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**SANLORENZO**



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PLACE AND DATE La Spezia 2018, July the 12 <sup>th</sup>	DESCRIPTION <b>44 ALLOY</b> Appendix on SALES SPECIFICATION		BUILDING N°
PAGES 107			BUILDING TYPE 44 ALLOY
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# 1. GENERAL

## 1.1 General description

The Yacht will be a high class luxury Motor Yacht, fast displacement type, with aluminium alloy hull and superstructure, fully welded.

Propulsion will be from twin diesel engines, coupled through gearboxes to fixed pitch propellers (in-line configuration).

The Yacht will be capable to cruise, according to the Instruction to the Master, anyway with the limitations imposed by the best practice of commander (speed and heading have to be related to the sea state)

The Yacht's characteristics will provide generous and luxurious accommodation spaces with good recreational deck areas.

The crew's accommodation and working areas will give the crew good comfort and will enable them to operate the Yacht effectively without unnecessarily disturbing Owner and Guests.

The Yacht will be a four deck layout. General distribution will be as follows:

- **Lower Deck** (Beach Club, tender and toys garage, engine room, Guest's cabins, crew quarters, fridge area, fore peak, chain locker)
- **Main Deck** (aft cockpit, main salon, lobby and pantry, laundry, day toilet, galley, Owner's suite, forward garage, mooring area)
- **Upper Deck** (aft cockpit, upper salon, lobby and pantry, day toilet, wheelhouse, Owner's recreational area)
- **Sun Deck** (sun bathing and lounging area)

The net deck internal heights, measured from the top of the finished floor to the underside of the finished ceiling, will be as per "Internal net heights plan" included in the Book of Standard Drawings.

## 1.2 Main dimensions and technical data

The Yacht will have the following main characteristics (displacement can vary according to the interior outfitting choices and/or layout modifications):

### Main dimensions

- |                           |         |            |
|---------------------------|---------|------------|
| • Length, overall         | 44,50 m | (145' 12") |
| • Length, waterline       | 41,50 m | (136' 2")  |
| • Breadth, overall        | 9,00 m  | (30' 6")   |
| • Breadth, moulded        | 8,60 m  | (28' 10")  |
| • Depth, amidships        | 4,30 m  | (12' 10")  |
| • Displacement, light     | ~ 288 t |            |
| • Displacement, half load | ~ 319 t |            |

- Displacement, full load ~ 336 t
- Draft at full load (maximum) 2,40 m (7' 10")
- Gross tonnage ~ 470 GT

#### Deadweight

- Fuel oil 34,4t
- Fresh water 8,0 t
- Lube oil 1,1 t (n°1 change for all main engines and generators)
- Owner, Guests and crew 1,9 t (including personal effects)
- Provisions 0,8 t
- Owner's supplies: 6,0 t (maximum total weight allowed)

Above items represent the reference amounts for the displacement definition (see "1.6 Definition of loading conditions").

The Owner's supplies refer to the items listed at "1.4 Scope of the supply (exclusions)", and are assumed to be distributed so that there is no variation in the final Lightship VCG.

The maximum allowed VCG variation caused by Owner's weight allowance and Owners' supply will be 2% of the Lightship VCG referred to "Preliminary stability booklet".

#### Displacement Tanks capacities

- |                  |           |            |
|------------------|-----------|------------|
| • Fuel oil       | 41.000 lt | 14.200 gal |
| • Fresh water    | 8.000 lt  | 2.100 gal  |
| • Clean lube oil | 1.200 lt  | 320 gal    |
| • Dirty lube oil | 1.200 lt  | 320 gal    |
| • Black water    | 2.000 lt  | 530 gal    |
| • Sludge         | 500 lt    | 130 gal    |
| • Grey water     | 3.500 lt  | 925 gal    |
| • Bilge          | 2.500 lt  | 650 gal    |
| • Pool tanks     | 4.600 lt  | 1.200 gal  |

#### Propulsion

- Main engines 2 × MTU 16 V 2000 M96L
- Reverse/reduction gearboxes 2 × ZF 5350 (i =4,464 :1)
- Propellers 2 × 6 blades, fixed pitch

Main engines will be set to develop, according to the operating conditions described here below, the following power:

- Rated power ICFN 2 × 1.939 kW (2600 BHP) @ 2.450 rpm

Engine power and revolutions can be cyclically developed according to the following load profile:

- Engine load factor (average): ≤ 60% of rated power

- Typical annual usage: 1.500 hours

Available power is based on the following ambient and operating conditions, for which no derating is to be considered:

- Ambient air temperature: 45 °C
- Combustion air temperature on filters: 50 °C
- Raw water temperature: 32 °C
- Barometric pressure: 99 kPa

### Performance

In the following conditions:

- Half load displacement
- Even keel, or with a maximum draught difference of 150 mm, and with no list
- Clean hull
- Deep water, not less than 1,5 times the Yacht waterline length
- Current free environment
- Not more than Sea State 2 on the Beaufort scale

the Yacht will be capable of the following performance:

- Top speed knots 22,0
- Comfort speed (approx.) knots 13,0
- Economic speed knots 11,0 (range at 11,0 kn: nm 2.000)

The range calculation will be based on the above mentioned conditions considering the whole fuel capacity reduced by 18% (82% of fuel capacity): fuel consumption corresponding to 70% load of one generator, as given by generator manufacturer, will be considered too. Engines fuel consumption will be measured by means of certified fuel meters or calibrated buckets.

### Main equipment

- Main diesel generators 2 x 118 kW max continuous power, 50 Hz
- Water-maker 2 x 4.300 lt daily production at 25 °C
- Air conditioning unit 480.000 BTU/h (nominal capacity, chilled water system)

### Accommodations

- Owner and Guests 11 persons
- Crew 9 persons

## **1.3 Intent of the specification - Discrepancies**

The intent of the present specification and General Arrangement Plans here attached is to describe the details of the construction of a high class luxury Motor Yacht built by SANLORENZO shipyard.

In the event of a conflict or discrepancy, the requirements of the Classification Society Rules, where more onerous, will supersede the present Sales Specification and the annexed plans.

In the event of a conflict or discrepancy, precedence will be as follows:

- Building Contract over the Sales Specification
- Sales Specification over the drawings
- Sales Specification over Décor Specification

The respect of Classification Society Rules and Regulations could introduce project changes or upgrades that will prevail over the present Specification and related General Arrangement Plans.

#### **1.4 Scope of the supply**

The supply will include the Yacht complete in each part, including main and auxiliary equipment, fixed and movable accessories, all necessary items for the normal operation of the Yacht.

Where the word "or" is used in the specification to indicate that the use of alternative items may be permitted, it shall be understood to mean "at the Builder option" but maintaining similar or better quality.

#### Exclusions

Excluded from the supply will be all items eventually specified hereafter as being supplied by the Owner (Owner's supply); excluded will also be fuel and lube oils, except quantities needed for tests and trials.

The following items will be excluded too:

- Sundries as ashtrays, vases, lamps other than fixed reading lights, etc.
- Sculptures, paintings, pieces of pottery, books, silver ware, precious articles in general
- Tableware including chinaware, silverware and glassware, bar tools etc.
- Linen, blankets, table linens, towels, rugs etc.
- Plates, glasses, pots and kitchenware
- Any kind of tools, except special tools supplied as standard with the engines and other equipment and excluding those listed in paragraph "1.17 Spare parts and tools".
- Binoculars, flags, charts, electronic charts and loose gauges
- Gymnasium equipment
- Water sports equipment such as tenders, wave riders, jet ski, windsurf boards, scuba diving and fishing equipment, etc.
- Computer, peripherals, loose hardware in general
- Uniforms and beach equipment
- Stationary and guest guide books
- Medicines and medical equipment except that required by the Flag Authority

Excluded will also be what not expressly mentioned in the present Technical Specification.

The Builder will receive all articles eventually supplied by the Owner at Owner's expenses (including custom duties) and responsibility, according to the building schedule, and will store them in a suitable place. The articles will be handled and fastened on board by the Builder at his expenses, provided these can be installed without significant additional costs (cost limit up to 1.000€): in all other cases the Builder will install Owner's supplied articles at Owner's cost. In case of restitution relevant expenses will be at Owner's cost. The articles will be insured by the Builder or by the Owner as foreseen by the Contract. The articles have to be sent according to the deadline indicated in the Buyer's Decision Timetable unless different indications given by the Builder in order to anticipate the delivery of the articles needed to complete the construction of the yacht.

## 1.5 Classification and certification

This specification has been detailed with the understanding that the Yacht will be registered as a private Yacht. Flag state has to be defined at the time of the signing of the Building Contract: the involvement of the Flag Authority could determine changes in the safety equipment and outfitting as described in the present document, as well as implementation of specific test and documents, causing possible alteration of the contractual price and delivery time of the Yacht.

The Yacht, including its machinery, equipment and outfitting, will be constructed in accordance to the Rules and Regulations of **American Bureau of Shipping (ABS)** in order to obtain the following Class Notation:

### **✱ A1 Yachting Service AMS**

The following rules and regulations will be complied with, as far as applicable:

- ABS Guide for Building and Classing Yachts, as far as applicable to a private yacht
- International Convention for the Safety of Life at Sea (SOLAS) 1974, including the 1997 Amendments, as far as applicable and interpreted by the Classification Society
- International Convention for Preventing Collision at Sea 1972 (COLREG) and following amendments
  - International Convention for Prevention of Pollution from Ships (MARPOL) 1973/1978, including following amendments, as far as applicable
- International Telecommunication Convention (IMO, INMARSAT, GMDSS)
- International Electrical Commission (IEC), as far as applicable

All applicable Rules, Regulations and Codes will be those current at the time of the “keel laying date”.

All necessary certificates and documents for the proper and unencumbered operation of the Yacht will be supplied to the Owner at the time of delivery of the Yacht and will include (wherever required by Classification Society):

- Classification Certificate issued by the Classification Society
- Builder's Certificate and Commercial Invoice issued by the Shipyard
- International Tonnage Certificate according to the International Tonnage regulations (London 1969)
- Certificates as per application of MARPOL rules and regulations (IOPP, ISPP, SOPEP), where practicable and applicable
- Navigation lights Certificate
- Magnetic compass deviation card
- All the certificates issued by the Classification Society for machinery/equipment and materials fitted on board
- Certificates of life saving equipment
- Certificates of anchor and chains
- Certificates of nautical instruments
- Certificate of fire fighting equipment
- Test certificates of machinery and electrical equipment as supplied by the manufacturer
- Radio documentation to achieve the radio license for main station equipment and for portable “on board” radio equipment with exception of LRIT test (the cost for the radio company fees will be at Owner's expense).

In case some of the above listed certificates will not be available at the delivery date, provisional certificates necessary for the registration of the Yacht will be provided; full term certificate will be provided at the earliest convenience after the Yacht delivery. All certificates will be free of any subject or conditions at the time of delivery of the Yacht except as may be expressly agreed with the Owner. The yacht will be built with the due structural predispositions to become, if requested, MCA compliant.

## 1.6 Definition of loading conditions

The final displacement can be affected by the layout and configuration of the Yacht, and consequently the Centre of Gravity position.

### 1.6.1 Light displacement

It corresponds to the vessel completely fitted out with liquid circulating in engines, gearboxes and hydraulic systems. It does not include movable loads, liquids other than circulating, persons or provisions.

Light ship displacement does not include movable loads, liquids other than circulating, persons or provisions as well as Owner's supplies, which are included in the deadweight.

### 1.6.2 Full load displacement

It corresponds to light displacement increased by movable loads as follows:

• Fuel oil	34,4 t	(100%)
• Fresh water	8,0 t	(100%)
• Clean lube oil:	1,1 t	(100%)
• Dirty lube oil:	0 t	(0%)
• Black water:	0 t	(0%)
• Sludge:	0 t	(0%)
• Grey water:	0 t	(0%)
• Bilge oil:	0 t	(0%)
• Pool tanks	0 t	(0%)
• Persons on board:	1,9 t	(including personal effects)
• Provisions:	0,8 t	(100%)

### 1.6.3 Half load displacement

It corresponds to light displacement increased by movable loads as follows:

• Fuel oil	17,22 t	(50%)
• Fresh water:	4,0 t	(50%)
• Clean lube oil:	0,55 t	(50%)
• Dirty lube oil:	0,55 t	(50%)
• Black water:	1,3 t	(50%)
• Sludge:	0,25 t	(50%)
• Grey water:	2,5 t	(50%)
• Bilge oil:	1,25 t	(50%)
• Pool tanks	0 t	(0%)

- Persons on board: 1,9 t (including personal effects)
- Provisions: 0,4 t (50%)

#### 1.6.4 10% load displacement

It corresponds to lightship displacement increased by movable loads as follows:

- Fuel oil 3,44 t (10%)
- Fresh water 0,8 t (10%)
- Clean lube oil: 0 t (0%)
- Dirty lube oil: 1,1 t (100%)
- Black water: 2,6 t (100%)
- Sludge: 0,5 t (100%)
- Grey water: 5,0 t (100%)
- Bilge oil: 2,5 t (100%)
- Pool tanks 0 t (0%)
- Persons on board: 1,9 t (including personal effects)
- Provisions: 0 t (0%)

### 1.7 Trim and stability

Tanks will be located with due consideration to facilitate trim and stability adjustment in service at partly loaded conditions.

The basic design shall preclude the necessity for solid ballast with regard to trim or stability, and such will be included only to correct static trim or unforeseen weight growth resulting from agreed modifications during design development or during construction. Solid ballast, if required, will preferably not exceed 3% of ship light displacement: its type, material, extent, stowage and securing arrangements will be agreed with the Classification Society.

### 1.13 Noise and vibration tests

#### 1.13.1 Noise

During sea trials and at anchor noise levels will be measured with ship 100% completed, carpet and curtains fitted: in case the internal décor should not include carpet nor curtains. the following noise levels shall be increased by 3 dB(A) minimum.

The “at anchor” or dock conditions of measurement of noise levels are:

- Main engines stopped
- Machinery with intermittent operation off (i.e. galley, mincing machines, ice maker during ice discharge, etc.)
- Bow thruster not operating
- Stabilizers operating



- One generator running
- Air conditioning system operating at minimum speed
- Entertainment and communication equipment shut down (i.e. radios, TV, etc.)
- All internal and external doors, windows, portholes and curtains closed
- Sea and wind conditions not exceeding State 2 on the Beaufort scale, no raining

In these conditions, the maximum noise levels are:

- |                              |    |       |
|------------------------------|----|-------|
| • Owner's cabin              | 46 | dB(A) |
| • Aft Guest's cabins         | 48 | dB(A) |
| • Fore Guest's cabins        | 46 | dB(A) |
| • Main salon and dining room | 48 | dB(A) |
| • Upper Deck and wheelhouse  | 46 | dB(A) |

The underway conditions of measurement of noise levels are:

- Cruising speed of 18 knots
- Half load displacement (with the reduction of 11.000 lt)
- Straight course
- Machinery with intermittent operation off (i.e. galley, mincing machines, ice maker during ice discharge, etc.)
- Bow thruster not operating
- Stabilizers operating
- One generator running
- Air conditioning system operating at minimum speed
- Entertainment and communication equipment shut down (i.e. radios, TV, etc.)
- All internal and external doors, windows, portholes and curtains closed
- Sea and wind conditions not exceeding State 2 on the Beaufort scale, no raining

In these conditions, the maximum noise levels are:

- |                       |    |       |
|-----------------------|----|-------|
| • Owner's cabin       | 58 | dB(A) |
| • Aft Guest's cabins  | 66 | dB(A) |
| • Fore Guest's cabins | 62 | dB(A) |

- Main salon and dining room 66 dB(A)
- Upper Deck salon and wheelhouse 58 dB(A)

Shown values for cabins do not apply to relevant bathrooms, therefore have to be intended with bathroom doors closed.

Measurements will be performed adopting calibrate instrumentation (relevant certificates will be supplied): such measurements will be performed in the centre of the relevant area, with the microphone directed vertically upwards at a height of 1,5 m from deck. In case of wide areas (for example the main salon) more than one measuring point can be used (aft, centre, fore, as an example, along its centreline): the final value will be the average among all.

Adequate sound insulation meeting fire rating as necessary will be provided around machinery spaces to prevent passage of excessive air born noise into accommodation areas.

Noise generation will be minimized as much as practicable at the sources by paying special attention to machinery mountings and fixing arrangements. The transmission of structure born noise will be attenuated by maximum use of insulated attachments, pipe hangers, Straub pipe connection etc. where pipes and equipment are attached to the hull structure, or to machineries or pass through bulkheads and deck heads surrounding machinery spaces as the case.

All rotating and reciprocating equipment that could transmit vibrations to the hull structure will be mounted on proper foundations with flexible mounts and dampers.

Special attention will be given to the position and selection of ventilating silent type fans and machinery to prevent excessive noise levels into the accommodation spaces, open deck recreation areas and navigating positions.

Particular attention shall be given to the mounting of the exhaust uptakes, which will be accordingly resiliently mounted and connected to the hull also by means of resilient connection.

Attention will be specially given to the insulation between galley and adjacent spaces, as well as to the external walkways (corridors and exposed decks) which could generate noise from footsteps to the underlying accommodation spaces.