SOLARIS 42

SOLARIS YACHTS
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1 General

The following specification describes materials and the main production stages necessary to build a 12.36 m Solaris sailing yacht. This specification gives a general view.
The Solaris 42 is a true Cruiser Racer.
All mentioned dimensions and data are given by the designers and have to be considered as executive dimensions.
Additional equipment can affect trim and displacement.
The boatyard reserves the right to make changes during construction, also replacing materials no more available on the market.
The boatyard and the sales network guarantee an excellent consultation for choosing additional equipment with their specialist knowledge.

1.1 General characteristics

LOA	12.36 m
LWL	11.45m
Beam	3.99 m
Draft	2.50m - 2.25m opt.
Displacement	8,800 kg
Ballast	3,000 kg

1.2 Sail area

Sail area	95 sqm opt.
Genoa	40 sqm
Mainsail	55 sqm
I Genoa	16.90 m
P	15.40 m
E	5.60 m
J Genoa	4.72 m

1.3 Engine

Volvo Penta D2 - 40 hp	optional D2 - 55 hp
Transmission	S-Drive

1.4 Tanks

Water	350 l
Fuel	200 l

1.5 Certification

CE RINA	Open Sea Category A

1.6 Drawings

- Javier Soto Acebal (naval designer): water lines, hull lines, structural plans, appendix and sail plan.
- Solaris Design Team (Boatyard): Hull and deck construction, interiors, stability and weight calculation, water, hydraulic, electric and electronic system.
- Interior Design: Lucio Micheletti.

1.7 Materials and workmanship

All materials and manufactured articles furnished by the Builder shall be suitable for marine installation and are of the best quality for their respective purpose. It shall be the responsibility of the Builder to check its purchase orders and also check all materials delivered, to insure confirmation with the details of the specification and with all normal working requirements.

1.8 Inspection

The Architects and the Owners or their representatives shall have access, previous agreement, to the vessel and everything pertaining to the vessel during the normal working hours.

1.9 Insurance

The builder will insure the yacht and all accessories supplied by the owner. The owner must insure the yacht at her delivery, ex works boatyard.

1.10 Accessibility for maintenance and cleaning

All installations and compartments are built to be easily accessed, cleaned and maintained.
The builder will keep the yacht reasonably clean at all times. Particular care will be taken to ensure that all dust, shavings etc. are removed and the surfaces are accurately cleaned before painting.
Upon delivery, the bilges and all sections of the yacht will be clean.

1.11 Weight and stability calculation

The Builder will make and check the weight calculation. The total displacement will be calculated in the following condition: fully loaded ½ tanks. Transversal stability to be made in accordance with the CE rules (MOC - Minimum Operation Condition) to obtain the A class "Open Sea".

1.12 Trim

The Builder reserves the right to add internal ballast to balance the yacht in the event of differences.

1.13 Mast and rigging

The Builder will check, with the Architect (Javier Soto Acebal) and mast manufacturer, the proper dimensions for the mast and rigging.
Standard is a fractional sloop rig, with light alloy aluminium mast and boom, designed for a full batten mainsail.

1.14 Documentation

The yard will issue drawings and plans regarding plumbing, electrical and ventilation systems, engine and whatever necessary to control and maintain all the on-board systems. The instructions of all the equipment will be delivered on board. A detailed owner's manual with pictures will be provided as standard in Italian or English language.

1.15 Systems descriptions

All systems are clearly labeled in English or Italian language. All cables are coded.

1.16 Warranty

The Builder shall accept responsibility for any defective workmanship and/or materials up to two years after delivery, given that this is not the result of gross negligence or incorrect use of the yacht.
Should the Builder carry out warranty works on board, the Owner shall accept to pay travel and accommodation costs in case the Yacht is moored out of the European Community.
The Builder shall not be held responsible for equipment supplied by the Owner.
For additional equipment, the manufacturers warranty is held liable.
The warranty terms applied are those indicated in the sales contract signed at the time of the purchase.

2 Construction

The materials used and construction methods are designed to construct a light, yet strong and stable hull, without affecting the strength and stiffness. Hull and deck, as well as all other parts of the yacht, are designed to take high loads, providing maximum product durability.
Hull and deck are constructed in a negative mould.
All visible hull and deck surfaces are varnished with white gelcoat.
Materials and construction are controlled by Italian Shipping Registry (GERMANISCHER LLOYD).
GERMANISCHER LLOYD is also approving the yachts construction before issuing the CE certificate.

2.1 Hull and deck

- Hull and deck in sandwich construction (type PVC Airex Core) in E-fiberglass.
- This kind of structure gives a light hull which is, however, far more resistant to dynamic stress and is far more rigid than a plain resinbonded laminate construction.
- Airex type core, an expanded closed-cell vinyl polychloride.
- Vacuum system for the sandwich gluing.
- Where needed reinforcements are done in undirectional and bidirectional lamination and stratification core substituted by plywood or more density inserts.
- The strength of resinbonded laminates conform to the designer's specifications and are regularly controlled by their competent technical departments.
- The transversal (floor) and longitudinal reinforcements of the hull are made in E glass fibres and then resinbonded to the hull.
- The main and the forward bulkheads are made in composite.
- The waterlines are in Gelcoat or polyurethane paint; the cove stripe and the yacht's name on the transom are adhesive (charcoal grey).
- The stern cannot be opened. Stainless steel bathing ladder at the stern.

2.2 Ballast

- The bulb keel is designed and built for high speeds and guarantees performance and stability.
- The keel ballast is made of lead /antimony.
- The keel fin is made in cast iron and is attached to the hull through stainless steel bolts. There is a recess in the hull for the stainless steel backing plate for the keel.
- The keel is treated and protected by epoxy products.

2.3 Chain plates

- The deck area around the mast and the chainplates will be reinforced. Where needed, the sandwich core will be made in marine plywood instead of Airex core.
- The main and aft chain plates are realized in composite with undirectional and bidirectional fibres, vacuum laminated, well resinbonded to the yacht structure by means of epoxy glue and fiberglass laminations.

2.4 Stays

- The dimensions of all shrouds and stays are defined by naval architects according to their working load.
- 1x19 stainless steel wire is chosen as standard.
- Optional, rod rigging is available.

2.5 Structural bulkheads

- The main and the forward bulkheads are composite material, type Airex. All the other bulkheads are made in oak plywood, well resinbonded to the hull and the deck.

2.6 Mast base

- The inox steel mast base is bedded on a GRP support which is connected to the longitudinal, and connected to the hull with bolts.

2.7 Access to the bilge

- The tidy bilge is easily accessible.

2.8 Engine bed

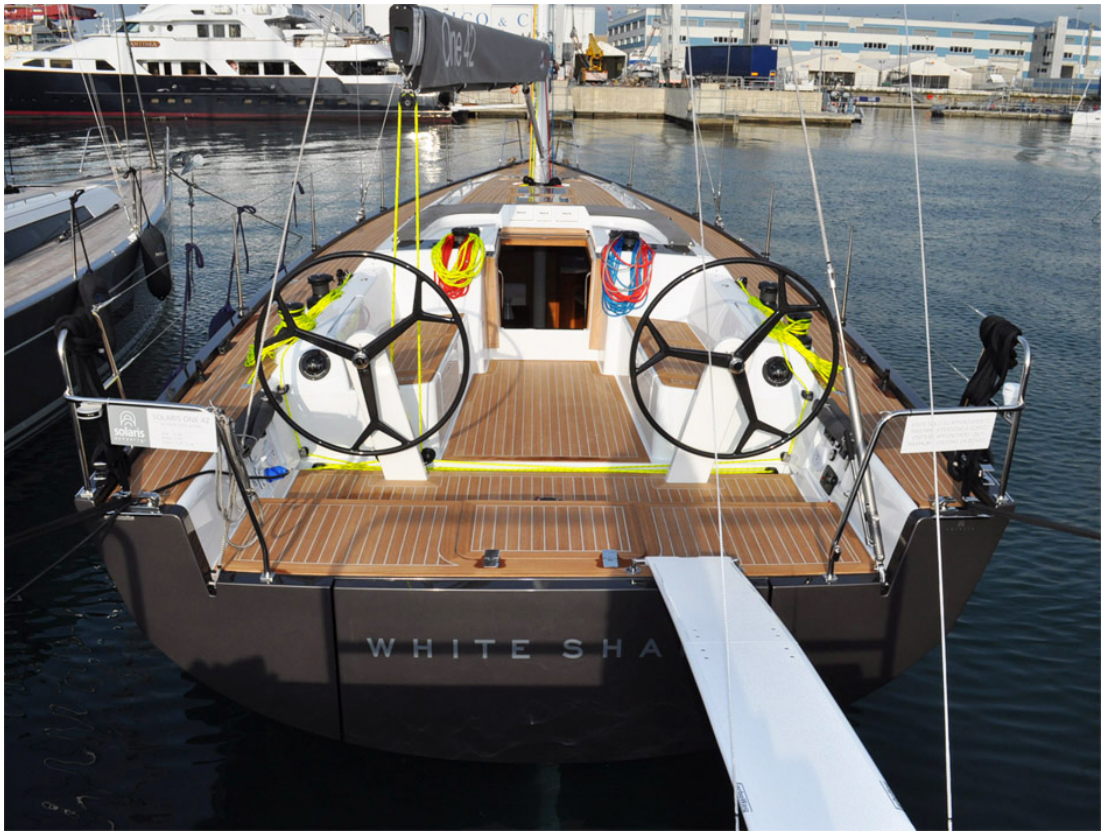
- The engine bed is made of single skin GRP, well resinbonded to the hull and to longitudinal and transversal reinforcements.

2.9 Drain holes

- The bilge drainage system is designed to get all water to the lowest point of the bilge in order to discharge outboards.

2.10 Rudder

- Balanced rudder in GRP foam core.
- The rudderblade is reinforced by steel frames, welded to the shaft.
- Stainless steel shaft.
- Jefa steering system.
- Two compasses mounted in front of the helmstation.
- 900 mm steering wheels with single spokes.



3 Interior

3.1 General arrangements

The standard price is based on the following description. Optionally, some changes can be made for the wood essence.

- The boatyard is monitoring the optimum weight distribution.
- Stowage is maximised by using all spare space.
- The internal and non-visible surfaces are in marine plywood.
- Bulkheads are made in marine plywood.
- Galley and bathrooms topsides are made of wood. Optional corian.
- High quality fabric is used for all cushions.
- All furniture is made in high quality oak, varnished with matt open pore finish.
- All woodwork is carried out with the best nautical tradition.
- Rounded edges for all hatches, bulkheads, seating, lockers, etc.
- The main switchboard is placed at the chart table.
- The high production quality, the clear, simple lines of the interior corresponding to the Solaris design, making a Solaris a unique yacht.

3.2 Standard layout and optionals

3.2.1 Standard Layout - 3 Cabins, 1 aft Bath

3.2.2 Layout - 3 Cabins, 2 Baths optional

3.2.3 Layout - 2 Cabins, 2 Baths optional

3.3 Layout

- The Solaris 42 standard has a layout with three cabins, one bathroom, a saloon with galley, a sofa, a dining table and a chart table. The chart table is practical and placed on the starboard side.
- Every area to have space exploited at the best and wherever possible, there will be stowage areas as in best Solaris tradition.

3.4 Flooring

- Built to be completely removable for bilge inspections.
- 20 mm wood floorboards, anthracite color, varnished.

3.5 Ceiling

- Plywood ceiling panels, covered with white vinyl upholstery treated against mould.
- To be fixed with Velcro.

3.6 Cabin doors and drawers

- All doors are fitted with a door lock.
- Drawers made in plywood. Front in solid wood and fitted with press button locks.

3.7 Berths and sofas

- Berths and sofas to have drawers or lockers wherever possible.

3.8 Companionway

- Wooden companionway ladder.
- To have steps with antiskid.

3.9 Handrails

- Polished stainless steel handrails in various parts of the yacht.

3.10 Access to engine compartment

- Engine room with one entrance.
- The entrance is positioned to have an easy access to all technical equipment at sea.

3.11 Soundproofing

- Soundproofing is a strong characteristic of a Solaris yacht.
- The soundproofing of the engine room is made of high quality sound insulation material and specially furnished plywood, with integrated lead plates or similar and white painted perforated aluminum plate.

3.12 Galley

- Stainless steel 3-burners oven on gimbals.
- All surfaces in wood. Optional corian.
- One stainless steel double basin sink.
- Galley with lockers and drawers to store dishes, glasses, pots and galley accessories.

3.13 Toilet

- Bathroom locker is easily accessible for maintenance.
- Wooden topsides.
- Composite sinks, headlocker with mirror front.
- Flooring in polyethylene grating.
- Shower and basin are discharging outboard.
- Manual toilet type Jabsco Regular.

3.14 Black out screens

- Hatches, portholes and windows with blinds.

3.15 Fore cabin

- Wide double berth with big drawers underneath.
- Spacious wardrobes.
- Side shelves.

3.16 Salon

- A wide U shape sofa for 6 people with drawer for stowage.
- Table top in solid wood and marine plywood.
- Two large seats with chart table in front of the sofa.
- Chart table with folding top and storage space for the maps.
- Locker for instruments.
- Electric panelboard with hinged door for inspection.

3.17 Stern cabins

- One double berth per cabin.
- Wardrobes.
- Lockers in the main central bulkhead.

4 Engine

4.1 Engine

- Volvo Penta D2-40 hp.
- S-Drive.
- Engine is mounted on shock absorbers.
- Instruments control panel to be mounted at the helm station, starboard.
- Engine hours counter, rpm-meter, fuel gauge, accelerator are mounted in cockpit at helmstations.

4.2 Fuel tanks

- 15/10 stainless steel tank.
- Total fuel capacity approx. 220 l.
- Copper tubing for fuel lines.
- Fuel filter and 1 water seperator easily accessible.
- Tank fitted with an analog level indicator.

4.3 Fire-fighting system

- The whole yacht including the engine room, the electric and technical systems comply strictly to Germanischer Lloyd certification.
- Manual fire extinguisher for the engine room placed in the aft cabin.

4.4 Soundproofing

- The soundproofing of the engine room is made of high quality sound insulation material, white varnished.

4.5 Propeller

- Fixed blade propeller.

5 Water systems

5.1 Sea cocks

- All flush seacocks are made of nickel-plated brass, quick operational, easily accessible.

5.2 Fresh water tanks

- Rigid polyethylene fresh water tanks. Access for inspection and cleaning.
- Total water capacity of 350 l.

5.3 Piping

- Approved special non-odour rigid PVC tubing for hot and cold drinkable water.
- The drainage hoses of bilge pumps, sinks, and showers are made of non-odour, solid rubber pipes.
- Stainless steel hose clamps and rubber muffs.

5.4 Black water holding tanks

- Toilet aft discharges below the waterline. With surcharge the Yard can install a stainless steel black water tank, working by gravity and discharging outboard, or an electric macerator pump depending on the interior layout.

5.5 Deck cockpits

- The water on deck is drained by rubber pipes directly resinbonded to the hull.

5.6 Pumps

- All pumps are easily accessible for maintenance.
- 1 manual bilge pump in cockpit with suction in the main bilge.
- 1 electric bilge pump with large capacity with suction in the main bilge and in the aft bathroom.
- 1 fresh water pressure pump, hot and cold.
- All bilge pumps are discharging outboard above the waterline.

5.7 Boiler

- 220 V AC Boiler for hot water, capacity 16 lt.
- Water is also heated by heat exchanger of the engine.

5.8 Cockpit shower

- Warm/cold fresh water shower at the stern section of the cockpit.

6 Cooling Systems

6.1 Cooling systems

- One 12 V 100 l refrigerator as standard.
- Optional a second 12 V electric stainless steel fridge can be installed.

7 Deck equipment

- The standard deck equipment is designed for a sloop rig.
- High quality brands deck equipment, in stainless steel or in anodized aluminum.

7.1 Fairleads

- Stainless steel fairleads: 2 forward and 2 aft.

7.2 Mooring cleats

- Stainless steel mooring cleats: 2 forward and 2 aft.

7.3 Hatches

1 hatch for anchor locker	flush
1 hatch for owners cabin	Lewmar flush
1 sliding hatch at the entrance	15mm Plexiglass
1 hatch for salon	Lewmar flush
2 hatches for aft cabin and bathroom	Lewmar in cockpit
1 hatch	flush for lazarette
2 lids	for cockpit peaks, starboard and portside

7.4 Windows

- 2 fixed side windows for the saloon.
- 2 fixed hull windows for the saloon made in anti-brake in glass.

7.5 Portholes

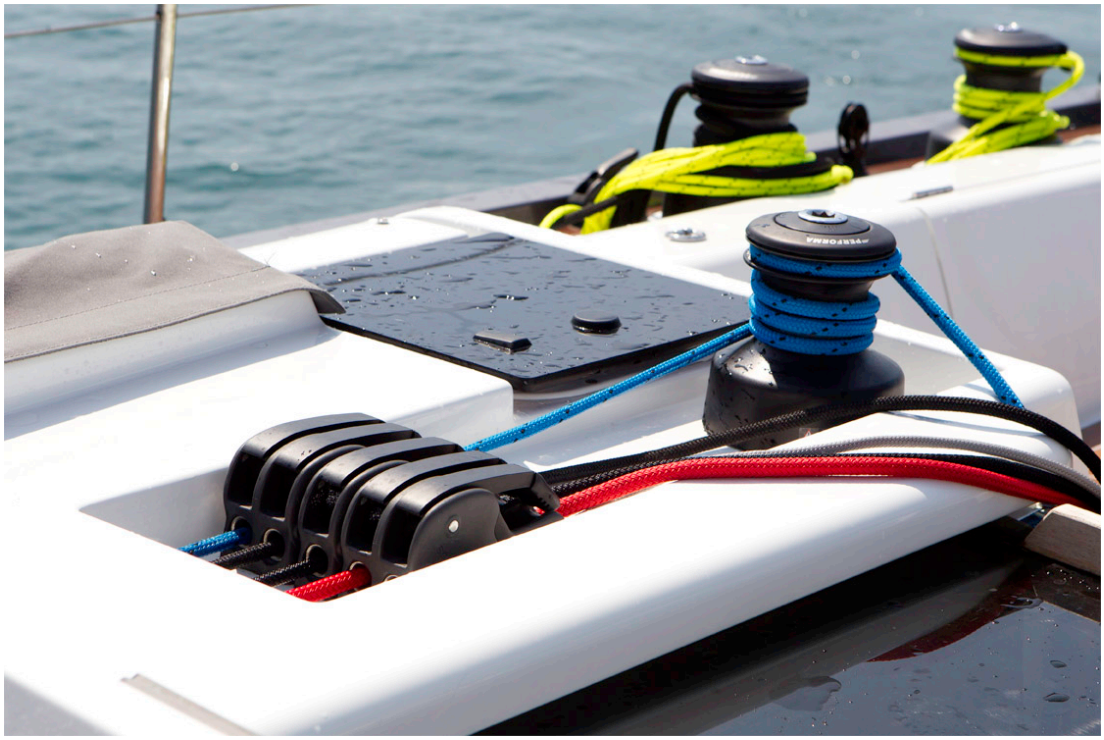
- 2 opening portholes Lewmar on coachroof for galley and aft bathroom.

7.6 Tracks, slides and leading blocks

- Tracks, slides and leading blocks of the best quality.
- Deck equipment chosen by naval architect.
- All halyards are lead into the cockpit below the deck structure.

7.7 Winches

- 2 winches for jib sheets 44 or equivalent.
- 2 winches for mainsheet system 44 or equivalent.
- 2 mast winches for halyards 40 or equivalent.
- Standard supply of 2 aluminium handles with locking system.
- All winches are anodised light alloy, in black.



7.8 Anchor winch

- Electric anchor winch 1000W, below deck with capstan drum.

7.9 Steamhead

- Anchor fairlead is welded in one piece stainless steel.
- Nylon chain rollers for Delta anchor.

7.10 Pulpit, pushpit and stanchions

- Stanchions in stainless steel, diameter 25x2 mm.
- Stainless steel wire lifelines diameter 5 mm. with turnbuckles.
- Height of pulpit, pushpit and stanchions 610 mm.
- Pushpit to be built in two pieces.
- The pulpit will be open for landing on bench.

7.11 Toe rail

- Toe rail to be integrated in the hull with gelcoat varnish finishings. To have reinforcements for stanchions, pulpit and pushpit attachments.

7.12 Deck

- The cockpit seats are covered with laid teak vacuum bonded onto the deck with epoxy resins.
- Forward deck surfaces, cockpit floor and side decks are painted with anstiskid paint. Optionally they can be fitted with teak.
- Stainless steel grabrails placed on the sides of the coachroof.
- Removable bathing ladder at the stern.

7.13 Peaks

- 1 fore peak to stow anchor chain, with discharge above the water line.
- 1 wide lazerette.
- 2 peaks under cockpit seats.

8 Steering system

- The Solaris 42 is equipped with twin mechanical helmstation. Stainless steel steering wheels are covered microfibre "lorica".
- 2 compasses in front the helm stations.
- The steering system and equipment is by Jefa.
- Steering gear is protected, still easy accessibly for inspection.
- Stainless steel emergency tiller to fit directly onto the rudder shaft.

9 Rig/Sails

9.1 Rig

- Aluminum mast.
- Keel-stepped mast.
- Furlex manual jib furler.
- High quality tracks, slides and leading blocks.
- Standard is a fractional sloop rig.

9.2 Mast

- Sparcraft keel-stepped mast with 2 pair of swept-back spreaders as standard.
- Tapered on masthead.
- Sheaves for 1 mainsail, 2 genoa and 2 spinnakers, 1 boom topping lift.
- 2 Pairs of spreaders with attachment on mast and through bars. Spreaders heads with 1x19 predisposition for the fasten on the shrouds.
- Equipped for lazy jacks.
- Boom attachment on mast, toggle and boom attachment of aluminium and stainless steel.
- All electric wires are covered in pvc.
- Fittings for navigation lights and lighting.

9.3 Boom

- Manual outhaul system.
- Spring vang.
- 1 mainsheet attachment.
- Equipped for 3 reefing lines.
- Lazy jack attachments.

9.4 Rigging

- 1x19 wire rigging and stays.
- Stainless steel wire rigging and stays.

9.5 Furling system

- Manual jib furler complete with sheet and jammer.

9.6 Backstay Adjuster

- Harken manual backstay adjuster of proper dimensions.

9.7 Running rigging

Main halyard	1
Traveller sheets	2
Jib halyard	1
Spinnaker halyards	1
Reefing line	2
Mainsheet	1
Genoa sheet	2
Topping lift	1
Outhaul	1

- High quality pre-pressed material fitted with shackles and snap-shackles where necessary.

10 Electrical system

All installations are proofed in maritime use.

10.1 12 V system

- The main electric system will be 12 V.
- Charging of batteries by shore power or main engine alternator. Alternators:
- 1 engine driven alternator capacity 80 Ah 12 V to recharge the batteries.

10.1.1 Batteries

- Lighting system, bilge pump, pressure pumps, anchor windlass, refrigerator, discharge pumps, autopilot, navigation lights and electronics are powered by 12V AGM batteries with a total capacity of 230 A/h.
- Starter batteries, 12 V of 55 A/h, charged by main engine
- Newest generation AGM gel batteries as standard.

10.2 220 V / 50 Hz system

- The 220 V 50 Hz group supplies the ac users such as: boiler, battery charger, sockets.
- The 220 V 50 Hz group is supplied by shore power through a stern mounted socket.
- 220 V ac socket in galley and saloon.

10.3 Electric panelboard

Electric switchboard is split into 2 parts.

- 1 switchboard for AC, protection and distribution control with automatic thermomagnetic switches and functioning lights. Automatic main power switch.
- 1 switchboard for DC, protection and distribution control with automatic thermomagnetic switches and check lights for all consumers.
- DC electric system protected from overload and short circuit by general thermomagnetic switches mounted near the batteries, one for every battery group and each consumer.
- The electric panel is mounted near the chart table.

10.4 Lighting

- Interior lighting with recessed ceiling lights and 2 reading lights for every cabin.
- One night-light installed at companion way, lightswitch close to the hatch.
- White/red chart light.
- Forward deck light on mast.

10.5 Navigation lights

- Navigation light switches on the interior panelboard.
- Led green navigation light.
- Led red navigation light.
- Led stern light.
- Led anchor light 360° on masthead.
- Led steaming light.

10.6 Miscellaneous

- Approved marine use electric cables.
- All electric installations are properly fused.

11 Navigation/Electronics

- Not standard (please see Price list and Options)

12 Miscellaneous

- Mattresses lined in light colour fabric with zips.
- 1 flag pole with national flag.

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