BUILDING SPECIFICATION

Project : P14.889
Yard no. : YN199
Release : Rev 4
Date : 28/11/2018

RELEASE OVERVIEW

Release	Change	Date
Rev 0	Sales release	14-06-2018
Rev 1	Overall update based on experience PM YN197	19-07-2018
Rev 2	Small changes PM	5-09-2018
Rev 3	Bridge deck hydraulic crane changed to carbon crane (hydraulic is now optional)	8-10-2018
Rev 4	Chosen options indicated + main deck & swimming platform railing changed + GT value changed + coating inside construction changed	28-11-2018

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1 General

1.1 Preface

The building specification describes the process by which Moonen strives to ensure top quality in all stages of the project, from preliminary design until handover to principal in a fully tested and operational condition.

The following documents will be joined to this building specification, to form the full specification of the project:

- General Arrangement
- Provisional Sum
- Option list
- Basic Planning

The yacht will be built in a modern, indoor, heated shipbuilding hall at Moonen Shipyards in the Netherlands.

Trade names and types cited in these specifications are proposals and the shipyard reserves the right to use equivalent alternatives.

All values in this specification are preliminary until final design.

1.2 Brief description

1.2.1 Type and styling

The Moonen Martinique is a three-deck twin-screw displacement motor yacht with a "High Tensile Steel" hull and an aluminium superstructure. The Martinique will have the following characteristics, which may be expected from a yacht with these credentials:

- Modern and timeless design
- Three deck design, with several multifunctional areas and sun deck
- 10 + 2 guests in 5 spacious cabins
- Captain's cabin on bridge deck
- 6 crew, divided over 3 cabins, in a comfortable and functional crew area on lower deck
- A smart and innovative designed displacement hull
- Fuel efficient hull form
- Transatlantic range
- Comfortable seaworthy and seagoing behaviour
- Stabilised under way and at anchor
- Exceptional low sound and vibration levels
- The use of durable, modern materials, systems and equipment
- Limited draft to be able to reach shallow waters

- Climate control system, designed for Caribbean conditions
- Charter friendly design

The exterior design of the yacht is from René van der Velden, in collaboration with Moonen Shipyards.

Hull	:	Round bilge, fast displacement, shallow draft, twin-screw motor yacht with collision bulkhead and three watertight bulkheads
Stern	:	Transom stern with swimming platform
Double-bottom	:	Fuel, fresh and waste water integrated into the hull construction

1.2.2 Main dimensions

	Metric	Imperial
Length overall	: 36,30 metres	119' 00" feet
Length waterline	: 34,50 metres	113' 00" feet
Beam overall	: 8,00 metres	26' 02" feet
Beam waterline	: 7,70 metres	25' 03" feet
Draught max.	: 2,15 metres	7' 00" feet
Gross Tonnage	: 337 GT	

1.2.3 Construction

Material hull	: High Tensile Steel AH 36 & Steel Grade A
Material superstructure	: 5083H111 for plates and 6082T6 for profiles
Stainless Steel	: AISI316

1.2.4 Main engines

Two diesel engines	: Caterpillar C18 Acert
Power rating	: C-rating, each 533 bkW (725 bhp) at 2100 rpm
Transmission	: TBD
Reduction	: TBD

1.2.5 Tank capacities

Fuel	: 35.000 litres	9.250 US gallon
Fresh water	: 8.000 litres	2.115 US gallon
Waste water	: 1.900 litres	530 US gallon
Used lube oil	: 500 litres	130 US gallon
Clean lube oil	: 500 litres	130 US gallon
Grey water	: 1.250 litres	330 US gallon
Black water	: 1.250 litres	330 US gallon

1.2.6 Speed

Maximum	: 14,0 knots at 10% load
Cruising	: 13,0 knots at 50% load and 85% RPM
Range	: 4.000 nautical miles at 10 knots (economical speed)

The range is based on fuel consumption of 34ltr/hr per engine and 10ltr/hr for a single generator, i.e. 78ltr/hr in total, and a spare fuel capacity of 10%.

1.3 Design and Engineering

The relevant drawings and other engineering data mentioned below will be submitted to the principal or his representative for information purposes during the design and building process and form part of the on-board documentation:

- General arrangement, profile and layout
  - Stability booklets (intact & damaged)
  - Tank layout
  - General hull construction
  - General superstructure construction
  - Engine room arrangement
  - Fuel system diagram
  - Cooling water system diagram
  - Exhaust & overboard stack diagram
  - Dirty oil system diagram
  - Lube oil system diagram
  - Hydraulic system diagram
  - Bilge diagram
  - Firefighting diagram (seawater)
  - Air pressure system diagram
  - Fresh water system diagram
  - Sanitary discharge diagram
  - Air-condition and ventilation diagram
- Load balance
- Illumination for interior and exterior plan
  - Main Single line VDC/VAC electrical diagrams
- Wheelhouse dashboard, and helm station layouts
  - Antenna plan
  - Docking plan
  - Fire and safety plan
  - Sea trail and commissioning reports, incl. range and speed graphs

Note: Drawings with a full black dot will be submitted to the principal for approval before each building phase.

1.3.1 Manuals

The user and operational manuals of the various built-in equipment will be supplied in English if available. A user manual for the ship and ship systems will be supplied in English, one hardcopy and one digital copy.

1.4 Insulation

1.4.1 Noise levels

The insulation will be utilized to reach the specific yachts characteristics with regards to noise and vibration control, and to support the interior climate installation. The applicable requirements will be incorporated as well as the recommendations of an acoustic consultant. In cooperation with this consultant a full report will be compiled after the sea trail to prove that specification values are met.

The levels in the various areas will not exceed the values below in dB(A), ± 3 dB(A).

At cruising speed (1950 r.p.m)

- BD Wheelhouse 50
- MD Master stateroom 50
- MD Saloon 55
- LD Guest cabins aft 56
- LD Guest cabins forward 50
- LD Crew cabins 55

Harbour condition with one generator running

- BD Wheelhouse 45
- MD Master stateroom 40
- MD Saloon 40
- LD Guest cabins 40
- LD Crew cabins 40

Measured with one generator running and the climate control operational on the lowest setting.

1.4.2 Insulation accommodations

The hull will be covered by Isover Tech slab and Climcover lamella. The space between the walls of the various cabins will be filled with Isover Tech slab and Climcover lamella Interior doors will have sound insulating profiles.

1.4.3 Insulation engine room

The entire engine room except for the bilges will be insulated with Isover Tech slab and Climcover lamella finished with aluminium plate. The ceiling, bulkhead and hull sides will be insulated with non-perforated plate. Where necessary in accordance with the advice of the noise and vibration consultant, damping plates in mass compound will be placed on bulkheads, tank tops and deck.

1.5 Classification and certification

The yacht will be built in accordance to the following class society;

- Lloyd's Register EMEA for class notation ✠100A1, SSC, Yacht Mono, G6, [✠] LMC
- Cayman Islands LY3

The following will be delivered:

- Certificate of class
- Statement of compliance with LY3 Cayman Islands
- Builder's certificate

All equipment required by class/flag state if applicable will be part of the designated provisional.

1.6 Delivery

1.6.1 Launch

After being carefully launched into the water, the yacht will thoroughly be inspected for leakages. The stability will be assessed with an inclining test and the vessel will be prepared for the system test and calibration.

1.6.2 Dock trials and commissioning

All equipment and systems will be commissioned and tested as far as practically possible as part of the dock trial prior to the sailing trails. This will be carried out by the yard and, where applicable, by the relevant suppliers/subcontractors.

1.6.3 Sea trials and commissioning

The yard will check the ship and ship system performance according to the specification and regulations during a trial on inland water. These sea trials will be carried out on a dedicated area called "Het Vuile Gat", where various systems will be tested and monitored for correct operation. Speed, fuel consumption and noise measurements will be made at different rpm and in harbour mode. The following conditions will apply during the trial period:

- Parallel trim with 50% load
- Water depth approx. 10 m
- Wind force 3 Bft or less
- Significant wave height max. ≤ 0.40mtr.

The principal and/or his representative will be invited for sea trials.

Trial Program

During the sea trials and commissioning the following tests will be executed to show compliance of the yacht with this specification and the applicable regulations

Sea trials

- Noise Measurement
- Speed test, at progressive RPM's of the main engine up to 100%
- Turning test (Starboard & Portside)
- Turning circle (Starboard & Portside)
- Zig-Zag test
- Crash stop
- Stop test
- Bow thruster test
- Emergency steering test
- Windlasses test
- Stabilizer test

Commissioning tests

- Weather & Water tightness test
- Bilge/Fire system test
- Fuel system test
- Fresh water system test
- Black/Grey water system test
- Fire detection system test
- Firefighting system test
- Safety equipment check
- Electrical system tests
- Means of escape check
- Radio equipment check
- Air conditioning and ventilation test

1.6.4 Delivery

After the trials the yacht will be presented at the yard for its technical acceptance.

2 Hull construction

2.1 General

The material used for plates, stiffeners and profiles will be of marine quality. All plates will be supplied with a certificate and the welding material will be in accordance with the specifications of the classification society.

The hull will be built according to the transverse frame system with a frame-spacing according scantlings calculation. Various reinforcements will be affixed in addition to next to lead-through and propeller brackets.

2.2 Construction

The hull construction will consist of High Tensile Steel AH36 and Marine Grade A steel. Dependent on design- and class-requirements the construction material will be determined. In general plates and constructed stiffeners will be High Tensile Steel AH36 and profiles will be of Grade A steel. The connecting sections will be retained as long as possible to keep deforming by welding to a minimum.

Double bottom

The fuel and freshwater tanks will be incorporated in a double-bottom construction. All fuel tanks will have combined filling/suction and de-aeration pipes. All hull-integrated tanks will be pressure tested, and approved to be leak proof.

Scuppers

Stainless steel scuppers will be permanent integrated. Sufficient amount of scuppers are integrated in the construction, in order to drain the decks efficiently. The visible part at the deck, will have a stainless steel high polished Moonen logo. The outlets will be positioned just above the waterline.

Rub rail

A U-shaped steel rub rail will be attached to the ship's sides at the same height as swimming platform. The entire rub rail will be painted to match the hull.

Bulwark

The closed box type bulwark will be positioned, starting from the mid-section all around the aft deck. The bulwark will be pressure tested, verifying airtightness.

Swimming platform

A swimming platform will be constructed on the stern and be accessible by integrated steps on the starboard side. The passerelle will be integrated in the transom on the portside.

As an option, a second stairway to the swimming platform can be constructed on portside. A part of the stairs can be lowered to deploy the passerelle. (chosen)

2.3 Doors, hatches and manholes

Doors

One pantograph watertight transom door will give access from the swimming platform to the lazarette and one watertight hinged door will be installed in the bulkhead between the lazarette and the engine room.

Hatches

One watertight emergency escape hatch will be installed in the bulkhead between the guest and crew area. Underneath the crew floor a hatch will be installed in the bulkhead between the guests and crew for accessibility of the bilge area under the guest cabins. One round watertight scuttle hatch will be installed at the fore deck to give access to the fore peak.

Manholes

All integrated tanks in the double bottom construction will have manholes. The manholes are required for the construction and welding of the tanks. At least one manhole per tank will be accessible for inspection and maintenance.

Bulwark doors

Four bulwark doors will be made in the bulwark, one aluminium door on each side, opening outwards and two aluminium doors on the aft deck, opening aft. The hinges and locks will be made of high polished stainless steel.

2.4 Windows & portholes

The windows and portholes, delivered by Rafa, will be inserted into the hull using steel welding flanges. Number, shape and position according to the general arrangement.

All portholes and windows in the hull will be fitted with tempered glass and are of the non-opening type. Aluminium detachable blinds will be supplied.

2.5 Electrolytic protection

Sacrificial anodes (number, size and location as advised by supplier) will be attached to bolts welded onto the hull.

3 Superstructure

3.1 General

The material used for plates, stiffeners and profiles will be of marine quality. All plates will be supplied with a certificate and the welding material will be in accordance with the specifications of the classification society.

3.2 Construction

The material used for plates and stiffeners will be 5083H111 and 6082T6. The connecting sections will be retained as long as possible to keep deforming by welding to a minimum.

Tri-clad structural transition joints will be used to connect the aluminium superstructure to the steel hull. This special material consist of an explosion bonded composite of seawater resistant aluminium alloy and C-steel and is usually applied in the form of strips or pads when welding together aluminium and steel structures.

Scuppers

A sufficient number of aluminium scuppers are provided to efficiently drain the water from the decks. The visible part at the deck, will have a stainless steel high polished Moonen logo. PVC scupper pipes in the superstructure will lead the water to the stainless steel scupper pipes in the hull.

Stairs

The main deck will have three integrated aluminium stairs that lead to the bridge deck, one from the aft deck, one from port and one from starboard side ways. The stairs on the aft deck will be partially a stainless steel stairs with floating steps. All steps will be covered with teak.

One floating stainless steel stairs will be constructed on the aft bridge deck to give access to the sun deck. Steps will be covered with teak.

Mast

An arch mast will be placed over the sun deck on which the necessary aerials and such can be mounted.

As an option an integrated aluminium hardtop (fixed bimini) can be constructed to provide sun shade for the sundeck. The hardtop will be painted in the same colour as the superstructure. (chosen)

Fixed furniture Sundeck

On the sundeck fixed furniture will be installed as per General Arrangement, consisting of a U-shaped bench seating 10 and a U-shaped wet-bar, including fridge. Both have a forward facing

seat attached. Fixed furniture will be painted in the same colour as the superstructure.

As an option the sun deck layout can be personalized based on principals wishes. The fixed furniture can be tailored and/or a Jacuzzi can be installed.

3.3 Doors and hatches

Hinged doors

All aluminium hinged weather tight doors in the superstructure (5 pieces) will be installed with windows as per the general arrangement. The inside part will be painted to match the interior.

- BD Wheelhouse entrance port & starboard
- MD Starboard mid ship guest entrance
- MD Port mid ship crew entrance
- MD Port side engine room entrance

Sliding doors

At aft main deck a high polished weather tight stainless steel electrical sliding door with four large windows will be mounted. Two panels of this sliding door are fixed and the two centre parts open to the side. A high polished weather tight stainless steel electrical sliding door will be mounted at the bridge deck entrance to the open air lounge. The doors will have sufficient needs to seal to weather tightness.

Hinged folding door

At aft bridge deck an aluminium 4-part folding door will be mounted to close the open air salon. The sill height will be kept as small as possible to create an "open" atmosphere in the open air salon.

Hatches

In front of the wheelhouse, an escape hatch for the master will be installed and in front of the masters cabin an escape hatch for the crew will be installed. One hatch will be installed in the main deck to escape the lazaret.

Lockers

Two bosun lockers will be integrated at PS and SB aft-side of the superstructure at aft deck.

3.4 Windows & portholes

The shape and number of the windows is as per the general arrangement. The window frames will be welded into the superstructure and painted to match the superstructure. The double glazed windows will be glued in from the outside. The thickness of the outer panes will be made according to the regulation. The windows will have an inner pane of grey tinted glass (except for the wheelhouse windows) and space in-between for insulation.

The front windows of the wheelhouse will have electrically heated glass to prevent condensation and guarantee a clear and safe view in all conditions.

All windows will be of the non-opening, fixed type.

As an option the port & starboard windows on bridge deck lounge can be manual opened.

4 Propulsion and systems

4.1 General

Equipment will be installed flexibly and provided with protective covers where necessary. Equipment, pipelines, closure valves and suchlike will be provided with name plates and flow direction arrows where necessary.

The engine room floor will be made of aluminium white powder coated tear plates screwed in angular steel framing. Hatches will be made in the floor so that the primary systems can be accessed for operational purposes. Several polished stainless steel handrails will be installed around the main engines. The entrance ladder from the main deck will be made of stainless steel with stainless steel non-skid steps.

The engine room and technical spaces will be painted in the off white colour RAL 9010.

Stainless steel drip trays will be installed under all fuel and oil pumps and fuel filters in the engine room. The drip trays with will be fitted with a ball valve for periodical drainage into a suitable tank or container.

4.2 Propulsion, manoeuvring and stabilisation

4.2.1 Main engines, gearbox and controls

Two Caterpillar C18 Acert marine diesel engines will be installed with a maximum power of 533kW at 2100rpm. The engines will have a heat exchanger, sea water pump, oil filter and oil cooler. The engines will be placed on rubber vibration absorbers.

As an option the Caterpillar C18 diesel engines can be replaced by Caterpillar C32 Acert Marine diesel engines, giving an increase of the maximum speed and cruising speed.

Two diesel engines : Caterpillar C32 Acert
Power rating : E-rating, each 1417 bkW (1900 bhp) at 2300 rpm
Transmission : Reintjes WAF 542
Reduction : 3,955:1

<u>Speed</u>
Maximum : 16,5 knots at 10% load
Cruising : 14,5 knots at 50% load and 85% RPM
Range : 4.000 nautical miles at 10knots
(chosen)

Each main engine will drive a propeller shaft via built-on gearbox. Seen from behind, the propellers turn towards the outside over the top.

There will be three helm stations. The main station is on the bridge deck at the wheelhouse, the second and the third stations are wing control stations placed in the near vicinity of the wheelhouse on each side of the vessel.

Aventics Rexroth Marex OSIII electrical controls will be installed at every helm station for main engine rpm and gearbox. Both engines can be synchronised by the Marex system.

4.2.2 Propeller shafts and propeller

Each C18 engine will be equipped with a reduction gearbox and connected to the propeller shaft by flexible connections.

The reduction gearbox will be equipped with a built in provision to ensure lubrication when the engine is not running but the propeller is turning, like when the vessel is being towed.

Each propeller shaft will be water lubricated and will drive a five blades fixed pitch propeller with a diameter of approximately 1.400 mm.

4.2.3 Manoeuvring

Rudders and steering

Two steel spade rudders with a NACA-shaped cross-section will be installed. The rudder blades will be made of plate, with horizontal reinforcements, and be fully welded.

The steering installation consists of a double ram system working via two actuators and the rudders linked by a connection rod. The steering gear will have a dedicated electro/hydraulic power pack. The maximum rudder angle is 2 x 35°. An emergency manual steering position with an orbitrol will be installed in the lazarette.

Bow thruster

A hydraulic twin propeller bow thruster with a capacity of 65 kW will be installed. The required power will be supplied from two hydraulic pumps that are attached at PTO's at the main engines or the gearbox. The bow thruster can be operated from each helm station. The propellers will be protected by steel gratings on each side.

4.2.4 Stabilisation

A CMC electrical driven fin stabilisation system will be installed for stabilisation under way and at anchor.

For the monitoring and control for the stabiliser system a touch screen panel is installed in the

wheelhouse and indicates the following functions:

- Angular fins positions, analogue indication and digitals values
- Ship roll angle indication
- Electrical system alarms management

4.3 Auxiliary systems

4.3.1 Fuel system

The fuel tanks will be integrated into the double bottom construction. The tanks will be filled from the filling stations on both sides of the superstructure via a combined filling and suction manifold in the engine room. The fuel tank de-aeration lines for filling are also in the filling stations and equipped with flame-arresters and sealing caps. The permanent de-aeration line has a loop above the main deck. Fuel can be transferred between the different tanks by the electrical transfer pump or by the manual back-up pump and the manifold in the engine room.

A fuel day tank will be installed in the engine room, to be filled by an electrical fuel pump or the manual back-up transfer pump. The fuel will be led through a set of Racor fuel filters with water drains. In case the fuel separator is installed (optional) this can also be used to fill the day-tank from the settling tank. The fuel from the day tank to the consumers is distributed by a manifold, the supply of which can be closed by one SOS valve on the day tank operated from outside the engine room. Fuel return lines from the main engines and generators will be connected to the day tank and an overflow line will connect the day tank to the settling tank.

As an option an Alfa Laval fuel separator type MIB 303, with suction from the settling tank can be integrated in the fuel system. (chosen)

4.3.2 Cooling water system

Two steel galvanised seawater inlet stand pipes will be installed in the forward part of the engine room and each inlet has a capacity to supply the two main engines and one generator on cruising speed. Butterfly valves will be installed on these pipes together with coarse filters. Butterfly valves will also be installed on these coarse filters and both inlets are connected by a steel galvanised cross-over. Cooling water lines to the consumers are connected to this cross-over and can be closed by dedicated valves.

One galvanised sea water inlet stand pipe will be installed in the hull construction of the lazarette to supply the consumers in this compartment. A butterfly valve will be installed on this stand pipe and afterwards a coarse filter. A manifold will distribute the cooling water to the consumers, each line can be closed with a dedicated valve.

Cunifer will be used for pipes supplying cooling water to the main users, the two main engines and the fi-fi-pump.

Non-Ferro piping will be used to supply other users as the two generators, shaft cooling, AC compressor, water maker (optional) and sewage treatment equipment (optional).

The two seawater inlets and the two overboard stacks in the engine room will be equipped with electrical driven valves. The valves will be controlled from outside the engine room.

As an option, a Marine Grow Prevention System (MGPS) can be installed to protect piping and systems containing seawater water installed in the engine room.

4.3.3 Exhaust systems

Main engines

The exhaust gases from the main engines will pass through dry exhaust silencers. After the silencers cooling water will be injected. Compensators will be installed between the main engines and the dry exhaust silencers. The water/gas mixture goes overboard immediately below the waterline with a by-pass above the waterline. Electrically operated valves will be installed for automatic closure of this by-pass when cruising above idle speed. The exhaust system will be flexibly suspended in accordance with the advice of the noise and vibration consultant and covered with high polished stainless steel plating.

Generators

The exhaust water/gas mixture from each generator will pass a GRP water lock. After this water lock, the water/gas mixture will pass to a GRP water separator, where the water is separated from the exhaust gases. The exhaust gases will be discharged overboard at the ship's side above the waterline, the water into the overboard stacks which discharge below the waterline.

4.3.4 Lubrication oil system

Dirty lube oil

A storage tank for dirty oil will be integrated in the double bottom construction of the engine room. An electrical pump will be installed to serve two functions – the first is to drain the oil from the main engines and generators, through a loose hose, into the dirty oil tank, and the second is to empty the tank to a drum or shore facility, using a loose hose. A filling pipe and the de-aeration line of the tank will be in the engine room.

The capacity of the tank will be sufficient to make a full oil change for two main engines and one generator.

Clean lube oil

A storage tank for clean lubrication oil will be integrated in the double bottom construction of the engine room. An electrical pump will be installed to serve two functions – the first is to fill the main engines and generators, through a loose hose, and the second is to fill the tank by suction from a drum, using the loose hose. The de-aeration line of the tank will be in the engine room.

The capacity of each tank will be sufficient to make a full oil change for two main engines and one generator.

4.3.5 Hydraulic system

The yacht will be equipped with a central hydraulic installation comprising two PTO hydraulic pumps, each driven by one of the main engines. Additional electro hydraulic pump will be integrated in the system to operate when the engines are not running. The pumps will take their oil from the hydraulic central tank in the engine room. The capacity of the PTO pumps will be arranged such that the bow thruster can be operated at full power with the main engines on idle revolutions.

4.3.6 Bilge system

One general service pump will be installed in the engine room and a second diesel engine driven emergency pump will be located in the lazarette. Both pumps are for the combined function of bilge and seawater firefighting.

The different compartments of the yacht can be emptied via manifolds in both the engine room and lazarette. The suction lines will be led to the lowest point of the compartments and have suction filters at the entrance of the suction line.

The forepeak has separate electrical bilge pump that discharges through one of the two anchor chain hawse pipes.

One of the main engine cooling water pumps could be used as an emergency direct bilge pump for the engine room.

An IMO-approved RWO bilge water separator will be installed for the engine room bilge water (type OWS Skit, capacity 250l/h). This separator will discharge the clean water to an overboard stack and the remainder to the used lube oil tank.

4.3.7 Fire protection

General

The two pumps of the bilge system can be used for firefighting with seawater. The suction for the general service pump is from the engine room cooling water cross-over.

The diesel-driven emergency pump will have a supply from the cooling water manifold in the lazarette.

Fire hose connections will be installed in several locations throughout the yacht in accordance with the regulations.

Engine room

A manual, remote-controlled NOVEC fire extinguishing system with a release handle outside the engine room will be installed in the engine room. The bottle will be placed in the lazarette.

Accommodation

Freestanding fire extinguishers will be positioned in technical areas and in the accommodation areas according the regulations.

4.3.8 Air pressure system

One air compressor will be installed in the engine room and it will have a suitable pressure buffer container. This will supply compressed air to the users installed in the system, such as the ship's horn, sliding door seals, generator vibration dampers and service air connection in the engine room. A back up compressor will be installed for the horn.

4.3.9 Freshwater system

Freshwater tanks are integrated in the double bottom of the hull. The tanks will be filled via a filling connection at the stern. The de-aeration line will be led to the hull side with a loop above main deck.

The cold water uses a single line system and the hot water a circulation system with a circulation pump and two boilers with external electrical heaters. The straight parts of the hot water line will be insulated. The complete freshwater system will be supplied with a pump, a back-up pump and pressure vessel combination. A carbon filter and UV-steriliser will be installed after the pump.
In addition to the usual taps in the bathrooms and galley, there will also be a cold and hot water tap in the engine room. Each bathroom can be isolated from the system to execute maintenance.

A hand held shower will be installed in the transom at the swimming platform.

One freshwater deck wash exterior connection will be placed on each deck and on the swimming platform. Note: All taps, faucets and showers are part of the provisional sum sanitary equipment.

The windscreen wiper spraying system will be supplied with freshwater.

As an option, an Idromar reverse osmosis water maker, with a capacity of approx. 8.600 l/day can be installed. The system will contain a sand filter and a chlorine dosing unit. (chosen)

4.3.10 Sanitary discharge system

Two polyethylene collection tanks will be installed in the guest bilge area, one for grey and one for black water. Condensation from the air-conditioning fan coils will be drained to sufficient small dedicated collection tanks which automatically pump the contents to the grey water tank.

An integrated double bottom wastewater tank will be constructed in the engine room and will contain black and grey water. Two electric pumps will transfer black and grey waters from the two polyethylene collection tanks to the integrated double bottom waste water tank.
The waste tank can be emptied overboard through one of the overboard stacks in the engine room. A connection in the port side filling station can be used to empty the waste tank by suction from shore.
In case a sewage treatment system is installed (option), a dedicated pump will be installed to transfer water from the waste tank to the treatment equipment.

All drainage pipes will be made of PVC and fitted with dry siphons. The de-aeration lines of the tanks will lead to the PS & SB side of the hull to prevent build-up of backpressure due to side winds. The outlets are located in the hull with a loop above the main deck, and have charcoal filters.

As an option, a Hamann sewage treatment system with a capacity of approx. 5.000 l/day can be installed. The sewage treatment system will store it's residue in the solid waste tank. (chosen)

4.4 HVAC systems

4.4.1 Engine room ventilation

Two air ventilation openings with gratings will be integrated in the side of the superstructure at bridge deck: one for the air intake (starboard) and the other for the air outlet (port side) of the engine room. The intake side will be equipped with a polypropylene mist-eliminator. Both the air intake and outlet can be closed with fire flaps according the applicable regulations.

A frequency controlled ventilator with adjustable fan speed will be installed in the engine room. The engine room will be supplied with the necessary amount of air for the consumption by main engines and generators. It also will generate sufficient cooling of the engine room.

4.4.2 Fresh-air and exhaust ventilation

Fresh-air

The air-handling unit will be of sturdy marine execution with a galvanized steel casing and suitable for mixing, filtering, cooling and heating of the air. The air-handling unit is so arranged that access is only required from one side, facilitating the construction of compact fan rooms. The casing is insulated with minimum 25 mm thick fireproof insulation at the inside. Equipment inside the casing is accessible over one side by removable panels. The air-handling unit is arranged as follows:

- Filter section: The filter section contains a disposable flame resistant pre-filter
- Pre-Heating section: This section contains an electric heater
- Cooling section: This section contains a coil of copper tube and aluminium fins
- Re-Heating section: This section contains an electric heater
- Fan section: The fan section contains a direct driven centrifugal fan with an electric motor suitable for frequency drive, isolated from the casing by means of anti/vibration mounting and flexible fan connections
- Distribution section: This section shall be executed as plenum and insulated at the inside against sound and heat dissipation. The conditioned air shall be distributed over the connected supply ducts/spiro pipes to the fan coil units
- Fresh air supply of 580 m^3/h.

All sleeping quarters (crew, guest and master) will be supplied with fresh air.

Exhaust ventilation

An exhaust air system will be installed serving the accommodation sanitary spaces on the individual decks. The forepeak will have a separate exhaust ventilator and the galley will have an exhaust hood. The galley and laundry will be equipped with an insulated supply line to create a balance in atmospheric air pressure.
Exterior lockers, benches, sun beds and wet bar lockers have local fans for ventilation.

4.4.3 Air conditioning

In all conditions, the chilled water cooling plant will be in operation. The chilled water pump will deliver chilled water to the fresh air unit and the fan coil units.

In spring time and autumn (and even in the wintertime) it is possible that some areas needs air-conditioning, this regarding the internal heat loads. The fan coils will be executed with chilled chasers to heat areas when needed (mostly in wintertime). The temperature control inside the accommodation shall be similar to the previous described control under summer conditions.
The capacities of the air-conditioning supply systems and of the air exhaust systems will be balanced in such a way that a slight positive pressure is maintained in the air-conditioned spaces of the yacht. This shall prevent contaminated air or smells entering these spaces.

Summer condition:

- Outside air 35°C - 90% RH
- Inside air 22°C - 55% RH
- Sea water 32°C
- Ratio 0.60 (fan coil/chiller capacity)

Winter condition:

- Outside air 0°C
- Inside air 22°C
- Sea water 10°C

The chilled water cooling plant of this installation is located in the engine room. Insulated chilled water circulation lines will run from this unit to the various fan coils in the accommodation and the fresh air unit. Every area or cabin has a dedicated fan coil, some areas have multiple fan coils, based on the required capacity. In each area or cabin there will be one control for the air-conditioning system. All fan coils will have a drip tray for condensation water and are accessible for inspection and maintenance.

Air-conditioning grills will be flush with the furniture and removable for service/cleaning.

As an option, the air conditioning can be upgraded with integrated second sea and chilled water pump to function as a backup.

As an option the Bridge deck open air lounge can be executed with air-condition installation with the same requirements as the main installation. The area will have an upgrade of the thermal insulation of the sides and ceiling to prevent heat radiation.

4.4.4 Heating

In wintertime, the chilled chasers shall be in operation (if needed) which are built in the fan coil units. The electric pre-heater in the air handling unit will heat the passing air to 12°C (fully automatic system). The temperature control inside the accommodation shall be similar in the previous described control under summer conditions.

The masters and guest bathrooms will have electric floor heating.

Crew bathrooms are equipped with Moonen standard electric towel heaters.

5 Electrical installation

5.1 General

Aluminium cable trays in the engine room (RAL 9010) and aluminium (uncoated) cable trays for the accommodation, PVC pipes and cable glands. Where cables are fitted under the cable trays, steel cable ties will be used according class requirements.

5.2 Power supply

5.2.1 Generators

Two Caterpillar generators, each with a capacity of approx. 70kW, will be installed on air suspended vibration dampers in a soundproof housing and mass-free. There will be engine stop safety devices on the generators for high cooling water temperature and low lubricating oil pressure.

5.2.2 Shore connections and supply

System is designed for 400V EUROPE.

Shore connection should be accomplished by classified crew only.

Shore connections on the aft ship:

- One (1) shore cable, 50 mm² type Nexans Buflex X'Prem, length 25 m
- 4 pole female plug, make Mennekes, (ship side) 200A
- 5 pole male plug, make Mennekes, (shore side)

Shore transformer consisting of:

- Input voltage: 3 phase 400Volt /50Hz
- Output power: 3 phase 400/230Volt/50Hz

As an option, a Glendenning Cable master can be installed.

As an option, an air-cooled 100KVA shore power frequency converter can be installed including Glendenning Cable master for second shore cable. Input voltage: 3 phase 170-520 Volts 40-70 Hz Output power: 3 phase 400/230Volt/50Hz. (chosen)

5.2.3 Batteries and charging system

Batteries

- Two 24V-100Ah starter battery sets for the main engines/generators. Make Optima, sealed maintenance free (VRLA) AGM, 8 batteries in total.

- One 24V-440Ah service battery set for navigation lights, auxiliary circuits, etc. Make Victron or equal, sealed maintenance free (VRLA) GEL, 4 batteries in total.
- One 24V-660Ah emergency battery set for navigation/emergency lights, radio. Make Victron or equal, sealed maintenance free (VRLA) GEL for minimum of 5 hours after main power supply black out, 6 batteries in total.
- One reserve radio (GMDSS) battery set 24V-220Ah. Make Victron or equal, sealed maintenance free (VRLA) GEL for minimum of 6 hours after main power supply black out, 2 batteries in total.

Chargers

- One charger to charge the service battery in the engine room with a capacity of 24VDC-100A
- Two chargers to charge the starter batteries in the engine room with a capacity of 24VDC-30A
- One charger to charge the emergency battery with a capacity of 24VDC-100A
- One charger to charge the reserve radio (GMDSS) battery with a capacity of 24VDC-30A

The Victron battery chargers are self-regulating and arranged such that the output cannot exceed 29VDC.

5.2.4 DC/AC inverter

One sine wave Victron 24/2500 system providing 230V-50Hz on-board from the service battery. The inverter will convert 24VDC into 230V for some sensitive equipment (e.g. AV). Output voltage/current will be monitored on the MPA system.

5.3 Main distribution system, 24VDC and 230/400VAC

The distribution system consists of one main busbar system consisting of three power sources, two generators and one shore power supply. One generator source is normally connected to the busbar system. In the event of higher power demands the second generator source will be connected in parallel after automatic synchronisation and automatic load sharing.

The changeover from shore connection to generator and/or generator to shore connection and between generators will be synchronised, load sharing will only apply between generators. Outgoing circuits will be protected against overload and short-circuit by circuit breakers. The starters for the electric motors will be of the magnetic type, with overload protection and alarm indications.

The panel will have LED lights in each section and be equipped with the following:

- 400VAC distribution system
- 230VAC distribution system
- 24VDC distribution (service)
- 24VDC distribution (emergency)

As an option, a power quality unit can be installed that eliminates electromagnetic interference in electronic devices, increasing the long term reliability of motor drives and electronic devices. (chosen)

As an option, a parallel 110V-60Hz system can be installed in the guest and masters bathrooms consisting of 12 outlets. For power supply to personal, domestic equipment such as razors, hair blowers etc.

5.4 Monitoring, control and alarm systems (MC&A)

5.4.1 MC&A System

The complete MC&A system is made and installed by Tijssen Elektro and called Maritime Personal Assistant (MPA). It monitors the yacht's systems, and controls several functions on remote. This multifunctional system reports on-board information from and to all places on-board. The units are spread throughout the yacht with one central command post: the main switchboard. All these units correspond through a LAN network.

Other MPA units are the workstations. These workstations are industrial computers, fit to be used in heavy industrial areas. Each workstation has full access to the MPA system depending on user login authentication and consists of a computer with touchscreen.

- One 17" touchscreen workstation on the front side of the main switchboard
- One 17" touchscreen workstation in the crew mess
- One 17" touchscreen workstation on the dashboard of the wheelhouse

The following functionalities are included standard in the MPA system:

- Shore power and generators
- Pumps monitoring and control
- Engine room blower control
- Tank sounding system
- Hydraulic system, level and pressure
- Alarm system monitoring and acknowledgement
- Navigation lights control
- Doors and Hatches monitoring open/close
- Trend registration of electric values, tank levels and temperatures
- Electrical drawings integration
- Navigational information (NMEA)
- Battery system monitoring
- Camera CCTV (if option is chosen)
- Fire system status monitoring
- Deck lights control

Wheelhouse controls

Several hardwired switches and equipment will be installed on the dashboard of the wheelhouse:

- MPA display, functionalities as described above
- Main engines control
- Main engines instruments
- Bow thruster joystick
- Emergency ventilation control
- Alarm activation
- Lights control wheelhouse
- Windscreen wipers and spraying
- Air horn

Outside helm station controls

Several switches and equipment will be installed on the dashboards of the outside helm stations:

- Main Engines control
- Main engines RPM gauges
- Steering tiller
- Air horn control
- Bow thruster
- MPA mute button

5.4.2 Fire alarm

A fire alarm will be installed with a monitoring and control panel in the wheelhouse. The fire alarm system consists of smoke and heat detectors and sirens according to the regulations.

5.4.3 Tank sounding

A tank sounding system, for each fuel, lube-oil, fresh water and sanitary water tanks will be installed, with adjustable high and low level alarms. The sounding system will be connected to the LAN network and be displayed on the MPA system with bar graphs and tank positioning.

5.5 Lighting

5.5.1 Interior lighting

The lighting will be made in accordance with the lighting plans. In the base the lighting is executed in LED lights. One series of dimmable lights will be provided in every area.

The light switches and outlets used in the interior (make Bticino) have chrome cover plates. NIKO watertight switches and outlets are used in technical areas.

24VDC emergency lights will be installed as required per regulation.

All interior and exterior light fixtures including the ones required by the regulations, fittings, searchlights, dimmers and the necessary transformers are part of the provisional sum.

5.5.2 Exterior lighting

Fittings will be installed in the ceilings of the gangways on both sides of the superstructure, the main deck aft and the bridge deck aft. Security lights near the life-raft launch area.

5.5.3 Navigation and searchlights

Navigation lights according to the COLREG international regulations (make LOPO).

- One (1) Lopo 300 -- 009 ST Double stacked PS
- One (1) Lopo 300 -- 008 ST Double stacked SB
- One (1) Lopo 300 -- 005 ST Double stacked Stern
- One (1) Lopo 300 -- 038 ST Double stacked Head
- One (1) Lopo 200 -- 012 ST Double stacked Anchor
- Four (4) Lopo 200 -- 016 Single NUC 180 degree
- Nine (9) Lopo 400 -- 018 Monitoring relay

5.5.4 Underwater lights

As an option, eight underwater lights can be installed in the stern.

5.6 Navigation & communication equipment

5.6.1 Navigation and communication equipment

A provisional sum will be reserved for all navigation and communication equipment including the instruments required by the regulations, as well as special cables, antenna's and dedicated power supplies and installation. The type and execution will be selected together with the principal.

5.6.2 Intercom/telephone system

Part of the provisional sum Navigation & communication.

5.6.3 Computer network

Part of the provisional sum Navigation & communication.

5.6.4 Satellite communication and TV equipment

A provisional sum will be reserved for satellite communication and TV-antenna domes. The type and execution will be selected together with the principal.

5.7 Entertainment

A provisional sum will be reserved for all entertainment. Including screens, tv-lifts etc. and dedicated power supplies and installation. The type and execution will be selected together with the principal.

5.8 CCTV installation

As an option, 3 cameras with pan zoom and tilt functions can be installed, the cameras will be installed at the following locations: One in the engine room and one on the aft deck SB and one on the aft deck PS. The cameras will be integrated in the monitoring, control and alarm system (MPA) and be controlled via the touchscreens. (chosen)

6 Equipment

6.1 Mooring and anchoring

6.1.1 Bollards and fairleads

Eight stainless steel tubular double bollard combinations will be welded onto the fore and aft decks. The foundations on which the bollards stand will be painted.

As an option, the Eight (8) tubular Double bollards can be exchanged to V-shape bollards.

V-shaped bollards will be installed at the aft corners of the swimming platform.

Stainless steel rollers are integrated in the freeing ports, aft and foredeck. A single stainless steel fairlead with cleat will be integrated in the bulwarks amid ship on each side.

6.1.2 Anchors, chain and provisions

Two galvanised steel balanced Pool-N anchors will be installed, each weighing approximately 240 kg. The chains will be made of 17.5 mm (U2) stud link galvanised steel, and will both be approximately 137 m long. The chain will be of standard lengths connected with Kenter joining shackle and the anchor is connected with a D-End shackle to the chain.

The two hawse pipes will be made of stainless steel. In each hawse pipe a nozzle will be welded for the salt water anchor wash installation.

Both anchors will be installed as high as practically possible in a matching anchor pocket of brushed stainless steel. A semi-circular stainless steel piece will be fitted around the holes in the pockets. A brushed stainless steel plate will be applied from the lower side of the pocket to the water line.

On the bow will be a high polished stainless steel bow plate.

The chains will be stowed in a chain well in the forepeak accessible via a deck scuttle hatch under which an aluminium ladder is located. The chain well will be situated on the centreline of the ship and divided in two. Both chain wells will be lined with wood, the bottom will be a removable perforated stainless steel plate.

The hull construction in the forepeak is completely welded to avoid corrosion between the hull plating and stiffeners.

6.1.3 Anchor winches and provisions

Two hydraulic driven windlasses, MUIR VCR 8000, combined with capstans will be installed on the foredeck. They will be operated by remote control with a cable, and a footswitch for single rotation of the capstan. Stainless steel chain rollers with drop stoppers and devils claws will be installed on the foredeck. The anchor installations of the foredeck will be positioned on foundations with a gutter around them, painted to match the colour of the hull.

6.1.4 Capstans

Two hydraulic driven capstans, MUIR VC4000, will be installed between the bollards on the aft deck. The hauling drum will be made of stainless steel. The single rotation capstans are operated by a stainless steel footswitch with protection cap and will be positioned near the capstan in the teak deck.

6.1.5 Mooring lines and fenders

- Six mooring lines Ø 24 mm and length of 25 m; eye on one side
- Eight cylinder fenders type F7
- Two ball fenders, type A5
- Aluminium fender track positioned at the wide body area from hull to front

6.2 Boarding equipment

6.2.1 Passerelle

A hydraulic passerelle will be installed on the port side in the stern. The telescopic passerelle will have an over-length of approximately two metres beyond the end of the swimming platform and is 45 cm wide. The passerelle will have a wireless remote control and a fixed control panel at the main deck aft. High polished stainless steel removable stanchions with rope for both sides will be supplied. A watertight passerelle hatch with manual locks will be installed. When the option of the second stairs to swim platform is chosen the hatch is replaced by a hatch which lowers hydraulically.

6.2.2 Boarding ladders

A removable aluminium, side-boarding ladder will be supplied with aluminium steps and handrails. This boarding ladder can be installed in both door openings at the sides using special fastening brackets.

A removable stainless steel swimming ladder with teak steps will be supplied. This ladder can be mounted into special mountings fitted on the aft of the swimming platform.

6.3 Launching equipment

One removable folding carbon deck crane, capable of lifting 600kg at 2,5m will be supplied. At the starboard side aft corner on the bridge deck the socket will be integrated in the construction. The crane will be supplied in the colour matching with the superstructure and with a manual winch. This crane can also be used to lift and store a jetski at the bow area. On both sides of the foredeck sockets will be integrated in the construction.

As an option a hydraulic deck crane, capable of lifting 600 kg at 4,5m will be installed, starboard side, on the bridge deck aft. It will be operated by the central hydraulic power pack. It will be provided of backup power and painted to match the colour of the superstructure. The crane has a wired remote control and linear winch arrangement.

As an option the lazarette can be converted to a full equipped tender garage, which can store the tender and other water toys. A hydraulic operated hatch will be integrated in the hull on port side. The garage can store a tender of approx. 5,5m. It will be launched by an overhead sliding crane with capacity of SWL 1500 Kg. The tender garage will be equipped with a tender filling station that is connected to the day tank.

6.4 Safety equipment

Four ten-person life rafts with A-pack in a GRP container will be positioned on the bridge deck sides, connected with hydrostatic releases. One additional ten-person life raft is stored in the lazarette.

- Four lifebuoys will be mounted in a recess, two with MOB-lights and smoke signals, two with floating lines
- Twenty (20) inflatable life jackets with lights will be supplied
- Twenty (20) immersion suits will be supplied

Note: The full safety equipment package will be according to class and flag state requirements.

6.5 Nautical equipment

- Stainless steel flag mast with holder on the bridge deck aft. The flag mast can fly a 150 x 225 cm flag
- Stainless steel jack holder on the bow, integrated in the railing and capable of flying a 50 x 70 cm flag
- Two 2.25 m aluminium telescopic boat hooks
- Two fold-away black signal balls
- Set of three brass chrome plated nautical gauges; barometer, hydro/temperature and clock

- A high polished stainless steel bell bracket with deck light will be positioned on the fore deck. A cast bronze chrome ship's bell (diameter 300 mm) will be fastened to this bell bracket. The yacht's name, year of construction and 'Moonen Shipyards' will be cast on the bell

6.6 Names and logos

The principal will inform the yard of the yacht's name and home port. This name will be affixed to the stern and the superstructure sides by means of self-adhesive film, while the home port will be affixed on the stern alone. The tenders, water scooters and lifebuoys will also feature the name of the yacht, fixed by means of self-adhesive film. Moonen logo will be positioned at the stern and the text "Moonen" will be placed on the superstructure sides.

As an option, the ship's names and home port can be made from stainless steel, with or without LED back lighting. This option is pending the names, the size and the execution.

6.7 Teak decking

The main deck, bridge deck, fore deck and swimming platform as well as all the exterior steps, benches and sunbathing areas will be covered with teak wood. The teak is of the highest quality, sorted by colour, quarter-sawn, with a straight grain and free of blemishes.

The decks will consist of teak wooden planks of 60 x 12 mm and approx. 3mtr in length. King planks will have a width of approximately 100 mm, while the nosing of the stairs will have a thickness of approximately 35mm. The decks will be prefabricated and glued with vacuum pressure on pre-faired aluminium decks. The joins, 7 mm deep and 6 mm wide, will be filled with black caulking.

6.8 Railing

A 42 mm high polished stainless steel round top railing with 38 mm stanchions and 38mm round middle bar will be mounted on the bulwark of the main deck aft and on the swimming platform.
A 38 mm high polished stainless steel round top railing with 32 mm stanchions and 32mm round middle bar will be mounted on the bulwark of the bridge deck and sun deck. Where necessary, parts will be removable for launching tenders and water scooters.

The top of all railings will have a height of ≥ 1.00 m above the teak deck complying with the regulations.

As an option the main deck aft and swimming platform railings can be made with an oval shaped railing of 60 x 40 mm with 38mm stanchions and a 38mm middle bar.

6.9 Exterior furniture

Benches

Outside benches as per the general arrangement will be integrated in the construction with teak wood lids on the outside benches. These lids will have the same composition as the teak wood decks. Each deck locker will have a floor covering made out of plastic perforated sheets.

Outside tables

The main deck aft will have a fixed teak table, seating 10 guests, and sun deck will have two small fixed teak table, the tables have a high polished stainless steel pedestals. The bridge deck forward will have two teak tables with high polished stainless steel pedestals which are manually in height adjustable to create a sunbed. The teak will be varnished.

Covers

The set of covers that will be supplied includes:

- The fixed benches including cushions
- The exterior tables

The covers will be made of Sunbrella in a colour to be decided by the principal. All covers and their mountings are part of the provisional sum for upholstery.

6.10 Sun awnings

Bridge deck forward sun awning system 15m^2. Including carbon poles, storage bags, special sun awning fabric, colour to be selected. All poles will be delivered with a block and tackle to tension the fabric.

Bridge deck aft sun awning system 31m^2. Including carbon poles, storage bags, special sun awning fabric, colour to be selected. All poles will be delivered with a block and tackle to tension the fabric.

6.11 Tenders and toys

The tenders and water scooters, including their deck cradles and lifting bridles, are part of the principal's delivery.

6.12 Spares

Spares, tools, fuel and other liquids, storage boxes and such are principal's delivery.

6.13 Diving compressor

As an option, a Bauer Junior diving compressor can be installed in the lazarette.

6.14 Spa/Whirlpool

As an option, a Jacuzzi can be integrated with the sun deck furniture.

7 Interior

The included interior budget is based on an interior as described below. Reference is made to MY Brigadoon, YN197, for finishing and level of complexity.

An interior designer can be selected by the principal to create a personal design. Final execution has to be in compliance with class regulation. The selected interior designer is part of the provisional sum Interior Designer.

7.1 General

The interior will be installed 'floating' so that the transmission of vibrations is avoided as much as possible and the noise levels kept low. Rubber shock absorbers will be used where necessary to separate the ship's construction from the woodwork.

The ceilings will have a minimum headroom of:

- Lower decks: ≥ 2.10 m / 6'.8" feet
- Main deck: ≥ 2.15 m / 7'.0" feet
- Bridge deck: ≥ 2.15 m / 7'.0" feet

Note: Measure from top of floor board to underside of ceiling panel. Calculated considering a standard thickness of 1 cm for floor board and 1 cm for ceiling panels. The headroom might change according to the thickness of the material selected.

Stowage space will be made under the beds where possible.

7.2 Interior construction

7.2.1 Floors

The floors in the accommodation will partly consist of vibration and sound absorbing sandwich plates laid floating on shock-absorbing strips.

All floor finishing in the master and guest accommodation areas form part of a provisional. Carpet and parquet, normally applied in all areas with acceptance of bathrooms and galley, are part of the provisional upholstery. All marble floors, normally applied in the bathrooms, are part of the provisional sum marble.

7.2.2 Walls

Walls will be made of plywood plates with a Teak or Oak veneer finish matching the design. Sound insulation will be applied between the walls as per recommendations of the consultant. Plywood and MDF walls in bathrooms, galley, laundry and crew area will have a hard plastic

covering layer known as HPL/Formica, or will be painted.

7.2.3 Furniture

The visible part of all furniture will be made of a combination of solid and veneered plywood plates combined with fine structural details. The built-in woodwork and furniture as specified in the master and guest areas will be of:

- Teak: with a matte finish.
- Oak: varies from yellow/creamy colour tone.

All materials chosen by the interior designer/decorator will meet classification/flag state requirements. The principal and/or his representative shall approve the wood panels on colour, stain finish and the sheen level selected reference wood panels in size A4 shall be signed off both by the principal and the yard.

The interior of cupboards, drawers and non-visible parts will be made of plywood and varnished.

Builder's standard to dish pegging, racks in cabinets/lockers and sea fastening for principal supplies will be provided and installed for the following items:

- Glasses, hardwood or plexiglas pegs three table service for 12 people (36pcs)
- Porcelain/dishes, hardwood or plexiglas pegs three coarse table service for 12 people (36pcs)
- Cutlery/silverware: two drawer partitions in the galley or pantry
- Glasses for 12 people (24pcs) and six various liquor bottles with Plexiglas supports
- Pantry/Galley, utensils/equipment and consumables.
- Lamps (10 pcs)
- Artwork (10 pcs)

One clothing wardrobe arrangement (with hanging bar and shoe shelves) will be made in each of the staterooms. Additional cabinet lay-outs and appliances will be executed as part of the provisional sum for upholstery.

Loose furniture, as per General Arrangement Rev 0, will be sea-fastened in cooperation with the principal.

Two A4-sized safes will be supplied. One to be installed in the master stateroom and one to be installed in the captain's cabin.

Each bathroom will be equipped with one good-sized heated mirror. Additional decorative mirrors will be part of the provisional sum of sanitary items.

After installation and assembly of prefabricated parts on-board, finished items will be carefully sealed and protected against colouring and damages.

7.2.4 Ceilings

The ceilings in the accommodation, excluding the bathrooms and galley, will be made of lightweight marine triplex and removable mounted on a wooden framework. This framework will be mounted with rubber vibration absorbers. The panels will be fabric covered. The ceilings in the bathrooms and galley will be made of 9 mm damp- resistant multiplex or MDF and sprayed in a matching colour.

Finishing of the ceiling panels, soft-furnishing or paintwork are part of the provisional sum for upholstery.

7.2.5 Doors

Interior entrance doors will be made of 8 mm veneered plywood plates on a framework of Abaci with a 5 mm-thick solid frame on the vertical sides and have 'invisible hinges'. The doors will be finished according to the interior design.

Glass shower doors with hardware are part of the provisional sum for sanitary items.

7.2.6 Stairs

The stairs will be made of multiplex with veneer. The steps will be illuminated. Lights are covered by the provisional sum for lighting fixtures. All staircases will have round high polished stainless steel handrails on one side.

7.2.7 Crew accommodation

The interior styling of crew area will be Moonen standard, marine plywood walls with a hard plastic covering layer known as HPL/Formica. Doors, furniture and other details are of solid oak wood and the sofa is covered with leather pillows.

7.3 Carpentry coating

7.3.1 Interior woodwork

The wooden open grain parts in the interior will be sprayed with a varnish system from Akzo/Sikkens the finish will be matte finish. The inside of the cupboards and doors will have a similar system applied.

Interior parts such as bathroom ceilings that are exposed to more moisture will be according

the designers colour choice. The finish will be satin gloss.

The level of finish will be as follows:

- Master's stateroom/lounges, main deck/dining area 30% sheen
- Guest suite/lounges, main deck/dining area 30% sheen
- Crew areas 30% sheen

7.3.2 Outside woodwork

Outside teak wooden tables will be varnished.

7.4 Fittings and door handles

The yard will select standard nickel/chrome door handles and faceplates. Cabinet hinges and locks are yard standard quality. Cupboard doors and drawers will have a standard brass/chrome push button lock.

7.5 Upholstery

All upholstery will be selected in consultation with the principal and the interior designer. Selected upholstery including application and installation will be part of the provisional sum;

Items that are part of this summary either not exclusively are;

- Floor covering, including parquet
- Window dressing, curtains, Venetian/Roman blinds (including costs for electric control)
- Mattresses, bed bottoms and bedspreads
- Upholstery of built-in furniture
- Ceilings and walls covering either soft-furnishing or paint finish
- Loose furniture, including interior & exterior units
- Pilot helm chairs in wheelhouse
- Exterior cushions and covers for benches and sunbeds

All the above will be outlined based on the general arrangement.

7.6 Marble, granite, corian, tiles and interior stainless steel

All marble, granite, corian worktops, floors, all tiled surfaces and interior stainless steel will be selected in consultation with the principal and the interior designer. Selected material including preparations and installation will be part of the provisional sum.

7.7 Sanitary equipment

All sanitary equipment/accessories including installation of these units, except for the toilets, will be selected in consultation with the principal and the interior designer. Selected equipment/accessories including installation will be part of the provisional sum.

Ten electric toilets, with their own macerator pumps will be installed.

7.8 Household equipment

All domestic household appliances sanitary equipment/accessories will be selected in consultation with the principal. Selected items will be part of the provisional sum of household equipment.

The following areas are considered to have household equipment:

- LD Crew Mess
- LD Laundry
- MD Galley/pantry
- SD Bar

Generally all household equipment will be selected from the domestic range and preferable make Miele.

7.9 Inventory

The principal will arrange and supply all equipment with regards to the inventory c.i.f. (cost, insurance and freight) in time to the shipyard. A preliminary example of these items either not exclusive could be:

- Consumables and stores
- Decorations, works of art, bed linen, etc.
- Cutlery, pottery, silverware, etc.
- Dining and galley inventory
- Nautical charts and books, as all books, documents and procedures for the ships management
- Tender and MOB
- Crew inventory

Selected items will be part of the provisional sum principal supply.

8 Paint

8.1 General

The exterior paint system will be based on the instructions of the supplier, and applied according the latest recommended specifications from Akzo/Awl grip.

- Exterior colour : To be selected within the white colour range of Awl grip.
- Waterline striping : To be selected
- Antifouling : Two layers

Dark areas of the superstructure will be wrapped.

8.2 Interior coating

8.2.1 Inside hull

The inside of the hull will be cleaned and prepared for application of Epoxy primer (from International Marine Coatings) according to recommended specifications. The engine room, lazaret and anchor peak will be finished with a polyurethane high gloss finish. The accommodation areas below the floor will be finished with a water-based topcoat.

8.2.2 Tanks

The integrated double bottom tanks which contain fresh, grey and black water will be sandblasted and treated with Interline 704 (from International Marine Coatings) according to the recommended paint specification.

8.2.3 Inside superstructure

The inside of the superstructure will be cleaned and prepared for application of a water-based primer according to recommended manufacturer specifications.

8.3 Exterior coating

The visual appearance of the finishing topcoat will match with the ICOMIA Technical Standard for Superyacht Gloss Coatings, first edition, dated 9 November 2010. Measurements will be done in accordance with ISO 11347 as defined.

Reference panels with a size of 1m^2 will be prepared both for High Visibility Areas and Low Visibility Areas. If multiple colours are selected additional reference panels are prepared.

During the application period an independent paint surveyor will be involved to inspect and monitor the quality.

Colouring of dark areas of the superstructure will be done by means of wrapping. The used material will be suitable for a marine environment.

8.3.1 Pre-treatment

Steel hull

The hull plating will be supplied with a shop primer. The steel will be blasted to grade SA2.5. Directly after the blasting an epoxy primer will be applied in accordance with the instructions of International Marine Coatings.

Aluminium superstructure

The aluminium superstructure will be grinded, sharp edges will be rounded. Epoxy primer will be applied in accordance with the instructions of International Marine Coatings.

8.3.2 Fairing and finish

Hull below waterline

Application of complete two component paint system from Akzo/Awl grip for underwater purposes excluding fairing however 15cm below CWL will be faired similar to the upper part.

Antifouling, 2 layers will be applied in a colour to be decided.

Hull above waterline

Application of complete two component paint system from Akzo/Awl grip including light weight fairing. Finish with one layer of high gloss polyurethane topcoat. Including one colour striping at waterline.

Superstructure

Application of complete two component paint system from Akzo/Awl grip including light weight fairing. Finish with one layer of high gloss polyurethane topcoat. Including any dark colour striping or surfaces.

Decks

Application of complete two component paint system from Akzo/Awl grip including fairing for decks were teak decks will be applied. For safety reasons painted areas on top of the superstructure that are considered used for cleaning and walking for crew will have a non-skid finish. Areas will be defined with principal before spray session of topcoat.

Ceilings

Application of complete two component paint system from Akzo/Awl grip including light weight fairing. Finish with mat gloss paint application.

Lockers and technical areas

All exterior and interior areas considered stowage, locker or large technical spaces will be treated with epoxy primer and polyurethane finish according to International Marine Coatings specifications.