

Sail the globe in pure elegance

How aluminium keeps super yachts afloat

The Principality of Monaco – playground of the rich and resplendent. Each year, this tiny state hosts one of the world's most spectacular Formula One races. Against a picturesque backdrop, racing cars swerve through city streets, racing past rows and rows of buildings, at up to 300 kilometres per hour – tearing past the many luxury yachts which have dropped anchor in the harbour specially for the event.

Surrounded by speed and luxury, you wouldn't immediately realise that hundreds of tonnes of aluminium provide the best views of the race. But it's true – most luxury yachts are made of lightweight aluminium. Or at the very least, they have an aluminium superstructure mounted on a steel hull.

One person who never forgets how vital aluminium is to luxury yachts is Götz Linzenmeier, founder and managing director of Aluship Technology in Gdańsk, Poland. One of Europe's most sought-after aluminium yacht builders, the firm offers extravagant designs to help turn the wildest dreams of wealthy customers into reality.

A FLEXIBLE MATERIAL WITH BENEFITS GALORE

"Aluminium plays a different role depending on the ship," Linzenmeier explains. "In large luxury yachts, an aluminium superstructure helps keep the centre of gravity low, so the yacht is stable in the water." Smaller yachts are often made entirely of aluminium – making them fast and ultra-light. And as aluminium yachts are up to a third lighter than steel, this translates into significant fuel savings. That's not all. Aluminium has countless benefits: it's highly resistant to corrosion, extremely durable, needs little maintenance and is simple to repair.

PLANNING IS EVERYTHING

Bringing these deluxe dreams to life calls for state-of-the-art technology and technical expertise when working with aluminium. You have to know the rigidity of different aluminium alloys, for example, how easy it is to work with them, how well they resist corrosion, how well you can weld them – the list goes on.

Each a detail in which Götz Linzenmeier is well-versed. After all, he's hardly an amateur. "I've always loved sailing," he recalls, recounting his love affair with yachts. "In 1990, I set up my own yacht building yard in Hamburg. My formal education in the trade also helped me learn how to build boats – even weld – from the ground up." Three years later, Linzenmeier relocated to Gdańsk. In 2000, his company moved into a 10,000 square metre hall, part of the former Gdańsk Shipyard.

What began with a handful of employees is now a well-established company with over 200 staff. As Aluship grew, so did its expertise and its reputation. The planning and design teams began working closely with some of the best-known luxury yacht firms across Europe – helping to design modern hulls and superstructures tailored to individual needs.

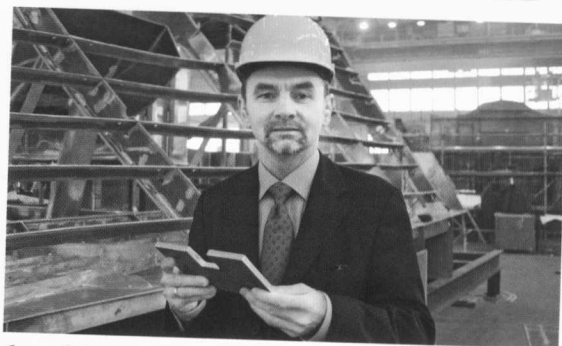
DESIGNING THE DELUXE

"We start with a 3D computer model of the yacht's structure. Then we use special software to split this into thousands of separate parts," Linzenmeier explains. The individual parts are cut from huge aluminium sheets two by eight metres

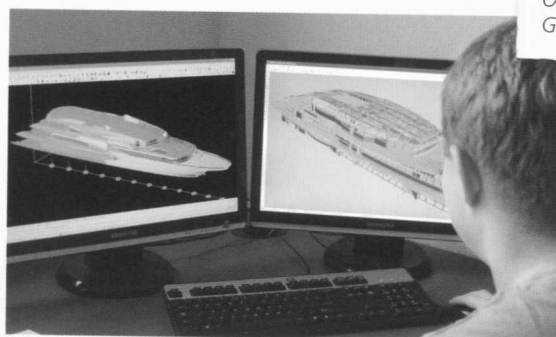
ALUMINIUM YACHT DESIGN



Precision work: to meet strict quality standards, every weld point must be perfect.



One of Europe's most sought-after aluminium yacht builders: Götz Linzenmeier, founder of Aluship.



A several thousand piece puzzle: modelling a new super-yacht's structure in 3D.



The stuff dreams are made of: how aluminium is used depends on the type of ship and how it's built.

across, five to ten millimetres thick and up to 700 kg heavy. Thanks to ingenious planning, the cutting pattern minimises waste.

Just like a jigsaw puzzle, the hull or superstructure begins to take shape as the different aluminium sections come together. Top-of-the range boat designers, shipbuilders and welders – all licensed by leading classification societies – ensure top quality throughout production. These trained specialists use the very latest equipment and technology – including Europe's largest flatbed one-side welding machine, 12.5 m.

To ensure maximum stability, Aluship uses only non-hardening high-strength sheets and plates belonging to alloy group 5083 H 111-321. These sheets meet the strength and corrosion limits of maritime classification societies such as the American Bureau of Shipping (ABS) or Germanischer Lloyd. All aluminium sheets used are named and numbered by the manufacturer – meaning every sheet and section can be perfectly traced.

The hull of a 75 m yacht contains around 170 tonnes of aluminium. Yachts of this type often have a steel hull weighing another 600 to 800 tonnes. After the interior fittings, engine and machinery, and other custom features are installed, luxury yachts can tip the scales at up to 3000 tonnes.

SAVING LIVES WITH ALUMINIUM

Ships made of aluminium offer more than just private luxury. They also entertain the public at large. Take the luxury cruise liner AIDAvita. Aluship designed and built the superstructure for her and her sister ship. The firm's expertise was also integral in manufacturing the Hermann Marvede, the largest lifeboat in the German Maritime Search and Rescue Service fleet.

"The lifeboat has a double-walled aluminium hull – almost like a tanker, but with smaller segments," Linzenmeier clarifies. This helps the lifeboat stay upright in stormy seas, making it almost unsinkable. Top quality and absolute precision were called for when welding the aluminium. Ships with hulls like these have an error margin of five millimetres at most – even when 46 m long, like the lifeboat.

THE BIRTH OF A LUXURY YACHT

Luxury yachts demand ultimate precision. Especially super-yachts – for which the steel hull and superstructure are built separately. The superstructure built by Aluship is transported to the shipyard by boat and mounted on the hull. It's a big day in the life of a yacht, the first time the whole vessel really takes shape. "The superstructure has to be a perfect fit," remarks Linzenmeier, "so we use shrinkage management in all areas. This allows us to precalculate every change in the material due to welding."

LUXURY WHEREVER YOU LOOK

A standard design? Bulk production? Alien concepts in yacht building – and the same goes for superstructures at Aluship. Each luxury yacht is unique. Customers are discerning and want something exclusive – not a mass-produced product. Of course, this all comes at a price – and it's not exactly pocket money. A 75 m luxury yacht can easily cost between 80 and 120 million euros. On top of that, there's running costs, such as the crew, who may number 15 or more for a yacht of this size.

Customers about to make the big step can consult special yacht brokers. They guide the buyers – soon-to-be owners – through the entire process, from design and construction to the final fitting and finishings. Sometimes this can last up to three years. Brokers also consult buyers and help choose the shipyard, the fittings, the financing method, and the crew.

In theory, anything goes on a luxury yacht: a jacuzzi, a helicopter base, a basketball court, a miniature submarine hangar or even a recording studio. If the customer can afford it, the sky's the limit, no matter how extravagant the wish. Looking for inspiration? Try the annual Monaco Yacht Show. Or next time you're watching Formula One live from Monaco on TV, peer in when the camera sweeps past the yachts in the harbour. An excellent view – minus the sticker shock.



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