

X-15*class*

X-15*class*

X-15 CLASS RULES



International X-15 Class Association

The X-15 Class was designed in 2023 by [SESTAR](#) as a one-design class for wingfoil racing.

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Add standard cover page

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X-15 ***CLASS***

INTRODUCTION

This introduction only provides an informal background and the International X-15 Class Rules proper begin on the next page.

X-15 hulls, hull appendages, rigs and sails are manufacturing controlled.

All equipment shall only be manufactured by approved manufacturers – in the class rules referred to as licensed manufacturers unless otherwise permitted by these rules.

Equipment is required to comply with the International X-15 Building Specification and is subject to a World Sailing approved manufacturing control system.

X-15 hulls, hull appendages, rigs and sails may, after having left the manufacturer, only be altered to the extent permitted in Section C of the class rules.

Commented [2]:
Addition of index page before introduction?

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Owners and crews should be aware that compliance with rules in Section C is NOT checked as part of the certification process.

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.

PART I – ADMINISTRATION

Section A – General

Commented [3]:
Royalty scheme to be defined

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 word “shall” is mandatory and the word “may” is permissive.
- A.1.3 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 “italics” the definition in the RRS applies.
- A.1.4 The term ‘board’ or ‘Wingfoiler’ in these rules means boat.

A.2 ABBREVIATIONS

- A.2.1
- WS: World Sailing
- MNA: WS: Member National Authority World Sailing
- X-15: X-15 Class Association
- NCA: National Class Association
- RRS: Racing Rules of Sailing
- ERS: Equipment Rules of Sailing

A.3 AUTHORITIES AND RESPONSIBILITIES

- A.3.1 The **Class Rules** authority of the class is World Sailing, which shall cooperate with the X-15 in all matters concerning these **class rules**. ~~[SPARE]~~
- A.3.2 Neither WS nor the X-15 accept any legal responsibility in respect of these **class rules** or any claim arising therefrom.

A.4 ADMINISTRATION OF THE CLASS

- A.4.1 WS has delegated its administrative functions of the class to the X-15. ~~[SPARE]~~

A.5 WORLD SAILING RULES

- A.5.1 These **class rules** shall be read in conjunction with the ~~R~~ERS.

Commented [4]:
Include RRS?

Commented [5R4]:
Yes, thank you for catching that. Updated to RRS.

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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 "*italics*" the definition in the RRS applies.~~

A.6 CLASS RULES CHANGES

A.6.1 ~~Amendments to these **class rules** are subject to the approval of World Sailing in accordance with World Sailing Regulations.~~

A.7 INTERPRETATION OF CLASS RULES

A.7.1 ~~Interpretation of these **class rules** shall be made in accordance with WS Regulations.~~

A.8 WS PLAQUE

A.8.1 ~~Licensed manufacturers shall pay the plaque fee to WS.~~~~[SPARE]~~

A. 9 SAIL / BIB NUMBERS

A.9.1 ~~Sail / Bib numbers shall be issued by the X-15 who may delegate this to the NCA's.~~

Commented [6]:
Does this need to be repeated? It's already given above in A.1.3

Commented [7R6]:
Good point

Commented [8R6]:
Agreed. I removed it

Commented [9]:
Reflect agreement requirement - it could be as simple as:
Licensed manufacturers shall pay the plaque fee to WS.

Commented [10R9]:
Ok. See 8.1 to confirm its correct

Section B – Equipment Eligibility

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

B.1 CLASS RULES AND CERTIFICATION

B.1.1 ~~The Wingfoiler shall:~~

(a) ~~have been manufactured by licensed manufacturers (except as otherwise stated in these class rules).~~

~~(b)~~~~[SPARE]~~

(be) ~~be in compliance with the class rules and have not been modified in any way other than permitted by the class rules~~

Commented [11]:
In italics to apply RRS definition?

Commented [12R11]:
Does it need to be in italics?

Commented [13]:
General question: do we need to list the licensed builders in the CRs?

Commented [14R13]:
Question for ERSC

PART II – REQUIREMENTS AND LIMITATIONS

The **crew** and his/her equipment shall comply with the Rules in Part II when *racing*.

Inspection to check conformity with the rules of Section C is not part of fundamental measurement.

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

Commented [15]:
?

Commented [16]:
To check with ERSC

Section C – Conditions for Racing

C.1 GENERAL

C.1.1 RULES

- (a) ___-RRS 50.1(b) is changed as permitted by the rule itself to specify a clothing and equipment weight as set in C.3.4 and the harness weight as set in C.3.3(i).
- (be) ___ RRS Appendix G is changed as permitted by RRS G.5 to set the Sail Identification requirements as defined in C.10.2

Commented [17]:
Is there a need to add a clause for PFD's in this section? Or shall RRS 1.2 just be followed as standard?

Commented [18R17]:
Only ers and rrs changes are listed here. To check with the class

C.1.2 Equipment updates from manufacturer will be implemented at a minimum of two year intervals

C.1.3 At World and European Championships, International WS Events, and Class-endorsed Championships, competitors shall use current generation of X-15 equipment.

C.1.4 At Regional and local events, competitors may use older generation X-15 equipment.™

C.2 CREW

C.2.1 LIMITATIONS

- (a) ___-The **crew** shall consist of one person.

C.2.2 MEMBERSHIP

X-15 CLASS

- (a) For all National Championships, World Championships, WS World Cup Series events and Continental Championships the **crew** shall be a member of his/her NCA. If there is no NCA then the **crew** must be a member of the X-15 Class ~~Class~~.

C.2.3 DIVISIONS

(a) Gender divisions

- (i) Men
- (ii) Women

(b) Age divisions

- (iii) U13/ U15 / U17 / U19: crews under the age of the division age on 31st December in the year of competition are allowed to compete in the U13, U15, U17, U19 divisions.

~~The Junior and Youth divisions will use designed equipment for their age group.~~

- (iv) Junior and Youth are allowed to compete in older age divisions, but they are not allowed to compete in younger divisions.

~~(iv) sailors must race on the equipment in the age group in which they are racing.~~

Commented [19]:

Not for here

Commented [20]:

Any safety related issue?

Commented [21]:

To check with ersc

Commented [22R21]:

OK

Commented [23]:

Not for here

Commented [24R23]:

OK, removed it

C.3 PERSONAL EQUIPMENT

C.3.1 **Personal equipment** manufacturers are optional. ~~does not have to be produced by a licensed manufacturer.~~

C.3.2 MANDATORY

(a) For Use:

- (i) The **crew** shall wear a helmet that shall be to the minimum standard EN1385, EN1077, EN 966, ASTM 2040, Snell S98 or equivalent, with a brightly colored region of at least 300 square centimeters of the exterior surface that can be seen from above the water with crew lying face down or face up. The Notice of Race or Sailing Instructions may change this rule to prescribe alternative or additional standards.

- (ii) The **crew** shall carry a whistle

- (iii) ~~Except when the use of a personal flotation device is required by RRS 40, The crew shall wear an impact vest. An impact vest is a garment worn on the torso which is specifically designed to protect the wearer around the torso from impact. The impact vest may act as a personal flotation device if in accordance with C.1.1(a). From January 1st 2024, The impact vest shall comply with the minimum standard ISO 12402-5, or USCG Type III, or AS 4758 Level 50 or equivalent, and shall be used at all times.~~

~~An impact vest is a garment worn on the torso which is specifically designed to protect the wearer around the torso from impact.~~

~~(iv)~~

Commented [25]:

ERS definition?

Commented [26]:

Check ERS

C.3.3 OPTIONAL

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~~In addition to food and personal effects to keep warm and/or dry, and/or to protect the body, the crew may wear the following:~~

- (i) ☐ a harness which shall have positive buoyancy and with a maximum permitted weight of 4kg.
- (ii) ☐ a personal flotation device to the minimum standard ISO 12402-5, or USCG Type III, or AS 4758 Level 50 or equivalent.
- (iii) ☐ additional body protection gear.
- (iv) ☐ a drinking container in compliance with RRS Appendix B, B.50.1(a).
- (v) ☐ an electronic or mechanical timing device.
- (vi) ☐ a heart rate monitoring device
- (vii) ☐ food
- (viii) ☐ personal effects to keep warm and/or dry,

Commented [27]:

Please confirm what is the requirement.

Commented [28R27]:

These flotation devices are all the same flotation standards but have different names for different country requirements.

C.3.4 TOTAL WEIGHT

(a) As permitted by RRS 50.1(b), the total weight of a competitor's clothing and equipment, including footwear and clothing worn below the knee, shall not weigh more than 10 kg. The harness and drinking container (empty) are considered as competitors' clothing and equipment and therefore included. When the crew is required to carry equipment supplied by the Organizing Authority, it shall be excluded from weighing under C.3.4.

C.4 PORTABLE EQUIPMENT

C.4.1 MANDATORY

(a) ☐ For Use:

- (i) ☐ The Notice of Race or Sailing Instructions may require a boat or crew to carry supplied recording equipment (sound and/or video), a GPS or tracking device as supplied by the Organising Authority. The Organising Authority shall provide instructions of its fitting to the boat or crew.

C.4.2 OPTIONAL

For the avoidance of doubt, when items listed here are worn or carried by the crew they shall be included for weighing under C.3.4.

(a) ☐ For Use:

- (i) ☐ Spare angle spacers, torque keys and spare hull appendage fittings.
- (ii) ☐ Timing devices.
- (iii) ☐ Recording equipment (sound and/or video) and personal GPS devices and any associated attachment fittings, when permitted by the Notice of Race or Sailing Instructions.

(b) ☐ Not for Use:

- (i) ☐ A towrope of minimum length 5m may be carried by the crew.

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The Notice of Race or Sailing Instruction may change this rule or make its use mandatory.

C.5 ADVERTISING

C.5.1 LIMITATIONS

Advertising shall only be displayed in accordance with WS Advertising Code.
(See WS Regulation 20).

C.6 WINGFOILER

C.6.1 REPAIR

- (a) ___ All **repairs** require written approval unless stated otherwise in these rules.
- (b) ___ Approval may only be granted by the X-15 Technical Committee:
technical@X-15class.org
- (c) ___ Permission to undertake a **repair** during an event may be granted by the Event Technical Committee. The required written approval by the X-15 Technical Committee may be granted after the event.
- (d) ___ **Repairs** shall not be used to reinforce an existing part and shall not alter the essential shape, characteristics, and function of the original equipment.

Commented [29]:
Check ERS definition

C.6.2 LIMITATIONS

- (a) ___ No more than 1 **hull**, 1 **wing**, and 1 foil system with three front wings (one of each size), may be registered for an event. When lost or accidentally damaged beyond **repair**, a replacement may be used if approved by the Event Technical Committee.
- (b) ___ Replacements to registered equipment during an event shall only be made with the approval of the Event Technical Committee unless otherwise permitted in the **class rules**.

Commented [30]:
Add a requirement for wings? Or just unspecified?

C.7 HULL

C.7.1 MODIFICATIONS

- (a) ___ A maximum of 3 foot traps shall be fitted to the existing inserts.
- (b) ___ Foot straps and fittings may be removed, replaced or added during an event without approval while in compliance with C.7.1(a). Replacements or additions may be of any type and manufacturer. The total weight of all fitted foot straps with fittings must be a minimum of 350 grams in wet condition.
- (c) ___ The hull box (where the hull appendages are fitted) lateral sides (port and starboard) may be shimmed with removable materials which shall not protrude in height above the depth of the box.

~~(d) [SPARE]~~

Commented [31]:
"in height above the depth of the box" would read better to me

Commented [32R31]:
Agreed. See change

Commented [33]:
Ask Svein about this tonight

Commented [34]:
Add SPARE Here

Commented [35R34]:
No need to add spare. We can always add more points if needed

Commented [36R34]:
Ok, Thanks!

C.7.2 MAINTENANCE

- (a) ___ **Cleaning** of the **hull** permitted.

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C.7.3 REPAIR

- (a) **Repairs** to the **hull** require approval as described in C.6.1 with the following exceptions:
- (i) filling and blending of chips, gouges and splits smaller than 200mm in length ~~may be carried without approval other than those in the hull box which require approval as described in C.6.1.~~

Commented [37]:
Suggest to remove

Commented [38R37]:
Removed

C.7.4 HULL WEIGHT

- (a) The weight of the **hull** in dry condition with no foot straps shall be a minimum of 5.0 kg
- (b) The weight of the **hull** in wet condition with the **minimum foot straps**, as highlighted in C.7.1(a), and its fittings shall be a minimum of 5.3 kg. For the purpose of checking this rule, the measurement shall be taken after being placed in the water unaided to float for 30 seconds on each side and after left standing vertically on its aft end for a minimum of 10 minutes.

Commented [39]:
c.7.1 highlights the maximum. What is the minimum?

Commented [40R39]:
It states "

Commented [41R39]:
C.7.1(a) states, "must be a minimum of 350 grams in wet condition.". Would you like for there to be a maximum included too?

Commented [42]:
Check wording

Commented [43]:
Location to be defined in the CRs

Commented [44]:
Will it be part of the total correct weight?

Commented [45R44]:
Yes, if the board is too light, the weights will be added and will adjust the weight to the required weight.

C.7.5 CORRECTOR WEIGHTS

- (a) When the **hull** weight is less than the minimum required, corrector weights of lead shall be fastened to a **location to be determined by the Event Technical Committee.**
- (b) The total weight of corrector weight shall not exceed 200g.
- (c) **Corrector weights** installed by licensed manufacturers shall not be removed.

Commented [46]:
Is it worth clarifying the extent to which they can be sanded?

Commented [47R46]:
Yes

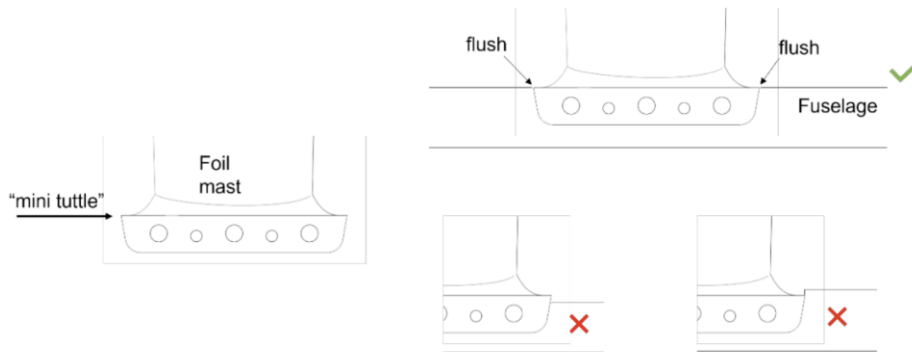
C.8 HULL APPENDAGES

C.8.1 MODIFICATIONS

- (a) The foil mast base along all the sides that fit into the hull box may be **sanded.**
- (b) The foil system fittings (bolts and washers) may be replaced by any fittings of the same size with the following exception:
- i) ~~The~~ The angle spacers screws may be replaced by other **stainless steel** screws of different length.
- (c) ~~When using a foil system,~~ the **crew** may replace the angle spacers for any of the original angle spacers listed in E.1.1.
- (d) The fuselage should be fitted so that it is installed flush with the foil mast horizontal part of the mini tuttle (see diagram below). The plastic cap covering the foil mast that goes in the fuselage may be **sanded** and may be trimmed flush with the fuselage. The foil mast base along all sides that fit into the fuselage may be shimmed.

Commented [48]:
Is this always the case? If yes, there is no need to specify and "when using a foil system" can be deleted

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~~(f)~~ (g)

(e) The plastic angle spacer edges can be trimmed flush with the fuselage.

(f) The mast base transversal connection screw holes may be modified to be aligned with the fuselage screw holes.

C.8.2 MAINTENANCE

(a) **Maintenance of hull appendages** is permitted with the following exceptions:

(i) **Coating** is not permitted ~~as part of maintenance~~.

(ii) **Sanding** ~~as part of maintenance~~ is only permitted on the paint layers and shall not reach the internal carbon fibres.

C.8.3 REPAIR

(a) **Repairs** to the **hull appendages** require approval as described in C.6.1, with the following exemptions:

(i) ~~except~~ filling and blending of small voids (chips and gouges) smaller than 10mm x 10mm ~~which may be carried out without approval~~ is permitted

C.1010 WINGS

C.1010.1 MODIFICATIONS, MAINTENANCE AND REPAIR ~~MAINTENANCE AND REPAIR~~

(a) **Repair** of wings shall not affect the shape, characteristics, function and look of the original and may be carried out without approval with the following exception:

(i) During an event, **repairs** of wings require the approval of the Event Technical Committee.

(b) Transparent tape may be placed on the wing.

(c) Any harness lines may be used

(d) ~~T~~ape may be used on the boom to mark locations

(e) ~~W~~ing leashes may be replaced

(f) ~~Replacing valves are permitted if broken~~ **Valves may be replaced.**

Commented [49]:
Check ERS definition "repair"

Commented [50]:
Not possible to police

Commented [51R50]:
Suggestion: valves may be replaced. Custom valves ok?

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- (g) ~~Cleaning is permitted~~ **Cleaning** is permitted
- (h) ~~Bladders may be replaced with FreeWing X-15 bladders~~

C.10.2 SAIL IDENTIFICATION

(a) At World Championships, WS World Cup Series events and Continental Championships, when this rule is invoked by the Notice of Race, the sail shall carry a number issued annually by the Class ("Identification disc").

(b) For all National Championships, World Championships, WS World Cup Series events and Continental Championships the sails shall display the competitor's national flag and class insignia. The display shall comply with the details included in ~~Section H of the RRS Appendix G.~~ ~~of the class rules.~~

(c) The display of the competitor name and class division is permitted and required when invoked by the Notice of Race and shall comply with the details included in ~~Section H of the class rules.~~ **RRS Appendix G.**

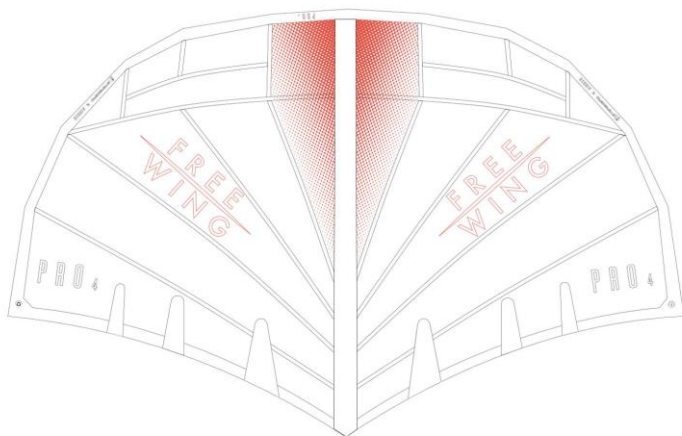
(d) Stickers shall be placed back to back on both sides of the wing. Characters shall be of font type 'Eurostile Heavy Italic' in white over a black background.

(e) National letters and sail numbers stickers are not required to be produced by licensed manufacturers.

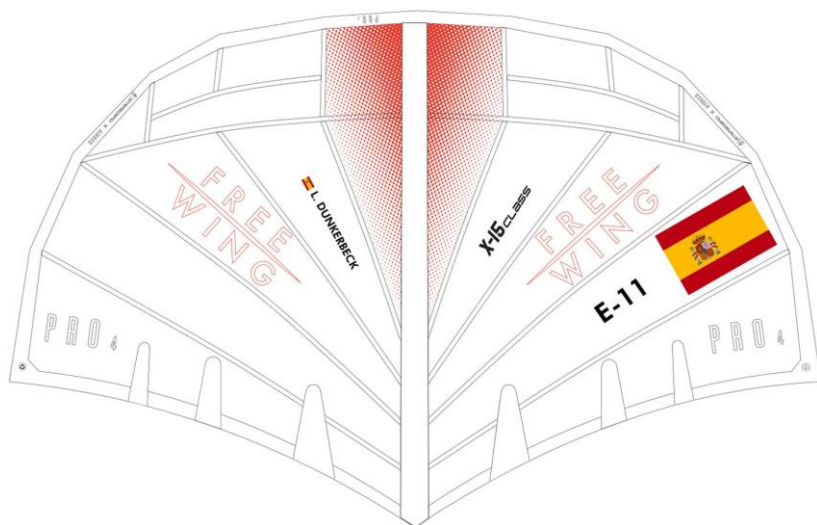
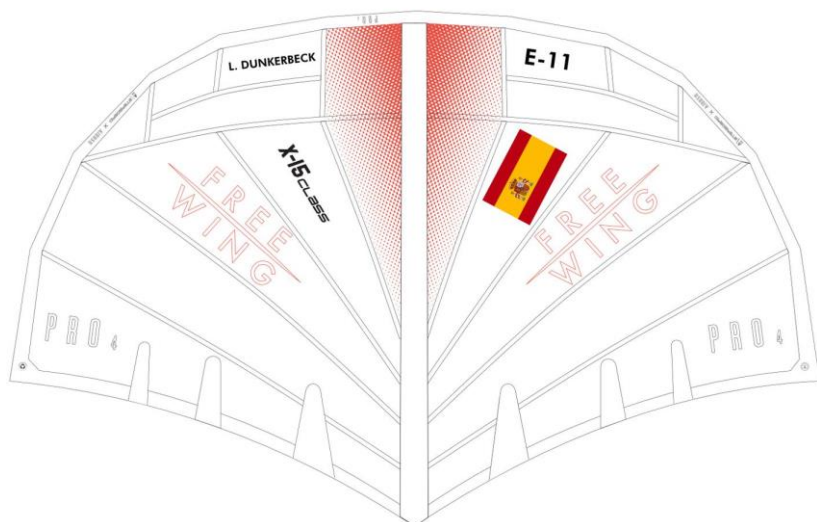
Commented [52]:
Not clear. RRS Appendix G - to define position and dimensions

Commented [53R52]:
Move diagrams from appendix to here

Commented [54]:
"are not required" to be produced?



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Section D – Hull

D.1 GENERAL

All parts of the **Hull** and its associated fittings are to be produced by licensed manufacturers unless specified otherwise in C.7.1.

D.1.1 PARTS

- (a) X-15 blue carbon **hull** for the Men and Women division, lite tech board for junior and youth classes divisions
- (b) Its associated fittings:
 - (i) ~~b~~ foilbox
 - (ii) ~~e~~ foot straps
 - (iii) ~~d~~ ~~f~~ Foot strap fittings
 - (iv) ~~E~~ vent plug

Commented [55]:
Divisions?

D.2 IDENTIFICATION

- (a) The **hull** shall carry a manufacturers serial number and have a unique WS QR sticker applied by the licensed manufacturer.
- (b) **Hulls** shall display the official WS logo as applied by the manufacturer.

Commented [56]:
Please share the proposed design

D.3 MATERIALS, CONSTRUCTION AND DIMENSIONS

- (a) The **hull** shall comply with the X-15 technical specifications as approved by WS.

Commented [57R56]:
Included in the email

Commented [58]:
Review technical specification

Section E – Hull Appendages

E.1 GENERAL

All parts of the **hull appendages** and its associated fittings are to be produced by licensed manufacturers unless specified otherwise in C.8.1.

E.1.1 PARTS

- (a) Aluminum foil for the Men and Women including:
- (i)- foil aluminum mast 100cm
 - (ii)- Three front wings: 560, 820, 1200
 - ##(iii)- tail wing 200
 - (iv) 69cm fuselage

(b)- Its associated fittings.

Commented [59]:
Same for all divisions?

Commented [60R59]:
Yes

E.2 IDENTIFICATION

- (a) The foil mast, front wing, tail wing and fuselage shall carry a unique WS QR sticker issued by the manufacturer.

Commented [61]:
Specify position to avoid damage/loss?

Commented [62R61]:
OK.

E.3 MATERIALS, CONSTRUCTION AND DIMENSIONS

- (a) Hull Appendages shall comply with the X-15 technical specifications as approved by WS.

Commented [63]:
Review

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Section G – Wing

G.1 GENERAL

All parts of the Wing and its associated fittings are to be produced by licensed manufacturers unless specified otherwise in C.10.1.

G.1.1 PARTS

Wings include ~~ed X-15~~ FreeWing Zipper Reef Technology

Commented [64]:
?

- (a) ___ 6.5m² for senior Men division.
- (b) ___ 6.0m² for senior Women division
- (c-) ___ 6.0m² for U19
- (d) ___ -5.5m² for U17
- (e) ___ -5.0m² for U15
- (f) ___ 4.5m² for U13

G.2 IDENTIFICATION

- (a) ___ Wings shall carry a unique sticker in the tack applied by the manufacturer.
- (b) ___ The zipper tech reef panels must have an identification sticker applied by the licensed manufacturer.

G.3 MATERIALS, CONSTRUCTION and DIMENSIONS

The wings and zipper reef technology shall comply with the X-15 technical specifications.

[Effective Date: TBC](#)

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PART III — APPENDICES

The rules in Part III are closed class rules. Measurements shall be carried out in accordance with the ERS except where varied in this Part.

SECTION H: WING IDENTIFICATION

H.1 GENERAL

Stickers shall be placed back to back on both sides of the wing. Characters shall be of font type 'Eurostile Heavy Italic' in white over a black background.

H.2 NATIONAL LETTERS AND SAIL NUMBER

- (a) National letters and sail numbers stickers do not require to be produced by licensed manufacturers.
- (b) Shall comply with the following specifications (see previous image)

Effective Date: 00 June 2023
Latest Revision: 08 April 2024

Commented [65]:
To be removed

Commented [66]:
To be moved to C.10.2

Commented [67]:
"are not required" to be produced?