



The Equal Chance to Win

2024

OFFSHORE RACING CONGRESS



ORC Superyacht Rule

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Margin bars denote changes from 2023 version.

Part 1 - GENERAL

100 Rule Philosophy

- 100.1 The ORC Superyacht Rule (ORCSy) uses the IMS (International Measurement System) and ORC VPP (Offshore Racing Congress Velocity Prediction Program) modified to cover the features and special characteristics of superyachts in calculating a yacht's predicted speed in different wind and sea conditions. With this information ratings are calculated and used for corrected time calculations in the scoring of races of yachts of different sizes and characteristics.

Alongside its scientific background, the main principle of the rule is transparency. Copies of certificates are available at the ORCSy website (www.orc.org) and each owner or representative has the ability to check the effect on their rating when changing any measurement value by use of the ORCSy 'Sailor Services'.

- 100.2 Requests for interpretations and clarifications as well as Sailor Service access codes may be requested by email only to: sy@orc.org.

101 Superyacht Definition

A superyacht is defined as a yacht with an overall length (LOA) greater than 30.48 m (100 ft). However, smaller yachts can also be measured and rated under this rule when a regatta organizer's eligibility criteria enables smaller yachts to compete in its superyacht fleet.

102 Rule Authority

The sole authority for the ORCSy is the Offshore Racing Congress and it shall be maintained and administered at the ORC's discretion.

103 Rule Administration

- 103.1 The official language of the ORCSy is English and in case of dispute over translation the English text shall prevail.
- 103.2 The word "shall" is mandatory and the words "may" and "can" are permissive.
- 103.4 Except where used in headings, when a term is printed in "**bold**" (but not in italics) the definition in the Equipment Rules of Sailing (ERS) applies and when a term is printed in "*italics*" (but not in bold) the definition in the Racing Rules of Sailing (RRS) applies.
- 103.3 When a term is printed in "***bold italics***" it refers to measurement taken or recorded by a measurer.

104 Rule Interpretation

The ORCSy Technical Committee may at any time issue interpretations or corrections of the ORCSy. Any such interpretation or correction shall be published and will apply until and unless overruled by the ORC Management Committee and by the ORC Congress.

Part 2 - MEASUREMENT

200 General

200.1 Yachts shall be measured in accordance with the IMS except when modified by these rules. The following measurements with appropriate IMS rules are used for the ORCs:

Hull and appendages in the symmetry plane

| | | |
|------------|----------------------------|------|
| | OFF file | B3 |
| FFM | Freeboard Forward Measured | B5.3 |
| FAM | Freeboard Aft Measured | B5.4 |
| SG | Water Specific Gravity | B5.5 |

Propeller

| | | |
|--|------------------------|----|
| | Propeller Type | D2 |
| | Propeller Installation | D3 |
| | Propeller Measurements | D4 |
| | Installation DWG | |

Appendages not included in the OFF File

| | | |
|--|----------------------|----|
| | Appendage definition | C1 |
|--|----------------------|----|

Stability

| | | |
|--------------|------------------------|------|
| PLM | Length of Manometer | E2.3 |
| GSA | Gauge Surface Area | E2.4 |
| RSA | Reservoir Surface Area | E2.5 |
| WD | Weight Distance | E2.7 |
| W1-4 | Inclining Weights | E2.8 |
| PD1-4 | Pendulum Deflections | E2.9 |
| LIST | Average List Angle | E4.2 |
| CANT | Average Canting Angle | E6.3 |

Rig

| | | |
|-------------|----------------------------|------|
| P | Mainsail Hoist | F2.1 |
| IG | Forestay Height | F3.1 |
| ISP | Height of Spinnaker Hoist | F3.2 |
| BAS | Boom Above Sheerline | F3.4 |
| E | Mainsail Foot | F5.1 |
| J | Foretriangle Base | F6.1 |
| SPL | Spinnaker Pole Length | F7.1 |
| TPS | Tacking Point of Spinnaker | F7.2 |
| WPL | Whisker Pole Length | F7.4 |
| MDT1 | Max. Transverse Mast | F4.1 |
| MDL1 | Max. Fore-and-Aft Mast | F4.2 |
| MDT2 | Min. Transverse Mast | F4.3 |
| MDL2 | Min. Fore-and-Aft Mast | F4.4 |
| TL | Taper Length | F4.5 |
| MW | Mast Width | F4.6 |
| GO | Forestay Outtrigger | F4.7 |
| CPW | Chainplate width | F6.3 |

Mizzen Rig

| | | |
|--------------|---------------------------------|-------|
| PY | Mainsail Hoist Mizzen | F10.1 |
| BASY | Boom Above Sheerline Mizzen | F10.1 |
| EY | Mainsail Foot Mizzen | F10.1 |
| BDY | Boom Diameter Mizzen | F10.1 |
| IY | Height of Mizzen Staysail Hoist | F10.2 |
| EB | Distance Between Masts | F10.3 |
| MDT1Y | Max. Transverse Mast Mizzen | F10.1 |
| MDL1Y | Max. Fore-and-Aft Mast Mizzen | F10.1 |
| MDT2Y | Min. Transverse Mast Mizzen | F10.1 |
| MDL2Y | Min. Fore-and-Aft Mast Mizzen | F10.1 |
| TLY | Taper Length Mizzen | F10.1 |

Sails

| | | |
|-------------|----------------------------|------|
| MHB | Mainsail Top Width | G2.1 |
| MUW | Mainsail Upper Width | G2.1 |
| MTW | Mainsail 3/4 Width | G2.1 |
| MHW | Mainsail 1/2 Width | G2.1 |
| MQW | Mainsail 1/4 Width | G2.1 |
| MHBY | Mizzen Top Width | G3 |
| MUWY | Mizzen Upper Width | G3 |
| MTWY | Mizzen 3/4 Width | G3 |
| MHWY | Mizzen 1/2 Width | G3 |
| MQWY | Mizzen 1/4 Width | G3 |
| HHB | Headsail Top Width | G4.1 |
| HUW | Headsail Upper Width | G4.1 |
| HTW | Headsail 3/4 Width | G4.1 |
| HHW | Headsail 1/2 Width | G4.1 |
| HQW | Headsail 1/4 Width | G4.1 |
| HLU | Headsail Luff | G4.1 |
| HLP | Headsail Perpendicular | G4.1 |
| SHW | Symm. Spinnaker Mid Width | G6.4 |
| SFL | Symm. Spinnaker Foot | G6.4 |
| SLU | Symm. Spinnaker Luff | G6.4 |
| SLE | Symm. Spinnaker Leech | G6.4 |
| SHW | Asymm. Spinnaker Mid Width | G6.5 |
| SFL | Asymm. Spinnaker Foot | G6.5 |
| SLU | Asymm. Spinnaker Luff | G6.5 |
| SLE | Asymm. Spinnaker Leech | G6.5 |

- 200.2 Measurements shall be taken by actual measurement whenever possible. However, it may also be taken from:
- a) A 3D hull file provided by the designer
 - b) A stability booklet
 - c) A sailmaker's sail measurement declaration
 - d) Sail and deck plans provided by the designer
 - e) Any other information including photos, drawings, designs and technical data verified by the ORC Rating Office

201 Hull Measurement

- 201.1 A yacht shall be measured in a measurement trim as defined in IMS Rule B4. Items listed in B4.2 when impracticable to be removed from the boat may remain aboard with their weight and longitudinal and vertical position recorded. IMS Rule B4.4(a) is amended by adding:
- (iii) Movable non-dischargeable ballast: maximum water ballast volume in litres that can not be discharged while racing with its longitudinal distance from the foremost point of LOA, vertical distance from the waterline and transversal distance from the boat's centreline.
- The measurement inventory (as shown on the Page 3 of the ORCs certificate – column "Measurement") shall include the weight and the longitudinal and vertical position of each item heavier than 20 kg. Freeboard measurements shall be taken only if the measured hull offset file is available.
- 201.2 If the centreboard is raised when sailing downwind this shall be recorded as "YES" and if not as "NO".
- 201.3 For each non manual powered winch the maximum power in kW and maximum speed in metres/minute shall be recorded.
- 201.4 Frontal and lateral superstructures shall be recorded as the projected area taken above the highest points on each station in the hull offset file.
- 201.5 The frontal area of each dome larger than 0.10 m² shall be recorded.
- 201.6 The diameter of a permanently open bow thruster tunnel shall be recorded.
- 201.7 If a yacht is MCA (Maritime Coastguard Agency) certified this shall be recorded as "YES" and if not as "NO".
- 201.8 If a full height skeg is present in front of the rudder this shall be recorded as "YES" and if not as "NO".

202 Stability Measurement

A yacht's stability shall be derived as follows:

- a) From the inclining test, performed using the boom as an extension arm as defined in IMS Rule E2.2, with a minimum of 1 degree heel each side. This method shall be used only if a measured offset file is available and freeboards are measured at the same time of inclining.
- b) From the data available in the stability booklet.

203 Rig Measurement

- 203.1 Rig measurements shall be taken in accordance with IMS Part F with additional measurements taken as follows:
- 203.2 If there is a mainsail furler in the boom this shall be recorded as "YES" and if not as "NO".
- 203.3 If a yacht has only two furling headsails in the inventory: one overlapping (*HLP* > 110% of *J*) on a forestay and one non-overlapping on an inner stay, additional measurements of the inner stay shall be taken as *II* and *JI*.

204 Sail Measurement

- 204.1 Sail measurements shall be taken in accordance with IMS Part G with additional measurements and requirements as follows:

- 204.2 Complete sails inventory with all sail measurements shall be recorded in the certificate.
- 204.3 If a headsail is set on the furler this shall be recorded as “YES” and if not as “NO”.
- 204.4 If a headsail luff perpendicular (**HLP**) is furled more than 50% while tacking this shall be recorded as “YES” and if not as “NO”.
- 204.5 The number of headsails furled around a fixed stay (not deployed) while *racing* shall be recorded.
- 204.6 If an inner jib is unfurled or is already deployed when a larger jib is furled while tacking this shall be recorded as “YES” and if not as “NO”.
- 204.7 An unconventional sail not measured as a mainsail, mizzen, mizzen staysail, headsail or spinnaker shall have its area recorded as calculated from the sail dimensions as defined by the ERS or by drawings or pictures submitted to the ORCs Rating Office. The use of such a sail shall be recorded as: upwind, downwind or both.
- 204.8 The use of a mizzen staysail shall be declared as one of three options: with headsail, with spinnaker or with both headsail and spinnaker.
- 204.9 If a yacht has overlapping and non-overlapping headsails (with **HLP** > 110% of **J** for overlapping), the largest of each shall be measured.

205 Changes to the Racing Rules of Sailing

- 205.1 The second sentence of the RRS 51 does not apply for the water ballast and/or canting keel systems. Water ballast shall be moved only transversely.
- 205.2 RRS 52 is modified. Non-manual power may be used for:
- a) canting keel, water ballast and any **hydrofoil**.
 - b) halyards, sheets to trim clew of a sail or a boom, backstay, vang or outhaul.
 - c) remotely operated hydraulic valves, shift mechanisms, switches, and other devices with a similar purpose to facilitate the operation of otherwise manually powered systems.

Part 3 - RATING

300 Sailing Trim

- 300.1 The ORCsy VPP is used to calculate ratings from a yacht's predicted performance in various wind. VPP calculations are made with the yacht in sailing trim, that is in as close as is possible to the actual condition in which the yacht races.
- 300.2 If any of the measurements listed in 200.1 is not entered, it shall be taken as default defined in the ORCsy VPP documentation.

301 Completely Measured Yacht ("Measured" ORCsy Rating Certificate)

If the hull offset file, freeboards and stability are completely measured this is marked with an "M" on the ORCsy certificate. Displacement in the sailing trim is calculated from the hull geometry and measured freeboards with:

- a) weights that are declared not to be onboard while racing deducted (listed in the measurement inventory), and
- b) weights that are declared to be onboard while racing but were not on the boat during the measurement (listed in sailing inventory) added.

302 Partially Measured Yacht ("Declared" ORCsy Rating Certificate)

- 302.1 If any of the hull offset file, freeboards or stability are not measured this is marked with a "D" on the ORCsy certificate. In this case displacement is calculated from the light ship trim from the stability booklet with default weights added for racing gear, crew, sails and declared values for liquids, anchors and chain, which are underestimated so as to not unduly favour yachts not completely measured
- 302.2 If any of the hull offset file, freeboards or stability are not measured and a stability booklet is not available, displacement and stability data may be taken from any other source. The sailing trim and righting moment will be evaluated by the Rating Office which may apply a rating adjustment due to the uncertainty of the data. Should new data become available at a later date, a certificate may be updated.
- 302.3 A boat with a "Declared" ORCsy certificate shall receive an adjustment on her rating time allowances. The adjustment shall be 0.5% if the yacht had no previous ORCsy certificate or 1% if the yacht had an ORCsy certificate in the previous years

303 Corinthian Spirit Class

- 303.1 The "Corinthian Spirit Class" shall include yachts that enter the race in truly Corinthian spirit with the goal to keep racing enjoyable and competitive without owners having to optimize their yachts. ORCsy certificates for boats complying with "Corinthian Spirit Class" principle will be marked accordingly.
- 303.2 The event organizer can declare a minimum number of entries to feature a Corinthian Spirit class and if not met allow these yachts race in an ORCsy class.
- 303.3 If so stated by the Notice of Race and/or Sailing Instructions, a rating credit of 1% shall be applied for a yacht on which owner is on the helm for the start and at least 50% of the course.
- 303.4 If so stated by the Notice of Race and/or Sailing Instructions, the "Corinthian Spirit Class" yachts shall not use spinnakers or Headsails Set Flying while racing

304 Use of Sails

- 304.1 Sails to be used for an event shall be declared for each of:
- a) mainsail
 - b) headsails set on a stay
 - c) headsails set flying
 - d) spinnakers (symmetric and asymmetric)
 - e) mizzen
 - f) mizzen staysail

- 304.2 The number of sails aboard while racing shall not be greater than the number of respective type of sails as declared in 304.1. The yacht may elect not to carry all declared sails while racing, but the number of sails on board shall remain the same for each individual race day, including days with multiple races even in the case of damage to sails. The race day begins when the yacht leaves for the race course from its dock or mooring.

Sails damaged during the event may be repaired. Sails beyond repair may be replaced with permission of the Technical Committee

- 304.3 A yacht's ratings will be adjusted based on declared number of headsails set on forestay(s) (excluding those with area less than $0.135 * IG^2$), declared number of headsails set flying tacked in front of the forestay and declared number of spinnakers as follows:

- a) Headsails set on the forestay
 - No rating penalty for 2 headsails
 - 0.5% rating penalty for each headsail in excess of 2
 - 0.5% rating credit for yachts with furlers
- b) Headsails set flying tacked in front of the forestay
 - No rating penalty for 1 headsail set flying
 - 0.5% rating penalty for each headsail in excess of 1
- c) Spinnakers
 - No rating penalty for 2 spinnakers
 - 1.0% rating penalty for a 3rd spinnaker
 - 0.5% rating penalty for each spinnaker in excess of 3

305 Use of Headsails

- 305.1 Headsails may be set on the forestay or **set flying**.

- 305.2 Headsails **set flying** may be tacked:

- a) in front of the forestay, when
 - i) it shall be tacked approximately on the yacht's centreline, and
 - ii) it shall not be used when a spinnaker is set.
- b) between the forestay (and including it) and the forward mast, when
 - i) it shall have $HLP \leq 1.1 * J$, and
 - ii) it shall be tacked inside any spinnaker sheet, and
 - iii) it may be tacked away from the yacht's centreline.

- 305.3 When more than one headsail is used at the same time, if they are trimmed flat along the centerline of the yacht and the clew of the foremost-tacked headsail is forward of the clew of any other headsail the measurement of the largest headsail set on the forestay shall be assumed to be as follows:

- a) **HLP** shall be the distance between the aftmost clew and the foremost headstay
- b) **HLU** shall be the longest luff of all headsails in the sail inventory

The resulting area will be reduced by 10% if there are 3 or more headsails used at the same time.

306 Sailing Inventory Weights

Weights of items onboard recorded in the inventory list on the ORCsy certificate (racing gear, anchor and chain, items that cannot be removed while racing) shall not be less than the values recorded in the "Weight Sailing" column.

307 Observed Performance Factor (OPF)

- 307.1 A yacht's rating may be adjusted by an Observed Performance Factor (OPF). OPF is adjusting time allowances for yacht's performance for light and strong wind while effect on the wind ranges in between is calculated proportionally between light and strong wind. It is expressed in percentage of

modification of time allowances. OPF may be applied between regattas or between races at a regatta by the ORC Rating Office when:

- a) the data and measurement information from the handicap/rating application form is insufficient to provide a detailed assessment of the yacht's speed potential, or it is submitted late, or
- b) there is evidence from race tracking data and/or from observed performance and timings that the yacht's elapsed time (for a race or part of a race) is significantly different from that predicted based on the rating allowances published on the certificate.
- c) there is unusual class composition, where a class is comprised of yachts with significantly different sailing characteristics and/or rating values and it is assessed that the VPP will not rate the yachts fairly relative to one another. In this circumstance, the rating adjustment will be referred to as a 'Regatta Specific OPF' and will only be valid for that particular regatta.

An OPF assigned by a), b) and c) shall not be applied for yachts with $DLR \leq 100$ and $SA/DSP \geq 27.5$ where

$$DLR = \frac{DSPL^{\frac{2.205}{2240}}}{\left(\frac{3.2808 \cdot IMSL}{100}\right)^3} \qquad SA/DSP = \frac{SA_{upwind}}{\left(\frac{DSPL}{1000}\right)^{0.67}}$$

DSPL – Displacement in “light shtip” trim

IMSL – Sailing length as calculated by the VPP

SA_{upwind} – Sail area of the mainsail, mizzen, if any, and the biggest headsail set on the forestay

An OPF will not be applied in those cases where a yacht's performance is clearly affected by tactical mistakes or poor boat handling, as determined by tracking and/or observation.

- 307.2 When an OPF is applied to a yacht that has a valid certificate, that certificate shall be withdrawn and replaced with a new one that will adjust all time allowances based on the assigned OPF. If the OPF is applied during a regatta, races scored with the withdrawn certificate shall not be re-scored and the new certificate, modified with the OPF, shall apply only to races thereafter.
- 307.3 For sanctioned superyacht regattas, the ORC and SYRA will collaborate on any potential OPF to be applied. The final decision on an OPF and the percentage to be applied is at the sole discretion of the SYRA. For all other regattas, the decision on an OPF and the percentage to be applied is at sole discretion of the ORC. This shall not be grounds for request for redress and changes RRS 60.1(b)

Part 4 - CERTIFICATES

400 Certificate Request

- 400.1 A request for an ORCsy certificate shall be made by completing the on-line application form at the ORCsy website. The application and all relevant documents to process a ORCsy certificate shall be submitted no later than 6 weeks prior to the first racing day of the event, unless otherwise stated in the regatta's Notice of Race. The ORC may extend this deadline at its sole discretion.
- 400.2 The final inventory of sails, the anchors and the amount of liquids (water and fuel) onboard while racing shall be declared by email to the ORCsy Technical Committee (sy@orc.org) at the latest 2 weeks before the first racing day. If events are taking place on two or three consecutive weeks exceptions will be considered. Minimum tankage values during an event shall be declared as percentage of the total tank capacity.
- 400.3 Applications, documents, data and late configuration declarations arriving after the deadlines above will incur a 30% increase in fee.

401 Certificate Issue

- 401.1 Certificates shall be issued by the ORC Central Rating Office. A fee, detailed on the ORCsy website, shall be paid for all valid certificates issued.
- 401.2 The Rating Office has the authority to issue a certificate upon receipt of measurement data, but if anything is found that is considered unusual or against the general interest of the ORCsy the Rating Office may withhold the certificate pending an examination of the case and will only issue it after approval is obtained from the ORCsy Committee.
- 401.3 The certificate shall be valid until the date printed on the certificate, which will normally be the 31st of December of the current year.
- 401.4 A yacht shall have only one valid certificate at any one time. The valid certificate shall be the last one issued.
- 401.5 A certificate, once issued, is considered public and copies are available to all superyacht owners or their representatives registered through the ORCsy Sailor Services website.

402 Owner's Responsibility

- 402.1 A yacht's owner and any other person in charge shall be responsible for:
- a) Preparing the yacht for measurement in accordance with the ORCsy rule
 - b) Declaring any required data to the measurer and/or on the handicap application
 - c) Ensuring compliance of any measurement data to those printed on the certificate. Compliance with the certificate shall be defined as follows:
 - i) All measured, declared or recorded values shall be as close as possible to those on the certificate. Differences are allowed only if the values on the certificate give a less favourable rating.
 - ii) The owner-declared values for tankage and sails inventory declarations shall not be considered as an issue of compliance with the certificate, but they are applied as owner's responsibility to follow ORCsy rules.
 - d) Using the yacht and equipment as prescribed by the RRS and the ORCsy.
- 402.2 A certificate shall be automatically invalidated by a change of ownership. A new owner may request a new certificate with a simple declaration that no changes have been made. A new certificate may therefore be issued without the need to submit a new handicap application or conduct any new measurement. Conversely, a new owner has the right to have the boat re-measured.

- 402.3 Any change of measurement data requires the declaration of all changes and/or a new measurement after which the ORC will issue a new certificate. Examples of change include:
- a) Change of ballast amount, location or configuration.
 - b) Change of tankage, fixed or portable, in size or location.
 - c) Change in the engine and/or propeller installation.
 - d) Change to the size, cut or shape of the maximum area sails (this will be better defined)
 - e) Change to the shape of the yacht's hull and/or appendages
 - f) Change to spars or standing rigging configuration
 - g) Change to the data listed in the handicap application and certificate that affects the yacht's rating.

403 Compliance with Certificate

- 403.1 When, as a result of an inspection, a measurement check, a discovered error, or a measurement protest, it is determined that a yacht does not comply with her certificate:
- a) If the ORC determines that the non-compliance is not the fault of the owner or his representative the certificate shall be withdrawn and replaced with a new certificate that reflects any new measurement data. If the non-compliance is discovered during a regatta future races in the series shall be scored using the new certificate. Whether any or all completed races scored using the old certificate are to be re-scored is at the sole discretion of the Race Committee. This changes RRS A5.
 - b) If the ORC determines that the non-compliance is the fault of the owner or his representative the certificate matter shall be reported to the Technical Committee who shall act in accordance with the RRS. Non-compliance as defined in 402.1(c) shall be calculated as a difference in percentage of time allowance in s/NM for Moderate wind, as follows:
 - i) If the difference is less than or equal to 0.1% and the original certificate will be maintained, the protest will be dismissed and the protestor will have to cover any cost involved. RRS 64.4(a) will apply but no corrections are needed.
 - ii) If the difference is more than 0.1% but less than or equal to 0.25%, no penalty shall apply, but a new certificate shall be issued based on the new measurement data and all races of the series shall be rescored using the new certificate data. The Protest will be considered accepted and the protestee will have to cover any cost involved.
 - iii) If the difference is more than 0.25% but less than 0.40%, a boat shall receive a scoring penalty that shall be 50% of the score for Did not Finish, rounded to the nearest whole number (0.5 rounded upward) in any race in which her rating was incorrect. New certificate shall be issued based on the new measurement data and all races of the series shall be rescored using the new certificate data. The Protest will be considered accepted and the protestee will have to cover any cost involved.
 - iv) If the difference is 0.40% or more, a boat shall be disqualified (DSQ) in any race in which her rating was incorrect. The Protest will be considered accepted and the protestee will have to cover any cost involved and the yacht shall not race again until all non-compliance issues are corrected to the limit defined in a) above.

Nothing in this paragraph shall bar action under the RRS concerning a yacht deliberately altered to not comply with her certificate and shall not limit in any way action by a Race Committee and/or by a Protest Committee against any individual involved.

- 403.2 Compliance with the certificate and any rating matters may be checked by the Technical Committee or Race Committee at any time at the dock or while racing. The ORC representative in the Technical Committee or in the Race Committee shall be allowed onboard after a request has been made to the yacht. The penalty for infringement of this rule may be other than disqualification, or no penalty, at discretion of the Protest Committee.

Part 5 - SCORING

500 Five Ratings Scoring Method

500.1 The ORCs provide rating time allowances expressed in s/NM for 'light', 'light-moderate', 'moderate', 'moderate-strong' and 'strong' wind speeds. Time allowances in s/NM are used for the Time on Distance (ToD) scoring method, while for Time on Time (ToT) scoring coefficients are calculated from $ToT = 500 / ToD$ for each time allowance.

500.2 Time allowances are calculated for the All Purpose course that includes equal distribution of all wind directions (a hypothetical course type in which the boat circumnavigates a circular island with the true wind direction held constant). The Race Committee shall therefore attempt, when feasible, to establish course composition that features approximately the same amount of beating, reaching and running.

500.3 Wind ranges are as follows:

| | |
|-------------------|--|
| Light | $TWS < 8 \text{ kts}$ |
| Light - Moderate | $8 \text{ kts} \leq TWS < 11 \text{ kts}$ |
| Moderate | $11 \text{ kts} \leq TWS < 14 \text{ kts}$ |
| Moderate – Strong | $14 \text{ kts} \leq TWS < 17 \text{ kts}$ |
| Strong | $TWS \geq 17 \text{ kts}$ |

A reference height for the wind speed is 10 metres above sea level.

500.4 The Race Committee will decide the scoring method, course length (for ToD), wind range for scoring each race (using the resources at its disposal, such as forecasts, pre-race readings from on-course Race Committee boats, trends, etc) and its decisions shall not be grounds for redress by the boat. This changes RRS 60.1(b). For each class with a staggered start, wind range for scoring will be communicated to boats when the leading boat is on the last leg of the course.

501 Weather Routing Scoring Method

501.1 A single number time allowance may be calculated from the forecast and the weather routing available before the start of the race. The Race Committee shall use ORC approved Weather Routing System that will calculate Predicted Elapsed Times for a given course and the available weather forecast from which the single number ToD ratings will be calculated.

501.2 The Race Committee's decision on the use of the forecast model and the weather routing calculations shall not be ground for redress by the boat. This changes RRS 60.1(b)".

502 Corrected Times Calculations

502.1 Corrected times using the Time on Distance scoring method are calculated as follows:

$$\text{Corrected time} = \text{Elapsed time} - (ToD_{\Delta} * \text{Distance})$$

Where $ToD_{\Delta} = ToD_{\text{the boat}} - ToD_{\text{the lowest (fastest boat) in the fleet}}$

502.2 Corrected times using the Time on Time scoring method are calculated as follows:

$$\text{Corrected time} = ToT * \text{Elapsed time}$$

502.3 Corrected time shall be displayed in 'days:hours:minutes:seconds'. When calculating corrected time, a yacht's elapsed time shall be translated to seconds, the corrected time shall be rounded to the nearest second (for example: 12345.5 = 12346 seconds) which shall be then put back into 'days:hours:minutes:seconds'.

503 Starting Formats

For safety reasons, most superyacht regattas have yachts start individually with a minimum gap between starts of 30 seconds. The starting sequence shall be published before the start of each race and will depend on the ratings (based on the wind range and sea state), fleet size, course configuration and other safety and fair racing considerations. There are two common starting formats:

- a) **Staggered Start:** Slower rated yachts start before faster rated yachts, the gap between yachts typically being 1, 2, or 3 minutes. When so stated by the Notice of Race and/or Sailing Instructions a different starting order may be applied (for example: based on the results of the previous race or overall results prior to the race). The elapsed time for each yacht is calculated from the time of her starting signal to her finishing time and it is then converted into a corrected time.

If two or more yachts have the same ToD rating, starting order will be determined by the slowest average of the ToD ratings. The yacht with the highest average ToD rating will start before the other ones. If a tie still remains it will be broken by a draw. If the situation reoccurs on a subsequent day of the same event their starting order will be swapped and this will be repeated as necessary.

- b) **Pursuit Start:** The starting time for each yacht is calculated from the appropriate Time on Distance (ToD) rating and course length such that all yachts will theoretically finish at the same time. Starting times may be rounded to the nearest 5-second increment (05, 10, 15, etc) and where necessary further adjusted to maintain a safety gap between starters. In addition, and also for safety reasons, the starting sequence may be arranged to create a gap between class finish times (typically 10 minutes between class finishes).

Yachts will be scored based on the order of finish, adjusted for any penalties taken on the water.

- i) Shortened course

If a course is shortened, the elapsed time for each yacht is calculated from the time of her starting signal to her finishing time. Results are then determined by correcting the elapsed times by the Time on Distance scoring method.

- ii) Fleet scoring

When scoring fleet results for a multi-class regatta with gapped class finish times, the finishing times of each yacht are adjusted by the class finishing time gap(s).

The Race Committee's selection of starting format and times shall not be grounds for redress. This changes RRS 62.1.

503 Re-scoring

503.1 Once the results of a race have been published it may only be re-scored if a yacht's certificate is replaced in accordance with the rule 403.

503.2 Re-scoring shall be performed as follows:

- a) **Staggered Start:** The new ToD or ToT scoring coefficient shall be used to re-calculate the corrected time.
- b) **Pursuit Starts:** The finishing time for the yacht shall be adjusted using the following formula:

$$\text{New finishing time} = \text{Old finishing time} + (ToD_{old} - ToD_{new}) * \text{course length}$$

504 Polar Curve Scoring

In addition to the scoring method defined in rules 500 - 503, a Polar Curve Scoring with the constructed course may be used as defined in the ORC Rating Systems rule 402.

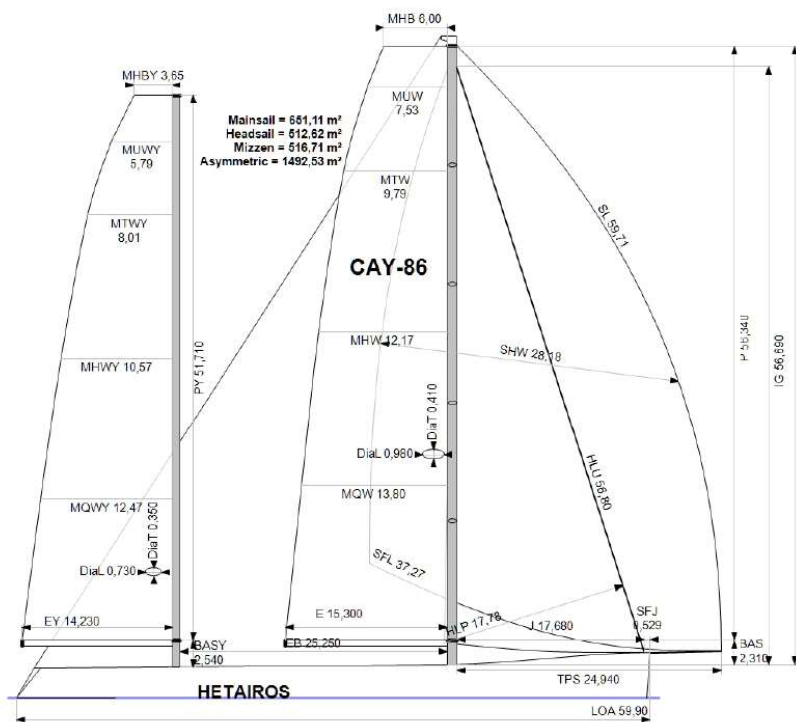
ORC SUPERYACHT CERTIFICATE SAMPLES



Super Yacht
Measured
Certificate
2024

Boat
HETAIROS
CAY-86

ORC Superyacht
Rating Office
orcsy@orc.org
www.orc.org/superyacht



BOAT

Class **Super Maxi**
Designer **Dykstra**
Builder **Baltic Yachts**
Age date **06/2011**
Series date **01/2007**
Offset file **SY085.off**
Data file **SY085**
OPF light | strong **0,0% | 0,0%**

HULL

Length Overall **59,897 m**
Maximum Beam **10,598 m**
Dynamic Allowance **2,880%**
Age Allowance **0,552%**
Displacement (kg) **267.781** Lightship **321.646** Sailing
Draft (m) **8,995** **9,148**
RM at 1° (kg·m) **23892,0** **26395,4**
VCGD (m) **0,167** **0,247**
VCGM (m) **0,048** **0,123**
DLR **56,29**
SAup / Displ **39,70**

SAIL AREAS (m²)

Measured
Mainsail **651,11**
Mizzen **516,71**
Headsail Flying
Symmetric
Asymmetric **1492,53**
Mizzen Staysail with **399,20**
spinnaker
Mizzen Staysail with **399,20**
headsail
Total upwind **1.680,44**
Total downwind **3.059,55**

SAILS IN INVENTORY

Headsails Luffed **1**
Headsails Flying **1**
Spinnakers **2**

USE OF SAILS

Furled Sails Upwind **0**
Mainsail Furler **No**
Multiple Headsails **No**
Tacking Unfurling **No**
Staysail

COMMENTS

fuel 11310 not discardable ballast; water 6624 not discardable ballast; fuel 28 not discardable ballast;

The owner and any other person in charge is responsible that boat is complying with her certificate in accordance with RRS 78.1 and ORC SY 402.

| Rated boat velocities in knots | | | | | | | | |
|--------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Wind Velocity | 6 kt | 8 kt | 10 kt | 12 kt | 14 kt | 16 kt | 20 kt | 24 kt |
| Beat Angles | 50,8° | 49,9° | 48,4° | 46,9° | 44,8° | 43,3° | 40,9° | 40,0° |
| Beat VMG | 4,50 | 5,95 | 7,25 | 8,37 | 9,23 | 9,90 | 10,80 | 11,11 |
| 52° | 7,29 | 9,60 | 11,61 | 13,23 | 14,30 | 15,08 | 16,02 | 16,43 |
| 60° | 8,29 | 10,79 | 12,80 | 14,32 | 15,29 | 16,00 | 16,87 | 17,32 |
| 75° | 9,56 | 12,19 | 14,11 | 15,53 | 16,42 | 17,12 | 18,13 | 18,75 |
| 90° | 10,07 | 12,67 | 14,58 | 16,01 | 17,01 | 17,81 | 19,15 | 20,20 |
| 110° | 9,60 | 12,14 | 14,03 | 15,57 | 16,83 | 17,85 | 19,91 | 21,67 |
| 120° | 8,85 | 11,33 | 13,28 | 14,93 | 16,24 | 17,30 | 19,21 | 21,67 |
| 135° | 7,31 | 9,60 | 11,62 | 13,33 | 14,74 | 15,96 | 18,34 | 20,96 |
| 150° | 5,97 | 7,87 | 9,63 | 11,23 | 12,64 | 13,84 | 15,81 | 17,76 |
| Run VMG | 5,17 | 6,81 | 8,34 | 9,73 | 10,95 | 11,99 | 13,69 | 15,38 |
| Gybe Angles | 134,4° | 137,5° | 140,2° | 142,6° | 144,6° | 145,7° | 146,6° | 140,8° |

ORC Ref

Issued on 05/02/2024

Valid until

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Super Yacht
Measured
Certificate
2024

Boat
HETAIROS
CAY-86

ORC Superyacht
Rating Office
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www.orc.org/superyacht



| Time Allowances in secs/NM | | | | | | | | |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Wind Velocity | 6 kt | 8 kt | 10 kt | 12 kt | 14 kt | 16 kt | 20 kt | 24 kt |
| Beat VMG | 799,9 | 605,5 | 496,6 | 430,0 | 389,8 | 363,8 | 333,3 | 324,0 |
| 52° | 493,7 | 375,0 | 310,1 | 272,2 | 251,7 | 238,7 | 224,7 | 219,1 |
| 60° | 434,0 | 333,6 | 281,1 | 251,4 | 235,4 | 225,0 | 213,4 | 207,9 |
| 75° | 376,4 | 295,3 | 255,1 | 231,8 | 219,2 | 210,2 | 198,5 | 192,0 |
| 90° | 357,4 | 284,1 | 247,0 | 224,9 | 211,6 | 202,2 | 188,0 | 178,2 |
| 110° | 375,0 | 296,5 | 256,7 | 231,2 | 213,9 | 201,7 | 180,8 | 166,1 |
| 120° | 406,7 | 317,8 | 271,0 | 241,1 | 221,7 | 208,1 | 187,4 | 166,1 |
| 135° | 492,7 | 375,0 | 309,7 | 270,0 | 244,2 | 225,6 | 196,3 | 171,7 |
| 150° | 603,4 | 457,5 | 373,9 | 320,5 | 284,8 | 260,1 | 227,7 | 202,7 |
| Run VMG | 696,7 | 528,3 | 431,8 | 370,1 | 328,9 | 300,3 | 262,9 | 234,1 |
| Selected Courses | | | | | | | | |
| Windward / Leeward | 748,3 | 566,9 | 464,2 | 400,1 | 359,4 | 332,1 | 298,1 | 279,0 |
| All purpose | 540,7 | 414,1 | 344,3 | 301,4 | 274,7 | 256,6 | 232,8 | 218,2 |

| Scoring Options | | | | | |
|------------------|------------------|--------------------------------|---------------------------|----------------------------------|--------------------|
| Wind Strength | Light TWS < 8 | Light-Moderate 8 ≤ TWS < 11 | Moderate 11 ≤ TWS < 14 | Moderate-Strong 14 ≤ TWS < 17 | Strong TWS ≥ 17 |
| Time on Distance | 456,4 | 357,7 | 293,4 | 260,5 | 240,6 |
| Time on Time | 1,0955 | 1,3977 | 1,7042 | 1,9190 | 2,0778 |



Super Yacht
Measured
Certificate
2024

Boat
HETAIROS
CAY-86

ORC Superyacht
Rating Office
orcsy@orc.org
www.orc.org/superyacht



Data in meters/kilograms (Metric)

HULL AND APPENDAGES (Lightship Trim)

| | | | | | | | |
|-------------------|------------|--------------|---------|------------------------|---------|----------------------|--------|
| Class | Super Maxi | LOA | 59,897 | VCGD | 0,167 | Water ballast weight | 22,000 |
| Hull construction | Carbon | Max. Beam | 10,598 | VCGM | 0,048 | Water ballast LCG | 37,50 |
| Carbon Rudder | Yes | Draft | 8,995 | Righting Moment (kg·m) | 23892,0 | Water ballast VCG | -0,82 |
| Trim tab | No | Displacement | 267,781 | BLR index | 1,1524 | Water ballast TCG | 4,02 |
| MCA Certified | No | IMS L | 50,995 | Skeg | No | | |
| | | Sink (kg/mm) | 318,34 | | | | |

PROPELLER (measured)

Propeller Type **No Propeller**

POWERED WINCHES

| | |
|-----------------------|-------|
| Halyard Power (KW) | 8,0 |
| Halyard Speed (m/min) | 101,0 |
| Sheet Power (KW) | 16,0 |
| Sheet Speed (m/min) | 95,0 |

SUPERSTRUCTURES

| | |
|-------------------------|-------------------------------|
| Area Front | 7,26 |
| Area Side | 12,53 |
| Dome frontal areas (m²) | 3.59,0.38,0.13,0.11,0.19,0.10 |

RIG

| | | | | | | | | | | | |
|----------------------|--------|-----|--------|------|-------|-----|--------|------|--------|-------|-------|
| Rig Type | Ketch | P | 56,340 | MDT1 | 0,410 | J | 17,680 | PY | 51,710 | MDT1Y | 0,350 |
| Mast material | Carbon | IG | 56,690 | MDL1 | 0,980 | SFJ | 0,529 | IY | 47,550 | MDL1Y | 0,730 |
| Non-circular rigging | No | ISP | 58,650 | MDT2 | 0,380 | FSD | 0,150 | EB | 25,250 | MDT2Y | 0,300 |
| Fiber rigging | Yes | BAS | 2,310 | MDL2 | 0,850 | SPL | | BASY | 2,540 | MDL2Y | 0,700 |
| | | E | 15,300 | TL | 8,600 | TPS | 24,940 | EY | 14,230 | TLY | 6,250 |
| | | BD | | MW | 0,850 | WPL | | BDY | | | |
| | | CPW | 7,370 | GO | 0,950 | | | | | | |

FLOTATION AND STABILITY

| | | | | | | | | | | | |
|--------------------|----------------|-------|--------|-------|--------|------|--------|-----|-------|-----|---------|
| Calculation method | Boom inclining | SFFP | 0,105 | SAFP | 57,650 | W1 | 1647,7 | PD1 | 98,0 | WD | 18,960 |
| Flotation Date | 22/01/2016 | FFM | 0,410 | FAM | 1,350 | W2 | 1647,7 | PD2 | 98,9 | PLM | 9000,00 |
| | | FF | 0,555 | FA | 1,402 | W3 | 1647,7 | PD3 | 99,4 | GSA | 1,0 |
| | | LCFcl | 29,491 | LCFsh | 29,962 | W4 | 1647,7 | PD4 | 100,8 | RSA | 1,0 |
| | | SG | 1,0250 | HBI | 3,140 | LCFD | | | | RM | 24784,0 |

BALLAST

| Id | Kind | Description | Weight | LCG | VCG | TCG |
|----|------------------------------------|-------------|--------|-------|-------|------|
| A | Movable | | 22.000 | 37,50 | -0,82 | 4,02 |
| A | Movable non dischargeable fuel | | 11.310 | 31,42 | 0,57 | 3,74 |
| B | Movable non dischargeable water | | 6.624 | 33,62 | 0,44 | 3,95 |
| C | Movable non dischargeable day tank | | 28 | 32,18 | 0,37 | 0,00 |

TANKS

| Id | Description | Capacity | LCG | VCG | Sp.Wght | Condition | Level |
|----|--------------------|----------|-------|-------|---------|-------------|---------|
| | | | | | | Measurement | Sailing |
| A | fuel port | 11.220 | 31,42 | 0,57 | 0,8400 | 7.293 | 0,000 |
| B | fuel stbd | 11.220 | 31,42 | 0,57 | 0,8400 | 7.967 | 0,000 |
| C | water port | 5.520 | 33,62 | 0,44 | 1,0000 | 2.208 | 0,000 |
| D | water stbd | 5.520 | 33,62 | 0,44 | 1,0000 | 2.208 | 0,000 |
| E | water ballast port | 22.000 | 37,70 | -0,82 | 1,0000 | 770 | 0,000 |
| F | water ballst stbd | 22.000 | 37,70 | -0,82 | 1,0000 | 880 | 0,000 |
| G | fuel day tank | 330 | 32,18 | 0,37 | 0,8400 | 33 | 0,000 |

INVENTORY

| Id | Description | Weight | Weight | LCG | VCG | GA | Id | Description | Weight | Weight | LCG | VCG | GA |
|----|--------------------------|--------|---------|-------|-------|----|----|-------------------------|--------|---------|-------|-----|-------|
| | | Msrmnt | Sailing | | | | | | Msrmnt | Sailing | | | |
| A | anchor #1 | 425 | | 3,80 | | X | B | chain #1 | | 1.634 | 9,10 | | X |
| D | chain #2 | | 478 | 9,10 | | X | E | various items (check) | 9.240 | | 18,85 | | 0,65 |
| F | main | 720 | | 24,55 | 5,17 | | G | mizzen | 504 | | 49,15 | | 4,39 |
| H | cruising jib | 406 | | 6,42 | 22,95 | | I | cruising staysail | 275 | | 10,81 | | 0,79 |
| L | mizzen jib | 222 | | 10,81 | 0,79 | | M | jib top | 505 | | 10,81 | | 1,29 |
| N | code 1.5 | 281 | | 10,81 | 1,79 | | O | mizzen staysail | 140 | | 48,92 | | 1,79 |
| R | (forepeak)(sheets/bloc | | 330 | 3,11 | 0,31 | | S | sonar bilge (3) | | 300 | 6,48 | | -0,21 |
| T | dive bottle/mob | | 350 | 15,33 | 2,29 | | U | sheet/blocks/furlers(4: | | 584 | 48,91 | | 2,10 |
| | gen/ff(39/44) | | | | | | | | | | | | |
| V | liferaft/lines/blocks(45 | | 296 | 25,60 | 1,69 | | W | safety | | 286 | 37,80 | | 1,69 |
| | | | | | | | | gear/liferafts(46) | | | | | |

ORC Ref

Issued on 05/02/2024

Valid until

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Super Yacht
Measured
Certificate
2024

Boat
HETAIROS
CAY-86

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MAINSAIL

| <i>Id</i> | <i>MHB</i> | <i>MUW</i> | <i>MTW</i> | <i>MHW</i> | <i>MQW</i> | <i>Area</i> | <i>Meas.Date</i> | <i>Comment</i> |
|-----------|------------|------------|------------|------------|------------|-------------|------------------|----------------|
| C | 6,00 | 7,53 | 9,79 | 12,17 | 13,80 | 651,11 | 20/01/2022 | |

MIZZEN

| <i>Id</i> | <i>MHB</i> | <i>MUW</i> | <i>MTW</i> | <i>MHW</i> | <i>MQW</i> | <i>Area</i> | <i>Meas.Date</i> | <i>Comment</i> |
|-----------|------------|------------|------------|------------|------------|-------------|------------------|----------------|
| C | 3,65 | 5,79 | 8,01 | 10,57 | 12,47 | 516,71 | 20/01/2022 | |

HEADSAIL

| <i>Id</i> | <i>HMB</i> | <i>HUW</i> | <i>HTW</i> | <i>HHW</i> | <i>HQW</i> | <i>HLP</i> | <i>HLU</i> | <i>Btn</i> | <i>Flying</i> | <i>Furler</i> | <i>Area</i> | <i>Meas.Date</i> | <i>Comment</i> |
|-----------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|---------------|-------------|------------------|----------------|
| J | 0,15 | 2,43 | 4,69 | 9,08 | 13,42 | 17,78 | 56,80 | No | No | Yes | 512,62 | 05/03/2019 | |
| L | 0,19 | 1,91 | 3,72 | 7,56 | 11,56 | 15,56 | 46,97 | No | Inner | Yes | 360,91 | 07/03/2022 | GS |
| J | 0,15 | 1,88 | 3,64 | 7,34 | 11,20 | 15,23 | 46,55 | No | No | Yes | 348,22 | 05/03/2019 | |

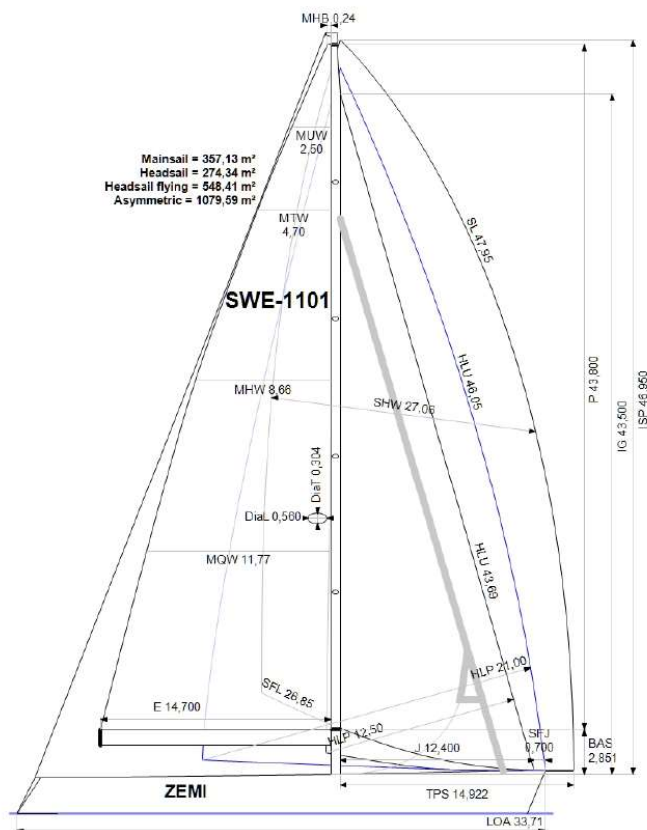
ASYMMETRIC SPINNAKER

| <i>Id</i> | <i>SLU</i> | <i>SLE</i> | <i>SL</i> | <i>SHW</i> | <i>SFL</i> | <i>Ratio</i> | <i>Area</i> | <i>Meas.Date</i> | <i>Comment</i> |
|-----------|------------|------------|-----------|------------|------------|--------------|-------------|------------------|----------------|
| G | 60,43 | 58,98 | 59,71 | 28,18 | 37,27 | 76% | 1492,53 | 20/01/2022 | |
| F | 60,00 | 57,50 | 58,75 | 28,60 | 37,35 | 77% | 1485,89 | 20/01/2022 | |

MIZZEN STAYSAIL

| <i>Id</i> | <i>YSHF</i> | <i>YSHW</i> | <i>YSFL</i> | <i>Use</i> | <i>Area</i> | <i>Meas.Date</i> | <i>Comment</i> |
|-----------|-------------|-------------|-------------|------------|-------------|------------------|----------------|
| E | 49,76 | 7,88 | 16,33 | Both | 399,20 | 20/01/2022 | |

- All the sails used during an event must be declared. This applies also to the staysails tacked between the forestay and the mast and to all the sails that are smaller than the largest of their kind.
- The sails that can be used during the event are only those listed in the fourth page of the certificate, regardless of the fact that other available sails are smaller than the largest of their kind listed on the certificate.
- While it is not mandatory to carry all the declared sails while racing, the number of sails on board shall remain constant for each individual race day. The race day begins when the yacht leaves for the race course from its dock or mooring.
- The minimum amount of liquids to carry onboard while racing is shown on the third page of the certificate as a fraction of one, under the sailing level column. The lowest number printed on the certificate is 0.100 also when the declared amount is zero.
- It is **NOT** permitted to unfurl the staysail to tack while furling the other headsail



Rated boat velocities in knots

| Wind Velocity | 6 kt | 8 kt | 10 kt | 12 kt | 14 kt | 16 kt | 20 kt | 24 kt |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Beat Angles | 49,0° | 46,0° | 44,2° | 43,0° | 43,2° | 43,5° | 43,6° | 44,7° |
| Beat VMG | 4,74 | 5,83 | 6,51 | 6,91 | 7,07 | 7,17 | 7,23 | 7,13 |
| 52° | 7,62 | 9,16 | 10,05 | 10,54 | 10,78 | 10,94 | 11,10 | 11,05 |
| 60° | 8,50 | 9,93 | 10,73 | 11,21 | 11,48 | 11,65 | 11,86 | 11,90 |
| 75° | 9,58 | 10,90 | 11,59 | 12,08 | 12,38 | 12,60 | 12,90 | 13,06 |
| 90° | 10,00 | 11,47 | 12,21 | 12,64 | 12,98 | 13,25 | 13,67 | 13,97 |
| 110° | 9,34 | 11,17 | 12,43 | 13,16 | 13,58 | 13,96 | 14,47 | 14,90 |
| 120° | 8,46 | 10,64 | 11,98 | 12,71 | 13,38 | 14,09 | 14,85 | 15,22 |
| 135° | 7,20 | 9,28 | 10,95 | 12,23 | 13,28 | 14,17 | 15,27 | 16,22 |
| 150° | 5,90 | 7,68 | 9,23 | 10,52 | 11,55 | 12,40 | 13,87 | 15,37 |
| Run VMG | 5,11 | 6,65 | 8,00 | 9,11 | 10,00 | 10,74 | 12,09 | 13,46 |
| Gybe Angles | 137,2° | 139,8° | 142,4° | 144,4° | 146,0° | 147,8° | 158,6° | 164,0° |

BOAT

| | |
|--------------------|---------------|
| Class | MMYD33M |
| Designer | Mckeon |
| Builder | Balric Yachts |
| Age date | 06/2023 |
| Series date | 06/2023 |
| Offset file | SY312.off |
| Data file | SY312 |
| OPF light strong | 0,0% 0,0% |

HULL

| | | |
|-------------------|-----------|---------|
| Length Overall | 33,706 m | |
| Maximum Beam | 7,636 m | |
| Dynamic Allowance | 0,690% | |
| Age Allowance | 0,033% | |
| | Lightship | Sailing |
| Displacement (kg) | 92,570 | 97,574 |
| Draft (m) | 5,670 | 5,703 |
| RM at 1° (kg·m) | 4061,0 | 4064,0 |
| VCGD (m) | 0,767 | 0,860 |
| VCGM (m) | 0,889 | 0,982 |
| DLR | 91,16 | |
| SAup / Displ | 30,40 | |

SAIL AREAS (m²)

| | |
|-----------------|----------|
| | Measured |
| Mainsail | 357,13 |
| Headsail Flying | 548,41 |
| Symmetric | |
| Asymmetric | 1079,59 |
| Total upwind | 631,48 |
| Total downwind | 1.436,72 |

SAILS IN INVENTORY

| | |
|------------------|---|
| Headsails Luffed | 1 |
| Headsails Flying | 1 |
| Spinnakers | 2 |

USE OF SAILS

| | |
|---------------------|----------------|
| Furled Sails Upwind | 1 |
| Mainsail Furler | In boom |
| Multiple Headsails | No |
| Tacking Unfurling | No |
| Staysail | |

The owner and any other person in charge is responsible that boat is complying with her certificate in accordance with RRS 78.1 and ORC SY 402.



Super Yacht
Declared
Certificate
2024

Boat
ZEMI
SWE-1101

ORC Superyacht
Rating Office
orcsy@orc.org
www.orc.org/superyacht



| Time Allowances in secs/NM | | | | | | | | |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Wind Velocity | 6 kt | 8 kt | 10 kt | 12 kt | 14 kt | 16 kt | 20 kt | 24 kt |
| Beat VMG | 759,1 | 617,3 | 552,8 | 520,8 | 509,1 | 502,3 | 497,7 | 505,2 |
| 52° | 472,3 | 392,9 | 358,4 | 341,7 | 334,0 | 329,1 | 324,3 | 325,7 |
| 60° | 423,7 | 362,5 | 335,4 | 321,1 | 313,7 | 308,9 | 303,4 | 302,5 |
| 75° | 375,8 | 330,3 | 310,6 | 298,0 | 290,7 | 285,8 | 279,0 | 275,6 |
| 90° | 360,1 | 313,7 | 294,8 | 284,9 | 277,3 | 271,6 | 263,4 | 257,6 |
| 110° | 385,6 | 322,3 | 289,5 | 273,6 | 265,1 | 257,9 | 248,7 | 241,6 |
| 120° | 425,7 | 338,3 | 300,4 | 283,3 | 269,1 | 255,5 | 242,4 | 236,5 |
| 135° | 499,7 | 388,0 | 328,7 | 294,3 | 271,1 | 254,1 | 235,7 | 221,9 |
| 150° | 610,0 | 468,8 | 389,9 | 342,1 | 311,7 | 290,4 | 259,5 | 234,2 |
| Run VMG | 704,3 | 541,3 | 450,2 | 395,1 | 359,9 | 335,3 | 297,9 | 267,5 |
| Selected Courses | | | | | | | | |
| Windward / Leeward | 731,7 | 579,3 | 501,5 | 457,9 | 434,5 | 418,8 | 397,8 | 386,4 |
| All purpose | 534,2 | 432,5 | 382,4 | 355,1 | 339,7 | 328,9 | 315,5 | 308,4 |

| Scoring Options | | | | | |
|------------------|------------------|--------------------------------|---------------------------|----------------------------------|--------------------|
| Wind Strength | Light TWS < 8 | Light-Moderate 8 ≤ TWS < 11 | Moderate 11 ≤ TWS < 14 | Moderate-Strong 14 ≤ TWS < 17 | Strong TWS ≥ 17 |
| Time on Distance | 465,9 | 391,4 | 350,3 | 331,3 | 319,7 |
| Time on Time | 1,0731 | 1,2775 | 1,4272 | 1,5091 | 1,5638 |



Super Yacht
Declared
Certificate
2024

Boat
ZEMI
SWE-1101

ORC Superyacht
Rating Office
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www.orc.org/superyacht



Data in meters/kilograms (Metric)

HULL AND APPENDAGES (Lightship Trim)

| | | | | | |
|-------------------|----------------|--------------|---------------|------------------------|---------------|
| Class | MMYD33M | LOA | 33,706 | VCGD | 0,767 |
| Hull construction | Carbon | Max. Beam | 7,636 | VCGM | 0,889 |
| Carbon Rudder | Yes | Draft | 5,670 | Righting Moment (kg·m) | 4061,0 |
| Trim tab | No | Displacement | 92.570 | Skeg | No |
| MCA Certified | No | IMS L | 30,477 | | |
| | | Sink (kg/mm) | 143,12 | | |

PROPELLER (measured)

| | | | |
|--------------------|----------------------------|------|---------------|
| Propeller Type | Feathering 4 blades | | |
| Installation | Shaft exposed | PRD | 0,813 |
| Twin screw | No | PIPA | 0,0374 |
| Bow Thruster Diam. | | | |

POWERED WINCHES

| | |
|-----------------------|--|
| Halyard Power (KW) | |
| Halyard Speed (m/min) | |
| Sheet Power (KW) | |
| Sheet Speed (m/min) | |

SUPERSTRUCTURES

| | |
|-------------------------|-------------|
| Area Front | 3,20 |
| Area Side | 6,50 |
| Dome frontal areas (m²) | |

RIG

| | | | | | | | |
|----------------------|-----------------|-----|---------------|------|--------------|-----|---------------|
| Rig Type | Sloop | P | 43,800 | MDT1 | 0,304 | J | 12,400 |
| Mast material | Aluminum | IG | 43,500 | MDL1 | 0,560 | SFJ | 0,700 |
| Non-circular rigging | No | ISP | 46,950 | MDT2 | 0,304 | FSD | |
| Fiber rigging | No | BAS | 2,851 | MDL2 | 0,390 | SPL | |
| | | E | 14,700 | TL | 3,093 | TPS | 14,922 |
| | | BD | 0,990 | MW | 0,585 | WPL | |
| | | CPW | 6,140 | GO | 0,585 | | |

TANKS

| <i>Id</i> | <i>Description</i> | <i>Capacity</i> | <i>LCG</i> | <i>VCG</i> | <i>Sp.Wght</i> | <i>Level Sailing</i> |
|------------------|---------------------------|------------------------|-------------------|-------------------|-----------------------|-----------------------------|
| A | water port | 1.069 | 12,54 | 0,60 | 1,0000 | 0,100 |
| B | water stbd | 1.069 | 12,54 | 0,60 | 1,0000 | 0,100 |
| C | fuel port | 1.971 | 15,77 | 1,51 | 0,8400 | 0,100 |
| D | fuel stbd | 2.896 | 16,40 | 1,49 | 0,8400 | 0,100 |
| E | fuel day tank | 896 | 17,74 | 1,46 | 0,8400 | 0,100 |



Super Yacht
Declared
Certificate
2024

Boat
ZEMI
SWE-1101

ORC Superyacht
Rating Office
orcsy@orc.org
www.orc.org/superyacht



MAINSAIL

| <i>Id</i> | <i>MHB</i> | <i>MUW</i> | <i>MTW</i> | <i>MHW</i> | <i>MQW</i> | <i>Area</i> | <i>Meas.Date</i> | <i>Comment</i> |
|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------------|-----------------------|
| A | 0,24 | 2,50 | 4,70 | 8,66 | 11,77 | 357,13 | 06/06/2023 | ODK109519-001 |

HEADSAIL

| <i>Id</i> | <i>HHB</i> | <i>HUW</i> | <i>HTW</i> | <i>HHW</i> | <i>HQW</i> | <i>HLP</i> | <i>HLU</i> | <i>Btn</i> | <i>Flying</i> | <i>Furler</i> | <i>Area</i> | <i>Meas.Date</i> | <i>Comment</i> |
|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------------|----------------------|--------------------|-------------------------|-----------------------|
| D | 0,05 | 3,87 | 7,18 | 13,00 | 17,43 | 21,00 | 46,05 | No | Yes | Yes & TA | 548,41 | 26/05/2023 | ODK109519-005 |
| A | 0,15 | 1,65 | 3,17 | 6,26 | 9,38 | 12,50 | 43,69 | No | No | Yes & TA | 274,34 | 11/05/2023 | ODK109519-002 |
| B | 0,05 | 1,26 | 2,41 | 4,86 | 7,55 | 10,48 | 35,98 | No | No | Yes | 181,57 | 01/06/2023 | ODK109519-003 |
| C | 0,15 | 0,97 | 1,88 | 3,86 | 6,03 | 8,17 | 27,02 | No | No | Yes | 107,75 | 01/06/2023 | ODK109519-004 |

ASYMMETRIC SPINNAKER

| <i>Id</i> | <i>SLU</i> | <i>SLE</i> | <i>SL</i> | <i>SHW</i> | <i>SFL</i> | <i>Ratio</i> | <i>Area</i> | <i>Meas.Date</i> | <i>Comment</i> |
|------------------|-------------------|-------------------|------------------|-------------------|-------------------|---------------------|--------------------|-------------------------|-----------------------|
| B | 51,30 | 44,60 | 47,95 | 27,06 | 26,85 | 101% | 1079,59 | 21/09/2023 | ODK110286-001 |
| A | 48,10 | 43,60 | 45,85 | 23,92 | 24,85 | 96% | 921,05 | 21/09/2023 | ODK109519-019 |

- All the sails used during an event must be declared. This applies also to the staysails tacked between the forestay and the mast and to all the sails that are smaller than the largest of their kind.
- The sails that can be used during the event are only those listed in the fourth page of the certificate, regardless of the fact that other available sails are smaller than the largest of their kind listed on the certificate.
- While it is not mandatory to carry all the declared sails while racing, the number of sails on board shall remain constant for each individual race day. The race day begins when the yacht leaves for the race course from its dock or mooring.
- The minimum amount of liquids to carry onboard while racing is shown on the third page of the certificate as a fraction of one, under the sailing level column. The lowest number printed on the certificate is 0.100 also when the declared amount is zero.
- It is mandatory to race with 1 headsail(s) always furled (see ORCSY rule 204.5)
- It is **NOT** permitted to unfurl the staysail to tack while furling the other headsail