



ABOVE: BRUSHED MATT FINISH FOR ALL STEEL DECK HARDWARE AND STANCHIONS. BELOW: AFT COCKPIT TRANSFORMS INTO A PADDLE POOL FOR THE OWNER'S YOUNG CHILDREN.

appearance as contiguous as possible. The stainless-steel stanchions and the deck blocks are all specially glass-blasted to remove any shine.”

Tripp spent a year and a half working with the owner on the design process before the yacht started building. “We want to be part of the owner’s creative process, because you must remember that this is their dream; they’re creating something special and we’re the vehicle that they use to fulfil that dream. Without them we’re not here,” he said.

Tripp explained that they very rarely use tank testing: “We mostly use Velocity Prediction Programmes [VPP], but also the lessons from similar-sized yachts like *Mystere*, *Cinderella* and *Saudade* were applied to his yacht, so in effect, we’re doing full-size tank testing. Then we undertake a lot of

Computational Fluid Dynamics [CFD] work in the office. We’ve got a really good aerodynamicist, David Egan, running CFD pretty much full time.”

Right from the outset it was clear that with an emphasis on sailing performance the owner wanted advanced carbon composite construction. “It was never going to be an aluminium yacht; it was always a composite yacht,” said Tripp. “His previous yacht was a composite – and I think that’s what we find; if an owner has come up from small yachts and composite yachts, he’s not going to want an aluminium yacht.” It’s always an interesting question for an owner; do you build in aluminium or carbon? And it’s a very difficult one to answer, because if a client asks me: what’s the best yacht I can build at a specific size, my answer is immediately composite, but if I am asked: what’s the best yacht





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I can build for this amount of money, then it's a much more sophisticated question."

Custom-built carbon yachts cost between 10 and 20 per cent more, so you could have a 46m in aluminium or maybe a 42m in carbon. "But which becomes the better yacht," asked Tripp, "and how do you analyse that? Even if you look at the VPP, the bigger aluminium yacht is faster, at least some percentage of the time. In aluminium, *Sarissa* would be around 20 tonnes heavier. In the middle range of, say, 12 to 16 knots of breeze, the yachts will be fairly similar in performance, and then above that the composite yacht gets much faster. Below 10 knots of breeze the composite yacht gets much faster. For some people that doesn't matter, but where we do find it really matters is if you are sailing in the Med – it means the yacht's much easier and more fun to use in light air."

Because a carbon yacht like *Sarissa* will always sail, even in just five or six

knots of breeze, you can unfurl the Code Zero and pretty soon you are up to 10 knots in very little breeze and it's really fun to go sailing all day, whereas if the yacht is sluggish in light airs it's very easy to just not bother putting the sails up at all.

Essentially, a composite yacht is more of a sailor's yacht, as it needs less sail area to power it up and is more responsive in the gusts. A composite yacht has fewer maintenance issues with corrosion and although aluminium has some advantages in reduction of noise travelling through the structure compared with the stiffer carbon hull, it does not have the same thermal insulation properties as a composite hull.

Tripp also believes that the carbon yacht will hold its value better, appealing to a wider client base. "Some people do not care whether they are buying aluminium or carbon, but an increasing percentage of the buyers are only looking for composite



yachts, so sellers with an aluminium yacht are limiting their potential reach," he said. The problem with choosing to build in carbon is that you are severely limiting the number of yards you can approach to tender for yachts over 40m. Not only does this keep the composite build prices quite high, it can also put constraints on the schedule with fewer build slots available.

Tripp recommended Jens Cornelsen as project manager to develop the specification and the tender documentation and manage the build for the owner. "We worked with Jens on *Althia*, then *Myster*, *Saudade* and *Cinderella IV*, so we have 10 years' history now on these projects. I find he's great to work with because he assures quality and successful delivery. The yards know exactly who they're dealing with, he is consistent; they know what the targets are what to expect.

"We talked to Yachting Developments in New Zealand, Baltic Yachts, Green

Marine/Viters [Holland] and Wally [Italy]. The final choice of Green Marine was based on a balance of reputation, quality, cost and timing. I think the owner felt that the northern European yards had a higher perceived value," said Tripp. "Green is a standard I'm happy to measure by. We built *Shaman* with them in 1995 and I've known those guys all of my professional career, so I've always had a great deal of confidence in them, and we'd give them a drawing and they would build it that way or they would give us a drawing back of a better idea."

For the interior design, Tripp introduced Rhoades Young from the UK to the owner. Tripp had worked with Rhoades Young on the 23.4m *Black Pearl* at Baltic Yachts in 2008 and *Myster* at Viters. Completed in 2006, the 43m *Myster* is a useful benchmark for the 42.6m *Sarissa*. *Myster* brought the same team together with Rhoades Young, Jens Cornelsen, Tripp Design and Viters, although this time with



OPPOSITE: ARCH TO KEEP MAINSHEET CLEAR OF THE COCKPIT. TOP: CLEAR DECKS WITH A RAISED COAMING AFT OF THE DECKHOUSE TO GIVE PROTECTION. ABOVE: FLUSH TEAK DECKS WITH LOW PROFILE PILOTHOUSE.



ABOVE: MASTER CABIN WITH SKY VIEWS ABOVE THE BED AND PRIVATE ACCESS TO THE AFT COCKPIT. OPPOSITE (CLOCKWISE FROM TOP LEFT): LONG VISTAS INTO GALLEY/DINING AREA AND DOWN FROM THE MAIN SALON. FORWARD OFFICE/GUEST CABIN WITH DARKER WOOD AND MORE FORMAL RED LEATHER. CURVING CORRIDOR AFT. BELOW: INLAID MARQUETRY DETAIL.

an aluminium hull and carbon superstructure. Her aluminium hull has a deeper under body to support the 187-tonne displacement, around 20 tons more than *Sarissa*.

"I understand that the owner talked to several other interior design offices, but whilst there are lots of other offices that obviously do very fine interiors, this yacht is a high-performance lightweight yacht and you need an office that is not only very strong on the aesthetics, but also that has the experience and capacity for engineering an interior efficiently for a carbon hull," said Jonathan Rhoades of Rhoades Young.

One of the important aspects of building in composites is that you have far less flexibility in changing the structure once the hull has been laminated compared with aluminium construction. "You have to invest a lot more effort and resources in the very early stages of the project with a carbon yacht," said Louis Hamming, managing director of Vitters. "The whole process runs in a different way with more engineering upfront. You also have to get owners' decisions and interior decisions signed off at a really early stage in order to make the process

work well. Aluminium is much more forgiving if you want to make changes and adapt things later. Also, in an aluminium yacht, you can cut out parts of the structure, or move items with less overall influence on the structural integrity than on a carbon fibre yacht."

Rhoades says that they started by working out where all the living accommodation fitted, they then looked at the flow of the yacht, and then they made sure that they did not have any redundant space. "We break the yacht up into 600mm squares and then we colour in the squares which are not being used 100 per cent efficiently," Rhoades explained. "We collect all these coloured squares and re-jig the GA until we get less, and then we do the same thing again and again, raking through the plans, until we get to the point where there is no square that's wasted."

"I hope you can see that *Sarissa* is an object of art and beauty, but underneath there is a huge amount of research and development into how to build and coordinate the fitting of a lightweight interior. What look like cupboards in the lower salon are actually the base of the seats in





JONATHAN RHOADES – RHOADES YOUNG INTERIOR DESIGN

“Every yacht is very different and that’s because they’re reflections of the owner’s lifestyles rather than a reflection of our own egos. *Sarissa* is a really high-tech performance yacht with, what I hope, is a very beautiful modern interior.”

the upper salon, so we’re effectively adding a metre of length to that space that actually doesn’t exist.”

The whole team worked on every aspect of the design, from the interior layout to the details of the deck with the owner, first over drawings and plans and then in the yard before the hull construction could start at Green Marine.

“The design of the mainsheet arch, the sightlines from the wheels and the position of the winches were all worked really extensively with the owner, with full-size mock-ups where necessary, so that he could have it all clear in his mind’s eye,” said Tripp.

Green Marine are a UK-based yacht builder specialising in carbon racing yachts. *Sarissa* is the third collaboration between Green Marine and Vitters, following on from the 37m *Ghost* (2002) and the 39m Tripp Design sloop *Cinderella IV* (2007). A fabricated female hull mould resulted in a very fair hull surface, minimising the weight of fairing and painting; while the extensive use of pre-impregnated carbon fibre over a combination of SAN foam and Nomex honeycomb core kept the structural weight to a minimum. The hull was ‘cooked’ to 90 degrees centigrade to maximise toughness, and unidirectional fibre was incorporated in the hull and deck to make the boat as stiff as possible.

The hull was then shipped to Holland for fit-out and completion at Vitters. The engineering, pipework and

finishing were undertaken by Vitters. They fit their own in-house hydraulic sailing control systems to power the captive winches, Lewmar on *Sarissa*, the Southern Spars furling boom and the Reckmann foresail furlers. The anchor windlass is set in a neat locker behind the forestay, with a clever offset carbon hydraulic arm custom built by Green Marine to launch the 185kg CQR anchor past the forestay.

Throughout the deck layout every effort has been taken to keep it as clean, uncluttered and efficient as possible. “The owner put a lot of emphasis on the sleek lines,” said Hamming. “He wanted to maintain as low freeboard as possible, so there is no bulwark, which does not make our job easy. Green Marine had to engineer special recesses for the stanchion bases, the carbon EC6+ cap shrouds and the Reckmann forestay furler to minimise the visual impact.”

The low coach roof continues the sleek modern theme and brings what is a large powerful sailing yacht back to a human scale with good all round and forward views for the helmsman from either of the twin helm stations. Forward of the helm stations there are the hydraulic sailing control panels duplicated on either side.

Tripp is very aware of the dangers associated with the very high sheet loading of large sailing yachts, even when it can all be controlled at



the touch of a button. He prefers to separate the helm station from the sail controls so the helmsman is not tempted to try to operate both simultaneously where there is a chance of becoming distracted from good navigation, damaging a sail or even injuring a crewmember by trying to do too much at the same time.

In practice, captain Greg Monks confirmed that for almost all sail furling, trimming and manoeuvres he requires the crew forward, close to and observing the actual sail itself using a hand-held remote-control box. In the original layout for the interior worked up by Tripp Design and the owner, the crew area started in front of the mast. With a brief to create a fun, young, family-friendly interior for extended adventure cruising with long periods at sea, Jonathan Rhoades cleverly opened up the galley into the owner’s formal

dining area, effectively extending the owner’s space further, co-mingling a little with the crew area in a way that the owner really enjoys.

This means that the kids sit down for breakfast and the galley is sort of interactive with them. It does put some pressure on the chef because she is constantly trying to feed 14 people, which can easily become an all-day event. When necessary for owner or crew privacy, the galley can be closed off with a sliding panel.

“It’s a yacht for a young family to have adventures on – I think she’s a modern yacht in many senses,” said Rhoades. “Of course, she’s lightweight and high performance and all of those things, but [I mean] also in terms of lifestyle and the way that people live. The galley is normally the preserve of the crew and is not considered to be a

CLOCKWISE (FROM TOP LEFT): POP-UP ENGINE AND THRUSTER CONTROLS. RECESSED EC6+ CARBON SHROUD BASES. RECESSED RECKMANN GENOIA HYDRAULIC FURLER WITH ASYMMETRIC FURLER FORWARD. OFFSET CUSTOM GREEN MARINE CARBON HYDRAULIC LAUNCHER FOR 185KG CQR ANCHOR. CLEAR SEPARATION OF STEERING AND SAIL CONTROLS CONSOLES FOR SAFETY.



OPEN PLAN GALLEY INTO THE DINING ROOM FOR LESS FORMAL FAMILY USE ON EXTENDED CRUISING. SLIDING PARTITION WHEN REQUIRED.