Sicomin has worked within the Marine industry for 35 years and our products and services continue to be favoured by the world’s leading boat manufacturers.

From production boat builders seeking to improve manufacturing efficiencies, to commercial and military vessels requiring robust and lightweight materials, through to the superyacht sector that demands highly specific design elements and exceptional build quality, some of the most successful racing yachts feature Sicomin’s performance optimising materials.

The versatility and resilience of Sicomin’s products deliver a solution that is finely tuned to individual specifications and requirements, whether that is improved quality, streamlined production processes, cost reduction, reduced weight, enhanced performance or sustainable manufacturing.
Sicomin is proud to announce the qualification of its epoxy infusion resins and adhesive products for the series production of Candela’s ground-breaking new all electric foiling boat. Crafted in Sweden, the Candela 7 is a stylish 7.7m open motorboat that combines carbon fibre construction and hydrofoils to create a near silent 100% electric craft with a range of 50 nautical miles (at 25 knots) on a single charge.

Absolute focus on weight reduction is the key to this game changing performance. With a wet weight of only 1300kg the Candela is around 45-50% lighter than a traditional glass fibre fossil fuel powered boat. In addition, Candela’s design and engineering team delivered a fully foiling carbon fibre hull and deck structure capable of supporting the 230kg battery pack whilst only weighing 240kg itself.

Initially, Sicomin worked with Candela to supply high-performance epoxy laminating resins for the manufacture of the initial prototype vessels. The company has also been able to support Candela’s targets to industrialise the production process, providing materials that are then validated with extensive on the water testing.

By switching the epoxy system for the hull and deck to Sicomin’s SR1710 infusion product, Candela now benefit from a cleaner and more consistent process technology whilst also producing laminates with extremely high mechanical properties. SR1710 delivers excellent performance in hot and wet conditions, critical for Candela in such a highly loaded foiling craft.

Sicomin’s flagship epoxy adhesive, Isobond SR7100TH, was selected for the bonding of the internal structures and final assembly of the finished craft. Formulated for both thick and thin bond lines, SR7100TH provides a user-friendly bonding solution that is particularly resistant to micro-cracking in long term fatigue testing.

Now in series production, with 5 boats already delivered in Europe, Candela’s stunning new boat can be seen, and test driven at various locations across Europe over the next few months.

Sicomin is also proud to announce the qualification of its epoxy infusion resins and adhesive products for the series production of Nobiskrug Solar Team at Monaco’s Solar and Energy Boat Race.

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Sicomin’s epoxy resins have been selected for Hysucat’s 28 rigid inflatable boat (RIB). The unique Hysucat – an acronym for Hydrofoil Supported Catamaran – design offers the best features of a catamaran hull flying on hydrofoils. The highly effective hydrofoil system in the tunnel between the demi-hulls is the foundation of the Hysucat’s patented technology.

At high speed, the wings produce dynamic lift forces – much like an aircraft wing – that partly lift the boat out of the water. The craft runs mainly on the main hydrofoil that carries most of the weight of the hulls with rear hydrofoils listing and stabilizing the boat. This reduces the wetted area on the hull which makes the craft smoother, faster and more economical in fuel consumption as it can run with smaller engines. The result is a comfortable, safe ride even in rough waters, from a design that is up to 45% more efficient than boats with conventional hulls.

With a top speed in excess of 70 knots, which is unique in its category, the Hysucat 28 RIB is the perfect choice for special naval operations and marine police coastal patrols. Its load-carrying capacity makes it also suitable for water and taxi transport.

The 28 RIB was recently chosen as the official chase-boat at the Louis Vuitton America’s Cup World Series events in New York and Chicago. In addition, Hysucat has just launched the new 850 ECO carbon fiber water transport model with an electric motor. This RIB is produced with a carbon fibre infusion method, which makes it stiff, strong and 60% lighter than its GRP equivalent. The lightweight ECO-friendly boats will initially be used in the tourist industry and are ideal for low/no emissions areas like World Heritage sites.

Sicomin sponsored the Nobiskrug Solar Team at the 6th Solar and Energy Boat Challenge in Monaco. Nobiskrug, the German renowned superyacht shipyard, made its debut in this unique race, achieving a bronze medal in the overall ranking of the ‘Yacht Club de Monaco 2019 Energy Class’.

Built in-house, the 5m long Nobiskrug boat is equipped with solar panels and an electric engine. Sicomin’s SR GreenPoxy 33 and carbon fibre biaxial reinforcements were used for the complete structure of the vessel. GreenPoxy 33 has been developed for high performance laminating processes and combines excellent mechanical performance with optimised processing characteristics. It is one of the latest innovations in biochemistry and has over 35% of its molecular structure deriving from plant origin.
ENATA CHOOSES SICOMIN EPOXIES FOR UNIQUE HIGH PERFORMANCE FOILER

The ENATA FOILER is a radical evolution in motor yacht design with its unique hydro-foiling system effortlessly flying the yacht 1.5m above the waves. Stable and smooth in flight, ENATA has designed the FOILER to deliver the comfort of a luxury yacht with the performance and handling of a super car.

Its four patented foils enable the hull to fly 1.5m above the water, providing a comfortable ride at full speed and allowing the FOILER to make smooth and speedy turns, much like you’d expect from a supercar.

The propulsion system comprises twin 300HP diesel/electric hybrid engines, which work with custom electric torpedoes, providing different fuel configuration options when driving, and working with the foils to provide the impressive lift at up to 40 knots and in varying weather conditions.

The clear construction choice for the FOILER was infused carbon fibre and epoxy resin. Carbon fibre provides high strength and stiffness, particularly required for the four foils, and enables the construction of a lower weight hull allowing full lift to be achieved with the hybrid drive system. This performance wouldn’t be possible with a typical heavier E-glass structure. ENATA chose Sicomin’s advanced epoxy infusion and laminating systems for the hull and structure of the Foiler, combining excellent mechanical performance with optimised processing characteristics.

Sicomin’s SR8100 epoxy system was used, having been specially formulated for resin transfer processes such as injection or infusion. The system has a very low viscosity at ambient temperature and can be used with different hardeners for the moulding of small or large parts, with fast demoulding time. In addition, the Germanischer Lloyd certification approval for the SR8100 resin system provided ENATA with further validation of the quality and consistency of Sicomin’s products.

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HIGH PERFORMANCE BONDING ADHESIVE RANGE

Sicomin provides its customers with a large choice of high performance epoxy structural adhesive systems. The bonding adhesive range can be tailored to each specific bonding application within the shipyard. Thick and thin bond lines are possible and products are available in various pack sizes including machine dispensable options.

ISOBOND SR7100TH is Sicomin’s DNV-GL approved top of the range epoxy adhesive. Formulated for user-friendly application with a range of different hardener speeds, SR7100TH provides exceptional bonding for hull deck joins, internal structure installation and many other bonding applications throughout the vessel. Thanks to its excellent sag resistance, the adhesive can even be applied to vertical substrates and wet surfaces.

INFUGREEN 810 RESIN INFUSION SYSTEM

GreenPoxy InfuGreen 810 advanced resin system, contains up to 38% carbon content that is derived from plant-based origins. With extremely low viscosity at room temperature, Sicomin has formulated this advanced bio product to support manufacturers producing parts for mass production using injection or infusion techniques.

The system, available in high volume, industrial quantities, can be used with a variety of hardeners making it suitable for small to very large components including extremely thick laminates. InfuGreen 810 also holds the DNV-GL certification providing extra assurance of the products quality, efficiency and safety standards.

NEW CARBON FIBRE VERSION OF REVOLUTIONARY MAXCORE TECHNOLOGY

MaxCore is an innovative method of inserting dry glass, carbon or other natural fibres into thick foam cores, for infusion manufacturing of large sandwich structures. Dry fibres are inserted into the foam in multiple orientations and are responsible for 100% of the mechanical properties of the infused processed core. With its unique patented manufacturing process, Sicomin is able to place these reinforcement fibres with precise fibre angles and positions within the core and can produce MaxCore panels with core thicknesses as high as 300mm.

Sicomin’s new MaxCore carbon fibre technology is perfect for applications that become too heavy when engineered in glass fibre and require a lightweight and high stiffness solution. The technology is aimed at industries in which lightweight, structural performance and energy/cost saving are key drivers.

“Working with so many complex materials and products to assemble the Candela 7, it is vital that we partner with the best suppliers” commented Teodor Hällestrand, Product Manager, Candela.

“Sicomin, with their DNV-GL approved products and fantastic technical support are the perfect fit for an innovative and evolving company like us.”

#itsallinthechemistry

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