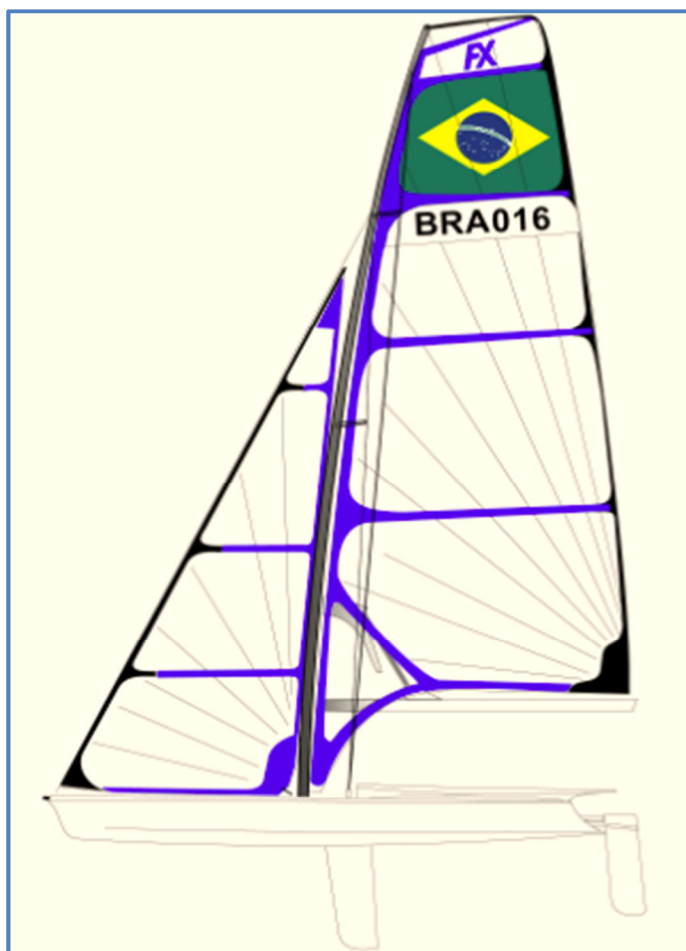




49erFX
CLASS RULES
2014



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INTRODUCTION

This introduction only provides an informal background and the International 49erFX Class Rules proper begin on the next page.

The boat comprises of 49er hull, hull appendages, boom and bowsprit equipment with FX mast, rigging and sails Equipment. It is therefore called the 49erFX.

*49er hulls, hull appendages, booms and bowsprits are manufacture controlled.
FX mast and sails are manufacture controlled.*

Hulls, hull appendages, rigs and sails shall only be manufactured by Licensed Manufacturers – in the class rules referred to as Licensed Manufacturers.

49er hull, hull appendages, boom and bowsprit equipment is required to comply with the International 49er Builders Construction Manual and is subject to an ISAF approved manufacturing control system.

FX mast, rigging and sails Equipment is required to comply with the International FX Builders Construction Manual and is subject to an ISAF approved manufacturing control system.

Hulls, hull appendages, rigs and sails shall, after having left the manufacturer, only be altered to the extent permitted in Section C of the class rules.

Owners and crews shall be aware that compliance with rules in Section C is the responsibility of the competitor. Rules regulating the use of equipment during a race are contained in Section C of these class rules, in ERS Part I and in the Racing Rules of Sailing.

PLEASE REMEMBER

**THESE RULES ARE CLOSED CLASS RULES WHERE
IF
IT DOES NOT SPECIFICALLY SAY THAT YOU MAY –
THEN
YOU SHALL NOT.**

**COMPONENTS AND THEIR USE, ARE DEFINED BY
THEIR DESCRIPTION**

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 the translation, the English text shall prevail.
- A.1.2 The word “shall” is mandatory and the word “may” is permissive.

A.2 ABBREVIATIONS

ISAF International Sailing Federation
MNA ISAF Member National Authority
ICA International Class Association
NCA National Class Association
ERS Equipment Rules of Sailing
RRS Racing Rules of Sailing
CRH Copyright Holder

A.3 AUTHORITIES AND RESPONSIBILITIES

- A.3.1 The class rules authority is ISAF, which shall cooperate with the ICA in all matters concerning these **class rules**.
- A.3.2 Neither the ISAF or the ICA is under any legal responsibility in respect of these **class rules**.

A.4 ADMINISTRATION OF THE CLASS

- A.4.1 ISAF has delegated its administrative functions of the class to the ICA.

A.5 ISAF RULES

- A.5.1 These **class rules** shall be read in conjunction with the ERS.
- A.5.2 Except where used in headings, when a term is printed in “**bold**” the definition in the ERS applies and when a term is printed in “*italic*” the definition in the RRS applies.

A.6 CLASS RULE VARIATIONS

- A.6.1 ISAF Regulation 10.11 applies

A.7 CLASS RULE AMENDMENTS

- A.7.1 Amendments to the **class rules** shall be proposed by the ICA and are subject to the approval of ISAF in accordance with the ISAF Regulations.

A.8 CLASS RULE INTERPRETATIONS

- A.8.1 Interpretation of **class rules** shall be made by ISAF in consultation with the

class and both CRH

- A.8.2 Interpretation of **class rules** at an event shall be carried out in accordance with the RRS. The event organising authority shall, as soon as practical after the event, inform the ISAF and ICA of any such interpretations.

A.9 INTERNATIONAL CLASS FEE AND ISAF BUILDING PLAQUE

- A.9.1 Licensed manufacturers of hulls shall pay an International Class Fee for each hull manufactured.
- A.9.2 The ICA shall, after having received the International Class Fee for the hull, send the ISAF Building Plaque to the Licensed Manufacturer.

A.10 LICENSED MANUFACTURERS

- A.10.1 Equipment shall only be manufactured by those appointed and licensed by the relevant CRH, in consultation with ISAF. Such licensees shall be referred to as Licensed Manufacturers within these **class rules**.

A.11 SAIL NUMBERS

- A.11.1 Sail numbers shall be:

- (a) The number shown on the ISAF International Class building plaque; or
- (b) In the International 49erFX Class World Championship, Continental Championship and ISAF Sailing World Cup events, an ICA issued personal sail number between 1 – 999, which shall be renewed on an annual basis.

- A.11.2 After the sale of the boat, the new owner shall use the sail number as in accordance with the ISAF hull plaque or his/her own personal number on his/her sails. In the event of conflict, Hull numbers 1 - 99 shall have the prefix “0” before the sail number.

A.12 CERTIFICATION

- A.12.1 Written **certification** is not issued.

Section B – Equipment Eligibility

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

B.1 CLASS RULES

B.1.1 The boat shall comply with the **class rules**.

B.2 CLASS ASSOCIATION MARKINGS

B.2.1 Wings, **bowsprit**, **daggerboard**, **rudder** blade, **boom** vang lever and **mast** spreaders shall carry an ICA 9er certified equipment label

B.2.2 **Mast** sections and **sails**, shall carry an ICA *FX* certified equipment label.

B.3 EVENT INSPECTION

B.3.1 GENERAL

A role of **Equipment Inspectors** at an event is to verify that equipment has been produced by a Licensed Manufacturer and has not been subsequently altered (other than as is permitted within these rules) using whatever inspection methods they deem appropriate, including 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 matter shall be reported to the race committee.

Such occurrences shall be reported to ISAF and the ICA technical committee as soon as practical for investigation and a ruling on the eligibility of the equipment for racing.

B.4 EVENT LIMITATION MARKS

B.4.1 If an event uses **event limitation marks** these marks shall not be removed during the event. If the **event limitation mark** becomes damaged or lost this shall be reported to the event race committee as soon as practical.

PART II – REQUIREMENTS & LIMITATIONS

The **crew** and the boat shall comply with the rules in Part II when *racing*. In case of conflict Section C shall prevail.

The rules in Part II are **closed class rules**. Equipment control and **equipment inspection** shall be carried out in accordance with the ERS except where varied in this Part.

Section C – Conditions for Racing

C.1 GENERAL

C.1.1 RULES

- (a) RRS 50.4 shall not apply.
- (b) RRS 42 shall apply as amended below:
RRS 42.3 is changed as follows:
 - (j) *A boat may be sculled if the sculling does not propel the boat in any direction.*
- (c) RRS 49.1 is changed to: 'The **crew** shall use no device designed to position their body outboard other than a **trapeze**, hiking straps and stiffeners worn under the thighs'
- (d) RRS G1.3(a) is changed so that only one Class insignia on one side of the sail is required.
- (e) RRS Appendix G1.3(d) shall not apply.

C.2 CREW

C.2.1 LIMITATIONS

- (a) The **crew** shall consist of two persons.
- (b) A **crew** member using a **trapeze** shall be in contact with the **hull** at all times except in the situation of accidental movement and or a manoeuvre.

C.2.2 MEMBERSHIP

In all international events each **crew** member shall be a current member of the ICA.

C.3 PERSONAL EQUIPMENT

C.3.1 MANDATORY

- (a) The boat shall be equipped with **personal flotation devices** (PFD) for each **crew** member to the minimum standard ISO 12402-5 (Level 50) or USCG Type III or AUS PFD II or equivalent.
- (b) The use of inflatable personal flotation devices is not permitted.

C.4 ADVERTISING

- C.4.1 Advertising, including competitor advertising, is permitted in accordance with ISAF Regulation 20 – Advertising Code.
- C.4.2 For the purpose of ISAF Advertising Code, the gennaker shall be deemed a spinnaker.

C.5 PORTABLE EQUIPMENT

C.5.1 OPTIONAL

- (a) Timing devices, removable for weighing.
- (b) Maximum two compasses with brackets, removable for weighing.
- (c) Electronic compasses with functions beyond heading and timing are prohibited.
- (d) Spare parts and tools, removable for weighing.
- (e) Camera recording equipment and attachments, and/or race tracking equipment (GPS) where permitted by the ICA, Notice of Race and/or Sailing Instructions and removable for weighing.

C.6 BOAT

C.6.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) The use of shock cord or adhesive tape is in general unrestricted, except that such material shall not be used in such a way as to create a fitting or extend a function of a permitted fitting.
- (b) Replacement of non-skid tape or paint to the deck moulding and the wings is permitted.
- (c) Any cleat may be replaced with a cleat of any material and substantially of the same size and design.
- (d) Any cleat including integrated fairlead may be replaced with a cleat of any material and of substantially the same size and design.
- (e) Any block may be replaced with a block of the same number of sheaves of similar or greater diameter. Ratchet blocks have no sheave diameter restrictions. Ratchet blocks may be used for the gennaker sheets and as the forward mainsheet block on the boom.
- (f) Any attachment of blocks may be replaced. Attachments for blocks shall be of substantially the same size and design.
- (g) Any other fitting than those mentioned in C.6.1 (e), and (f), shall only be replaced by the same model or a replacement model.
- (h) Replacement fittings shall be fitted in the same position as the original fitting, or as close as is structurally possible.
- (i) To facilitate advertising; painting and vinyl or similar may be added to the **sails, hull** and **spars** for this purpose except that as per C.7.3(a) the **hull** shell below the gunwale shall not be painted.
- (j) Fasteners may be replaced or added, if the function of the fitting or part is not altered and where required to facilitate a repair the fitting may be modified to accommodate slightly larger fixings.
- (k) Protective coverings made of any soft material to cover exposed fittings are permitted. Such covering shall not alter the function of the fitting.

C.7 HULL

C.7.1 MODIFICATIONS,

- (a) A block for the gennaker sheet may be added on each side of the boat attached to the front inboard wing mount. This block may be a ratchet block.
- (b) A bale may be fitted beneath the jib blocks on the gennaker launcher ring and a single block to increase the jib sheet purchase.
- (c) Maximum 4 foot straps are allowed on each wing for which holes may be drilled.
- (d) A block may be added, in the gennaker halyard behind the two floor blocks, with a sheave of not more than 30 mm diameter and attached with a shock cord, which may pass through an additional block with a sheave diameter of not more than 20 mm.
- (e) One tie down loop is permitted on each gunwale flange to facilitate securing the hull to a trailer or beach dolly. The loop shall be permanently fastened to the gunwale flange using screws or bolts. Each loop shall be within 800 mm to 1000 mm behind the chain plates.
- (f) Wedges may be fitted under the jib sheet blocks, **boom** vang, and Cunningham and gennaker halyard cleats.
- (g) Fittings made from flexible material may be added along the rail forward of the chain plates on each side for the hull for the sole purpose of retaining the spinnaker sheets on the boat.
- (h) The existing holes in the jib sheet track may be increased in diameter up to a maximum of 6.5mm. Additional holes are not permitted.
- (i) No holes may be made in the **hull** or deck mouldings except:
 - (i) for fittings specified in C.7.1 (a) and (c)
 - (ii) for the purpose of making repairs.
 - (iii) for the purpose of attaching the compass retaining lines.
- (j) The **daggerboard** case packing may be replaced by any material. This packing shall not extend for more than 60mm into the trunk from the top or bottom, or beyond the surface defined by straight edge held perpendicular to the centreline and dragged along the bottom of the **hull**.
- (k) The use of thimbles, rings or similar may be added to control lines and their shock cord take-ups.
- (l) The Cunningham purchase may be increased to a maximum of 6:1.
- (m) The rope purchase of the vang system may be increased to a maximum of 4:1.

C.7.2 MAINTENANCE

- (a) The watertight integrity of the **hull** shall be maintained.
- (b) The breather hole in the centre plinth shall remain open and unrestricted.
- (c) Fittings may be bedded in provided they can be removed without damage to either the **hull** or fitting.

C.7.3 REPAIR

- (a) In the event of damage to any part of the **hull**, necessary repairs may be made provided repairs are made in such a way that the essential shape and

function is not materially affected. Areas of damage repair may be filled, sanded and polished over.

(b) Replacement of non-skid tape or paint to the deck moulding and the wings is permitted.

C.7.4 LIMITATIONS

(a) Only one **hull** shall be used in an event, except when lost or damaged beyond repair. Any replacement shall only be made with the approval of the Race Committee.

(b) The wings shall be fully extended when racing.

C.7.5 HULL WEIGHT

(a) The weight of the **hull** including wings, gennaker sock, **bowsprit**, **rudder** stock including tiller and **rudder** pintle, **rudder** gantry, permanently fixed fittings, foot straps and any **hull corrector weight**, but excluding **daggerboard**, **rudder** blade, tiller extensions, gennaker blocks, all control lines including shock cord, non-permanently fixed fittings and equipment listed in C.5 shall not be less than 94.0 kg with all items in a dry condition.

C.7.6 CORRECTOR WEIGHTS

(a) **Corrector weights** of lead shall be permanently fastened to the top surface of the deck beside the mast step when the **hull** weight as in C.7.5(a) is less than the minimum requirement.

(b) The total weight of such **corrector weights** shall not exceed 2.0kg.

C.8 HULL APPENDAGES

C.8.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) Repairs to chips in the leading and trailing edge may be filled and blended in. (Advisory note: nowhere is re-finishing, fairing of the **daggerboard** and **rudder** blade permitted except to facilitate localised repair in this rule. Painting is not mentioned therefore as these are **closed class rule** it is prohibited.)

(b) The tiller forward of the **rudder** stock may be modified.

(c) The **rudder** stock packing may be replaced by any compressible material.

(d) The tiller extensions may be replaced without any restrictions as to design and material.

C.8.2 LIMITATIONS

(a) Only one **daggerboard** and one **rudder** blade shall be used during an event except when an item has been lost or damaged beyond repair. Any replacement shall only be made with the approval of the Race Committee.

(b) In Olympic Sailing Competition, World Championships, Continental Championships, ISAF Sailing World Cup and other ISAF grade I events the **daggerboard** and **rudder** blade identifiable by the embossed 49er logo shall used.

C.9 RIG

C.9.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) Replacement of fittings may be made and if needed to facilitate repair the fitting may be modified to accommodate slightly larger fixings.
- (b) Standing **rigging** may be replaced and shall comply with the following:
 - (i) Construction shall be 1 x 7 stainless steel wire rope
 - (ii) The forestay, middle shrouds and lower shrouds shall be of diameter minimum 3.0mm, maximum 3.5mm.
 - (iii) The upper shrouds shall be of diameter 2.3 mm minimum, 2.6 mm maximum
- (c) The lower shroud may be fitted with a turnbuckle between the wire end and the hull fixing point.
- (d) The lower part of the forestay and shrouds, and their attachment fittings may be covered with protective covering; however, the function of the fittings shall not be changed.
- (e) Rig pins may be replaced by quick pins or any other type of pins.
- (f) Tufts or ribbons in the **rigging**.
- (g) The cap shroud and primary shroud may be fitted with a turnbuckle between the shroud plate and the hull fixing point.
- (h) The mast sections may be permanently glued together at the top spreader.
- (i) The spreaders may be permanently bonded to the middle section on the mast, but the lower section must always be removable.

C.9.2 LIMITATIONS

- (a) Only one set of **spars** and **standing** rigging shall be used except when an item has been lost or damaged beyond repair. Any replacement shall only be made with the approval of the Race Committee.
- (b) In the Olympic Sailing Competition, World Championships, Continental Championships, ISAF Sailing World Cup and other ISAF Grade I events, only the 3 piece carbon mast and the bowsprit with the white safety banding at each end and forward end cap fitting shall be used.

C.9.3 DIMENSIONS

- (a) The forestay length is controlled by laying the forestay along the forward face of the **mast spar** and measuring the extension of the forestay beyond the mast heel. This distance shall be taken between the forward extension of the bottom of heel tenon and the bearing surface of the forestay pin and shall be minimum 455mm and maximum 465mm.

C.9.4 FITTINGS

- (a) Optional mechanical wind indicators.

C.9.5 STANDING RIGGING

- (a) USE
 - (1) The forestay shall be fitted to the centre hole of the stem head fitting.
 - (2) Standing rigging shall not be adjusted after the start.

C.9.6 RUNNING RIGGING

(a) MODIFICATIONS, MAINTENANCE AND REPAIR

- (i) The trapeze wires may be replaced with stainless steel wire of not less than 2.0 mm diameter or by lines of any material of not less than 3.0 mm diameter.
- (ii) Sheets and lines may be replaced without any restrictions as to length, diameter and taper providing the part is not made of wire.
- (iii) A continuous main sheet and jib sheet is permitted.
- (iv) A fairlead/eye for the end of the mainsheet may be attached to the floor plinth.
- (v) **Mainsail** halyard and **jib** halyard may be replaced by lines of any material.
- (vi) **Mainsail**, **jib** and gennaker halyards may be lead externally
- (vii) Shock cord tails may be added to ropes.
- (viii) A clip or shackle may be fitted at the end of the **jib** sheet attachment line where it attaches to the clew board of the **jib**.
- (ix) The trapeze arrangement may be modified to include an adjustable hook height provided that the attachment methods to the mast spar and the wings are not changed.

C.9.7 USE

- (a) Running rigging shall be led through and attached to the fittings supplied for the function.

C.10 SAILS

C.10.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) **Sails** shall not be recut, except as permitted in C.10.4(a), or otherwise change or affect any aspect of the **sail** or pierce the **sail** for any reason other than effecting necessary repairs or as permitted by these rules.
- (b) The length of the **battens** may be altered to adjust the tension in the batten pocket, provided the **batten** fits within the original pocket and the **sail** is not altered other than by cutting and renewing the **batten** pocket stitching at either end.
- (c) The **sail battens** identified by a unique identification graphic and as supplied by a licensed manufacturer and shall not be altered in stiffness.
- (d) Tell Tales on the sails.
- (e) Chaffing patches may be added to mainsail.

C.10.2 LIMITATIONS

- (a) Not more than 1 mainsail, 1 jib and 1 gennaker shall be used during an event except when a sail has been lost or damaged beyond repair. Any replacement shall only be made with the approval of the Race Committee.

C.10.3 MAINSAIL

(a) IDENTIFICATION

- (i) In the International 49erFX Class World Championship, Continental Championships and ISAF Sailing World Cup events, the sail numbers shall be

white in colour and applied to the sail, back to back, on a black circular background, below batten 3 and above batten 4 from the **head point** and within 100 mm of the **leech**. The national letters shall be white in colour and applied to the sail, back to back, on a black oval background immediately below batten 3 from the **head point** and within 300 mm of the **luff**. The black backgrounds, national letters and numbers shall be ordered and purchased from the ICA and shall not be trimmed or cut. This amends RRS Appendix G1.3(c).

- (ii) At other events, the national letters and the sail numbers shall be either as prescribed in C.10.3(a)(i) or shall be black in colour and applied back to back on a white background to the sail immediately below batten 3 from the **head point**. The white background shall be ordered and purchased from the ICA and shall not be trimmed or cut. The national letters and numbers shall be placed on the same plane and shall comply with the RRS Appendix G except where specified otherwise.
- (iii) A **skipper** or **crew** who has won a 49erFX World Championship may add an 80mm diameter gold dot for each World Championship title won immediately in front the FX class insignia, between batten 1 and batten 2 from the **head point**.
- (iv) The names of **skipper** and **crew** may be applied on either side of the mainsail, immediately below batten 5 from the **head point** and no closer than 100 mm to the **leech**.

(b) NATIONAL FLAGS

- (i) All teams when racing in the International 49erFX Class World Championship, Continental Championship and ISAF Sailing World Cup events shall display the national flag of the helmsperson. The flag shall be placed on the port side of the mainsail between the 2nd and 3rd battens from the **head point** of the sail. The national flag is optional at all other events.
- (ii) Flags shall only be ordered and purchased through the ICA and shall not be trimmed or cut.

C.10.4 GENNAKER

(a) MODIFICATIONS

The gennaker may be modified by having graphics cut in using the same weight fabric, which shall not extend within 1000 mm of the **head point** or **tack** and shall not extend into the two outer panels or the **luff**, **leach** or **foot**. Such actions shall not alter the original shape of the **sail**.

(b) LIMITATION

IOC/ISAF Olympic national flag gennaker may be used for racing except in World Championship events.)

Section D – Hull

D.1 MANUFACTURERS

(a) **Hull** and wings shall only be manufactured by Licensed Manufacturers.

D.2 PARTS

- (a) **Hull**
- (b) Wings
- (c) Gennaker sock

D.3 IDENTIFICATION

The **hull** shall carry the licensed manufacturer's serial number as embossed on the aft trailing edge of the transom.

The **hull** shall display the ISAF 49er Class Builders plaque on the transom

The wings shall carry an ICA 9er certified equipment label

D.4 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the ISAF approved Builders Construction Manual

Section E – Hull Appendages

E.1 MANUFACTURERS

(a) **Hull appendages, Rudder** stock and **Rudder** gantry shall only be manufactured by Licensed Manufacturers.

E.2 PARTS

- (a) **Daggerboard**
- (b) **Rudder** Blade
- (c) **Rudder** stock
- (d) **Rudder** gantry

E.3 IDENTIFICATION

The **daggerboard** and **rudder** blade shall carry the embossed 49er logo and/or ICA 9er certified label at the head of each appendage.

E.4 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the ISAF approved Builders Construction

Section F – Rig

F.1 MANUFACTURER

- (a) Mast parts shall only be manufactured by a Licensed Manufacturer.
- (b) Boom and **Bowsprit** parts shall only be manufactured by a Licensed Manufacturer.

F.2.1 MAST PARTS

- (a) **Mast**
- (b) Spreaders

F.2.1 BOOM AND GENNAKER POLE PARTS

- (a) **Boom**
- (b) **Bowsprit**
- (c) **Boom** vang lever

F.3 IDENTIFICATION

The **mast** sections shall carry an ICA *FX* certified equipment label.
The **Bowsprit**, **Boom** vang lever and spreaders shall carry an ICA 9er certified equipment label.

F.4 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the ISAF approved Builders Construction Manual.

Section G – Sails

G.1 MANUFACTURER

Sails shall only be manufactured by a Licensed Manufacturer

G.2 PARTS

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

G.3 IDENTIFICATION

The **mainsail**, jib and gennaker shall carry the ICA *FX* sail label

G.4 MATERIALS, CONSTRUCTION, AND DIMENSIONS

Shall comply with the ISAF approved Builders Construction Manual.

Effective Date: 1 September 2014
Published Date: 1 September 2014
Previous Versions: 1 January 2014
14 June 2013

22 February 2013