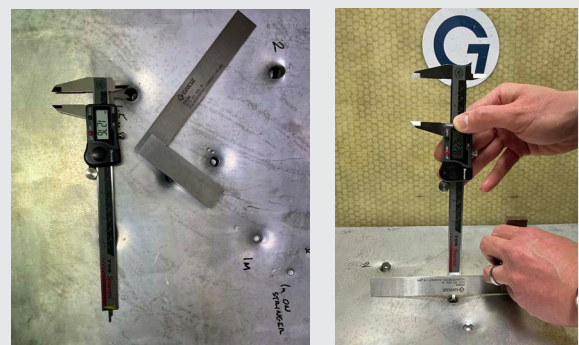
Step 5

Apply impact on test panel.



Step 6

Measure indentation.



Analysis of results / conclusion

Results prove that in this case composite construction has superior toughness / more impact resistance over aluminum construction.

To find out more on impact testing, contact:

Stuart Dow, Gurit Design & Testing Engineer | Email stuart.dow@gurit.com

Merino Boatworks: Reducing labour and build time

Merino Boatworks in Cairns manufacture premium power boats designed for recreational boating and leisure activities across Australia, designed by world leaders in stepped offshore centre consoles.

Owner Thomas Trembath has recently entered the composites industry from a construction/mechanical engineering background and is passionate about delivering high quality builds, on time to his clients. With only a small team, Tom was looking for an **efficient composite construction method** to meet his customer demands and also ways to produce less waste.

After consultation with the Gurit Asia Pacific team, a digitally designed **Gurit SmartPac™ kitset** comprising all the reinforcements and core materials needed for the job, pre-cut and labelled for ease of placement, was the ideal solution.

Currently under build is a sports fishing boat, a 6.78m Patented SVT stepped hull by Michael Peters Yacht Design (USA) featuring Gurit Corecell™ foam and dry reinforcements for the hull and centre console components.

“We have drastically **reduced hull build time from 46 days to 7-10 days** and create better quality repeatable hull parts.” said Tom. “The Gurit SmartPac™ kits have **reduced our labour** and time requirements in our small workshop to shape and sand complex core geometries within the hull. We also have fewer fiberglass laps and a better QA system with the advantage of the provided Gurit construction manual.”



“

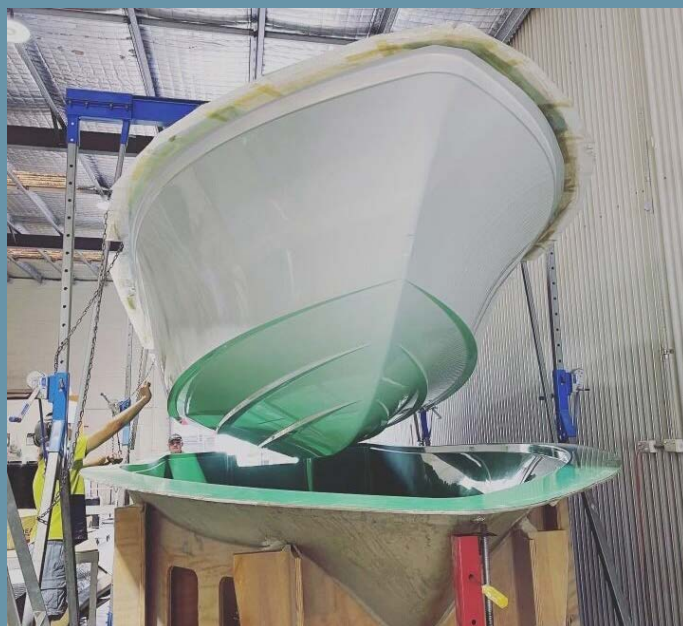
**WE HAVE DRASTICALLY REDUCED
HULL BUILD TIME FROM 46
DAYS TO 7-10 DAYS AND CREATE
REPEATABLE BETTER QUALITY
HULL PARTS.**

Thomas Trembath, Director

”

The Gurit SmartPac™ kitting system is currently only available in the Asia Pacific Region.

For more information: info-nz@gurit.com



Gurit awarded with A rating for sustainability performance

Gurit's sustainability progress over the past three years has been rewarded with the achievement in 2023 of an MSCI ESG Rating of A. Of all MSCI rated companies, Gurit sits within the top tier of the specialty chemicals sector, and the achievement is an important recognition of the sustainability work we have undertaken, and the progress we have made in workstreams and sites.

MSCI ESG Research provides ratings and analysis of the Environmental, Social and Governance-related business practices of thousands of companies worldwide.



Operation Clean Sweep

This year, Gurit set itself the target to join the Operation Clean Sweep® programme, designed to prevent resin pellet loss to the environment. To date, two of our sites (Newport, UK and Volpiano, Italy) have signed up and put housekeeping and containment practices in place, in line with the international programme.

www.opcleansweep.org



Visit Gurit at one of these upcoming marine tradeshow

Gurit will be attending:

IBEX Show in Tampa, FL, 3-5 October, booth 3-942

INDO PACIFIC in Sydney, Australia, 7-9 November, booth 4C24

METSTRADE in Amsterdam, 15-17 November, booth 12.702

We look forward to meeting you at one of these events!



Gurit Marine Regional Contacts

Customer Support

	Tel	E-mail
Asia / Pacific		
Composite Materials	+64 9 415 6262	nzcustomerservice@gurit.com
Composite Engineering	+64 9 415 6262	nz.engineering@gurit.com
Europe, Middle East & Africa		
Composite Materials	+44 1983 828000	customer.support@gurit.com
Composite Engineering (UK)	+44 2380 458 446	engineering@gurit.com
Composite Engineering (France)	+33 4 22 46 13 57	info-fr@gurit.com
Americas		
Composite Materials	+1 401 396 5008	jean-pierre.moulligne@gurit.com
www.gurit.com/contact		



Follow us on: [Linkedin](#) | [Instagram](#)

© 2023 Gurit

Gurit Services AG, Thurgauerstrasse 54, 8050 Zurich, Switzerland

marcom@gurit.com

www.gurit.com