

# 2.4mR World Championship Equipment Inspections

## Preamble

<b>Objective:</b>	<b>To ensure fair and safe racing for all competitors with a friendly atmosphere.</b>
<b>Background:</b>	<p><b>Boats are required to be certified in accordance with the class rules. The 2.4mR class requires that event inspection includes certification checking and equipment marking with measurement checks only carried out during the regatta.</b></p> <p><b>Registration Inspections</b> – rating certificate check, boat plaque check, buoyancy certificate check, boat and spar stamping, sail certification check, sail stamping, safety equipment check, assist owners with weight check</p> <p><b>Regatta Inspections</b> – equipment check, measurement check, weight check, equipment substitution check, repair check (including haul-out if approved)</p>
<b>Guideline:</b>	2.4mR ICA World and Continental Regatta Management Manual
<b>Reference:</b>	World Sailing (WS) Guide to Equipment Inspection World Sailing (WS) Equipment Rules of Sailing (ERS) World Sailing (WS) Racing Rules of Sailing (RRS) 2.4mR Class Rules
<b>Measurement Committee:</b>	WS International Class Measurer (IM) to be provided by 2.4mR ICA National Technical Officer (NTO) to be provided by Organising Authority 6 Equipment Inspectors to be provided by Organising Authority <i>All equipment inspectors shall be trained in event measurement procedures by the Official Measurer prior to the event</i>
<b>Equipment Inspectors:</b>	<p><b>Registration Inspections</b> HULL/SPARS Two (2) Equipment Inspectors are required for certificate, spar and safety equipment inspection/markings</p> <p><b>SAILS</b> Three (3) Equipment Inspectors are required for sail inspection/markings</p> <p><b>WEIGHT</b> One (1) Equipment Inspector is required for assisting competitors with weight check</p> <p><b>Regatta Inspections</b> 2 to 4 Equipment Inspectors are required to assist IM with post-race inspections</p>
<b>Event Forms:</b>	Event Registration/Measurement Form Haul-out Form Substitution Form
	Templates for event forms are available from the ICA.
<b>Event Limitation Mark:</b>	Event limitation mark (stickers or stamp) for certification of boat equipment to be provided by Organising Authority. Event limitation marks shall be fixed as follows: Hull: on rear transom Spars: on starboard side near gooseneck Sails: on starboard side at mainsail/jib tack
	Eight (8) stickers are required per boat. We suggest that stickers be trialled before the event to ensure that they are not transferable to alternative equipment and that they stay fixed to boat/spars/sails for the duration of the event.
	Stamps signed by measurement committee with permanent ink will also work. Again we suggest that stamps be trialled before the event to ensure that they stay fixed to boat/spars/sails for the duration of the event.

**Inspection Areas:** Equipment Inspection stations 1 REGISTRATION and 3 WEIGHT can be open (mast is fitted). Equipment Inspection station 2 SAILS is required to be protected from the elements (building or tent) of minimum dimensions to accommodate two sail measurement tables 5m x 2.4m. Equipment Inspection station 4 DOCK shall be located adjacent to the boat crane for post-race checks.

**Equipment:** Inspection equipment to be provided by organising Authority includes:

- Certified scales (copy of certification to be displayed with scales)
- Sail measurement tables
- Templates
- Markers
- Certified tape measure
- 35kg lead (buoyancy check)
- Pump (buoyancy check)
- Measurement marks (spare)
- Lockable storage for substituted equipment

**Certificates:** The 2.4mR class has three different certificates:

**2.4mR Rating Certificate**

A valid rating certificate is required, this is not a measurement form. The WS/ISAF plaque number should be recorded and checked that it matches the boat plaque.

**Buoyancy Certificate**

A valid buoyancy certificate is required, the date of the certificate should be checked to ensure that it is not more than five (5) years from the issue date). The WS/ISAF plaque number should be recorded and checked that it matches the boat plaque.

**Norlin 2.4 One Design Certificate**

A valid Norlin One Design certificate is required for the boat to be registered in the One design category. The Norlin One Design plaque number should be recorded and checked that it matches the boat plaque.

**Weight:** Weight checks are not required for boat registration however competitors are to be given the opportunity to check the boat weight before the first race.

The Organising Authority shall provide a weight inspection station with certified scales and one (1) Equipment Inspector to assist competitors with any weight check. Instructions on required boat equipment to be included in weight check shall be posted at the weight inspection station.

The boat weight for the 2.4mR is a maximum weight, and the boat weight for the Norlin One Design is 253-254kg. The boat weight is expected to increase by up to 3kg when wet.

**Regatta Inspections:** Regatta spot check inspections shall be carried out by the IM or NTO.

**Post-Race Checks**

Post-race checks shall be carried out by the IM or NTO with the assistance of 2-4 Equipment Inspectors.

After each day of racing 2-4 boats will be selected at random and instructed to proceed to the post-race check dock area. Selected boats shall be escorted to the post-race dock check dock area to ensure that boats are in as raced condition – no equipment substitution is permitted, competitors may only remove personal equipment.

Equipment inspectors are required to assist the IM with each boat. Boats may be hauled out to check weight. Masts may be removed to check dimensions. Ballast of OD boats may be removed. Only the IM, OM, Equipment Inspectors, ICA Technical Committee and the Jury are permitted in the post-race check dock area. Boat owners when instructed by an Equipment Inspector are required to assist with any required unrigging/rigging, removing/adding ballast.

# Station 1 – HULL/SPARS

Measurement Check	Measurement Rule	Method																					
Rating Certificate	<i>B.1 CERTIFICATE B.1.1 (b) The boat shall have a valid certificate.</i>	Check certificate is a valid rating certificate signed by the issuing Authority Check certificate plaque number matches plaque in boat																					
Buoyancy certificate	<i>B.1 CERTIFICATE B.1.1 (c) The boat shall have a valid ICA buoyancy certificate.</i>	Check buoyancy certificate is current (valid for 5 years only)																					
Norlin 2.4 One Design Certificate	<i>B.1 CLASS RULES AND CERTIFICATION B.1.1 (b) The boat shall have a valid 2.4 Norlin One Design certificate.</i>	Check OD certificate Check OD certificate plaque number matches plaque in boat																					
Spars	<p>C.8.2 MAST</p> <table border="0"> <tr> <td>(a) DIMENSIONS</td> <td>minimum</td> <td>maximum</td> </tr> <tr> <td>Limit mark width</td> <td>10mm</td> <td></td> </tr> <tr> <td>Upper Distance Point</td> <td></td> <td>5000mm</td> </tr> <tr> <td>Lower Distance Mark</td> <td></td> <td>to certificate P</td> </tr> </table> <p>C.8.3 BOOM</p> <table border="0"> <tr> <td>(a) DIMENSIONS</td> <td>minimum</td> <td>maximum</td> </tr> <tr> <td>Limit mark width</td> <td>10mm</td> <td></td> </tr> <tr> <td>Outer distance Point</td> <td></td> <td>to certificate E</td> </tr> </table>	(a) DIMENSIONS	minimum	maximum	Limit mark width	10mm		Upper Distance Point		5000mm	Lower Distance Mark		to certificate P	(a) DIMENSIONS	minimum	maximum	Limit mark width	10mm		Outer distance Point		to certificate E	Check only one mast and boom per boat Check mast upper point distance and lower point distance limit marks installed Check boom outer point distance limit mark installed Check mast datum point is marked with a punch  <b>STAMP REGISTERED MAST AND BOOM WITH EVENT LIMITATION MARK</b>
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Safety Equipment	<p>D.9 ASSEMBLED HULL</p> <p>D.9.1 FITTINGS AND EQUIPMENT</p> <p>(a) MANDATORY</p> <p>The following fittings and equipment shall be installed:</p> <p>(1) A suitable fitting or system in the bow area to enable the boat to be towed. The fitting/system shall be easy to access by rescue craft, and shall be able to handle line of at least 5mm in diameter.</p> <p>(2) One manual <i>fixed</i> bilge pump with a minimum capacity of 0.5 litre/stroke.</p> <p>C.4 PORTABLE EQUIPMENT</p> <p>C.4.2 NOT FOR USE</p> <p>(a) MANDATORY</p> <p>(1) Towing rope minimum 9m long of not less than 5mm in diameter and of material that floats.</p>	Visually check manual pump installed Visually check towing rope installed Visually check towing fitting for rescue access and ability to handle towing rope  <b>STAMP REGISTERED HULL WITH EVENT LIMITATION MARK</b>																					

## Station 2 - SAILS

Measurement Check	Measurement Rule	Method
Sails	<p>B.2 CERTIFICATION MARKS B.2.1 Items that require certification marks shall be so marked.</p> <p>G.2.2 CERTIFICATION (c) On the certification mark it shall be stated what design the sail is made for: (1) Main sail: The measure E according to G.3.3 (2) Head sail: The measure J according to G.4.2</p>	<p>Check maximum of 3 jibs and 2 mainsails per boat. Check certification marks on all sails Check E on mainsail certification mark is in accordance with rating certificate dimension Check J on jib certification mark is in accordance with rating certificate dimension Check national letters and sail numbers are in accordance with rating certificate</p> <p><b>STAMP AND SIGN REGISTERED SAILS WITH EVENT LIMITATION MARK</b></p>

## Station 3 - WEIGHT

Measurement Check	Measurement Rule	Method
Weight of all yachts shall be checked against Measurement Certificate as stated in Rule C.5.1.	<p>C.5 BOAT C.5.1 WEIGHT The weight of the boat in dry condition shall comply with that as stated in the measurement certificate.</p>	<p><b>CERTIFIED SCALES REQUIRED</b> Assist competitors to check boat weight against measurement certificate.</p> <p><i>ERS C.6.1 Boat It includes: hull, ballast, rig, sails, fittings, boat corrector weights and all other items of equipment used but excludes consumables, personal equipment and portable equipment.</i> Ensure that boat is dry. Ensure the following equipment is on board (anchor and electrical pump optional):</p> <ul style="list-style-type: none"> <li>▪ Bow towing fitting or system</li> <li>▪ Manual bilge pump</li> <li>▪ J restrictor</li> <li>▪ Towing rope</li> </ul>

## Station 4 - DOCK

Measurement Check	Measurement Rule	Method
Spot Checks	2.4mR class rules	IM boat equipment inspections at designated moorings pre-race and post-race
Post Race Checks	2.4mR class rules	Equipment inspections at controlled inspection mooring of 2-4 boats selected at random by Organising Authority after each racing session. Equipment inspection may include haul-out to check weight.
Haul-out Control	2.4mR class rules	IM control of boat haul-out for authorised repairs. <b>REFER 2.4mR HAUL OUT FORM</b>
Equipment Substitution	2.4mR class rules	IM control of authorised equipment substitution. <b>REFER 2.4mR EQUIPMENT SUBSTITUTION FORM</b>