

ORC Superyacht *Orc.org/superyacht*

Rule Background and Description

Background The Offshore Racing Congress (ORC) has been involved in yacht performance prediction and rule management since 1969. On summer 2014 an ORC working party began the process of developing a special superyacht VPP and ultimately a superyacht rule (ORCs_y). ORC is fully committed to transparency and implementing and administering the ORCs_y rule in the same professional manner that they have with their conventional sailboat rating rules.

Handicapping widely disparate superyachts represents one of the most formidable challenges any rule authority can undertake. A superyacht fleet typically includes schooners, sloops and ketches of varying lengths and with displacements ranging from 50 to 600 tons and the huge disparity in yacht type, size and shape is exceptionally difficult to handicap.

The ORC is uniquely suited to undertake this challenge after decades of work developing the ORCi VPP and Rules. From the outset it was clear that superyachts and their unique characteristics present a unique handicapping challenge for a number of different reasons and those issues are being addressed in the new rule. Additional information will be available on this website as it comes available. For questions, please email orcsy@orc.org.

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How does it work?

There are three elements to a handicapping rule:

- a. Data Inputs
- b. Creation of Time Allowance Table
- c. Race Management

The ORC addresses these as follows:

- a. The ORC has a well-developed measurement process to capture hull and sailplan geometry which can be applied to superyachts if they can be made available for measurement. Geometry files supplied by the designer, and stability information from the Yachts Stability book can also be used (N.B. Geometry files supplied by the designer will be held confidentially by the ORC technical group whilst an Offset file is created). Additionally, other configuration information will be needed to fully complete the handicapping process. This can include details such as size and location of furled sails carried whilst racing, size and location of sat comm. domes, frontal and side area of the hull and superstructure.
- b. The ORC VPP, with modifications to capture the diverse features of the superyacht fleet, will be used to create polar performance tables of speed vs. true wind angle, and TCCs for some predetermined courses ("constructed course scoring").
- c. The Race Committee will use the polar performance data or TCCs to generate elapsed times or pursuit race starting sequences.

ORC Superyacht (Exhibit 5 continued)

Also in accordance with the normal procedures for ORCi Regattas:

- I. Certificates for all yachts at a regatta will be published.
- II. Members of the ORCsy Technical Team will be on site to observe the racing and interact with the competitors
- III. There is an existing ORC mechanism for fine tuning the VPP through a submissions process from yacht representatives and/or the Superyacht Racing Association (SYRA).
- IV. Race tracking data will be available to routinely review race performance

Practicalities for 2015 season

There is a relatively small percentage of yachts in the superyacht fleet that have been measured using the ORCi system. Most yachts will be handicapped using supplied drawings, declared information and their Stability book data. This will be verified via other available data sets, and the norms for this type of yacht. Where Stability book data cannot be obtained from the Yacht or the Designer then the required data can come via calculation based on known data from other similar yachts, or an inclining test conducted by a measurer or marine surveyor.

ORCsy use International Measurement System (IMS) for all measurements definition extended with particular measurements for the superyachts and only amendment on the spinnaker definition as follows:

IMS rule is amended for the asymmetric spinnaker with the luff length (SLU) longer than distance between the tacking point and the spinnaker hoist height - $SLU > \sqrt{ISP^2 + TPS^2}$. The half width for such a spinnaker shall be 65% or more of the foot length.

Terms printed in bold are ERS definition.

A detailed description of the application process is available on the orc.org web site

Application process

Capturing the data to generate an ORCsy Certificate is not a trivial matter, but thanks to the ORC's work and experience the process can be executed quickly and accurately if the right documents, drawings and geometry files can be made available to the ORC handicapping team.

The first step is to register a requirement to get an ORCsy Certificate. This is done by completing the **Application Form** that is available on the menu on the right. This form captures a complete description of the vessel, but to start the process only those cells shaded in yellow need to be completed. When fully completed this form will be the basis of the handicap certificate.

If the following can be supplied by superyacht technical representative, e.g. the Designer, Yard Representative, Project Manager, there will be only a small call on the time of the skipper and crew:

1. Copies of existing ORC/IRC/SYRA (other) rating certificate (If the yacht has an ORCi Certificate then only a few extra pieces of information are needed)
2. Copies of the Yacht Stability Booklet sections relating to the Lightship calculation and inclining test.
3. Contact details of a person authorized to supply:
 - a) Deck and Sail Plan
 - b) Sails measurements
 - c) Hull geometry file

Using this information the ORC will complete the Measurement Form and return it for information and checking. If these can be supplied the expectation is that an ORCsy certificate can be generated without a complete physical measurement of the yacht.

If any of the above are not available some physical measurement of the yacht will be required. This will need to be coordinated between the yacht and the ORC measurement team, and the yacht will need to be made available in a suitable condition (out of the water, free from scaffoldings and covers, etc.).

Additionally to derive an accurate handicap an accurate stability curve is needed (Righting Moment vs. Heel Angle). This is most easily derived from the yacht's Stability Book. If this is not available, then the data might be inferred from data on similar yachts, or by a formal inclining test. It is very unlikely that a yacht longer than 24m will not have this information available.

Thank you for taking time to digest this information, you are starting on a process that takes handicapping of superyachts into the mainstream of international sailing, and much of this will be unfamiliar territory to you. However the ORCsy team has several decades of experience in these processes, and has a track record of managing large fleets of International grand prix racing yachts.