



# Royal Ocean Racing Club Rating Office

## IRC Endorsement

### Process, Measurement, and Data Standards

#### 1. Preamble

An 'endorsed' IRC certificate is one for which the data on the certificate has been audited and if necessary verified by measurement or other methods. The 2005 IRC Congress agreed that a set of common standards for the IRC Rating Authority and Rule Authorities to apply when endorsing a boat's IRC certificate should be developed and published.

Generally, IRC is a self-measurement system. There is thus no general requirement for an owner to have his boat officially measured or weighed unless either he chooses to do so, or his Rule Authority (ie his local IRC body) and/or an Organising Authority for a race requires official measurement, generally resulting in an endorsed IRC certificate.

As a part of this, in future, the nomenclature on an endorsed IRC certificate issued by either the RORC Rating Office or the UNCL Centre de Calcul will be:

**ENDORSED** meaning that the data has been audited by a Rule Authority with any measurement by a measurer recognised by the Rule Authority.

Within the guidelines below Rule Authorities are given some options for sources of data. This recognises that circumstances vary from country to country, that some owners are prepared to expend more time and effort than others, and that for instance weighing a large boat may be impractical. The options offered cater for these while at the same time not generally compromising the validity of a boat's data and hence her endorsed certificate.

It is a fundamental prerequisite of this that responsibility for appointment and training of measurers and quality of measurement data generally lies with each Rule Authority. Attention is drawn to the IRC Measurement Manual available from the IRC website, [www.ircrating.org](http://www.ircrating.org). Additional material to aid Rule Authorities and measurers is also available direct from the Rating Authority.

#### 2. Process

An owner wishing to have his certificate endorsed first contacts his local Rule Authority. **The Rule Authority carries responsibility for auditing the boat's data file and for defining what, if any, data is to be verified.** In doing this, the data and measurement standards below shall be applied. If these standards are not applied, then the Rating Authority must be advised and an endorsed certificate will not be issued.

On return of the data from the measurer, or other defined source, the Rule Authority will review the data and confirm that it is satisfied that an endorsed certificate can be issued. The data is then forwarded to the Rating Authority accompanied by a request to issue an endorsed certificate. Only then will the Rating Authority issue an Endorsed certificate.

**The Rating Authority reserves the right at its absolute discretion to refuse to issue an endorsed certificate if it is not satisfied in any respect with the data submitted by a boat through her Rule Authority.**



### **3. Measuring Equipment**

While measurement methods are generally beyond the scope of this, the following shall apply.

#### **3.1 Load Cells**

Load cells for single point lift weighing shall have a quoted accuracy of +/-0.2% of maximum capacity or equivalent and discrimination of not less than 10 kg. ie, a 10 tonne load cell should have a quoted accuracy of +/- 20 kg, and a 20 tonne cell, +/- 40 kg. Load cells shall be calibrated at least once per year.

A load cell should not normally be used to weigh a boat weighing less than 15% of the maximum capacity of the load cell, ie 1500 kg for a 10 tonne cell. Rule Authorities may waive this requirement on an individual case basis.

Compression load cells should generally follow the above standards. It is however recognised and noted that the ultimate accuracy of weighing on compression load cells is a function of the combined accuracy of all the cells rather than the accuracy of each individual cell and also of the methodology adopted. Rule Authorities are therefore advised to exercise care in approving compression load cells.

#### **3.2 Linear Measurements**

Tape measures and measuring rules built to CE category 2 or equivalent standards are acceptable.

Tape measures should be steel. Fabric tapes are not generally acceptable.



## 4. Sources of Data

### 4.1 General

<b>Generally Acceptable</b>	Weight	Hull and Appendages	Rig	Sails
Measurement carried out by an authorised measurer using equipment complying with defined standards.	N/A	✓	✓	✓
Single point weighing carried out by an authorised measurer using a load cell complying with defined standards.	✓	N/A	N/A	N/A
If available, standard design data and light weight defined by the Rating Authority.	✓	✓	✗	✗
Data supplied by an approved sail measurer.	N/A	N/A	N/A	✓

<b>Acceptable at the discretion of a Rule Authority</b>	Weight	Hull and Appendages	Rig	Sails
Weighing on compression load cells carried out by an authorised measurer using load cells complying with defined standards.	✓	N/A	N/A	N/A
Measurement carried out by a specially appointed measurer or sail measurer.	N/A	✓	✓	✓
Single point weighing or weighing on compression load cells carried out by a specially appointed measurer using load cells complying with defined standards.	✓	N/A	N/A	N/A
Weight derived from freeboards measured by an acceptable method, calculation and declaration by the naval architect.	✓	N/A	N/A	N/A
ORCi DSPM minus measurement inventory. In the absence of a measurement inventory, ORCi DSPM minus 2%.	✓	N/A	N/A	N/A
Data derived from an in date or recently expired ORCi or other measurement certificate.	N/A	✓	✓	✓

<b>NOT acceptable</b>	Weight	Hull and Appendages	Rig	Sails
Owner or manufacturer declaration.	✗	✗	✗	✗
Registered Tonnage.	✗	N/A	N/A	N/A
Weighing on crane built in Loadcell.	✗	N/A	N/A	N/A
Weighing on travel hoist.	✗	N/A	N/A	N/A

### 4.2 One Designs Previously Approved by the Rating Authority

One designs previously approved as such by the Rating Authority may have their certificates endorsed without further measurement on declaration by the owner that the boat holds and is in compliance with her one design class certificate.

## 5. Retention of Endorsed Status

When a boat changes any data, to retain the endorsed status of her certificate, the changed data shall be verified by a method approved by the Rule Authority and included in paragraph 4.1. above.