Double indemnity — stylish and unsinkable...

Belgian builder ETAP has begun to expand its own successful niche, which is based on its own unique double-skin and foam approach to yacht construction and distinctive styling. Two years ago it diversified into the power sector and this year will see it launch an all-new flagship cruiser. Phil Draper reports.

MAIN The main fit-out hall at ETAP Yachting's Malle facility near Antwerp, Belgium. INSET Jan Verhaege, ETAP Yachting's CEO presides over the company's workforce of 110, 90 involved with production and 20 on the administrative side. TOP RIGHT & BOTTOM RIGHT As of mid-January 2005 work was well progressed with the inner-deck plug of ETAP's new flagship model, the Marc-Oliver Von Ahlen-designed 46DS. The work is carried out on top of the first outer deck that is still sitting in its mould.

ETAP Yachting has numbered among Europe's middle-size sailing cruiser builders for a long, long while. And ever since it began life 35 years ago, it has stayed true to its original course, the production of distinct, quality sailing cruisers that promote safe sailing. Indeed, and rather surprisingly, it has always had a sector of the market all to itself — although of course many other builders compete with its model range indirectly.

There are two elements to ETAP Yachting's niche. The first is the rather distinct design and styling of its boats. And the second relates to the way these boats are constructed, which has essentially remained the same since the operation was founded by Norbert Joris, who remains a member of the board. The successful ETAP industrial lighting business continues to serve as the boatbuilder's parent and employs some 400 people in the factory next door. For what makes an ETAP really special is the fact that every single one of them is unsinkable.

ETAP achieves this unsinkability by double skinning its hulls and decks, and filling the majority of voids between the skins with closed-cell polyurethane foam. It is the only production boatbuilder in the world of any size to build boats this way.

While selling unsinkability certainly has its obvious pluses, there is the odd aspect that needs careful handling, suggests Gert Veelaert, who along with Jan van Speybroeck, manages ETAP Yachting's international sales department. "While it is great to be able to demonstrate, as we have done at many boat shows with pools and water pumps, that our boats won't ever sink, even if they are completely swamped or holed, there is always going to be a negative element to it," he says. "That is because it is very difficult to sell unsinkability without actually highlighting the dangers of being on the water and that to an extent will frighten people. These days our market positioning is about playing down the danger and stressing safety, safety, safety. ➡

ETAP Yachting deliveries for 2004

Model	Units	Basic Export Price, Exc Tax	Approx value Exc Tax
ETAP 21i	40	€19,843	€794,000
ETAP 24i	30	€32,845	€985,000
ETAP 26i	20	€54,107	€1,082,000
ETAP 30i	20	€72,908	€1,458,000
ETAP 32s	20	€90,981	€1,820,000
ETAP 34s	5	€107,623	€538,000
ETAP 37s	20	€130,610	€2,612,000
ETAP 39s (old)	5	€176,020	€880,000
ETAP 46ds (New)	-		
ETAP 1100AC	6	€238,459	€1,431,000
Total	**166**		**€11,600,000**

Note: The values given here are based on approximate retail prices (excluding taxes) in export markets. They do not relate to ex-works turnover, though ETAP Yachting's claimed €11.3 million turnover figure for 2004 is very close.

Cost breakdown (per boat)

43% ..... materials
40% ..... indirect costs/margin
17% ..... direct labour

We're presenting our boats now as the Volvo cars of the cruiser world."

Beyond the fact that ETAPs are unsinkable, the double skinning and foam filling of their hulls also has other distinct advantages over conventional constructions, not least the added strength and rigidity of the structure. Moreover, the thermal and acoustic insulation qualities of such a system are very impressive. There is virtually no condensation in ETAPs, even in spring and autumn, and they are also very quiet boats, not to mention very easy to keep clean as a double skin means that the interior is clean, white gelcoat.

The current ETAP Yachting portfolio includes eight sailing cruiser models from 6.56m-11.46m (22ft-38ft). The current designations are 21i, 24i, 26i, 30i, 32s, 34s, 37s and new 46DS. There is also one motorcruiser model. Back in 2003 ETAP diversified into power with the 1100AC, which was designed by W H Wilke, who has done work for brands such as Storebro and Nimbus. Since then, as of January 2005, around 13 or so of those have been delivered, which is not bad at all seeing as in standard guise they retail for around €239,000, excluding taxes.

The first of the new flagship 46DS will be delivered in April/May 2005. That 46DS will not only be the builder's largest boat to date, but also its first deck-saloon model. It has been designed by Marc-Oliver Von Ahlen of Hamburg.

That the ETAP 46DS's very light and modern interior is the work of Italian industrial design firm Stile Bertone, a Turin, Italy-based studio with no previous yachting sector expertise, also says a lot about ETAP Yachting, a company that has built its reputation on innovation on various levels and the fact that it is not afraid to experiment. What graphics have thus far been shown suggest the choice makes a lot of sense. The interior is strikingly clean and fresh and should prove very popular.

Obviously for a company whose success owes much to innovation, new-model development is taken very seriously, not least for the fact that 40-50 per cent of ETAP Yachting's new-boat sales volume normally comes from the two most recently introduced models. But reacting to such things can be counter productive.

"Innovating too fast is a real problem," points out ETAP Yachting's CEO Jan Verhaege.

TOP RIGHT Another view of the main fit-out hall. The structure to the left is the 46DS's deck plug, which gives a good idea of her eventual profile. MIDDLE RIGHT Building up the plug for one of the 46DS's internal mouldings. Upside down, this one is for the portside of the main saloon and part of a third cabin that occupies space under dinette. What will be the seat for the shower of the owner's cabin aft is clearly visible. The plugs are framed with plywood and MDF (medium-density fibreboard). BOTTOM RIGHT Reinforcement cloth is cut manually on one cutting table using plywood patterns. LEFT & FAR LEFT The 21i hull is produced using hand lay-up while RTM is used for the deck.

"If you are not very careful in that situation you can easily end up cannibalising volumes from your own models. That is part of the reason why we have recently taken the decision to go bigger on the sail side and diversify into the motorcruiser market. Neither of those initiatives impacts what we were already doing. For example, we are hoping to build eight-10 1100AC's a year from 2005, which will account for around 20 per cent of our turnover and that is business we definitely didn't have three years ago. We

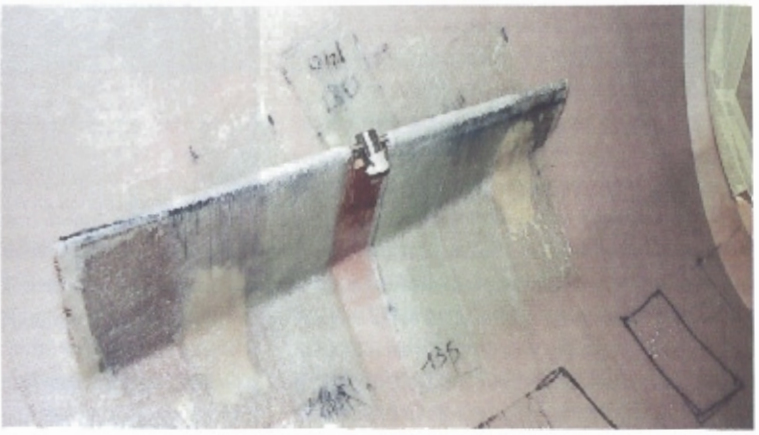
TOP LEFT, TOP RIGHT & BOTTOM LEFT **Both hull and deck of the ETAP 24i are produced using a two-part mould and the resin transfer method (RTM). This is the relevant two-part tooling. The system means far less styrene emissions and less staff. It is also a lot easier to train workers in these techniques than wet lay-ups.**

recently took on a power-dedicated sales manager to make sure that happens. Having a motorcruiser is a good idea. We enjoy strong brand loyalty, so we are bound to convert a few of our older owners to the motorcruiser."

The 1100AC project is certainly deemed a great success. "We have learnt a lot with it," says Gert Veelaert. "After all, it is a bigger volume boat and it too is essentially a deck-saloon model, which has helped with tackling the 46DS. We may well look at doing a second power model, but not until we have pushed the volumes of the first one up over the 50-unit mark."

Up until recently the average model life of an ETAP was around eight-nine years, which is quite a bit longer than the industry average, which is probably six. The reasons for that, one assumes, has been about amortising the extra costs of double-skin tooling. But now that cycle is deemed too long, says Jan Verhaege, so concerted efforts are being made to shorten that to six years.

What new model comes next after the 46DS remains under wraps, however. All that can be said on that score is that whatever does come next will be within the existing spread, meaning nothing bigger than the 46DS. ETAP says it doesn't make quantum leaps ➡



TOP LEFT **Inner-deck tool for the 37s.** TOP RIGHT **Note the complex stringer system of the 46DS.** BOTTOM LEFT **Bigger models are done with a wet lay-up.** MIDDLE RIGHT **This is the hull tooling of the 1100AC, thus far ETAP Yachting's only motorcruiser model.** BOTTOM RIGHT **A chain plate anchorage for the 37s.**

lightly and is happy enough to stick with a 46DS flagship for a long while.

As regards his company's strategy, Verhaege says he also hopes to reduce the number of models in the range down to six, which, with a product lifecycle of six years, means introducing a new model every year. By reducing the number of models and introducing more commonality between models at the conceptual stage, he hopes to be able to improve economies of scale, particularly with regard to purchasing.

"Leveraging more," he says, "will hopefully help us drop the direct labour content of our boats from 17 per cent to 15 per cent. The lower we can get that, the better we will be able to resist the competitive threats from Eastern Europe and probably China eventually. Those are a few of our goals and all fall within our current five-year plan."

As a guide, ETAP export prices, excluding taxes, run from the smallest 21i model at €19,843 up to about €179,020 for the current 37s flagship. The price of the 46DS will not be set officially until after the first boat is complete and the company understands fully all the relevant costs. Certainly in recent years ETAP has made a concerted effort to get its prices down, but on average model-for-model its premiums are still reckoned to be in the region of 20-30 per cent more than an equivalent model from mass market producers, namely Bavaria and Groupe Bénéteau with its Bénéteau and Jeanneau brands, whose prices have also declined in real terms in recent years owing to combinations of a particularly ➡

TOP, TOP MIDDLE &TOP RIGHT The 1100AC features Divinycell foam above the waterline. Chopper guns are used a lot at the Malle facility. **BOTTOM** A deck of the 37s, in-mould.

TOP LEFT, MIDDLE LEFT & BOTTOM LEFT **Inner deck of the 37s. Note the way plastic tubes are glassed in between deck and inner deck as wiring conduits. Elsewhere, heating conduits are laid between hull and inner mouldings, regardless of whether a heater has been specified, as it then provides an owner with the option of retro-fitting.** TOP RIGHT **A complete ETAP 30i deck.** BOTTOM RIGHT **Note the section of closed-cell polyurethane foam between deck and inner deck moulding.**

aggressive marketplace and improved production efficiencies. The fact is that double skinning means it is building a high-grade product, and that is always going to be expensive. For example, the new 46DS, as of January 2005, three months before the first one was expected to be finished, had taken up 20,000 hours, 60 per cent of which was said to be down to the double skinning.

For the future, there is talk of experimenting with infusion on the 46DS, or possibly using pre-preg systems such as SP Systems' SPRINT fabrics.

The current size of the average ETAP sailboat has been fairly static in recent years, but the introduction of the new 46DS should change things significantly. The average sailboat sale is now around €64,000, which equates to around the 8.5m (28ft) mark. The price of the 1100AC in export markets is €238,459, excluding taxes.

Unit production at ETAP Yachting has been fairly consistent in recent years. It is said to average at around 200 boats a year, but the tallies do tend to vary up and down from year to year quite a bit depending on which particular models are in vogue. For example, during 2004 the company completed 166 boats, but then the turnover of €11.3 million for the period registered a growth of 11 per cent, a new record, says Jan Verhaege.

Interestingly, flying in the face of most other yards of its scale these days, ETAP Yachting still builds the majority of its boats for stock. And that has led to a batch-based production system, which is rather unusual. Up until a few years ago model batches of 15 were built, which meant just three models going through the plant at any one time. But, while it still retains the same batch approach, the numbers per batch have reduced significantly in order to give more flexibility to both the in-house sales force and ETAP's dealers. Batches of just three boats progress through the plant these days.

To keep things in balance, the cycle time for each model is kept the same regardless of size — just three weeks — so the batch mix is ➡

THIS PAGE Rudders are also produced using the RTM system. First a couple of spacers are inserted into the tooling along with fabricated stainless steel rudder stocks — aluminium stocks are used for the 26i and 30i models — and then a polyurethane closed-cell foam, just the same stuff that renders the boats unsinkable, is injected to create a rudder core. Then the assembly is removed and both halves of the mould are applied with gelcoat. Lastly, the assembly is wrapped with glassfibre and returned to the mould and the resin introduced by vacuum. It is sucked up at the bottom and bled from the top. Constructed in this way, the resultant rudders are monolithic with no risk of splitting. Transom-hung, the rudders of the 21i and 24i don't have stocks. Such is the efficiency of ETAP's rudder production operation, it is seriously considering promoting its expertise to other European boatbuilders.

scheduled in such a way that it can all be achieved with a fixed workforce. It is perhaps easier to manage than it sounds, as there is little real difference in the fitting out of a 30i or a 37s, providing both have standard specifications. There are no bonus schemes in operation at the plant to boost things along either. "The hatch system is not ideal," says Verhaege, "And eventually we hope to get away from it entirely, but it is not quite so simple as just deciding to stop doing things that way. For a start we need to persuade our dealers to support us with forward-order commitments. At the moment we have to decide, virtually at the beginning of each year, what product mix we will be building."

However, production of the new bigger models, the 1100AC and the 46DS, is being done more conventionally. They are only built to order. And at any one time the fit-out hall will have just two hulls and one deck in progress. Capacity for the 46DS could eventually be geared up to around 10-12 units per year, but as this is a major jump for the company from its current flagship 37 model, even though its biggest-ever model was actually the 39, which was only discontinued towards the end of last year. "But we prefer to wait and see exactly how well the model is received and how quickly the first sales come in, before committing too much capacity to it," says Jan Verhaege. "Indeed, should demand run to a dozen models a year, it will mean some reorganisation, particularly in our fit-out hall."

Overall exports account for about 95 per cent of ETAP's new-boat sales. The best markets currently are the Netherlands and France. Norway and Italy are also good, particularly so the latter, which has gone from strength to strength since a dealer was appointed there three years ago. Finland








TOP LEFT & MIDDLE LEFT With a working envelope of 8mx4mx1.5m, this Hauser five-axis machining system can trim and drill 24i hull and decks, 21i hulls and all the smaller parts across the whole range. The close-up shows the trimming of an instrument console. TOP MIDDLE The small-parts laminating area uses a conveyor system to move the parts through the shop. Parts produced here include cockpit lockers, instrument consoles and rudders. TOP RIGHT The RTM tooling for an instrument console that sits on top of the coachroof. The 26 and 30 share the same unit. MIDDLE Veneered bulkheads are glassed in before the inner hull. MIDDLE RIGHT The internal mouldings of the 1100AC shower-room modules. BOTTOM LEFT This is a foam-containment jig, or 'pressure mould' as they are referred to internally. ETAP uses such frames to contain the expansion of the PU foam when injected into a hull. BOTTOM RIGHT A pressure mould in situ.

is okay while Sweden and Denmark are not so good now. Germany, once a strong ETAP market, remains very slow.

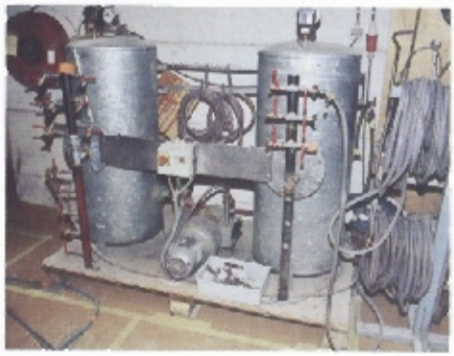
In all there are some 40 ETAP dealers across 17 countries, including Australia and the USA, although nothing much has been happening on the latter front for the past four years or so, adds Verhaege. "So far we have had only limited success in the US market," he says. "And the conditions are certainly not right at the moment with the US dollar where it is in relation to the euro."

The domestic market for ETAP, representing just five per cent or so of sales, is said to be stable. "We guess there are around 4,500-5,000 sailing cruisers in Belgian customers' hands and current demand levels are for around 50 new boats a year in our size range. So we are doing in the region of eight to 10 boats per year in our domestic market," says Gert Veelaert.

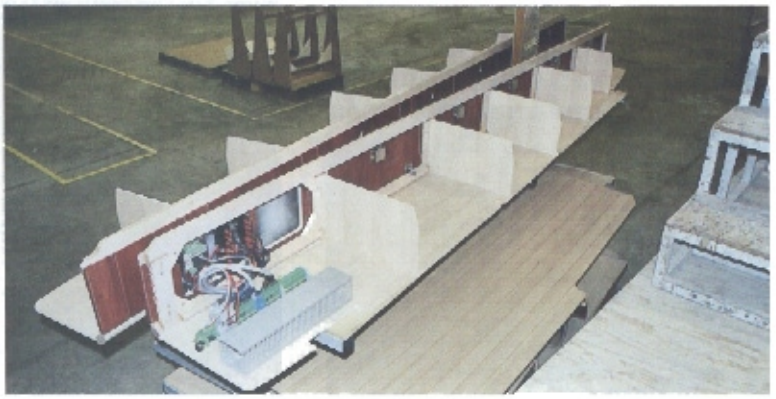
Tellingly, more than 50 per cent of all ETAP Yachting's retail sales are said to be from repeat clients, those that have owned at least one ETAP before. And one owner is said to be on his seventh ETAP, all of which were bought new. That conveys a lot about the company's appeal, build quality and after sales service.

While the majority of clients are certainly private owners, there are a number of northern European charter companies with ETAP sailboats among their fleets, especially in Holland, Germany and France. But charter demand is not really courted. The fact that the ETAPs are double skinned means it is not easy to include three-cabin versions, not only because of the physical space that inner mouldings occupy, but also because there would need to be completely new tools made for certain inner hull moulds, and the expense of such 'second' skins is expensive enough as it is. Moreover, adding costs because of charter demand to a line that already prices itself out of the charter market is not really sensible.

Based in the town of Malle, some 35km or so to the east of Antwerp, ETAP Yachting currently employs around 110 people — 90 involved with production and 20 on the administrative side. Around 12 new people have been recruited over the past year, but the total establishment in actual fact has remained fairly static in recent years. "We have to work very hard to find the right people these days," confides Jan Verhaege. "The unemployment figure in this area is not much more than three per cent so, once we have found people, we work hard to keep them. Training is taken very seriously here. We ➡



TOP The two-component polyurethane foam is gun sprayed. TOP RIGHT & MIDDLE There are usually three inner hull mouldings per model. Note this one has already been pre-filled with foam, as are many other parts. Some blocks of foam are moulded separately and placed manually into the appropriate cavity. In the old days hulls were stood on end and the foam mix was poured in to the structure via buckets. A lot of foam goes into these boats. For instance, the 46DS will have 11,000lt of expanded foam buoyancy. Internal hull mouldings make for a remarkably clean interior. BOTTOM Gelcoat-pumping installation.



TOP LEFT **Decks are put on as late as possible.** TOP RIGHT **The interior of an 1100AC motorcruiser takes shape.** BOTTOM LEFT **The interior of a 24i. Silicon sealing a bulkhead with Dow Chemicals' Betamate.** MIDDLE RIGHT & BOTTOM RIGHT **Joinery goes in the boats pre-assembled. Veneer-effect laminates, beech in this case, are slowly being phased in. Although more expensive they offer several advantages: They don't fade, absorb water and are generally more scratch-resistant. Laminate interiors are already standard in the 21i, 24i, 32s and 37s, and will be in the 460S.**

try usually to put most through a year-long training programme."

Certainly ETAP's staff is well looked after. Beyond the provision of proper protective clothing, regular health checks are also carried out — urine samples and so on — to ensure the environment is not impacting health.

Everything at ETAP Yachting is on the one site. There are two long large halls, one to contain all the lamination activities and the other to handle all the fit-out work. The latter also has room for metalwork and furniture shops and model development activity down one end. Adjacent to that is the office block with a central warehouse behind that usually boasts around €1.5 million-worth of stock.

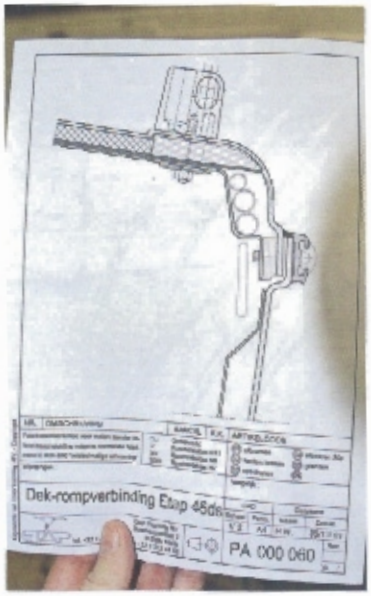
Although most of the ETAP models make use of wet lay-ups for large parts, in recent years much progress has been made with closed-mould technology. For example, the company has been experimenting for a dozen years or more with RTM (resin transfer moulding) techniques. It began by making use of the techniques for smaller parts such as rudders and so on, but six or seven years ago that was broadened to include the 21i deck. And today the 24i's deck and hull are

TOP LEFT **A Kanban-style integrated JIT system is used for stock control and supply-chain management.** TOP RIGHT **ETAP Yachting produces the majority of its steel and aluminium work in-house — for instance, its stainless-steel pulpits, pushpits and stanchions, as well as its distinctive aluminium hand- and toe-rails that ring the boat.** MIDDLE RIGHT & BOTTOM RIGHT **Decks are fitted with as much as possible before mating with hulls.** MIDDLE BOTTOM **As ETAP Yachting has been building particular models in batches, production teams need reminders of how each model goes together as it can be weeks or even a month or two before a batch of particular model goes through the plant again. Pictures and notes serves as an aide-mémoire.** BOTTOM LEFT **Clever design and a good use of internal mouldings in the 37s's head-shower-room.**

moulded this way.

Interestingly, RTM not only means far less styrene emissions, but also less staff. It is also a lot easier to train workers in such techniques than it is to getting them to carry out wet lay-ups. This latter issue is particularly important, as ETAP Yachting allows its workforce, where possible, flexible working patterns and it has job-share staff and some part-timers. It is said even part-timers can be trained up cost-effectively to cope with RTM. Such liberal attitudes come to the company from the yard's parent, ETAP Lighting, which claims to be one of the first companies in Belgium to have offered workers flexible working patterns.

ETAP Yachting pays around €9-€13 per hour gross for semi-skilled labour. With daily hours from 7.50-16.30, except Friday when everything stops at 16.00, the average working week is 37.75 hours. The usual lunch is just half an hour, but there is a 15-minute break mid-morning. There are 22 days annual holiday, although staff with more than five years service get one extra day of holiday, staff with more than 10 years of service get two extra days and those with 15-plus years under their belts get three extra days. Adding to the vacation tally are the 10-12 bank holidays per year in Belgium, the highest of any country in Europe. Overtime is rare and not popular with management, as it tends to mean staff take off time to compensate elsewhere in the year, which is their legal right, but still a ➡







THIS PAGE Unusually ETAP hull deck joints see the deck locate on a lip on the inside of the hull, which means the deck makes a better contribution to overall strength of the structure. The drawing here shows the joint for the new 46DS. Joints are initially riveted, then filled with a GRP mix and sealed with silicon sealant. Last of all the rubbingstrake is then bolted all the way through deck and hull. That means there are effectively three connection systems for the hull-deck joint. The whole thing is claimed to make a far stronger and ultimately more watertight joint. The profile of the extruded-aluminium rubbingstrake has been cleverly designed just for ETAP. The sharp lip on the underside stops means water drips off away from the hull. By stopping water from running over the rubbingstrake and then down the sides of the hull, the profile stops unsightly hull staining.

potential problem.

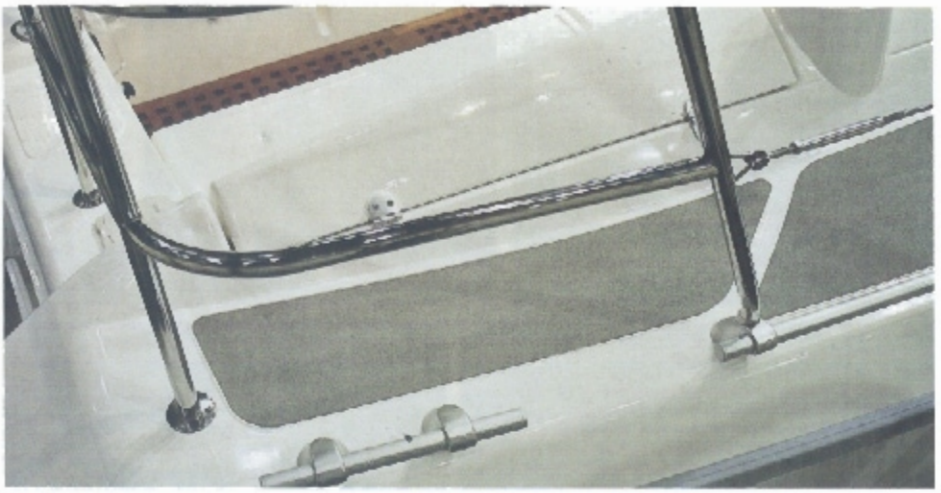
That ETAP Yachting staff are well looked after is evidenced by a company ETAP 22i that is kept on a local lake. It is made available, with skipper if necessary, throughout the season for employees and their families to experience what sailing such craft is all about. As far as the company is concerned, the expense is well worthwhile and is more about education than pleasure.

On the general lamination front, ETAP has a number of key suppliers or 'partners' as modern management parlance likes to put it — for instance, the likes of DSM and Reichhold are the main suppliers of ISO-NPG gelcoats and polyester resins. And Saint Gobain and Ahlström are the main fibreglass suppliers, although Owens Corning gun rovings are used a lot too. For the RTM process, Cray Valley provides polyester gelcoats and DSM polyester resins.

The two ingredients (Resinol/Orestil) for the two-part polyurethane foam are supplied by Resina Chemie.

Scott Bader and Nord Composites contribute tooling gelcoats and resins respectively. Dow Chemicals and Sika supply the majority of structural adhesives and sealants. Other significant materials include Chomorat's Rovicore, Lantor's Soric, Baltek's Airex and DIAB's Divinycell. Magnum Venus supplied most of the gelcoat/resin spray and chopper guns.

When it comes to fit-out, ETAP tries to keep hulls and decks apart for as long as possible. The boatbuilder produces in-house all its own fabricated metalwork requirements and most of its joinery. Indeed, save for all the usual branded hardware and so on, only really the cushion and upholstery and some of the joinery work is bought in, although slowly but surely more of the latter is being

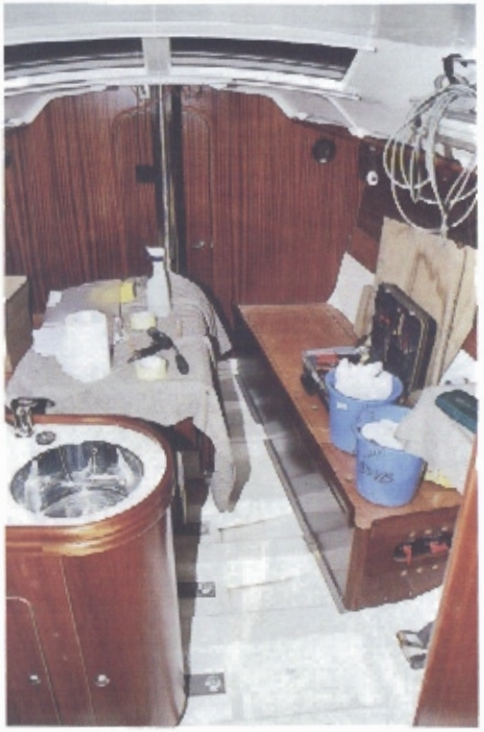
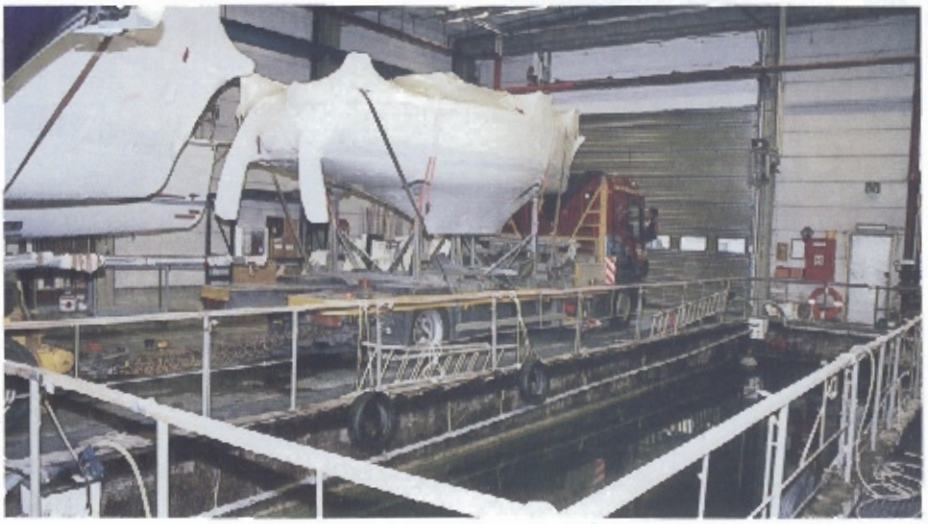


TOP RIGHT **ETAP Yachting specifies TBS non-slip decking as standard on all its models. The toe rails and cleats are particularly smart on all ETAPs.** TOP **The large numbers 1, 2 and 3 with the words 'Ontvangen', 'Bewerken' and 'Leveren' under each respectively adorn a wall halfway down the main fit-out hall. The gist of it is to remind each worker than they are the customers of the workers that precede them and that, having added their work or value, they then effectively deliver a quality product on to the next workers in the process.** MIDDLE **This is one of the tandem-keel optional on all the current ETAP models. The keel design work was done by Mortain & Mavrikios. The design is said to not only allow a shallow draught, but also to be very efficient as the better aspect ratio generates more lift. With this option the 21i draws only 0.7m and the 37s just 1.35m.** BOTTOM **A standard fin-bulb keel.**







TOP LEFT **A keel-hull joint.** MIDDLE LEFT **Laminate-board soles.** MIDDLE RIGHT **The stern of an 1100AC.** TOP RIGHT **Gert Veelaert, one of ETAP Yachting's two sales managers.** MIDDLE LEFT **A pair of 32s nearing the end of the line.** MIDDLE **The hull moulds of the 1100AC are good enough to cope with coloured gelcoats. The sailboats are only offered in white, however, plus the usual plastic boot-tops and logos, usually a combination of claret-red and grey.** BOTTOM LEFT **The test tank is the last stop before dispatch.** BOTTOM RIGHT **Mahogany veneers are still used in some of the older models. This is the 34s.**

outsourced where possible.

The engines ETAP Yachting uses are mostly from Volvo Penta, but Yanmars are fitted to the 24i, the new 46DS and the 1100AC. All the spars and headsail furling systems come from Seldén and the standard-fit sails come from Elvström. On the hardware front, ETAPs are littered with product from Lewmar, although Spinlock tends to provide the clutches and Pfeiffer Marine the cleats on the smaller models. Jefa Steering is standard choice on most models and Gebo is the favoured hatch maker. All models have specified TBS non-slip decking as standard, which is one of the elements that make up that distinct ETAP style. Teak decking is not even an option on most models, although it is used to decorate cockpit soles and seats. Indeed, it is said that very few ETAP customers even ask for it, so they are obviously well trained.

Raymarine is the recommended electronics choice at the factory.

Quality issues are taken very seriously. There is full traceability throughout the company, which impressively has attained ISO 9001/2000 via Lloyds Register of Shipping inspection, one of the few yards in Europe to have done so and applied it. Moreover, with verification from Bureau Veritas, the unsinkability of its products meet the most stringent requirements laid down by the French Marine Marchande (merchant marine), which is claimed to be the only official body in the world authorised to issue certificates of 'unsinkability' for sailing yachts. That body checks that the boats retain at least a minimal stability, which means that a flooded yacht with the maximum number of crew aboard and heeled over 90° will redress itself. Also insisted upon is that a flooded yacht will have a minimum freeboard, actually three per cent of its hull length, and retain a practically horizontal position.

As for CE-marking, unlike most other builders it is self-certifying in accordance with RCD 'Module H'.

For additional information, check out www.etapyachting.com.

TOP LEFT The dispatch area of the ETAP Yachting site in Malle. **TOP RIGHT** A finished 1100AC sits outside. This high-quality, high-specification semi-displacement model is the creation of W H Wilke, although ETAP and J&J Design did the product development work. The Yanmar engine options vary from 160hp up to 315hp. Unloaded she weighs in at six tonnes and is capable of 24kt. She is unsinkable just like the sail models. **BOTTOM RIGHT** The revamped corporate logo has also helped the company sharpen its image. The reason for this rather sporty duck is said to relate back to ETAP's first yachts with lifting keels that enabled them to dry out, although today of course it prefers to promote shallow draughts with its tandem-keel option. The original idea was that ETAPs, just like ducks, are as happy on the shoreline as in the water!