

RS 21

CLASS RULES

2019 V.1.1 Draft



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INTRODUCTION

This introduction only provides an informal background and statement of the class objective and the International RS 21 Class Rules proper begin on the next page.

Background -

The RS 21 is a one-design racing keelboat, suitable for adult and youth sailors for training, racing and general fun.

Spirit of the Class -

The design principle of the class is that the racing results should depend solely on the attributes and skills of the crew rather than differences between boats and the way that they are rigged. The objective of these class rules is to implement this concept in practice. If you want to make a change ask your self "why"; if the answer is "to make the boat faster", then check these Rules because it is likely to be illegal.

General -

RS 21 hull, hull appendages, rig and sails shall only be manufactured by licensed manufacturers. Equipment is required to comply with the RS 21 Building Specification and is subject to an approved manufacturing control system.

Rules regulating the use of RS 21's during a race are contained in section C of these Class Rules, and in the Racing Rules of Sailing.

PLEASE REMEMBER:

**THESE RULES ARE CLOSED CLASS RULES meaning:
ANY CHANGE NOT SPECIFICALLY PERMITTED BY THESE CLASS RULES IS
PROHIBITED.**

**COMPLIANCE WITH THESE CLASS RULES IS DEMONSTRATED THROUGH
MANUFACTURING CONTROL:**

**THUS CONTROL OF COMPONENT AND EQUIPMENT
SPECIFICATION IS UNDERTAKEN BY THE LIC**

PART I – ADMINISTRATION

Section A – General

A.1 LANGUAGE

- A.1.1 The official language of the class is English and in case of dispute over translation the English text shall prevail.
- A.1.2 The words “shall” and “will” are mandatory and the word “may” is permissive.

A.2 DEFINITIONS

As used in this document, the following terms shall have the following meanings:

- A.2.1
- MNA - World Sailing Member National Authority
 - ICA - RS 21 International Class Association
 - NCA - National RS 21 Class Association
 - ERS - Equipment Rules of Sailing
 - RRS - Racing Rules of Sailing
 - LIC - Licensors, namely Copyright Holder and RS Sailing
 - LM - RS, and Licensed Manufacturer under an Agreement with LIC
 - NOR - Notice of Race
 - SI - Sailing Instructions
 - Copyright Holder - Jo Richards
 - RS Sailing - H Taylor & Son (Brokley) Limited trading as RS Sailing
 - Class Rules - these rules for the RS 21
 - Boat - RS 21 **boat** including hull, rig, foils, sails and fittings
 - Originally Supplied - the Boat, equipment and parts as supplied by RS or a distributor authorised by RS to supply the Boat
 - Rigging Manual - the Rigging Manual provided by LIC and submitted to World Sailing and displayed on the ICA website documents section at www.rs21sailing.org.
 - Building Specification - specification for building the RS 21 as provided by LIC and submitted to World Sailing
- A.2.2 In addition the following terms when used in this document shall have the following meaning:
- Maintenance**
- Maintenance shall constitute work required to retain the original condition of an item of equipment whilst compensating for normal wear and tear in order to achieve its maximum useful life. This includes preventative maintenance which shall be taken as the systematic inspection, detection and prevention of incipient failures before they become actual or major failures.
- Paint**
- Application of an additional layer or layers of a Permitted Material to the surface. The purpose of painting is to replace existing surface protection on a like for like basis. Painting may require prior preparation of the surface which

may involve light abrasion but not fairing unless otherwise permitted.

Polish

Application of small quantities of permitted polishing compounds (as published on the ICA website from time to time) on the **hull**, foils and rig of the Boat in order to reduce the surface roughness.

Sanding

Removal, solely for a purpose specifically permitted in these Rules, including for Repair of a component, of part of the outermost surface through use of an abrasive material with or without a lubricating agent, which after final repair does not alter the shape of a component or texture of the surface of the Originally supplied item,.

Re-finishing

See painting, polishing and sanding solely in order to complete a Repair.

Cleaning

The application of small quantities of detergents or similar agents the purpose of which is to remove residue on the surface which was not part of the original or subsequently modified surface.

Fairing

The removal or reshaping of irregularities within the surface form.

Repair

Corrective action following unintended and genuine damage to a component, or a manufacturing defect. Repairs shall be carried out using only Permitted Material in the same weight and amount as Originally Supplied. Repair of a manufacturing defect shall only be made after prior approval from LM. Repairs shall constitute work required to restore the original condition of an item of equipment whilst compensating for any additional material required to return the component to its original characteristics, including by filling, sanding and polishing. Any repair shall (i) only be to the damaged area, and (ii) not be used to reinforce or strengthen a part.

Permitted material

The same material as used in the manufacture of the relevant part of the **Boat** and as specified in the Construction Manual. A list shall be published on the ICA website from time to time; if you are uncertain then you must consult with the LIC before proceeding.

A.3 AUTHORITIES

- A.3.1 The international Class Rules authority of the class is World Sailing which shall cooperate with the LIC in all matters concerning these Class Rules and regulation of the RS 21.
- A.3.2 None of World Sailing, the ICA, an NCA, an MNA or LIC have any liability for losses (direct or consequential) or otherwise in respect of these Class Rules or the RS 21 or events.

A.4 ADMINISTRATION OF THE CLASS

- A.4.1 World Sailing has delegated administration of the Class to the ICA which shall cooperate in all respects with the LIC and not act contrary to LIC's interests. The ICA may delegate part of its administrative functions to the NCAs subject to the NCAs abiding by these Class Rules.

A.4.2 In countries where there is no NCA, or the NCA does not wish to have an administrative function, its administrative functions shall be carried out by the ICA in cooperation with the NCA or the MNA.

A.5 WORLD SAILING RULES

A.5.1 These Class Rules shall be read in conjunction with the ERS and RRS.

A.5.2 Except where defined in sections A.2.1 and A.2.2 above to the extent that they are consistent with these Class Rules the definitions in the ERS and RRS apply. Except where used in headings, when a term is printed in “**bold**” the definition in the ERS applies, when a term is printed in “*italics*” the definition in the RRS applies and when a term begins with a capital letter the definition in these Class Rules applies.

A.6 CLASS RULES VARIATIONS

A.6.1 At Class events RRS 87 and World Sailing Regulation 10.11 apply.

A.7 CLASS RULES AMENDMENTS

A.7.1 Amendments to these Class Rules are subject to the approval of World Sailing and LIC in consultation with the ICA.

A.8 INTERNATIONAL CLASS FEE AND WORLD SAILING BUILDING PLAQUE

A.8.1 RS Sailing shall pay the International Class Fee and shall send the Building Plaque to the LM

A.9 CLASS RULES INTERPRETATION

A.9.1 Interpretations of these Class Rules may be made from time to time and shall be made in accordance with World Sailing Regulation 10 except that the interpretation shall be made by (i) World Sailing in consultation with LIC, or (ii) by LIC in consultation with ICA, which interpretation shall then forthwith be notified to World Sailing, who shall agree, amend or reject that interpretation; any rejection will include reasons and a suggested change.

A.9.2 The LIC in consultation with World Sailing may from time to time issue guidance and interpretations of the Building Specification which shall be published on the ICAs website and shall be binding.

A.10 SAIL NUMBERS

A.10.1 Save as provided in A.10.3 sail numbers shall be issued by the LIC.

A.10.2 Save as provided in A.10.3 sail numbers shall correspond to the hull number. However, competitors may request permission in writing to the Technical Committee (or at a regatta for that regatta only, the Chief Measurer) to use a different sail number to the hull number. Permission will only be granted in exceptional cases and the Committee/Chief Measurer’s decision shall be final.

A.11 MANUFACTURE

A.11.1 All **hulls**, mast sections, boom, **sails**, **hull appendages**, tillers and rudder stocks shall only be manufactured by a LM (and only to the extent permitted by the

licence) and only supplied by RS, or an RS licensed distributor for the class and shall carry a LIC equipment label certifying it as Originally Supplied.

- A.11.2 All production moulds used for manufacture of the Boat shall be prior approved by the LIC and taken from the Master Plug governed by the Building Specification.

Section B – Boat Eligibility

For a Boat to be eligible for *racing*, it shall comply with the rules in this section.

B.1 CLASS ASSOCIATION MARKINGS

- B.1.1 A valid Class Association Sticker, if required by the ICA and/or NCA, shall be affixed to the hull on the transom.
- B.1.2 A valid Class Association sail sticker to be affixed to all sails indicating current year of use.

B.2 CLASS RULES & BUILDING SPECIFICATION COMPLIANCE

- B.2.1 The Boat and all equipment shall comply in all respects with the Class Rules, the Building Specification (save as permitted to be varied by these Class Rules) in force at the time of manufacture, and to the extent that they are not inconsistent, the ERS and RRS.
- B.2.2 All **hulls**, mast sections, booms, **sails**, keels, rudder blades, tillers:
- (i) only be manufactured by an LM who shall only produce them from moulds taken from the Master Plugs in accordance with the Building Specification; the moulds and products from the moulds shall not be altered other than as prior approved in writing by LIC;
 - (ii) only supplied by RS, or an RS authorised distributor for the Boat; and
 - (iii) shall carry a LIC equipment label certifying it as Originally Supplied.

B.3 EQUIPMENT INSPECTIONS

- B.3.1 All equipment inspections shall be carried out in accordance with the ERS except where varied in these Class Rules.
- B.3.2 Equipment Inspectors at an event will as required verify that equipment has been produced by LMs and has not been subsequently altered (other than as is permitted within these Class Rules) using whatever inspection methods they deem appropriate, including discussions with the ICA Chief Measurer, LIC and/or comparison with a reference sample of the type of equipment presented for inspection. Should this comparison reveal deviation greater than what the Equipment Inspector considers being within manufacturing tolerances, the following procedure shall be adopted:
- (a) the LIC or Chief Measurer of the ICA (if the LIC cannot be contacted) shall be consulted and provided with full details of the specification or item in question of the offending Boat.
 - (b) the LIC will or the Chief Measurer will after taking direction from the LIC give a final ruling in line with the LICs direction regarding the correct specification or interpretation of the Building Specification as the case may require. That ruling will be referred to the Race Committee for actioning.

- (c) If the LIC or Chief Measurer is not contactable prior to the end of a Regatta the matter will be reported to Race committee, who may make a ruling and will also promptly report full details of all items of equipment lying outside the accepted deviation, corresponding Building Specification/s or Class Rules to the LIC.
- (d) If any specification/s of the disputed Boat or item of equipment does not comply with the Class Rules or deviates from the Building Specification/s or is not supplied by RS, an RS licensed distributor for the class or an LM (where required by the Class Rules) then the LIC will make a final decision regarding use of the equipment at future events.

PART II – REQUIREMENTS & LIMITATIONS

The **crew** and the Boat shall comply with these Class Rules and the Building Specification including without limitation the following Part II when racing. In case of conflict the following section C shall prevail.

These Class Rules are **closed class rules** where anything not specifically permitted by the Class Rules is prohibited: compliance with these Class Rules is demonstrated through original design control.

Section C – Conditions for Racing

C.1 GENERAL

C.1.1 RULES

- (a) RRS G1.3(a) is changed so that only one Class insignia on one side of the sail is required.
- (b) RRS G1.3(a) is changed so that national letters and sail numbers are not required to be wholly above an arc whose centre is the head point and whose radius is 60% of the leech length.

C.1.2 SUPPLIED EQUIPMENT

Where Boats and/or equipment is supplied to the entire fleet for a regatta series:

- (a) Competitors shall use the equipment as supplied.
- (b) Competitors may use their own ropes (including mainsheet, control lines, halyard), shock cord, compass, wind vane and tiller extension.
- (c) Removal or alteration of fittings and repairs are prohibited without the permission of the race committee.
- (d) Changes, additions, or alterations to the spars, hull and fittings are prohibited except (i) as provided in C.1.3 (g) below, and (ii) for the fitting of a compass and wind indicator supplied by the competitor provided that they can be fitted without piercing, bonding or otherwise marking the hull or spars.

- (e) The use of waxes, polishing compounds or similar is prohibited. Competitors may wash their boat with detergent and water.
- (f) Plastic tape, shockcord or similar may be used in accordance with these Class Rules.

C.2 ADVERTISING & DECORATION

- C.2.1 Advertising is permitted in accordance with World Sailing Regulation 20 (advertising code) but the sail window shall not be covered by advertising or other material.
- C.2.2 Vinyl or other plastic film or paint may be added to the hull above the chine, and/or to the sail, solely for the purpose of displaying advertising, the boat name or decoration, provided that the film/paint shall not be specially textured or otherwise used in a way that could improve the character of the flow of water or air inside the boundary layer.
- C.2.3 Any advertising on the sail will only be displayed in **annex 1** the area below an imaginary line being an extension of the line of the bottom batten as shown in the drawing in Annex 2. Any advertising that involves cutting or any alteration to a sail other than painting, printing or attaching film shall only be put in place by a LM.

C.3 CREW

C.3.1 LIMITATIONS ON THE CREW

- (a) The **crew** shall consist of 3 or more persons. The number of **crew** shall not be changed during an event.
- (b) No **crew** member shall be substituted during the world championship and any event of 6 or less consecutive days, without the approval of the Race Committee or event Technical Committee.

C.3.2 LIMITATIONS ON THE DRIVER

The driver shall be a current class member in good standing, and meet the following criteria except in the event of an emergency involving the safety of the **boat** or **crew** where the **boat** may be steered by any **crew** member. Any such incident shall be reported to the event Technical Committee or Race Committee, which may protest the **boat**. The penalty may be less than disqualification.

- (a) Permitted drivers: The driver shall hold a valid Group 1 Classification in accordance with World Sailing Regulation 22 (see www.sailing.org/classification) except if you are a Group 3 sailor who owns and pays for at least 75% of a RS21 may drive.
- (b) Permitted Crew: Only one crew member may be permitted to be a Group 3 sailor as part of the crew in accordance with the world sailing regulations 22 including the driver as **per C.1.2 9**
- (c) For events of six or less consecutive days, not more than one drivers can be designated. If two drivers are designated, at least one must be an owner. From five minutes before the start until the finish, the **boat** shall be helmed by the designated driver(s) except for momentary absences for personal or shipboard needs not to exceed five (5) minutes when a Group 1 **crew** member may drive.

The class executive committee shall be the sole interpreter of who qualifies as an owner.

C.3.3 CREW POSITIONING

- (a) Except for momentary **sail** handling and/or repair needs, **crew** shall remain aft of the **mast** while on deck.
- (b) **Crew** shall not stand or lean out over the cockpit safety lines or stern rails to promote roll tacking, roll gybing or to increase hiking leverage, or for any other reason, other than for temporary needs to make repairs or correct problems.
- (c) No **crew** may have their legs outboard of the sheerline, and generally facing to the center of the boat
- (d) When tacking or gybing, **crew** shall not hang, push or pull on the **shrouds**, **mast**, cockpit safety lines, stanchions, mainsheet hoop or any other item to promote the maneuver.
- (e) Except for a medical emergency or momentary **sail** handling and/or repair needs, **crew** heads and shoulders shall remain above deck.
- (f) No owner may charter borrow more than one boat at any event.

C.3.4 MEMBERSHIP

To be eligible to compete in events run under the auspices of an NCA or ICA the **crew** must be a current member of their NCA, or ICA where no NCA is in place

C.4 PERSONAL EQUIPMENT

C.4.1 MANDATORY

- (a) The boat shall be equipped with a **personal flotation device** (PFD) for the crew to the minimum standard ISO 12402-5, (level 50, or USCG Type III, or AUS PFD II or equivalent).

C.4.2 COMPETITOR CLOTHING AND EQUIPMENT

- (a) Each **crew** member may wear a helmet that shall be to the minimum standard EN1385 or EN1077 or equivalent. This may be made mandatory by the Notice of Race and/or Sailing Instructions.
- (b) Each **crew** member may wear body protection, if the body protection also acts as a personal flotation device it shall be to the minimum standard in C.4.1(a). This may be made mandatory by the Notice of Race and/or Sailing Instructions.

C.5 PORTABLE EQUIPMENT

C.5.1 OPTIONAL

The following optional equipment and items may be used and attached to the hull or rig providing that attachments do not puncture and are not bonded to the surface of the **boat**:

- (a) one or more devices may be used which have the capability to measure, display, record and broadcast information relating to the boat's position, heading, header and lift information, vmg, time, and/or speed. The mounting bracket for the compass shall be fixed to the mast

- (b) Non-electronic maps, charts, port/starboard stickers, a racing signal code flags chart, and a marking pencil or pen for recording courses and compass headings
- (c) Bags, drink bottle/s, safety equipment, paddle, loose clothing, food and/or drinks.
- (d) Any additional equipment required by the Sailing Instructions for the event.
- (e) GPS tracking and recording may be used.
- (f) Camera to record video and pictures provided that the data and output is not viewed or used by the crew until he/she is onshore after a race has finished and not during a race; it may be used for producing broadcasts to the general public during a race but it must not be viewed or used by the **crew** during a race.
- (g) Up to 2 mechanical wind indication devices may be fitted to the mast.
- (h) One anchor and chain combined not less than 5kg in weight with at least 40m of rode with minimum diameter of 8mm.
- (i) One bucket of not less than 9-liter capacity
- (j) Navigation lights.
- (k) Tactical and navigational charts and instruments, including masthead electronic wind instruments.
- (l) Power source for optional electronics.
- (m) Mooring lines, fenders, spare lines, spare equipment, tool kit, and other personal items that provide no sailing performance advantage.
- (n) clips or keepers to retain **running rigging** in place when it is not being used
- (o) The mounts for items (a) to (q) may be attached to the **boat** using tape, rope, shock cord, Velcro, cable ties, providing that attachments do not puncture the surface of the **boat**, spars, sail, or **hull appendages**, and can be removed without damage to any of them.
- (p) Spare tiller extension.
- (q) Rig tension gauge
- (r) Shroud adjusting spanner as long as it not used during races.

C 5.2.) MANDATORY

- (a) One manual bilge pump
- (b) One marine first aid kit
- (c) One operational VHF radio
- (d) One functioning electric outboard engine and battery with a minimum weight of 8kg).
To be used only in the mid-engine box as per the rigging manual.

LIMITATIONS

- (a) Other items may be added depending on event Sailing instructions if deemed for safety.

C.5.3 ELECTRONIC EQUIPMENT

In addition to the optional equipment referred to in C.5.1, where stipulated in the SI and where supplied by the Organising Authority,

C.6 BOAT

MODIFICATIONS, MAINTENANCE AND REPAIR

C.6.1 MODIFICATIONS

C.6.1.1 The **boat**, spars, **sail, hull appendages**, control lines, attachment points and means, blocks, cleats mainsheet, halyard, vang, Cunningham, gooseneck, outhaul and shall be rigged, arranged and have the purchases as Originally Supplied and as shown in the Rigging Manual save as otherwise allowed to be changed by these class rules.

C.6.1.2 Wet or dry sanding or Fairing of the **hull, hull appendages**, or any other Originally Supplied equipment other than as specifically permitted in these Class Rules is prohibited.

C.6.1.3 No sealant/glue/adhesive or gasket of any type can be used on the engine door to attempt to seal the engine compartment.

C.6.1.4 The following is permitted without approval; unless stated otherwise. Items mentioned in this section may be obtained from any manufacturer or supplier providing that any replacement is a like for like type, weight and size as the Originally Supplied item, and performs the same function and does not modify the effective purchase, or rigging or sheeting position:

- (a) Polishing of the **hull, hull appendages, mast and boom** is permitted provided that the intention or effect is not to lighten the equipment or improve or alter the material shape from that Originally Supplied.
- (b) Lubricant on fittings, gooseneck, gooseneck pulleys, boom end (to enable the clew strap to slide more easily); boom end pulley, mast track, and sail (only in the direct vicinity of the tell-tales) only; it shall not be used on the **hull, hull appendages** or elsewhere.
- (c) The tips of the surface ridges of the non-slip on the deck and/or cockpit floor may be very lightly sanded to reduce its sharpness and make it less abrasive; however, only the tops of the peaks may be abraded, the texture must be maintained. If the texture becomes relatively smooth (however this occurs), it must be reinstated to its Originally supplied state. NOTE: the grip may not be substantially reduced, and the areas may not be sanded smooth.
- (d) The use of (i) flexible adhesive tape to secure knots in rope and shock cord, or stop the end of the rope fraying, or to secure the toe strap, or to protect the surface of the hull from wear by blocks, and (ii) "velcro" type fastening, hooks, hooked blocks, and snap shackles to facilitate connection of the outhaul primary line to the block, vang block to the mast, and outhaul and Cunningham shockcord; - provided that this does not modify the intended

purpose, purchase or action of any equipment and provided that such material shall not be used to create a fitting or extend a function of a permitted fitting or alter the shape of the boat.

- (e) Calibration marks of any kind.
- (f) Packing wedges no thicker than 5mm may be fitted under cleats.
- (g) A single tiller extension of any material and length may be used.
- (h) Shockcord of maximum diameter 6mm:
 - (i) for centralising the tiller,
 - (ii) to retract or reduce slack in ropes when released/un-cleated (including to pull the outhaul and Cunningham controls off);
- (i) Any of the mainsheet blocks may be replaced by upto two ratchet blocks of similar size to the block as Originally Supplied.
- (j) It is permitted to “re-lead” the tails/secondary lines of the Cunningham and outhaul lines only and to use additional shockcord, rope, rings (or closed thimbles in place of rings) and blocks for the sole purpose of routing to tidy the Cunningham and outhaul line tails provided that no further holes are drilled in the hull or rig.
- (k) Silicon sealant, elastic polyurethane, or adhesive may be used to retain and seal screws and/or bolts in place and placed on the ends to cover exposed sharp edges.
- (p) Padding of maximum thickness of 6mm may be stuck (using adhesive to the cockpit floor , but if it is, it must cover the entirety of the non-slip in that area and follow the outline of that non-slip. It is permitted to sand the non-slip surface to obtain a good adhesion surface for the padding, however, if the padding is removed, the non-slip must be reinstated to its Originally supplied state. NOTE: it may not be used elsewhere, and must be stuck in place over its entire surface.
- (n) Antifoul may be added to the hull, and any apendages as per the rigging manual. It is permitted to sand the hull surface to obtain a good adhesion surface for the Antifoul.
- (o) The cockpit back straps lines shall not deflect so they touch the deck when a force of 2 kg is applied at the point of maximum deflection.
- (q) A hatch cover may be added to the font hatch to avoid any leaking, but must be held in by using elastic and must be easily removeable.

C 6.1.5 MAINTENANCE

- (a) Maintenance of the **rig**, fittings, fastenings, ropes and shockcord is permitted and includes: (i) the replacement of fastenings and fittings with alternatives provided that the equipment is replaced in the Originally Supplied position using the same fitting and fastening as that Originally Supplied unless otherwise permitted by these Class Rules; and (ii) upgrading of one or more parts from those Originally Supplied when the **boat** was purchased to those as supplied on new **boats** by an LM which were not supplied with the original boat.
- (b) the following parts or equipment may be replaced using parts obtained from any supplier provided that the replacement is placed

in the same position and attached in the same way and is a like for like type, weight and similar size as the Originally Supplied item and does not alter the velocity ratio or purchase, and performs the same function (rope sizes are shown in Annex 1 below but may be of any material):

- (i) Blocks
 - (iii) Cam and clam cleats (but only on a like for like basis)
 - (iv) Control lines, running rigging, ropes and lashings.
 - (v) Shackles, swivels, clips and pins
 - (vi) the **keel** case packing may be replaced provided it is with a soft compliant fibrous material or a like for like material and does not extend more than 30mm into the case from the top or bottom, or beyond the surface defined by a straight edge held perpendicular to the centreline and dragged along the bottom of the **hull**
- (c) The watertight integrity of the **hull** shall be maintained. It is the responsibility of the owner to ensure all times the water-tightness and sea worthiness of the Boat.
- (d) The breather holes shall all remain open, operational and unrestricted.
- (e) Maintenance may include re-application of moulded deck non-slip areas with a similar material providing similar grip to the Originally Supplied in the event of wear.

C6.1.5 REPAIR

- (a) Repairs may be carried out provided the repair:
- (i) arises as a result of genuine and unintended damage,
 - (ii) is only made to the minimum extent necessary to reinstate the item to its Originally Supplied condition and shape,
 - (iii) only uses Permitted material,
 - (iv) complies with these Class Rules, and
 - (v) is done in such a way that the shape, weight distribution, characteristics, performance and function of the item as Originally Supplied are not affected.

Any repair shall not be used to reinforce an existing part, change the shape or add a function. Any repair which is substantial, or exceeds more than 5% of the total area of the item, or may alter the weight, profile, structure, air and/or water tight integrity of the item shall be referred to and be prior approved by LIC (which may impose such conditions as it considers appropriate, including stipulating the repairer) before being carried out in order to be in compliance with these Class Rules; the LIC may require the Repair to be carried out by LIC or a repairer appointed by LIC. Repairs to the sail must use a similar type and weight of material to the Originally Supplied.

- (b) No item/s may be painted other than in the immediate area of a repair or as permitted in C.2.2 above for advertising.

C.6.2 LIMITATIONS

Only one **hull**, rudder, tiller, tiller extension, set of **hull appendages**, set of spars. Any replacement shall only be made with the approval of the Race Committee.

C.7 HULL

C.7.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) Modifications, repairs and maintenance may be carried out but only in accordance with these Class Rules
- (b) Chips and scratches in the **hull**, deck and **hull appendages** may be filled. The Repair must comply with **C.6.1.5**. (Advisory note: re-finishing and fairing of the **hull** and **hull appendages** is not permitted except to the extent required for localised repair according to this rule.)

C.8 HULL APPENDAGES

C.8.1 MODIFICATIONS, MAINTENANCE AND REPAIR

C.8.1.1 USE

- (a) The **keel** shall be fixed in the down position using the standard strap supplied and must be tight before sailing.

C.8.2.1 MODIFICATIONS

- (a) Modifications, maintenance and repairs may be carried out but only in accordance with these Class Rules.
- (b) The location and size of any holes in the **rudder**, and **keel** as Originally Supplied shall not be altered.
- (c) It is not permitted to vary the designed chord width or profile shape of either the **rudder** or the **keel** from that Originally Supplied.
- (d) The leading edge of each foil below the stock (but not the front of the head of the foil) may be sanded, filled and/or painted provided that such work shall not extend more than 20mm aft of the leading edge.
- (e) The trailing edge of each foil (but not the head) may be sanded, filled and/or painted provided that such work shall not extend more than 3mm from the rear edge.
- (f) It is not permitted to vary the designed chord width, profile or shape of either the **rudder** or the **Keel** from that Originally Supplied.
- (g) Modification of the keel wedges is prohibited.

C.9 RIG

C.9.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) Modifications, maintenance and repairs may be carried out but only in accordance with these Class Rules.
- (b) The mast may be painted with a UV protective coat provided that it does not change the bend characteristics of the mast.

C.9.2 BOWSPRIT

MODIFICATIONS, MAINTENANCE AND REPAIR

9.2.1 USE

- a. The **bowsprit** shall be fully retracted at all times except when the gennaker is being set, is set, or is being retrieved, and shall be retracted at the first reasonable opportunity after the retrieval.
- b. An extended **bowsprit** shall not be considered part of the **boat** for the purposes of 1) establishing an overlap, or 2) establishing right of way, unless the gennaker is set.
- c. A batten not to exceed 150mm added to the end of the **bowsprit** as a preventer for the gennaker sheet.

C.9.3 RUNNING RIGGING

9.3.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) The total purchase ratio in each of the control line systems shall not exceed: vang – 16:1, cunningham – 4:1 outhaul – 4:1.
- (b) The mainsheet, jib sheets and spinnaker sheets shall be minimum 6mm thick diameter and can be tapered.

9.3.2 USE

- (a) Save as permitted in **C.6.1.3**, running rigging shall be led through and attached to the fittings supplied for the function as shown in the Rigging Manual.
- (b) The crew may control the mainsheet from any section of the the mainsheet system.
- (c) The gennaker sheets shall be led through the blocks in their standard locations as per the rigging manual.

C.9.4 STANDING RIGGING

9.4.1 MODIFICATIONS, MAINTENANCE AND REPAIR

9.4.2 USE

- (a) The **forestay**, **shrouds** and backstay legs shall not be adjusted whilst *racing* (adjustment of the backstay control line is permitted).
- (b) The **forestay** shall not be adjusted from the time the **boat** leaves its dock or mooring each day until the **boat** has finished *racing* for the day. A fixed spanner may be attached between

the upper and lower shroud pins above the turnbuckles to facilitate tuning the rig.

- (c) A pin known as a scar pin can be added to the turnbuckles to stop them over rotating and loosening.
- (d) A forestay cover can be added to the front forestay turnbuckle as long as it only covers the swage and turnbuckle.
- (e) A fiberglass backstay flicker must be mounted on the **mast**. Not extending more than 1000mm aft of the rear of the track.

Section C – Conditions for Racing

C.10 SAILS

C.10.1 MODIFICATIONS AND MAINTENANCE

- (a) Routine maintenance such as sewing, mending and patching is permitted without re-**certification**.

C.10.2 LIMITATIONS

- (a) Not more than one mainsail, one jib and one spinnaker shall be carried aboard when *racing*.
- (b) Not more than one mainsail, one jib and one spinnaker shall be used during an event, except when a **sail** has been lost or damaged beyond repair.

C.10.3 IDENTIFICATION

- (a) The mainsail shall carry as sail identification the national letters and sail number. The sail number to be carried on the sails shall correspond to boat number issued by RS Sailing. The national letters and sail number size and position shall comply with the RRS Appendix G.1.2 and 1.3 except where otherwise prescribed in these class rules.
- (b) Each sail shall display an RS Sailing Label from the official “RS 21 Identification Pack”. The RS 21 Identification Pack is available from RS Sailing.
- (c) Each sail shall display sail royalty badge that will arrive with the label pack and must be always be displaced.

C.10.4 MAINSAIL

(a) IDENTIFICATION

- (1) The sail identification shall be **White** in a durable material, securely attached. It shall be placed as shown in the Figure “Sail Identification Location” in Appendix H, and in accordance with **RRS Appendix G**, in addition to the class rules C.10.4 (1) & (2) below.
- (2) The National letters and Sail numbers shall be in White.
- (3) The National letters and Sail numbers shall be placed between Batten pockets 3 & 4. and according to the position that is shown in the Rigging Manual and Annex 2 below.
- (4) The Mainsail shall display the white vinyl Royalty-area label, RS Logo, Sailmakers Logo, and Cloth Manufacturers Logo in a horizontal line, within 250mm of an imaginary line between the **Tack**

point and **Clew point**.

(b) USE

- (1) The **sail** shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the **sail** at sea with the boat upright.
- (2) The **Luff** bolt rope shall be in its **mast** and **boom spar** grooves or tracks respectively.
- (3) Battens shall be fitted, except in the case of accidental loss or in measurement.

C.10.5 JIB

(a) IDENTIFICATION

- (1) The Jib shall display the white vinyl Royalty-area label, RS Logo, Sailmakers Logo, and Cloth Manufacturers Logo in a horizontal line, within 150mm of an imaginary line between the **Tack point** and **Clew point**.

(b) USE

- (1) The jib shall be hoisted and lowered on a halyard. The arrangement shall permit hoisting and lowering of the sail at sea with the **boat** upright.
- (2) Only one stainless steel luff wire of diameter not less than 2.3mm shall be fitted inside the jib luff sleeve.

C.10.6 GENNAKER

(a) IDENTIFICATION

- (1) The Gennaker shall display the white vinyl Royalty-area label, RS Logo, Sailmakers Logo, and Cloth Manufacturers Logo in a horizontal line, within 350mm of an imaginary line between the **Tack point** and **Clew point**.

Section G – Sails

G.1 PARTS

G.1.1 MANDATORY

- (a) **Mainsail**
- (b) **Headsail**
- (c) **Gennaker**

G.2 GENERAL

G.2.1 RULES

(a) **Sails** shall comply with the **class rules** in force at the time of **certification**.

(b) Any OEM North Sails made before the 1st March 2019 may be used, without penalty.

G.2.2 CERTIFICATION

(a) The **official measurer** or **In-House Official Measurer** shall **certify mainsails** and **headsails** in the **tack** and spinnakers in the **head** and shall sign and date the **certification mark**.

(b) Sails shall carry the sail label issued by the RS 21 Class Association to show that the class fee has been paid and this limits the amounts of sails which can be used within that year, this located for mainsails and headsails in the tack and spinnakers in the head. The label shall be placed and stitched around the circumference.

(c) World Sailing or an MNA may appoint one or more **In-House Official Measurers** to measure and **certify sails** produced by that manufacturer.

G.2.3 SAILMAKER

(a) A license is required to Build RS21 sails. The Licence shall be obtained from RS Sailing Ltd.

(b) For spinnakers the material name of the **body of the sail** shall be indelibly marked near the **head point** by the sailmaker, together with the RS licence royalty badge.

G.2.4 RS21 CLASS SAIL ROYALTY LABEL

Each **sail** shall have a non transferable anti tamper sticker to identify that the sails have been registered for that year. Labels are available through the class. The label shall not be transferred from one **sail** to another. The label shall be placed in the White PVC round label provided in the RS 21 Identification Pack.

G.2.5 MODIFICATIONS, MAINTENANCE AND REPAIR

If any **sail** is damaged and requires substantial repair, the **sail** will require re-**certification** which may require **fundamental measurement**. Repair to the sail exceeding 5% of the area or which are to the luff or bolt rope shall only be made by LIC or its designated repairer. Replacement of the entire window on a like for like basis is permitted if it is damaged beyond repair. If you are in doubt whether the damage may be repaired by you without approval of LIC you will refer full details to and consult LIC for determination by LIC.

G.3 MAINSAIL

G.3.1 INSIGNIA

(a) The class insignia is available from RS Sailing in the logo pack. The mainsail shall carry the RS 21 insignia in white, black and pink vinyl or other durable material, securely attached.

(b) The RS 21 insignia shall be placed approximately parallel to, and within 900mm of, the 3rd batten pocket and shall conform to the Figure "RS 21 Insignia" with a tolerance of 5mm.

G.3.2 MATERIALS

- (a) The **Mainsail** body shall be built from C1002 – 1500 polyester laminate cloth, available from RS Sailing or Dimension-Polyant.
- (b) **Sail reinforcement** shall consist of C1002 – 1500 or woven polyester (for example Dacron and must be black).
- (c) Battens shall be fiberglass and can be tapered.

G.3.3 CONSTRUCTION

- (a) The construction shall be: **soft sail; single ply sail**, with sail panels radiating out from the sail corners.
- (b) The **body of the sail** shall be constructed of C1002 – 1500 throughout.
- (c) The **mainsail** shall have five **batten pockets** in the **leech**. The top three **batten pockets** shall be full length, extending from luff to leech.
- (d) The following are permitted: Stitching, glues, tapes, bolt ropes, corner eyes, straps, headboard with fixings, Cunningham eye or pulley, **batten pocket patches**, **batten pocket** elastic, **batten pocket** end caps, mast slides, adjustable foot and leech lines, **windows**, tell tales, sail shape indicator stripes and items as permitted or prescribed by other applicable *rules*.
- (e) **Batten pockets**, **batten pocket patches**, **leech tabling** and **foot tabling** shall be Black.
- (f) Reef points are optional.
- (g) Safety **Windows** Shall be placed below the **quarter width**. The windows shall not cross **seams** between panels.
- (h) If a Spreader **Window** is fitted, it shall be wholly within a square area, parallel to the **luff**, of sides 400mm long, whose closest point is 1900mm from the **Tack Point**.
- (i) The **leech** shall not extend aft of straight lines between:
 - (1) The **aft head point** and the intersection of the **leech** and the upper edge of the second **batten pocket**,
 - (2) The intersection of the **leech** and the lower edge of a **batten pocket** and the intersection of the **leech** and the upper edge of an adjacent **batten pocket** below,
 - (3) The **clew point** and the intersection of the **leech** and the lower edge of the fifth **batten pocket**.
- (j) **Head Control** point shall be 250mm along the **Head** from the **Head Point**.
- (k) **Luff Control** point shall be 250mm down the **Luff** from the **Head Point**.

G.3.4 DIMENSIONS

Mainsail	Minimum	Maximum
Leech length	8100mm	8215mm
Foot length	2800mm	3020mm
Top width	250mm	360mm
Head Diagonal Measurement (Measured between Head control Point and Luff control point)	350mm	365mm
Seven-Eighths width		857mm
Three-quarter width		1385mm
Half width	2000mm	2155mm
Quarter width		2665mm
Total Window area	1.5m ²	2.5m ²
Intersection of centre line of Batten pocket 1 and Leech from Aft Head Point		50mm
Intersection of centre line of Batten pocket 2 and Leech from Aft Head Point	1125mm	1200mm
Intersection of centre line of Batten pocket 3 and Leech from Aft Head Point	2830mm	2930mm
Inside batten pocket length - battens 4 and 5		1205mm
Primary Reinforcement		275mm
Secondary Reinforcement	Not restricted	

G.4 HEADSAIL

G.4.1 MATERIALS

- The **Headsail** body shall be built from C1002 – 1500 polyester laminate cloth, available from RS Sailing or Dimension-Polyant.
- Sail reinforcement** shall consist of C1002 – 1500 or woven polyester (for example Dacron).
- Battens shall be fiberglass and can be tapered.

G.4.2 CONSTRUCTION

- The construction shall be: **soft sail; single ply sail**.
- The **body of the sail** shall be constructed of C1002 – 1500 throughout.

(c) The **headsail** shall have 3 **batten pockets** in the **leech**. The top **batten pocket** shall be full length, extending from luff to leech.

(d) The following are permitted: Stitching, glues, tapes, corner eyes, straps (except as an **attachment** at the **clew**), batten pocket elastic, **batten pocket patches**, **batten pocket** end caps, adjustable leech and foot lines, **windows**, tell tales, sail shape indicator stripes, and items as permitted or prescribed by other applicable *rules*.

(e) The **headsail** shall be fitted with non-adjusting hanks of uniform length.

(f) The **headsail** clew may be fitted with up to two **headsail** sheet blocks having a sheave diameter not larger than 40mm.

(g) The fitting at the **headsail clew** adjustment point shall be a single pressed ring, fitted in the body of the **sail**.

(h) **Stiffening**, including battens and corner boards, are not permitted in the **clew** area of the **headsail**.

G.4.3 DIMENSIONS

Headsail	Minimum	Maximum
Luff Length	6750mm	6830mm
Leech length	6300mm	6400mm
Foot length	2230mm	2330mm
Top width		95mm
Three-quarter width	650mm	695mm
Half width	1150mm	1225mm
Quarter width	1625mm	1725mm
Foot Median		6660mm
Total Window area		1.5m ²
Intersection of centre line of each Batten pocket from nearest Leech Measurement Point		75mm
Inside batten pocket length - battens 2 and 3		505mm
Primary Reinforcement		325mm
Secondary Reinforcement	Not restricted	

G.5 GENNAKER G.5.1 MATERIALS

(a) The **ply** of the **body of the sail** shall be manufactured from Contender Dynakote75 nylon.

G.5.2 CONSTRUCTION

(a) The construction shall be: **soft sail, single ply sail**.

(b) The **body of the sail** shall consist of the same **woven ply** throughout.

(c) The following may be fitted: Adjustable leech and luff and foot lines.

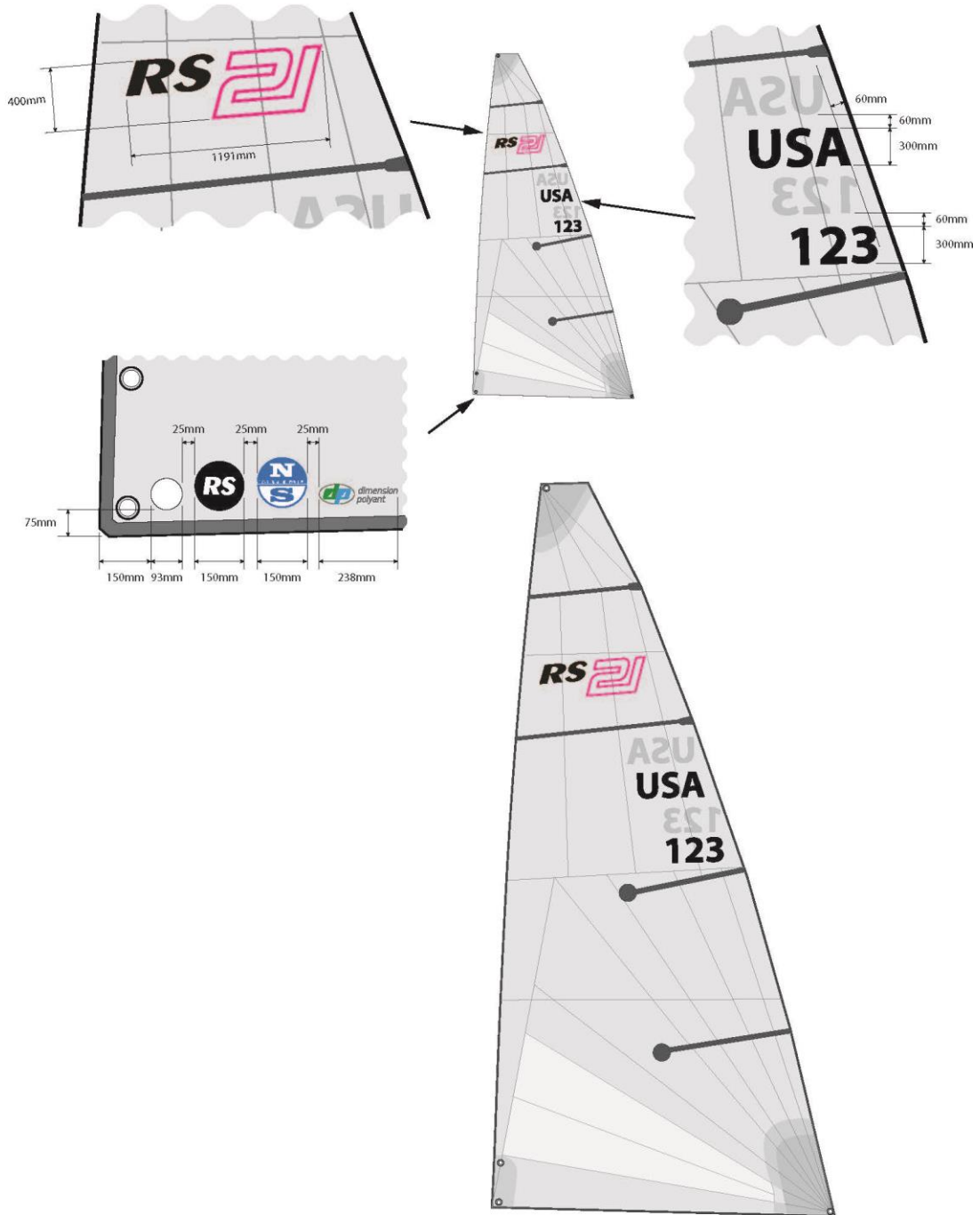
(d) The following are permitted: Stitching, glues, tapes, corner eyes, straps, tell tales and items as permitted or prescribed by other applicable *rules*.

(e) The Gennaker sailcloth colour must be white, apart from the front two full length panels down the luff which can be any colour.

G.5.3 DIMENSIONS

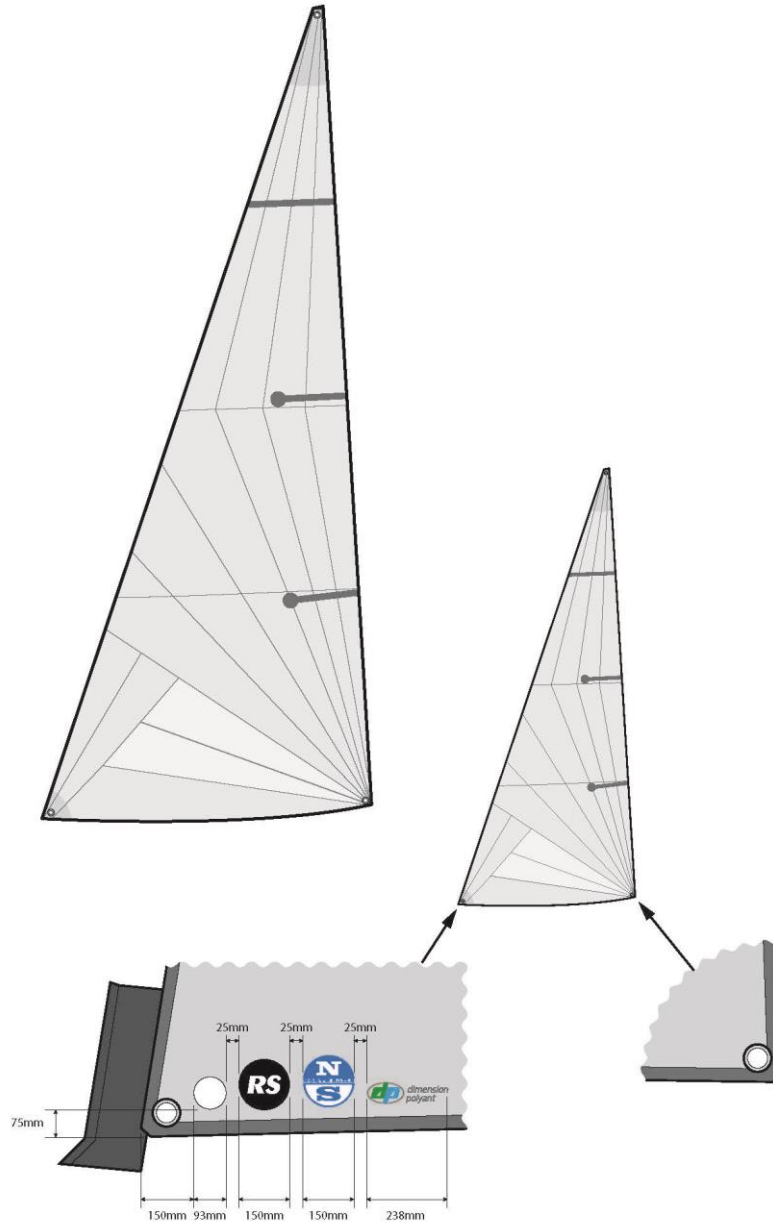
Gennaker	Minimum	Maximum
Luff Length	10100mm	10210mm
Leech length	8000mm	8100mm
Foot length	5300mm	5400mm
Foot Median	9400mm	9550mm
Three-quarter width		2910mm
Half width	5100mm	5220mm
Primary Reinforcement	Not restricted	
Secondary Reinforcement	Not restricted	

H.2 MAINSAIL DIMENSIONS AND IDENTIFICATION LOCATION



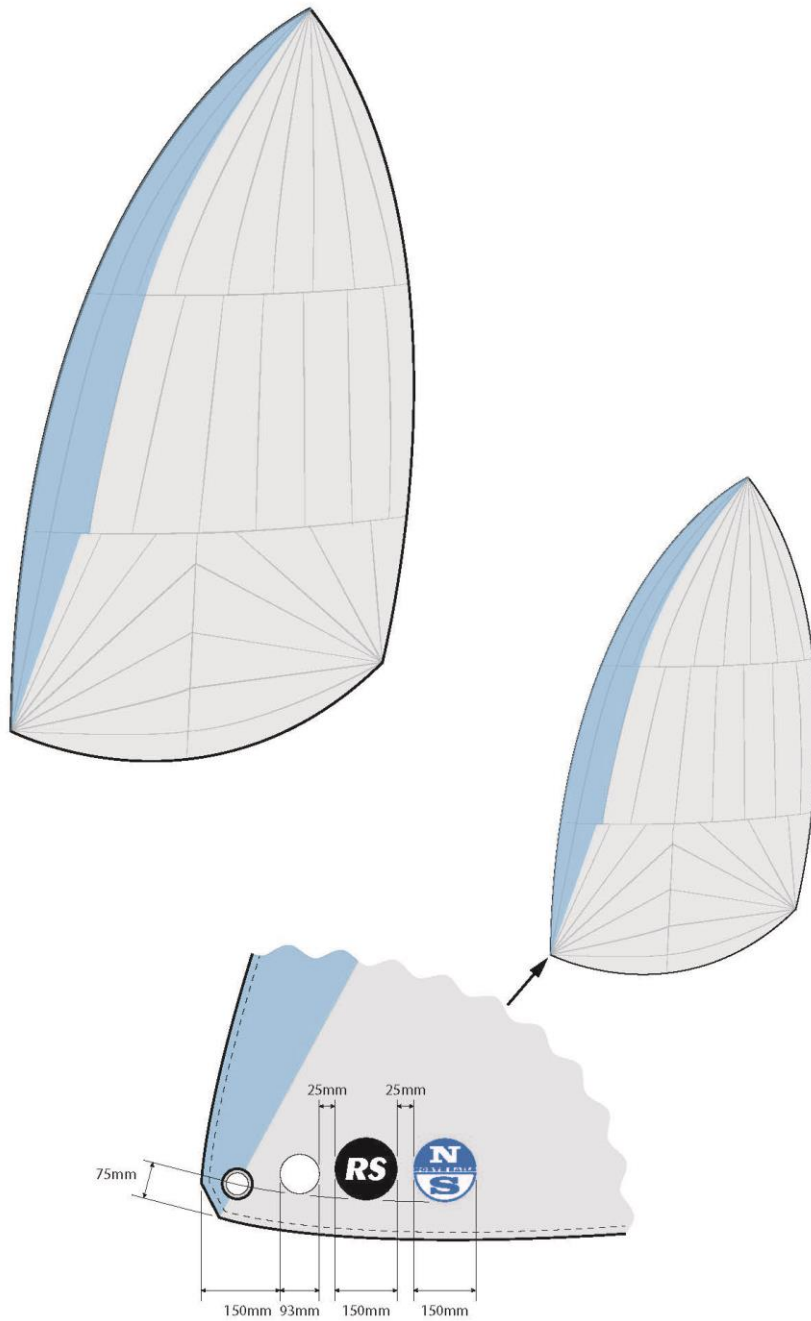
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JIB DIMENSIONS AND IDENTIFICATION LOCATION



H.3

GENNAKER DIMENSIONS AND IDENTIFICATION LOCATION



10.2.3 NATIONAL FLAGS

- (a) Where stipulated in the NOR or SI, all crew when racing in any Class World Championship or Continental Championship shall display the national flag of the **crew** in the relevant area shown in the drawing in Annex 2 below. The national flag is optional at all other events.
- (b) Flags shall only be ordered and purchased through the ICA and shall not be trimmed or cut.

Section E – Hull Appendages

E.1 MANUFACTURERS

Hull appendages shall be manufactured in compliance with Class Rules A.11 & B.2 above

E.2 PARTS

- (a) Keel
- (b) Rudder Blade
- (c) Tiller

E.3 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the World Sailing approved Builders Construction

Section F – Rig

F.1 MANUFACTURER

Rigs shall be manufactured in compliance with Class Rules A.11 & B.2 above.

F.2 PARTS

- (a) Mast comprising of a single tube with spreaders
- (b) Boom
- (c) Running rigging

F.3 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the World Sailing approved Builders Construction Manual.

Section G – Sails

G.1 MANUFACTURER

Sails shall be manufactured in compliance with Class Rules A.11 & B.2 above

G.2 PARTS

(a) Mainsail for 21.5, 21.7 and 21.9 respectively

G.3 MATERIALS, CONSTRUCTION, AND DIMENSIONS

Shall comply with the World Sailing approved Builders Construction Manual.

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PART III – EVENT RULES

NOTE: For World, World Sailing, or continental championship the rules of this Part H may not be invoked. For National championships one or more rules of this Part H may be invoked in the SIs. For Area and Seasonal (eg Spring, Winter) championships, local club racing and other minor events the following may apply.

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