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NEEL 47

THREE HULLS FOR BLUE-WATER FAMILY CRUISING

In less than ten years, a boat-builder based in La Rochelle, on France's Atlantic coast, has set international standards for cruising trimarans. It's an exceptional story within the industry. The launch of the 47 and her presentation at the recent Multihull Show at La Grande Motte is of course the ideal opportunity to tell the Neel story.

An ever-developing shipyard

The Neel range was born in 2009 with a 50-foot prototype. Eric Bruneel (hence the name of the range, but also with a nod to a certain Corneel 26 from the 1980s) is a specialist in the sale of multihulls. For a long time he was the export sales manager at Fountaine-Pajot and raced on Multi 50s. It was he who revisited the concept of the cruising trimaran with the help of the Joubert-Nivelt team of naval architects. Inspired by English and American pioneers (Paul Weychan, Arthur Piver, Jim Brown, among others) who dared to take advantage of the fantastic deck area of trimarans to make them more habitable, the team in La Rochelle is forging a new path and is entering this niche market which has been neglected by the other major players. A bold

and successful challenge: dozens of Neel 45s are sold. The manufacturing has been partly subcontracted to the Marc Pinta yard (now fully integrated into the Neel production). The need for a factory dedicated to the new 51 quickly becomes apparent. This yard, built from scratch, allowed the simultaneous construction of three units and the 51 found her customers. But the launch of the new Neel 47 requires a different industrial strategy and a four unit production line - one every 3 weeks - is built and delivered in the fall of 2018. The combination of the three construction facilities in the same technical zone at the port of La Rochelle streamlines exchanges around the joint design office. The sales department has a great facility for welcoming and informing future buyers. With 90 employees, 6,000m² (65,000 sq ft) of

production space and twenty-five 47' trimarans on order in 2019, Neel has just taken a giant step forward and is now part of the club of internationally renowned multihull manufacturers.

One, deeper, central skeg

The 47 is built entirely in-house. The infusion process is traditionally carried out in two phases: first, the central hull with the wings and the inner half hulls of the floats (in one-shot), then the outer half hulls. These are then joined by laminating along the axis of the keel. The main one-piece transverse bulkheads (carbon reinforced around their edges) follow the entire trimaran shape and are glued and filed by manual gluing and lamination. The installation of the deck and secondary bulkheads completes the homogeneous mechanical box effect. Structural calculations are based on the standard critical data – the boat catching a wave at high speed, sailing in rough seas, etc. The manufacture uses polyester resins with anti-osmotic qualities (vinylester for the underwater hull) with 80 kg/m³ (5lb/cu ft) PVC foam and quadri-axial glass cloth. The mast strut, made of square-section aluminum, is supported by a main bulkhead to prevent any risk of buckling. The engine is installed in a separate compartment on a frame fixed to the central hull, and the rudder tube laminated to the bottom of the hull is squared off at the top onto a strong shelf which carries the autopilot and the returns of the fiber control lines. The hull has a less pronounced curve (rocking) than the 51 with fine-entry bows and harmoniously increasing volume: the sections open out and flatten generously at the rear to facilitate planing, while supporting the maximum load. The profile of the compensated rudder is typical for this type of multihull and benefits from good elongation. The central anti-leeway skeg is rather narrow, and is deeper than in previous generations, as seen on the latest productions from the Lombard team. The objective is of course to find the best compromise between efficiency and draft.

A layout entirely aimed at family cruising

With this fifth model, the manufacturer is demonstrating that they now have the ability to offer a multihull with highly targeted specifications. The 47 is aimed at future cruising owners who will be undertaking some long-distance trips with a short-handed crew, (which most of the time, means a couple) while keeping the possibility of welcoming children or friends at stopovers without losing their privacy. Eric Bruneel and his team have redesigned the interior layout of the central hull to make it a living and sailing space totally oriented towards this use.

A central hull "pilotage area".

The innovative organization of the nacelle is the most distinctive feature of the 47: when sailing, everything happens here, and the sailing couple are not scattered at the ends of the hulls. Better watch and energy savings can make all the difference in difficult conditions. The cockpit is vast and it can also accommodate a happy-hour crowd. This space is modular: at anchor, this nautical terrace becomes an all-weather outdoor lounge/patio thanks



to a set of fabric partitions. At sea, you can choose to dine there in good weather or use the inner saloon - the tables are mobile. In the galley, the "chef" has a vast, highly ergonomic U-shaped work surface and can ensure effective watchkeeping from this marine bow-window, while remaining in close contact with the sail plan. The chart table, or more precisely the navigation desk, features a beautiful semi-panoramic view. The 47 goes even further to meet the expectations of sailors, by allowing them to take the day or night watch from... the comfort of their bed! The owner's cabin offers a completely open view of the marine environment to the sides and forward. A movable partition and blackout curtains allow you to isolate yourself as required.

1 : Under asymmetric spinnaker and staysail, the boat is dynamic and fast: here, 11 knots boatspeed in 13 knots true.

2 : Under mainsail and slightly-overlapping genoa, the trimaran is alive in medium conditions, and still remains lively in light airs. This configuration can be used without needing to reef, in up to more than 20 knots. The cutter rig is the perfect tool in a breeze. The only constraint, quickly assimilated, is to furl the genoa before tacking.

3 : The dynamic dihedral (natural burying) helps to lighten the windward float by reducing the wetted surface. But at anchor, the Neel 47 remains perfectly balanced on her two floats.



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Two guest cabins

Another uncompromising feature is the separation of the guest cabins and the absence of internal communication with the floats. The entrance to this private space is via a companionway with three retractable steps. You then arrive in the bathroom (which can be equipped with a toilet), making this the ideal place to get out of your foul-weather gear. When you pass through the bulkhead door, you have access to a comfortable cabin (140cm/4'6" wide bed), which is well lit and ventilated, and has its own wardrobe. I really liked this innovative, rational and relevant organization of space.

A winning combination of quality and simplicity

Everything is in good taste aboard the Neel 47. The Bolon floors are practical, and the material is super-effective. The composite cabinetry integrates nicely, and nothing is ostentatious. The whole - in the absence of personalized decoration - may seem ascetic to some. However, let's remember that to let go while cruising (which is surely the goal, isn't it?), it surely makes sense that if things are a little more basic, stripped bare even, the maintenance of the boat is simpler... and so therefore, is your life at sea.

A separate technical area and engine compartment

As with all Neels, the central space under the floor of the cockloot (that's also a Neel concept... the contraction of cockpit and saloon) is home to all the technical equipment. Electricity to starboard, water systems on

the port side, and plenty of space and headroom. The watermaker, washing machine and workshop are all housed in a dry space, perfectly isolated from the rest of the facilities, which allows maintenance without disrupting life on board. Access to the engine is via a hatch cover located in the cockpit: good visibility, sufficient space and clear organization in the absence of other installations that are usually present, will also facilitate maintenance.

An easy-to-use and above all performance trimaran

Entering the Neel 47's cockpit, the first feeling is that of a multihull on a human scale, with a clear, efficient and well-organized deck layout. The Antal deck hardware, of excellent quality, is pleasant to use, and the low friction sliders on the mainsail have made enormous progress. When hoisting and lowering, the forces seem to be eliminated, and the two electric sail trimming winches are perfectly suited. From our

TECHNICAL SPECIFICATIONS

Builder: Neel Trimarans (La Rochelle/France)
Naval architect: Marc Lombard/Yacht Design Group
Construction: foam/glass/polyester sandwich (carbon reinforcements for the main bulkheads)
Length: 14.20m/47ft
Beam: 8.30m/27ft
Light displacement: 10.6t (23,400 lbs)
Mainsail area: 70m ² / 753 sq.ft
Genoa: 50m ² / 538 sq.ft
Staysail: 20m ² / 215 sq.ft
Air draft: 19m / 62.3ft
Motor: Volvo 60 HP
Transmission: Saildrive
Price excluding tax: € 449,000
Principal options ex-tax
- Premium Pack: €39,000 (sails including a square-topped mainsail, electronics, windlass, bow thruster, interior floor coverings, exterior upholstery and antifouling with epoxy primer).



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**A WORD FROM
THE ARCHITECT
BY MARC LOMBARD**



At a time when the market is seeing the constant arrival of new catamarans, it was important to diversify the offer in cruising multihulls. A very popular configuration in the field of ocean racing (we have always been involved in their development), the trimaran also offers a very interesting alternative from the point of view of living space. When Neel Trimarans asked us to design the 47, we were very enthusiastic. With a potentially greater habitable space than catamarans, the trimaran offers a number of advantages. Firstly, the potentially better steering sensations, with the boat's displacement being carried mainly by the central hull. Directional stability is therefore lower and reactivity to the helm is better. With the system being simpler (a single rudder) there is less friction and a smoother ride. The wetted surface balance is rather better, which is a plus in light airs. Thanks to the slightly greater heel than you would have on a catamaran, the sail plan is easier to carry in light airs, but it is also more stable and harder to stall: a plus in rough seas. With a large central hull, the weight is better centered than on a catamaran; the tanks and technical equipment of the modern cruising multihull are in the center of the boat rather than at the extremities, which helps to reduce pitching, a disease of cruising multihulls in general. The anti-leeway skeg is deeper than on a catamaran, meaning it works better and allows more favorable upwind angles. The deck area is huge, and over a certain length, it is possible to fit out the floats: the living area therefore becomes truly impressive. There is a slight heel (5 to 7° as opposed to 3 or 4° on a catamaran) and a slightly larger space requirement in port. Neel Trimarans was the first to develop the concept of the cruising tri, and, model after model, the results are more and more attractive.



photo boat, I was able to watch the trimaran setting out under spinnaker - an asymmetrical by Incidences, which is remarkably well-cut, stable and well-supported. The boat immediately got up to speed and slipped along between 10 and 11 knots (in 13 knots true). There were five of us aboard this well-loaded boat, as if setting off for a long trip, but the Lombard design reveals a beautiful agility and the staysail-spi configuration seems to suit it well. The slight heel (dynamic dihedral) leads the trimaran to free the windward hull, reducing the wetted surface and improving the flow over the sail plan, but this in no way reduces comfort and stability underfoot. If you then go sailing on a catamaran again, you may miss this aspect! Later, under a slightly overlapping genoa, I appreciated the perfect development of the wheel-steering transmission (fiber lines). The diameter of the Goïot anodized aluminum wheel with titanium effect is ideal and the contact with the lines and the rudder is as pleasant as it is sensitive. The directional effect, on the other hand, is very effective. When tacking, it's best to pre-furl the genoa in its operating range of 2 to 20 knots in order to allow the sail to pass over on to the other tack. It doesn't take long to get used to - by your 3rd tack you won't even think about it anymore. On the carbon mast version, the inertia of the profile



- 4 : Access to the sea or the dinghy is mainly via the central hull sugarscoop, but the after end of the floats can serve this purpose too.
- 5 : A unique feature of the Neel 47 is that the guest cabins are completely independent of the nacelle and have their own individual companionways. With the sliding glass window open, cockpit, saloon and galley merge into a single open space.
- 6 : The deck space offered by the trimaran concept is impressive; note the intelligent fusion of trampoline and deck.
- 7 : A safe and comfortable helm station for two or three people. The simple and readable deck layout allows perfect control of the boat in single-handed mode.
- 8 : Bow-window galley and chart table! This setup, combined with the innovative layout of the master cabin (with forward vision), is an almost unique feature of this trimaran, which is totally dedicated to long-term cruising as a couple.
- 9 : Here is the panoramic view from the owner's cabin. This nacelle arrangement allows an effective watch to be kept from the berth. Movable partitions and blackout curtains make it possible to completely privatize this space.
- 10 : The master cabin in night configuration. The Bolon floor is a quality material perfectly adapted to nautical use. The tasteful composite cabinetry is carefully assembled.



allows the installation of a staysail on a removable fiber forestay. The 47 is so agile pivoting around, that missing a tack seems impossible as relaunch is immediate. Under a self-tacking staysail, with one or two reefs, this 14 m (47') trimaran comes into its own, capable of doing tack after tack in a narrow channel or reaching an anchorage safely under gusty conditions. Congratulations are due for this practical and efficient sail plan. I'm only going to mention handling the boat under engine to praise the silence and traction of the Volvo 60 HP (9.8 knots maximum speed before running in). The bow thruster is a real "peace-maker" when maneuvering in port, picking up moorings or dropping the hook in a windy anchorage.

Conclusion

It's easy to appreciate the Neel 47, because its specifications meet all the requirements of the cruising multihull sailor. The ease of handling, the extraordinary visibility from the nacelle, the accessibility and legibility of the technical areas, and the simplified management of the sail plan (thanks to the cutter rig), all allow the modern-day Ulysses and his Penelope (whom we all dream of embodying) to serenely access their dream. The shipyard has carefully analyzed the program and has responded to it with a multihull that is pleasant to use, easy to handle and easy to live aboard.

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- ◆ Attractive cutter rig
- ◆ Comfort and safety of the nacelle
- ◆ Ease of handling and cruising performance
- ◆ Pleasant and efficient helm

☹️

- ◆ No protective windbreaks for the float companionways
- ◆ Fiber traveler for the staysail needs to be increased in size and better-protected
- ◆ A little more effort could be made in finish quality (deck hardware, protection of plywood areas beneath the floors, top coat in less-accessible areas
- ◆ Autopilot bracket could be reinforced

11 : The Neel 47's technical room is a proper independent workshop: it allows all the services technology to be grouped together. The engine, on the other hand, is located further aft in its own engine compartment. The headroom allows for ease of maintenance.

12 : The rudder tube is secured to the hull by lamination. The upper bearing is held by a strong structural shelf which holds the pilot's drive arm and the quadrant for the fiber steering lines.

13 : The watertight forepeak (which has its own bilge pump) is home to the ground tackle (run from the electric windlass), but also the battery and the bow thruster motor.

14 : The two float cabins have 140 cm / 4'6" wide bunks, their own wardrobe and a bathroom closed-off by a door. This area at the foot of the companionway is perfect for leaving wet oilskins.

COMPETITORS

MODEL	SAONA 47	LEOPARD 45	BALANCE 451	NAUTITECH 46	BALI 4.5	LAGOON 46
BUILDER	Fountaine Pajot	Robertson/Caine	Balance cats	Nautitech	Catana Group	Lagoon
UPWIND SAIL AREA IN M ² /SQ FT	127/1,367	124/1,335	132/1,421	112/1,205	111/1,195	140/1,507
WEIGHT IN T	13,3	14,5	8,4	10,8	11,6	16,6
BASIC EX-TAX PRICE	€ 496 000	€ 399 000	US\$470 000	€ 413 000	€ 391,540	€ 433 000

The Neel 47's nacelle layout is innovative: it favors use by a couple. Master cabin, beautiful bathroom, galley, saloon and navigation desk all make for a perfect watchkeeping and navigation station

The galley is located forward, to port, and allows for an attentive watch, with its semi-panoramic view

Facing the galley, the chart table is an ideal navigation desk for the watchkeeper

The aluminum mast and the standard sail wardrobe are well-suited to the boat. A carbon rig (optional) allows for a removable forestay for the staysail

The cockpit will be the envy of that on a similar-sized catamaran



The well-designed bowsprit lends itself to easy anchoring and allows for tacking on various headsails

The combination of staysail and spinnaker is perfectly suited to this pace. In breezy and rough seas these will be the ideal tools

The dynamic dihedral allows the trimaran to lift a float quickly, reducing the wetted surface while maintaining balance at anchor.

The floats of the Neel 47 are totally independent: access by companionways, separated from the rest of the living area.

The cleverly-designed bowsprit allows for easy anchoring as well as use for good downwind sails