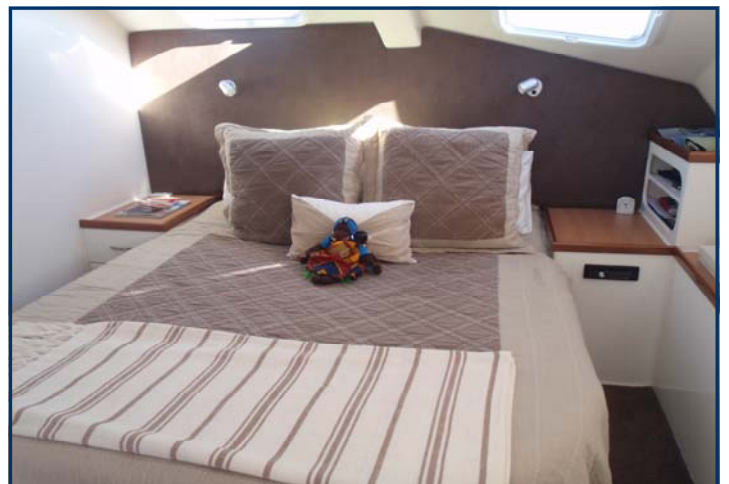


SS 1600

SEA SHANTY 1600

STUDY PLANS



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Hello and thank you for showing interest in our Design.

Schionning Marine is a family based Australian business, we are very passionate about our designs and continually strive to offer the best options to get you out there and make your dream a reality.

Choosing the right design can be a real challenge, there are so many options and variations and purposes a boat needs to meet. We will help you to determine which design will best suit your lifestyle and purpose, also your budget. We have plenty of options!

These Study plans contain a lot of information directed at the "OWNER BUILDER", the aim being to show you how simple and achievable it really is and to help you determine whether you will be able to do it yourself. Be assured, hundreds of absolute novices have and are doing it so if you really want to build a boat, go for it, we will help you all the way.

If you are NOT an owner builder and would like to buy one of our designs, we work closely with several excellent boat building yards in Australia and overseas. Using one of these builders to build a custom boat for you, rather than buying a molded production boat is very rewarding, you can get exactly what you want and you'll be surprised just how well priced this can be too. Later re-sale value is high and the quality of a hand build composite boat, built by a recommended builder far out strips any production process in terms of strength, quality and lightness (therefore performance).

We look forward to hearing from you once you've studied the following pages. We have not included kit pricing due to the many variations and options so please email or call us and we'll furnish these on request.

Good luck with your research and project.

*Jeff, Lorraine, Brett and Ben Schionning
& Rob Shenn.*

DESIGN OVERVIEW

“Sea Shanty”, the name conjures up visions of thatch, sand, and crystal clear water. Simplicity, practicality, and the great outdoors, this is exactly what she’s about.

The Sea Shanty is based on the hull form of our very successful 16m Ferry built in Australia and used in Vanuatu to carry passengers around the islands. While she was being built, Lorraine and I spent some time cruising on our Trimaran and we kept coming back to the idea that the Ferry would make the ideal platform for a comfortable world cruising home. Whilst we love life aboard, we also miss our toys and comforts, pets, family and space whilst cruising. We like to keep active and felt that a large seaworthy platform with simple but stylish accommodation and a *large* outdoor area was very desirable. So the design evolved.

Where the Ferry needed decent displacement to carry 75 passengers the Sea Shanty needs the displacement for home comforts plus fuel and water for extended ocean passages. As a passage maker, speed was moderated to a comfortable mile eating 12 – 16 knots and a bar crossing sprint of up to 20 knots. I was fortunate to be invited along on the delivery of the Ferry from Australia to Vanuatu via New Caledonia and experienced the amazing sea keeping ability of the boat, right from very rough conditions on leaving, through moderate to calm conditions on the passage. Top speed on the ferry in ‘light’ mode was 30 knots. Even at 20 knots cruising speed, she felt so smooth, like a magic carpet simply gliding over the sea as though suspended above the surface. The comfort was deceptive. The actual movement aboard at this speed made simple things like drinking a cup of tea quite challenging. Drop the speed down to 12 – 14 knots and the illusion turned to real comfort instead of imagined. Other benefits from the reduced cruising speed are reduced windage, motors are smaller and more cost effective, fuel consumption which was already amazing gets even better and of course cruising range increases, all advantages on a passage maker.

The ‘Sea Shanty’ concept is simply to have a sturdy cruising vehicle that includes everything most “yachts” don’t have, she is firstly your home, secondly the workshop and thirdly the back yard. Her construction is rugged but stylish with finishes similar to a working boat

LOA	16.00 Metres
BOA	7.40 Metres
Draft	0.775 Metres
Headroom/ Bridgedeck	2.05 Metres
Headroom/ Hulls	2.05 Metres
Cruising Range	3000 nm+
Bridgedeck Clearance	1.10 Metres
Grey Water Capacity	700 Litres
Displacement	18,500 Kilograms
Payload	6000 Kilograms
Motor Option	2 x 200- 350hp Diesels
Motor Speed—Cruise	12 –15 Knots
Sailing Speed—Top	18 –24 Knots
Fuel Capacity	6600 Litres
Water Capacity	1000 Litres

outside and a beach cottage inside. Building costs are lower because of this more common sense approach. Usability is far more enjoyable because you don’t have to worry about scratching the “Yacht” finish. Costs are further reduced as she has an open plan layout, much like the beach cottage. Normal household furniture is used for 90% of her fit out. She’s built to go anywhere, rugged and extremely seaworthy. The very high bridge-deck clearance makes sure she slides over everything, yet her shallow draft allows sneaking into shallow lagoons with fully protected props and rudders. Drying out is a breeze, just sit on any beach without concern. The two things I miss most when cruising is the workshop and backyard. Most of us have hobbies and like pottering about in the shed, build something, fix something, but most yachts have a tiny cockpit with a beautiful gloss finish. Sea Shanty has a huge aft deck with a rough non skid surface, move the BBQ and garden furniture to one side and hey, you have a fully covered shed come backyard! Pull out the tools (of course you have heaps of power) and get to work on that new dinghy.

With the BBQ back in the “garden” and your outdoor setting in place again, you have the big back yard ready for entertaining; she’s the perfect party boat. An easy access bathroom outside is very practical. Getting to the party is

easy, two access “doors” drop down each side aft of the Targa legs with built in boarding steps, these suit marina level access as well. A huge boarding ramp drops down from the aft deck into the water making your own private beach, just pull up the dinghy.

WALK INSIDE...

Walk inside from the party deck into a lounge on the starboard side and a dining area to port. These rooms are simply furnished with standard household furniture of your choice. Forward of these rooms in the middle of the cabin is a mezzanine area with 4 steps leading up to a platform and the main steering console that has a small lounge with seating alongside it. Keep the watch keeper company or simply relax up there and enjoy the view. This area is surrounded by a rail and overlooks the living areas and galley with excellent visibility forward for steering from inside. An optional second steering station can be installed on the fly bridge which is accessed by steps up from the mezzanine. The galley is on the port side ahead of the dining area and extends around and under the mezzanine level as well. It is spacious with easy access to all living areas and the ‘back yard’. Walking forward on the same bridge-deck level as the living areas you go into two bedrooms, access doors to these are set each side of the mezzanine, each bedroom is fitted with a standard household walk around queen side bed. En suite bathrooms adjoin these bedrooms and are set into the hulls so you step down into the hull with a shower set aft and the toilet forward with a basin and dressing room separating them. There is plenty of storage space in the bedroom and bathroom areas and big hanging lockers forward of the heads. Walking down into the starboard hull through access that is located forward in the lounge,

you have the laundry and workshop/storage. The same area on the port side can have either twin single bunks in a cabin or another double cabin. These areas can be customised to suit your own preferences.

GOING UPSTAIRS...

On the fly bridge you have another huge lounge with an optional steering station. This cabin is 3.6m x 4m and will be furnished with your choice of standard household furniture so can be customised to suit your lifestyle. A mini bar/galley would be useful and if you like to take lots of company along, sofa beds could simply and comfortably extend your sleeping options. Perhaps it's an office you need? Whatever you decide, this is the place you will want to spend some time as the aft opens out onto a large uncovered sundeck with uninterrupted views.

WHAT ABOUT THE TOYS?

We love motorbikes and camping. The Sea Shanty has plenty of space for two holds that open in the ‘backyard’, one each side, open the hatch and drop in the bikes. While dried out on the beach, drop the aft ramp and drive on a little 4X4, slide in a wake boat for the kids, windsurfers, bicycles. There's no need for monotony on the Sea Shanty. Your own transport when cruising is a real pleasure, you gain freedom to see more of the places you visit and getting stores home is often a real chore with taxi's and busses.

MOTORS & POWER...

You are dependent on motors and therefore, diesel consumption is an unavoidable cost. These new efficient cat hulls offer the best possible solution in terms of speed and economy. With two 200hp diesel engines, you will have a cruising range of 3000 miles non stop (plus some reserve) with consumption around 1.5 litres a mile at average cruising speed of around 10 - 12 knots. We will experiment with some new kite concepts which could make ocean passages very economical and perhaps make the ‘Sea Shanty’ into a perfect motor-sailer.

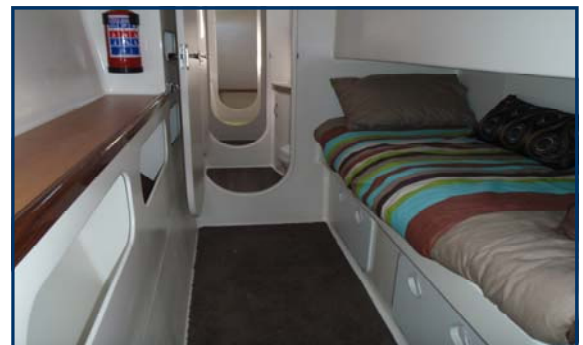
Motor choice is based on solid reliability above high tech electronics, choice is dictated to some degree on availability of motors in the preferred horse power range. We recommend 180hp to 220hp and suggest you choose a bigger motor that will run easily rather than a smaller one that will work hard. On board power



can be very 'green' if we keep our excesses in check. Motors will push out a lot of DC power when running, backing up this supply will be a bank of 600 watt solar panels. The new Solara brand can be glued to the deck or cabin top and are almost invisible, hail proof and non slip to walk on.

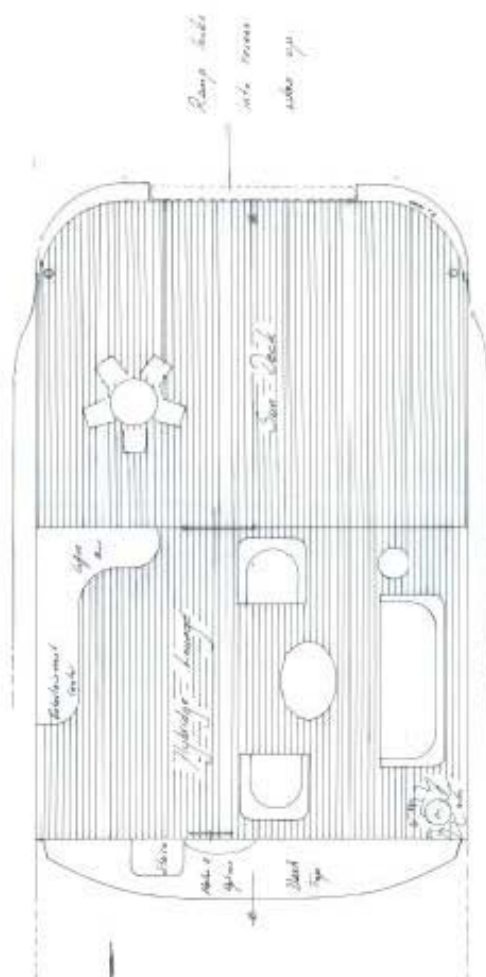
A battery bank of 800 amps will supply a 3000 watt inverter charger unit, and a generator completes the set up. Weak points in the power train are household type fridge and freezer units because of their poor insulation and wasteful front opening design. High draw items such as electric stoves and water heaters are a no go on this system. We have opted for either Gas or Diesel stove and cabin heater in the first boat. Water is heated from the motor exhausts and stored in insulated tanks. All other items such as vacuum cleaners, TV & DVD, toaster, bread maker, washing machine, hair dryer, tools etc are easily run off the inverter. The air conditioning and any other high draw items will be powered by the generator. Sea Shanty has heaps of power that is intelligently harnessed from the two motors, solar panels and a generator. With modern inverter/charger combination, supply is extremely efficient and convenient. You really do have all the convenience of home on an extremely efficient seaworthy vehicle.

*Whether you're looking for a mobile beach cottage to enjoy with your family, or to travel the world in real comfort, **the Sea Shanty offers a World of Possibilities!***



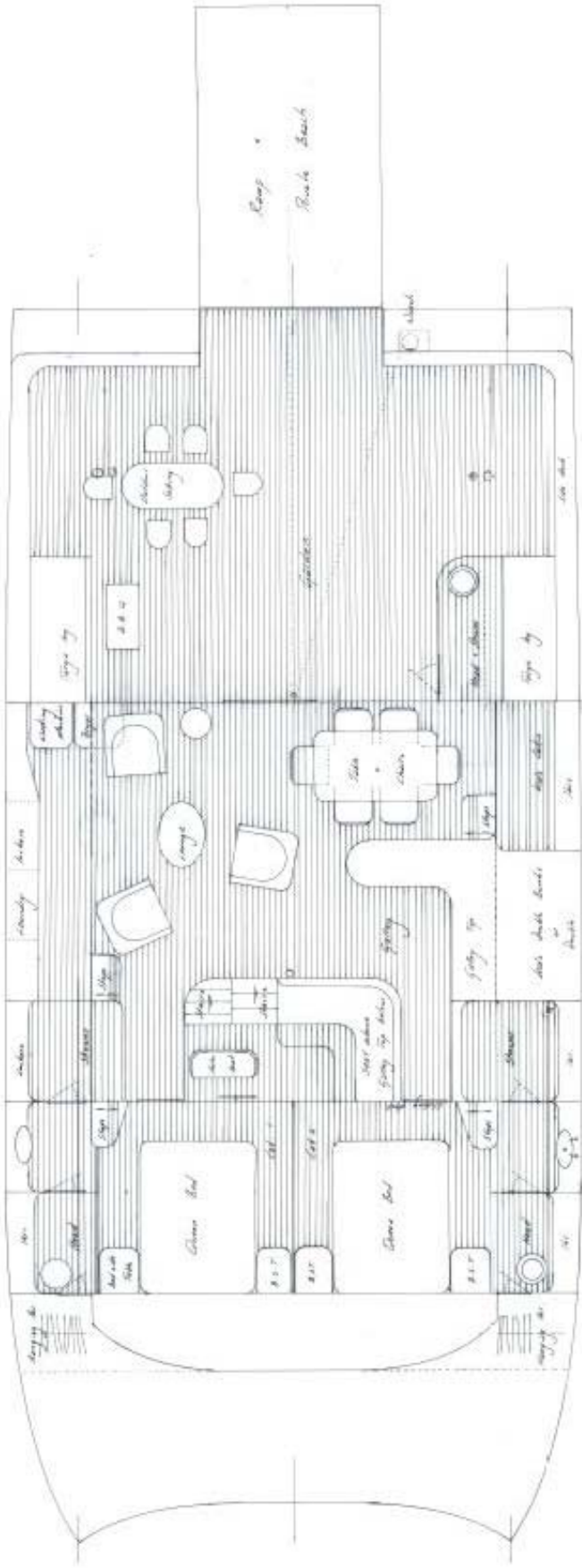


LAYOUT PLAN

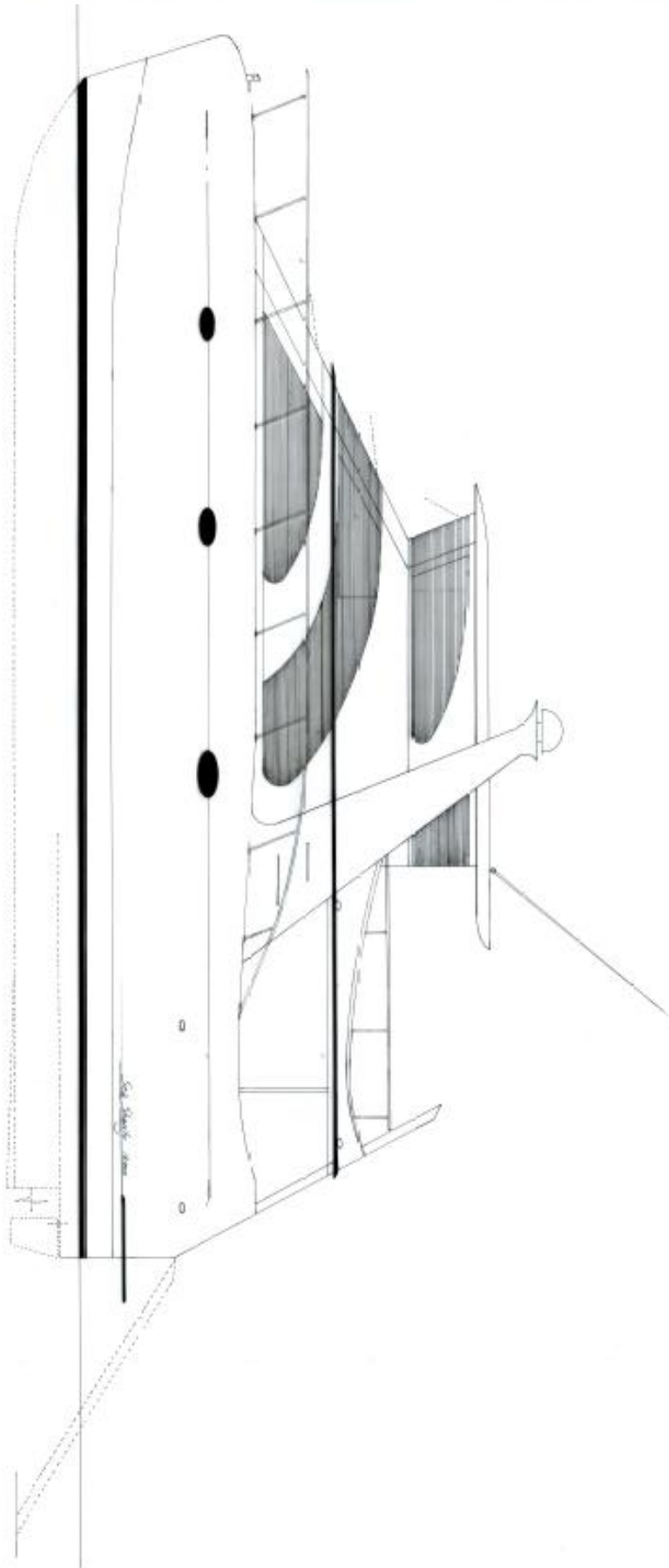


Plan View of Hydroge

Plan View of Main Deck



PROFILE



CONSTRUCTION OVERVIEW

The Sea Shanty design is balanced between high and mid to low tech materials each used for its best and most effective application in terms of strength, stiffness, cost effectiveness and yet no negative effects when it comes to resale. Using a low tech and low cost material throughout is possible, the labor content would almost double plus a tidy modern finish would be extremely difficult and once again resale would suffer.

Hull shells are strip planked from the inner spray rail up to and including the curved sidedeck corner. The cabin top is also strip planked plus the small forward decks. The balance of construction is flat panel. I have chosen Duflex panels for their stiffness and speed of construction. The bridgedeck is the backbone of the shanty, being a boxed double-skinned structural beam this needed to be a very open plan interior where furniture can simply be store bought items.

The hull 'shoes' are built on simple male moulds, glassed each side and then hung on the bulkheads, which have already been fitted to the bridgedeck backbone, built right side up. Tanks, motor beds etc can all be finished before the side and chamfer panels are fitted, closing up the hulls. This is a very practical way for constructing such a big platform.

The shanty shell is a light stiff structure using thick core panels. Bulkheads are also Duflex balsa panel construction, quick and easy to build and install. Strip planking is done with Duracore or western red cedar planks. Cloth is knitted e-glass uni-reinforcing all set in epoxy resins. Layout is mostly store bought furniture but some areas are better fitted in normal built-in style. These are the galley, head and showers, bunks and lockers down in the hulls. Fuel and water tanks are built into natural compartments in the hulls, below the cabin

sole. Simple, cost effective and well positioned. The Shanty carries 6600 litres of fuel in 6 tanks and 900 litres of water in 2 tanks. Engine rooms are big and spacious with two big access hatches in the aft deck. The built in furniture is either honeycomb panels or lightweight plywood or a combination of both.

She is aimed at being your 'sea shanty' beach cottage and in this theme can be very simple and practical—think thatched roof and sandy floors. She can simply be house painted inside as you would any other cottage, ceilings can be epoxy'd grass mats as can locker doors and colorful curtains can be used for cabin doors etc or you can go flash and get fancy, it's a matter of personal taste and finances.

Outside she is neatly finished and painted in 2 pack poly-urethane and non slip decking. The aft ramp is an option, one I feel really works and sets her apart from other world cruisers. A ramp can either be built from composite or more simply an alloy fabrication. The private beach and loading ramp for motorbikes and toys is appealing to some.

With her simple construction methods and practical 'work boat' styling she is a big cat that can be built very economically. Systems, gas stove, 12v fridge and freezer, all pressure water and watermaker are 12 volt. Hot water is from diesel heating plus 240v coil. 2500w inverter runs normal household appliances, toaster, microwave, chargers, fans, washing machine etc. A genset is used for air-conditioning and charging at anchor. Motors are 2x 300 hp diesels. All plumbing and wiring runs in the bridgedeck cavity which is neat and practical. Steering is hydraulic with autopilot. System details are in the plans and essential for practical hassle-free solutions.



The hull planking is left to later, giving easy access to the interior.



Hull planking goes on, Balsa is used.



Shell taking shape, the lowering ramp will be one of the last additions.



In the early stages, the hulls and bridgedeck platform is completed first.



Wide hulls give extra room inside and more buoyancy overall.



The middle steering station comes together, this area has built in furniture.

CONSTRUCTION



MATERIAL LIST

Durakore Planks - 2400 x 300mm

23	13mm
290	19mm

Duflex Balsa - 1 x 600gm Biax each side

175	13mm
41	19mm
91	25mm

Duflex H/Comb - 1 x 600gm Biax each side

64	16mm
----	------

Resins/ Hardener

West R105/206

5	200 litre West System Resin
10	20 litre West System Hardener fast or slow

Kinetix Laminating Resin & Hardener

4	192kg 246TX Laminating Resin 100:25 by weight
8	24 kg H160 Laminating Hardener Medium

Powder Modifiers

18	20lt Microspheres (411)
15	20lt Microfibres (403)
5	170lt Microlight (410)

Plywood - Gaboon 2440 x 1220mm

25	4mm
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Fibreglass Cloth

450	616 g Double Bias (50 kg roll) kg
520	1150g Tri-Axial (50 kg roll)
47	450 g Double Bias (47 kg roll) kg
47	461gm Unidirectional (kg)

Fibreglass Tapes -cut strips

66	616 g D/bias 150mm min buy 50kg
88	616 g D/bias 200mm min buy 50kg

Klegecell Foam 80 kg 2175 x 1220mm 2.65m2 / sheet

5.3	40mm sheet - per m2 pricing
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NOTES FROM THE DESIGNER....

The success of our designs I feel, stems from the practical commonsense approach of a boat builder, coupled with many years of live aboard experience and 50 - 60,000 sea miles in some of the worst conditions in the world. This experience makes one aware of the power of the sea and the need for a boat to be able to survive these conditions, protect her crew physically and psychologically as well as being a fast comfortable vehicle for all the good times. I am sure you will find our designs reflect our sailing and live-aboard experience and will give you the offshore confidence to sail safely anywhere in the world. Multihulls are '*beautiful, safe, cruising boats*'. We hope you find them as exciting as we do.

CHOOSING A DESIGN...

Choosing a design can be difficult so we hope that this introduction helps clear the way a little. We've taken particular care with the balance of construction methods in our designs, making them light and strong yet easy to build in small sections, most of which are manageable by a group of friends when they need turning over and moving. The blend of strip planking and light flat panels kept in single plane form, makes building easy and quick and produces a finished catamaran of classic good looks which will not date quickly, giving you very good investment security. One of the first steps in changing this dream into reality is figuring out whether you can afford the boat (or more likely, how much money you 'don't' have!). Two realities here are, firstly, two similar sized boats with similar displacement, built of similar materials will cost the same to build overall. Designers' estimates

This is definitely not the case, ***similar boat, similar price!*** Your choice should therefore be towards the boat that suits you best and offers you good backup and is a good investment. Secondly, we know a lot of people who could not afford their boat at the onset so don't be discouraged. Once you start building it is surprising how you focus your interest, spare time and money into your new project. With our new owner-builders we suggest they start with the



smaller items which can be built in the garage, carport, (lounge?) etc. These initial items use very little material and money but use a lot of time, so at the early stages you can get a lot done while you wait for your old boat or car or house etc. to sell. These items are; dagger-boards and cases, motor pod, forward beam and catwalk, cabin roof, rudders, dinghy etc. The experience and confidence gained building these bits speeds up the second stage of larger items and gets the whole project finished much sooner.

WHAT MAKES A GOOD MULTIHULL?

Cat design is not just a matter of two hulls floating a cabin above the water. Only in fairly recent years have the basic elements of design and an understanding of their effect on the use and performance of the finished boat been understood. The basic principles of good design should all be present in the boat you're considering building or buying. These will blend together to produce an excellent Multihull.

THE BASICS ELEMENTS OF A GOOD DESIGN:

- GOOD ENGINEERING is obviously essential.
- FLAT DECKS. The flatter deck lines have a number of advantages. Secure footing while reefing, anchoring etc. in rough conditions, life lines are at a sensible protective height instead of set down a level. A flat deck is great for socializing, sunbathing or as a kids playground.
- BUOYANCY. Buoyancy distribution is the placement of buoyancy in the hulls. Our designs have between 50 and

"Sailing ability is important. We feel that good performance in a sailing cat is a real safety feature."

60 separate buoyancy tanks built into every shell so they are almost unsinkable. Most old designs hobbyhorse a lot making them uncomfortable and inefficient. Modern designs have the buoyancy pushed towards the hull ends damping down the hobby-horsing tendencies and giving a lot more safety downwind where the buoyant hulls stop nose-diving. Coupled with a lot of reserve buoyancy high up and forward in the hulls, this adds an enormous amount of safety and gives you confidence off the wind.

- A soft 'V'd entry, quickly picking up reserve buoyancy with lots of reserve

higher up is an ideal combination.

- BRIDGEDECK CLEARANCE. High Bridgedeck Clearance is essential. A short cabin length with long hull overhangs is a good safety feature. Good clearance on a cruising cat is 600mm – 800mm, a Performance cat 700mm – 900mm and a Racing cat 800mm – 1000mm. Chamfer panels add high reserve buoyancy and need less clearance than a similar cat without them.
- SAILING ABILITY AND PERFORMANCE. Power to weight ratios show how well a cat will sail in light conditions. As wind strength increases, one reefs the power to stay at safe acceptable speeds (this is different for different people). The Bruce Number is a commonly used value and very useful in comparing cats, displacement is not always reliable and will vary with load. A Bruce Number = 1 is very slow, 1.3 – 1.4 is a good cruising value, 1.5 – 1.9 reflects a very fast cat. Boats like the French 60' Tri's and "Club Med" are running to extremes like 2.3. A light and efficient cat can often sail out of trouble and outrun severe weather patterns, shorten passage times and avoid bad weather by getting there in the existing weather window. Most good designs will tack through 90 degrees at a speed of 8 - 10 knots while reaching at 10 - 13 knots comfortably with Main and No. 1 in 15 knots of wind. Daggerboards are efficient and allow very shallow draft for beaching. With a strong reinforced bottom as per our designs, it's easy to run the cats up on any old beach. Should you want shallow keels to protect inboard motors, then a combination of shallow keels and fixed rudders are a good

- **LOW DRAG.** This is a good characteristic. Slim hulls reduce drag and are efficient.

A good cruising cat would have a Waterline beam to length ratio of 11.5 to 12.5:1. A performance cruising cat 12.5 to 14:1 and a racing cat 14 to 20:1. It is important to note that **ALL** these elements must be present in a design to make any of them valid. For example, a design can be really good looking, have high bridge-deck clearance, a powerful rig and sail plan and be built reasonably light and show a fair displacement, but then have an 8:1 Beam to Length ratio. She'll be a good looking, powerful boat but it will be impossible to go forward, except slowly!

There is no reason why a good modern design does not have all of these features. If you find some of these lacking it is usually for the wrong reasons. A lot of cats have very little bridge-deck clearance because the designer is concentrating on a low profile cat which looks good or being dictated by interior accommodation and ignoring the fact that the boat will pound badly at sea. This is not only noisy and uncomfortable but can well be the cause of structural problems.

Our designs have been developed around these practical elements of good design then we accommodate personal comforts and lifestyle choices.

Good luck with your research and project, don't hesitate to contact us should you need further information or a chat about our designs. *Jeff*



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CONSTRUCTION PLANS



WHAT YOU GET WITH PLAN PURCHASE:

The Sea Shanty 1600 has a comprehensive set of hand-drawn plans showing construction detail. Brett Schionning has produced a CD-ROM that shows the assembly and building techniques as well as loads of tips on the easiest way to do things with plenty of photographs for reference. It includes basic information such as what tools you require and product information and use. Plans are suitable for Amateur construction.

PLANS INCLUDE:

- Full size, colour coded plots for bulkheads
- A3 Booklet of plans
- CD-Rom building manual
- Backup support throughout your project

COST OF PLANS:

Sea Shanty 1600 plans cost AUD \$16,000.00.

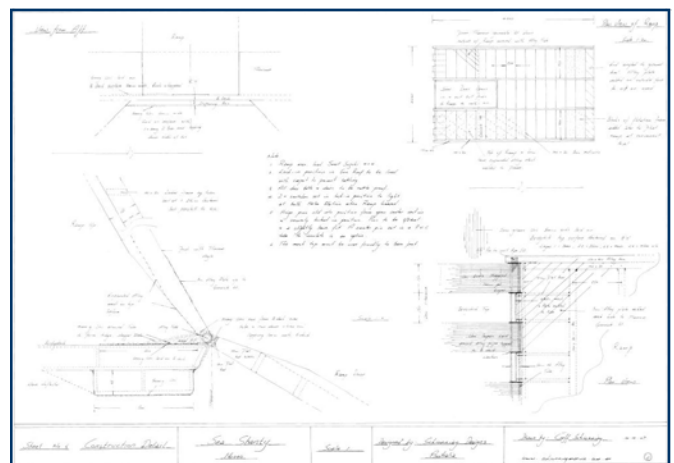
Price valid until 31st Oct 2010.

Includes GST in Australia

Includes shipping to any destination.

UNLIMITED BACK UP SERVICE:

Our back-up service is unlimited, our professional boat builder (Brett Schionning) will be here to guide you through any problems throughout your entire project. Email and phone support is available during business hours Monday to Friday.



AN EXAMPLE SHEET FROM SEA SHANTY 1600 CONSTRUCTION PLANS

HOW TO ORDER

HOW TO ORDER PLANS:

We require a signed and faxed or mailed PLAN ORDER FORM with every plan purchase. The Plan Purchase Order form explains our terms and conditions and plans will not be mailed until a signed order form is received. (See form included in study plans)

PAYMENT:

WE ACCEPT: Bank cheques or direct deposit into our bank account. Our account details are on the order form. Credit cards are not accepted for plan purchases.

SHIPPING:

Plans are sent by express mail within Australia and by courier to other countries at no extra charge to you.

HOW TO ORDER PLANS:

- Complete the attached PLAN PURCHASE ORDER form and mail or fax it back to us on (02) 4982 4722.
- Deposit payment to Schionning Design's Account, (details on order form).
- When payment and your order are received your construction plans will be assembled, checked and mailed within 7–10 days to your nominated address.

KIT ORDERS:

Construction plans must be ordered before (or at the same time) as your kit.

- Contact Schionning Marine for a KIT quote when you are ready to order your kit.
- We will invoice you for the kit, 50% of this invoice value is required upon order, deposit to the account as shown on the invoice.
- You will also be asked to complete a second order form for the kit and on this form you will nominate whether you would like

us to insure the kit during transit (cost is 0.75% of the invoice value) and you'll need to provide us the delivery address.

- We will notify you of the lead time (date) once the order is logged into the manufacturing schedule and we will contact you again about two weeks before your kit is ready for dispatch.
- You will then need to deposit the balance of the kit value, including freight and insurance if you nominated to use our services, into our account. Once this is received, the kit will be shipped to you.

ANY PROBLEMS, CONTACT US:
+61 (02) 4982 4858

Building a boat is definitely a challenge but with good plans, our helpful friendly support and the modern materials available, it's never been easier. The investment of time and money is very worthwhile, offering a rich life experience, fun reward when you launch her and financially you can certainly stand to gain substantially. We look forward to hearing from you again and wish you the very best with your project.



Milski family on launch day.