

**INTERNATIONAL
esse 850
ONE DESIGN CLASS RULES
2011**



The esse 850 was designed in 2003 by Umberto Felci

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INTRODUCTION

The concept initiated by Josef Schuchter and realised by Umberto Felchi was a boat simple enough to be sailed by a small crew at fast speed without much heeling and easily controlled. The esse 850 has a high ballast ratio and a good strength of shapes thus a very large righting moment. The esse 850 is very stiff and secure.

The esse 850 concept is subject to copyright by Josef Schuchter AG. The Copyright holder shall be a permanent member of the Executive Committee of the ESSE 850 Class esse 850 hull, hull appendages and rig shall only be manufactured by manufacturers approved by the copyright holder – in the class rules referred to as licensed manufacturers. Equipment is required to comply with the International esse 850 Building Specification and is subject to an ISAF approved manufacturing control system.

Note: Where the class permits In-House Certification (IHC), it should be mentioned here which items may be produced under IHC.

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.

*THE RULES MARKED BY * WILL BE ONLY IN FORCE
AFTER "RECOGNISED CLASS" STATUS BY ISAF*

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 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.2 Abbreviations

ISAF	International Sailing Federation
MNA	ISAF Member National Authority
ICA	International esse 850 Class Association
NCA	National Class Association
ERS	Equipment Rules of Sailing
RRS	Racing Rules of Sailing
CO	esse 850 Class Office (Josef Schuchter AG)
EC	Executive Committee of the International esse 850 Class
CM	Class Chief Measurer
OSR	Offshore Special Regulations
MF	Measurement Form
MC	Measurement Certificate

A.3 Authorities

- A.3.1 The international authority of the class is the Class Executive Committee (EC), which shall co-operate with the ICA in all matters concerning these class rules.
- A.3.2 The Class Chief Measurer (CM) shall be appointed by the EC in cooperation with the CO and approved by the MNA.
- A.3.3 Notwithstanding anything contained herein, the certification authority has the authority to withdraw a certificate and shall do so on the request of the ISAF.

A.4 Administration of the Class

- A.4.1 ISAF has delegated its administrative functions of the class to EC. The EC may delegate part or all of its functions, as stated in these class rules, to the CO that may further delegate part or all its functions to an NCA.
- A.4.2 In countries where there is no MNA, or the MNA does not wish to administrate the class, its administrative functions as stated in these class rules shall be carried out by the ICA which may delegate the administration to an NCA.

A.5 ISAF Rules

- A.5.1 These **class rules** shall be read in conjunction with the ERS, except that section H.2.1 shall not apply.
- 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 RRS and ISAF Regulations shall apply.

A.7 Class Rules Amendments *

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

A.8 Class Rules Interpretation *

- A.8.1 Interpretation of **class rules** shall be made by the CM upon consultation of the EC and in accordance with the ISAF Regulations.

A.9 International Class Fee and ISAF Building Plaque *

- A.9.1 The licensed **hull** builder shall pay the International Class Fee to the ISAF.
- A.9.2 ISAF shall, after having received the International Class Fee for the **hull**, send the ISAF Building Plaque and a measurement form to the licensed **hull** builder.

A.10 Sail Numbers

A.10.1 The CO shall issue sail numbers.

A.10.2 Sail numbers shall be issued in consecutive order starting at “1”.

A.11 Certification

A.11.1 A **certificate** shall record the following information:

- (a) esse 850 Class Association,
- (b) **Certification authority**: MNA or CO if MNA do not certify MF,
- (c) **Sail** number issued by the CO,
- (d) Owner’s name and address,
- (e) **Hull** identification and manufacturing date,
- (f) Builder / Manufacturer’s details,
- (g) Name and MNA of Official Measurer certifying the hull,
- (h) **Hull** weight, **keel** weight and **corrector** weights if any,
- (i) Date of issue of initial Measurement Form,
- (j) Date of issue of **certificate**,

A.12 Initial Certification

A.12.1 For a **certificate** to be issued to a **boat** not previously **certified**:

- (a) **Certification control** shall be carried out by the **official measurer**, who shall complete the measurement form (MF).
- (b) The MF and **certification** fee, if required, shall be sent to the **certification authority**.
- (c) Upon receipt of a satisfactorily completed measurement form and **certification** fee, the **certification authority** may issue a measurement **certificate** (MC). The **certification authority** shall send the original measurement form to the owner and register a copy with the CO.
- (d) The **certification** fee amount shall be approved by the CO and may be reviewed each year by the EC.

A.13 Validity of Certificate

A.13.1 A **Certificate** becomes invalid upon:

- (a) The change to any items recorded on the **certificate** as required under A.11,
- (b) Major repair or modification to the **boat**,
- (c) Withdrawal by the **certification authority**,
- (d) The issue of a new **certificate**,
- (e) Change of ownership.

A.14 Re-certification

A.14.1 The **certification authority** may issue a **certificate** to a previously certified **boat**:

- (a) When it is invalidated under A.13.1 (a) or (d), after receipt of the old **certificate**, and **certification** fee if required,
- (b) When it is invalidated under A.13.1 (b), at its discretion,
- (c) In other cases, by application of the procedure in A.12.

A.15 Retention of certification documentation

A.15.1 The certification authority shall:

- (a) Retain a copy of the measurement form upon which the current **certificate** is based.
- (b) Upon request, transfer this documentation to the new certification authority if the hull is exported.

Section B Boat Eligibility

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

B.1 Class Rules and Certification

B.1.1 The **boat** shall:

- (a) Be in compliance with the **class rules**,
- (b) Have a valid **hull certificate**,
- (c) Have valid **certification marks** as required.

Part II – Requirements and 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**. **Certification 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) The RRS shall apply.
- (b) The ERS Part I – Use of Equipment shall apply.

C.2 Crew

C.2.1 Limitations

- (a) The **crew** shall consist of not more than 4 persons.
- (b) No **crew** member shall be substituted during an event of less than 5 days unless it is approved by the Race Committee.

C.2.2 Weight

- (a) The total weight of the **crew** dressed in underwear shall be less than 280 kg.

C.2.3 Hiking

- (a) Hiking is allowed by sitting or standing using arm power only. It is not allowed to have the upper body further outside the vertical tangent of the hull.

C.3 Personal Equipment

C.3.1 Mandatory

- (a) The **boat** shall be equipped with a **personal floatation device** for each **crew** member to the minimum standard ISO 12402-5 (CE 50 Newton), or USCG Type III, or AUS PFD 1.
- (b) Automatic inflatable **personal floatation device** shall be equipped with hydrostatic inflator system.

C.4 Advertising

C.4.1 Limitations

- (a) Advertising shall only be displayed in accordance the ISAF Advertising Code.

C.5 Portable Equipment

C.5.1 Mandatory

- (a) For Use
 - (1) One bucket 10 litres minimum,
 - (2) One bilge pump,
 - (3) One anchor of not less than 5 kg in weight,
 - (4) One anchor line of not less than 8 mm in diameter and not less than 15 meters in length,
 - (5) One coach roof top hatch,
 - (1) One coach roof vertical hatch,
 - (2) Mid boat box hatch,
 - (3) **Keel** head cover.

- (b) Not For Use
 - (1) Four fenders of not less than 140 mm in diameter and not less than 300 mm in length,
 - (2) One paddle of not less than 1'000 mm in length and a blade area of not less than 0.06 m²,
 - (3) One engine and its support of not less than 14 kilo in weight (without fuel),
 - (4) A full tank of not less than 5 litres of fuel (when leaving the dock),

C.5.2 Optional

- (a) For Use
 - (1) Sailing instruments,
 - (2) Weed remover stick,
 - (3) Inside moulding hatches,
 - (4) Bunks cushions.
- (b) Not For Use
 - (1) External communication means (mobile phone).

C.5.3 Engine

- (a) The engine and the engine support shall be stored in the boat cockpit's central compartment.

C.6 Boat

C.6.1 Modifications, Maintenance and Repair

- (a) Any major repair shall be approved by the CM.
- (b) Any modification and repair that defers from the original Building specifications shall need written approval by the EC and shall have to be approved by the CM after completion.
- (c) All repairs requiring the use of filler or composite materials shall be reported to CO and approved by the CM.

C.6.2 Dimensions

- (a) See Appendix A.

C.6.3 Weight

- (a) The **boat weight** in dry condition, including spars, lifting slings, engine support, one set of sheets, one cockpit hatch, corrector weights but without any portable equipment and without sails shall not be less than 1220 kg.

C.6.4 Corrector Weights

- (a) Two **corrector weights** made of lead equal in weight to half the difference between the minimum weight of the boat and the actual boat weight shall be permanently fastened to the boat as shown in Appendix C.
- (b) Each single **corrector weight** maximum weight shall be 10 kg.

C.7 Hull

C.7.1 Modifications, Maintenance and repair

- (a) The **hull** shall not be altered in any way except as permitted by these **class rules**.
- (b) Routine maintenance, such as antifouling application, painting and minor repairs is permitted without re-certification.

C.7.2 Fittings

- (a) Mandatory
 - (1) One **mainsail sheet** track that shall be the same as the original supplied by the boat licensed builder,
 - (2) Two **headsail sheet** tracks that shall be the same as the original supplied by the boat licensed builder,
 - (3) One **headsail** furling system that shall be the same as the originals supplied by the licensed builder,
 - (4) **Headsails sheets** blocks shall be attached directly on the **headsails** travellers.
 - (5) Two asymmetrical spinnaker blocks shall be attached on the aft dedicates padeyes,
 - (6) Two winches.
- (b) Optional
 - (1) One bow pulpit,
 - (2) Two side lifelines, with their stanchions,
 - (3) One aft lifeline,
 - (4) Two aft pulpits,
 - (5) Two helmsman feet bars,
 - (6) Any number of helmsmen toe straps,
 - (7) Two tiller stick holders,
 - (8) One keel fin kelp cutter,
 - (9) One central crew feet bar on the Keel cover,
 - (10) Deck sheet pockets or holders,
 - (11) Cabin Step,
 - (12) Security and comfort equipments that are not limited by the rules (Horseshoe Buoy, mooring lines, camping gas oven, internal lights, etc.).

C.7.3 Fittings Limitations

- (a) Helmsman toe straps shall be positioned behind the **mainsail sheet** track and shall raise less than 150mm above the deck at any point.
- (b) Helmsman feet bar may extend the existing footstep up to the rudderstock.

C.7.4 Deck fittings position

- (a) **Mainsail sheet** track shall be at the original location as of deck layout plan (See Appendix A).
- (b) **Headsail sheet** tracks shall be at the original location as of deck layout plan (See Appendix A).
- (c) Winches position shall be at the original location as of deck layout plan (See Appendix A).
- (d) **Mast** step shall be at the original location as of the deck layout plan (See Appendix A).
- (e) Asymmetrical spinnaker **sheet** blocks padeyes shall be at the original location as of the deck layout plan (See Appendix A).

C.8 Hull Appendage

C.8.1 Modifications, Maintenance and repair

- (a) The **hull appendage** shall not be altered in any way except as permitted by these class rules.
- (b) Routine maintenance, such as antifouling application, painting and minor repairs is permitted without re-certification.

C.8.2 Limitations

- (a) Only one **keel** and one **rudder** blade shall be used during an event, except when a **hull**

- appendage** is damaged beyond repair or lost.
 (b) A **hull appendage** substitution is subject to race committee approval.

C.8.3 Keel and Bulb

- (a) Dimension and shape
 (1) **Keel** and **bulb** shall not be different in shape, dimensions and materials from the **keel** original specification by U. Felci in January 2005 to the Plan S850/1.
 (b) Use
 (1) The **keel** plate shall be bolted to the **hull**.

C.8.4 Rudder

- (a) Dimension and shape
 (1) The **rudder** shall not be different in shape, dimensions and materials from the **rudder** original specification by U. Felci in January 2005.

C.9 Rig

C.9.1 Modifications, Maintenance and repair

- (a) The **rig** shall not be altered in any way except as permitted by these **class rules**.
 (b) Any modification and repair that defers from the original building specifications shall need written approval by the EC and shall have to be approved by the CM after completion.

C.9.2 Limitations

- (a) Only one set of **spars** and **standing rigging** shall be used during an event, except when an item has been lost or damaged beyond repair, and the *race committee* has approved the substitution.

C.9.3 Mast

- (a) **DIMENSIONS** see Appendix B

Dimensions in mm	minimum	maximum
Limit mark width	25	-
Upper point height (P)	-	10'500
Lower point height (E) above sheer line The lower point is the mast datum point	1'146	1'156

- (a) Use
 (1) The **spar** shall be stepped in the **mast** step.
 (b) A number corresponding to the sail number shall be issued by the CO and reported in the MC.

C.9.4 Boom

- (a) **DIMENSIONS** see Appendix B

Dimension in mm	minimum	maximum
Limit mark width	25	-
Outer point distance	-	3'650

- (a) Use
 (1) The intersection of the aft edge of the **mast spar** and the top of the **boom spar**, each extended as necessary, shall not be below the upper edge of the **mast** lower limit **mark** when the **boom** spar is at 90° to **the mast spar**.

C.9.5 Bowsprit

(a) Use

- (1) The **bowsprit** shall be at or beyond the **bow** when retracted. (i.e. when not flying a asymmetrical spinnaker).
- (2) The **bowsprit** shall be used only when carrying the asymmetrical spinnaker.
- (3) The **bowsprit** shall be extended only after having passed the weather *mark*.
- (4) The **bowsprit** shall be retrieved before having passed the leeward *mark*.

(b) Limitation

- (1) The **bowsprit** front end shall not extend more than 1'870 mm from the forward face of the **forestay** at deck level.

C.9.6 Standing Rigging

(a) Use

- (1) **Standing rigging** links and screw shall not be adjusted while *racing*.

C.9.7 Running Rigging

(a) Use

- (1) **Mainsail sheet** shall be led to the **mainsail sheet** traveller and at least one fixed point on the centre of the **boat** behind the **mainsail sheet** track.
- (2) **Headsail sheets** shall be led through the **headsail** travellers on the **headsail** tracks.
- (3) Asymmetrical spinnaker **sheets** shall be led through the blocks on the dedicated padeyes at the aft of the **boat**.
- (4) The asymmetrical spinnaker **tack** line shall be led through the block/fairlead on the **bowsprit** and on top of the deck.
- (5) The **bowsprit** extension line shall be led under the deck.
- (6) **Headsail** furling line shall be led under the deck, to and through the two cockpit exits.

(b) Mandatory

- (1) One **mainsail halyard** with or without purchase,
- (2) One **headsail halyard** with or without purchase,
- (3) One asymmetrical spinnaker **halyard**,
- (4) One **bowsprit** extension line with or without purchase,
- (5) One circular **headsail** furling line,
- (6) One **backstay** with purchase,
- (7) Two **headsail sheets** with or without purchase,
- (8) Two asymmetrical spinnaker **sheets**,
- (9) One **mainsail** cunningham with purchase,
- (10) One **boom** vang with purchase,
- (11) One **mainsail outhaul** with purchase.

(c) Optional

- (1) One **headsail** halyard fine-tuning purchase,
- (2) One **mainsail sheet** fine-tuning purchase.

(d) Limitations

- (1) The **mainsail halyard** purchase ratio shall not exceed 2:1.
- (2) The **mainsail** traveller purchase ratio shall not exceed 4:1.
- (3) The complete **mainsail sheet** purchase ratio shall not exceed 24:1.
- (4) The **bowsprit** extension line purchase ratio shall not exceed 2:1.
- (5) The **headsail sheet** purchase ratio shall not exceed 2:1.
- (6) The **headsail halyard** tuning purchase ratio shall not exceed 10:1.
- (7) The **headsail** traveller purchase ratio shall not exceed 3:1.
- (8) The **vang** purchase ratio shall not exceed 8:1.
- (9) The **outhaul** purchase ratio shall not exceed 4:1.
- (10) The **cunningham** purchase ratio shall not exceed 4:1.

- (11) The **backstay** purchase ratio shall not exceed 8:1.
- (e) Fittings
 - (1) The **running rigging** fittings may be free.

C.10 Sails

C.10.1 Modifications, Maintenance and repair

- (a) **Sails** shall not be altered in any way except as permitted by these class rules.
- (b) Routine maintenance as such is permitted without re-measurement and re-certification.

C.10.2 Use

- (a) **Battens** shall be placed in the **batten pockets**.

C.10.3 Sail set

- (a) Mandatory
 - (1) One **mainsail**,
 - (2) One medium jib,
 - (3) One asymmetrical spinnaker.
- (b) Optional
 - (1) One heavy jib

C.10.4 Limitations

- (a) The minimum weight of the mandatory set of **sails** shall be 23 kg.
- (b) **Mainsail**, medium jib and asymmetrical spinnaker shall be on board.
- (c) The heavy jib may be on board.
- (d) During an event only one set of sails is allowed.

C.10.5 Mainsail

- (a) Identification
 - (1) The national letters and **sail** numbers shall comply with the RRS except where prescribed otherwise in these **class rules**.
- (b) Use
 - (1) The **sail** shall be hoisted on a **halyard**. The arrangement shall permit hoisting and lowering of the **sail** whilst afloat.
 - (2) The **luff sail** slides shall be in the **spur** groove.
 - (3) The **sail** shall be equipped for reefing.

C.10.6 Medium Jib

- (a) Use
 - (1) The **sail** shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the **sail** whilst afloat.
 - (2) The **sail** construction shall allow for the sail furling on the **forestay** with the **battens** in the **batten pockets**.

C.10.7 Asymmetrical Spinnaker

- (a) Use
 - (1) The **sail** shall be hoisted on a **halyard**. The arrangement shall permit hoisting and lowering of the **sail** whilst afloat.
 - (2) The **sail** shall be **set flying**.

C.10.8 Heavy Jib

- (a) Use

- (1) The **sail** shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the **sail** whilst afloat.
- (2) The **sail** construction shall allow for the sail furling on the **forestay**.

C.11 Inboard Engine

If an inboard engine is fitted in the boat then the following rules shall apply:

- (a) The minimum **weight** of the inboard engine including all needed equipment, tank and sail drive shall be 70 kg. The installation arrangement shall be approved by the EC.

Section D Hull and Deck

D.1 Parts

D.1.1 Mandatory

- (a) **Hull**,
- (b) Deck,

D.1.2 Optional

- (a) Inside bunks moulding,
- (b) Inside roof lining.

D.2 General

D.2.1 Rules

- (a) The **hull** shall comply with the class rules in force at the time of initial certification.

D.2.2 Certification

- (a) See Rule A.11.

D.2.3 Modifications, Maintenance and Repair

- (a) Routine maintenance such as painting and polishing do not require a new certification.
- (b) If any **hull** moulding is repaired in any other way than described in C.7.1 an **official measurer** shall verify that the external shape is the same as before the repair and that no substantial stiffness, or other advantage has been gained as a result of the repair. The **official measurer** shall also describe the details of the repair on the measurement form.
- (c) No painting shall be applied on the builder's sticker displaying the item serial number.

D.2.4 Definitions

- (a) **HULL DATUM POINT**, is specified in Appendix A.

D.2.5 Dimensions

- (a) See Appendix A

D.2.6 Identification *

- (a) The **hull** shall carry the ISAF plaque permanently placed on the starboard side of the transom.

D.2.7 Builders

- (a) The **hull** and the deck shall be moulded on an approved tooling according to the construction plan of U. Felci S850/1. Dimensions of the **boat** shall be measured and shall be within the tolerances of +/- 9 mm.

D.3 Hull Shell

D.3.1 Materials

- (a) Materials for **hull** construction shall be vinyl ester or epoxy as described in the construction process by the copyright holder.

D.4 Deck

D.4.1 Materials

- (a) Materials for deck construction shall be vinyl ester or epoxy as described in the construction process by the copyright holder.
- (b) The deck may be covered partially or totally with wood.

D.4.2 Fittings

- (d) Holes not bigger than necessary for the fittings installation may be made in the deck.

D.4.3 Limitations

- (e) Holes not bigger than necessary to be used for passage of control lines may be made in the following areas (see Appendix A):
 - (1) Back face of the cabin above the cabin door lower limit,
 - (2) Side and aft of the **mast** step not more than 100 mm from the **mast** step,
 - (3) Cockpit central area between the engine box cover and the **mainsail sheet** track,
 - (4) Cockpit central area between the **mainsail sheet** tower and the **mainsail sheet** track.

D.5 Assembled hull

D.5.1 Fittings

(a) Mandatory

The following fittings shall be positioned in accordance with the measurement diagram.

- (4) Bow mooring ring,
- (5) **Forestay** fitting with **headsail** furling line blocks, leads and cleats,
- (6) **Shroud** plates,
- (7) **Mast** post,
- (8) Two **headsail sheet** tracks with each one a traveller,
- (9) **Mast** step,
- (10) **Bowsprit** storage tube with its drainage pipe,
- (11) Two winches,
- (12) Two padeyes at winch height on the deck,
- (13) One **mainsail sheet** track with one traveller,
- (14) One **mainsail sheet** tower with at least a clam,
- (15) Two aft padeyes for the asymmetrical spinnaker blocks,
- (16) One **backstay** block,
- (17) Two engine support holes.

(b) Optional

- (1) **Headsail sheet** fairleads, blocks and cleats,
- (2) **Headsail** traveller trimming lines fairleads, blocks and cleats,
- (3) Vang blocks, fairleads and cleat,
- (4) **Backstay** blocks, fairleads and cleats,
- (5) **Bowsprit** extension line blocks, fairleads and cleats,
- (6) **Mainsail sheet** blocks, fairleads and cleats,
- (7) **Mainsail sheet** traveller blocks, fairleads and cleats,
- (8) Asymmetrical spinnaker **sheets** fairleads, blocks and cleats,
- (9) Tiller locks,
- (10) Toe straps,
- (11) Navigation lights,
- (12) Electricity installation,
- (13) Navigation instruments.

Section E Hull appendages

E.1 Parts

- (a) Keel
 - (1) Keel fin,
 - (2) Keel bulb.
- (b) Rudder
 - (1) Rudder blade,
 - (2) Rudder stock,
 - (3) Tiller,
 - (4) Tiller stick.

E.2 General

E.2.1 Rules

- (a) **Hull appendages** shall comply with the **class rules** in force at the time of **certification**.
- (b) The **hull appendages** shall be moulded in an approved tooling corresponding to the construction plan S850/1 of U. Felci.

E.2.2 Modifications, Maintenance and repair

- (a) **Hull appendages** may be altered as permitted by these class rules.
- (b) Routine maintenance such as antifouling application, painting and minor repairs is permitted without **re-certification**.

E.2.3 Certification

- (a) The **official measurer** shall certify **hull appendages**.
- (b) The CO may appoint one or more persons at a licensed manufacturer to measure and certify **hull appendages** produced by that manufacturer in accordance with the ISAF In-house Certification Guidelines.

E.3 Keel

E.3.1 Rules

- (a) Rules in E.2 apply.

E.3.2 Materials

- (a) The **keel fin** shall be of vynylester or epoxy, structure in steel.
- (b) The **keel bulb** shall be of lead.

E.3.3 Dimension and Weight

- (a) The difference in the length and shape of the bulb of boats with sail Nr. 01 to 33 is accepted.
- (b) The **keel weight** shall be:
 - (1) 670 kg for **boats** with an inboard engine,
 - (2) 700 kg for **boats** with an outboard engine.
- (c) **Keel weight** tolerance shall be between +2kg and -6kg of the above-mentioned weight.

E.4 Rudder Blade, Rudder Stock and Tiller

E.4.1 Rules

- (a) Rules in E.2 apply.

E.4.2 Materials

- (a) The **rudder** blade shall be of vinylester or epoxy, with a core in foam.
- (b) The **rudder** stock shall be of full aluminium.
- (c) The tiller shall be of carbon epoxy.
- (d) The tiller stick shall be of either, aluminium, carbon or fibreglass epoxy.

E.4.3 Dimensions

- (a) The **rudder** shall comply with the measurements shown in Appendix A.

Section F Rig

F.1 Parts

F.1.1 Mandatory

- (a) One **mast**,
- (b) One **boom**,
- (c) One **bowsprit**,
- (d) The **standing rigging**,
- (e) The **running rigging**.

F.1.2 Optional

- (a) One **boom** kicker.

F.2 General

F.2.1 Rules

- (a) The **spars** and their fittings shall comply with the **class rules** in force at the time of certification of the **spar**.
- (b) The **standing rigging** and the **running rigging** shall comply with **the class rules** and the designer specifications.
- (c) The aluminium profile used for **mast spar cross section** and **boom spar cross section** shall be chosen by the copyright holder.

F.2.2 Modifications, Maintenance and Repair

- (a) **Spars** shall not be altered in any way except as permitted by these **class rules**. Changes to the rig as shown on the original 2005 plans of U. Felci are not allowed.

F.2.3 Certification

- (a) The **official measurer** shall certify **spars**.

F.2.4 Manufacturer

- (a) The **rig** shall be built by a licensed builder approved by the CO.

F.3 Mast

F.3.1 Materials

- (a) The **spar** shall be made of aluminium.

F.3.2 Construction

- (a) Construction shall be as per the manufacturer's specifications.

F.3.3 Fittings

- (a) Mandatory
 - (1) **Mast** head fittings,
 - (2) **Shroud Rigging** points,
 - (3) Two sets of **fixed spreaders**,
 - (4) One **mainsail halyard** sheave box,

- (5) One **headsail halyard** sheave box,
 - (6) One asymmetrical spinnaker **halyard** sheave box,
 - (7) One gooseneck,
 - (8) Cunningham fairleads,
 - (9) Two saddles at **mast** foot,
 - (10) One vang attachment point,
 - (11) One **mast** step.
- (b) Optional
- (1) **Mast** headlight and electrical cable,
 - (2) Navigation instruments, sensors and electric cables,
 - (3) Mechanical wind indicator,
 - (4) Attachment point for the **mainsail halyard**,
 - (5) Asymmetrical spinnaker **halyard** cleats,
 - (6) **Mainsail** cunningham blocks, fairleads and cleat,
 - (7) **Boom** kicker attachment point,
 - (8) Vang blocks, fairleads and cleat,
 - (9) **Mast** groove locker.

F.3.4 Dimensions

- | | |
|---|------------|
| (a) Minimum spar profile weight shall be | 2.737 kg/m |
| (b) Spar profile length shall be | 11'535 mm |
| (c) Spar cross section shall be | 124x82 mm |

F.4 Boom

F.4.1 Materials

- (a) The **spar** shall be of aluminium.

F.4.2 Construction

- (b) Construction shall be as per the manufacturer's specifications.

F.4.3 Fittings

(a) Mandatory

- (1) Two blocks at the **boom** aft end.
- (2) **Mainsail outhaul** blocks, fairleads and cleat.
- (3) One block at the front end.
- (4) Three **mainsail sheet** saddles.
- (5) Two reefing hooks on the gooseneck.
- (6) One gooseneck attachment.

(b) Optional

- (1) **Boom** kicker and its attachment point.
- (2) Vang blocks, fairleads, saddles and cleat,
- (3) Cunningham blocks, fairleads, saddles and cleat,
- (4) Outhaul blocks, fairleads, saddles and cleat.

F.4.4 Dimensions and weight

- | | |
|---|------------|
| (a) Dimensions shall be as per the manufacturer's specifications and as stated in the Measurement Form. | |
| (b) Minimum spar profile weight shall be | 1.593 kg/m |
| (c) Spar profile length shall be | 3'750 mm |
| (d) Spar cross section shall be | 115x77 mm |

F.5 Bowsprit

F.5.1 Materials

- (a) The **spar** shall be of epoxy carbon fibres.

F.5.2 Construction

- (a) Construction shall be as per the manufacturer's specifications.

F.5.3 Fittings

(a) Mandatory

- (1) One block or fairlead at the front extremity to lead the asymmetrical spinnaker **tack** line.
- (2) Two fairleads to lead the **spar** extension line.
- (3) Ends shall be closed with synthetic corks and be water tight.

F.5.4 Dimensions and Weight

- (a) The **spar** dimensions shall be as per the manufacturer's specifications.
- (b) The **spar** with fittings shall weight a minimum of 3.5 kg.

F.6 Standing Rigging

F.6.1 Materials

- (a) The **standing rigging** shall be as per the manufacturer's specifications.
- (b) The **standing rigging** shall be made in stainless steel rods.

F.6.2 Dimensions

- | | |
|--|-------|
| (a) Forestay minimal diameter shall be | 4 mm |
| (b) Shroud V1 minimal diameter shall be | 5 mm |
| (c) Shroud V2 minimal diameter shall be | 4 mm |
| (d) Shroud D1 minimal diameter shall be | 4 mm |
| (e) Shroud D2 minimal diameter shall be | 4 mm |
| (f) The spreaders angle shall be | 21.8° |

F.6.3 FITTINGS

- (a) Fittings shall be as supplied by the manufacturer.

F.7 Running Rigging

F.7.1 Materials

- (a) The material shall be free with the exception where they are limited.
- (b) **Mainsail halyard** material shall be textile.
- (c) **Headsail halyard** material shall be textile or stainless steel.
- (d) Asymmetrical spinnaker **halyard** material shall be textile.

F.7.2 Dimensions

- (a) Dimensions may be free, with the exception of where they are limited.
- (b) **Mainsail halyard** minimum diameter shall be 7 mm
- (c) **Headsail halyard** minimum diameter (textile) shall be 6 mm
- (d) **Headsail halyard** minimum diameter (stainless steel) shall be 4 mm
- (e) Asymmetrical spinnaker **halyard** minimum diameter shall be 6 mm

Section G Sails

G.1 Parts

G.1.1 Mandatory

- (a) **Mainsail**,
- (b) Medium jib,
- (c) Asymmetrical spinnaker.

G.1.2 Optional

- (a) Heavy jib.

G.2 General

G.2.1 Rules

- (a) Sails shall comply with the **class rules**.

G.2.2 Certification

- (a) The **official measurer** shall certify **mainsail** and **headsails** in the **tack** and **asymmetrical spinnaker** in the **head** and shall sign and date the **certification mark**.
- (b) The CO may appoint one or more persons at a sailmaker to measure and certify sails produced by that manufacturer in accordance with the **ISAF In-house Certification Guidelines**.

G.2.3 Sailmaker

- (a) No licence shall be required.
- (b) The production date shall be indelibly marked near the **head** point by the sailmaker together with his signature or stamp.

G.3 Mainsail

G.3.1 Class Insignia and Identification

- (a) The esse 850 logo shall be displayed on port and starboard between battens 3 and 4, starboard above port.
- (b) The national letters and sail numbers shall be according to RRS 77, Appendix G, except where varied herein. They shall be displayed between battens 4 and 5.
- (c) Dimensions
 - (1) Height 373 mm
 - (2) Thickness 75 mm
 - (3) Width 225 mm
 - (4) Minimum space between adjoining or opposite characters, or edge of the sail 4 mm

G.3.2 Materials

- (a) The **sail** shall consist of polyester **laminated ply** or polyester **woven ply**.
- (b) The **sail reinforcement** shall consist of polyester **laminated ply** or polyester **woven ply**.
- (c) The fibres used in the **ply** shall be laid straight and parallel.
- (d) The minimum **ply** weight shall be 4.0 oz (168 g/m²).

- (e) **Sail batten** may consist of any material.
- (f) The Fittings and items attached to the **sail** may be of any kind.

G.3.3 Construction

- (a) The construction shall be: **soft sail, single-ply sail**.
- (b) The **body of the sail** may consist of the same **ply** throughout.
- (c) The **sail** shall be assembled out of panels.
- (d) The **sail reinforcements** shall not be restricted.
- (e) The **sail** shall have six full **batten pockets**.
- (f) The **sail** shall be constructed so that it can be reefed by means of slab reefing at one point adjacent to the **luff** at least, one point adjacent to the **leech**.
- (g) The following are permitted: Stitching, glues, tapes, bolt ropes, corner eyes, headboard with fixings, Cunningham eye, **batten pocket** patches, **batten pocket** elastic, **batten pocket** end caps, **boom** slides, **boom** lashing, **leech** line with cleat, **foot** line with cleat, **windows**, tell tales, sail shape indicator stripes and items as permitted or prescribed by other applicable rules.
- (h) The **mainsail** shall be loose-footed.
- (i) **Sail** slides shall be used to hold the **luff** in the **mast** groove.

G.3.4 Dimensions

- (a) see Appendix D and current ERS.
- (b) Maximum **luff length** shall not exceed the available space on the original spar.
(Appendix B)
- (c) Maximum **foot length** shall not exceed the available space on the original spar.
(Appendix B)
- (d) Distance between **battens** axis measured along the **leech** shall be more than 650 mm
- (e) The angle between the **luff** and the **head** shall be maximum 90 °.
- (f) The upper point is defined by a distance half of the distance between the **head point** and the **three-quarter leech point**.
- (g) The **sail edge hollows** shall be concave or straight.
- (h) The first reefing point shall be at minimum 1400 mm from the **mainsail tack**.

G.3.5 Fittings

- (a) Mandatory
 - (1) The **mainsail** shall have six full **battens**.
 - (2) The **mainsail** shall have one leach and luff reefing points.
- (b) Optional
 - (1) One or more additional reefing points may be fitted on the **mainsail**

G.4 Medium jib

G.4.1 Materials

- (a) The **sail** shall consist of polyester or aramide **laminated ply** or polyester **woven ply**.
- (b) The **sail reinforcement** shall consist of polyester or aramide **laminated ply** or polyester **woven ply**.
- (c) The fibres used in the **ply** shall be laid straight and parallel.
- (d) The minimum **ply** weight shall be 4.0 oz (168 g/m²).
- (e) **Sail batten** may consist of any material.
- (f) The Fittings and items attached to the **sail** may be of any kind.

G.4.2 Construction

- (a) The construction shall be: **soft sail, single ply sail**.
- (b) The **sail** shall be assembled out of panels.

- (c) The **body of the sail** may consist of the same **ply** throughout.
- (d) The **sail reinforcements** are not restricted.
- (e) The **sail** shall be fitted with no more than 4 **batten pockets in the leech**.
- (f) The following are permitted: Stitching, glues, tapes, bolt ropes, corner eyes, **batten pocket** patches, **batten pocket** elastic, **batten pocket** end caps, **leech** line with cleat, **foot** line with cleat, windows, tell tales, sail shape indicator stripes and items as permitted or prescribed by other applicable rules.
- (g) The **sail** shall be attached to the **forestay** by single point attachment or a continuous zipper.

G.4.3 Dimensions

- (a) See Appendix D and current ERS.
- (b) The luff length is limited to the available space on the forestay

G.5 Heavy jib

G.5.1 Materials

- (a) The **sail** shall consist of polyester **laminated ply** or polyester **woven ply**.
- (b) The **sail reinforcement** shall consist of polyester **laminated ply** or polyester **woven ply**.
- (c) The fibres used in the **ply** shall be laid straight and parallel to each other.
- (d) The minimum **ply** weight shall be 4.0 oz (168 g/m²).
- (e) The Fittings and items attached to the **sail** may be of any kind.

G.5.2 Construction

- (a) The construction shall be: **soft sail, single ply sail**.
- (b) The **sail** shall be assembled out of panels.
- (c) The **sail** shall be able to be furled on the **forestay**.
- (d) The **body of the sail** may consist of the same **ply** throughout.
- (e) The **sail reinforcements** are not restricted.
- (f) The following are permitted: Stitching, glues, tapes, bolt ropes, corner eyes, **leech** line with cleat, **foot** line with cleat, windows, tell tales, sail shape indicator stripes and items as permitted or prescribed by other applicable rules.
- (g) The **sail** shall be attached to the forestay by slings or a continuous zipper.

G.5.3 Dimensions

- (a) See appendix D and current ERS
- (b) Maximum **Head** 60 mm
- (c) Maximum **Luff length** 9'800 mm
- (d) Maximum **Luff perpendicular (LP)** 3'100 mm

G.6 Asymmetrical spinnaker

G.6.1 Materials

- (a) The **sail** shall be made of nylon or polyester **woven ply**.
- (b) The minimum **ply** weight is 0.85 oz (36 g/m²).

G.6.2 Construction

- (a) The construction shall be: **soft sail, single ply sail**.
- (b) The **sail** shall be assembled out of panels.
- (c) The **body of the sail** may consist of the same **ply** throughout.
- (d) The **sail reinforcements** are not restricted.

- (e) The following are permitted: Stitching, glues, tapes, corner eyes, **leech** line with cleat, **luff** line with cleat, one window, tell tales, **sail** shape indicator stripes and items as permitted or prescribed by other applicable rules.

G.6.3 Dimensions

- (a) See appendix D and current ERS

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Part III – Appendices

Appendix A - Hull and appendices dimensions

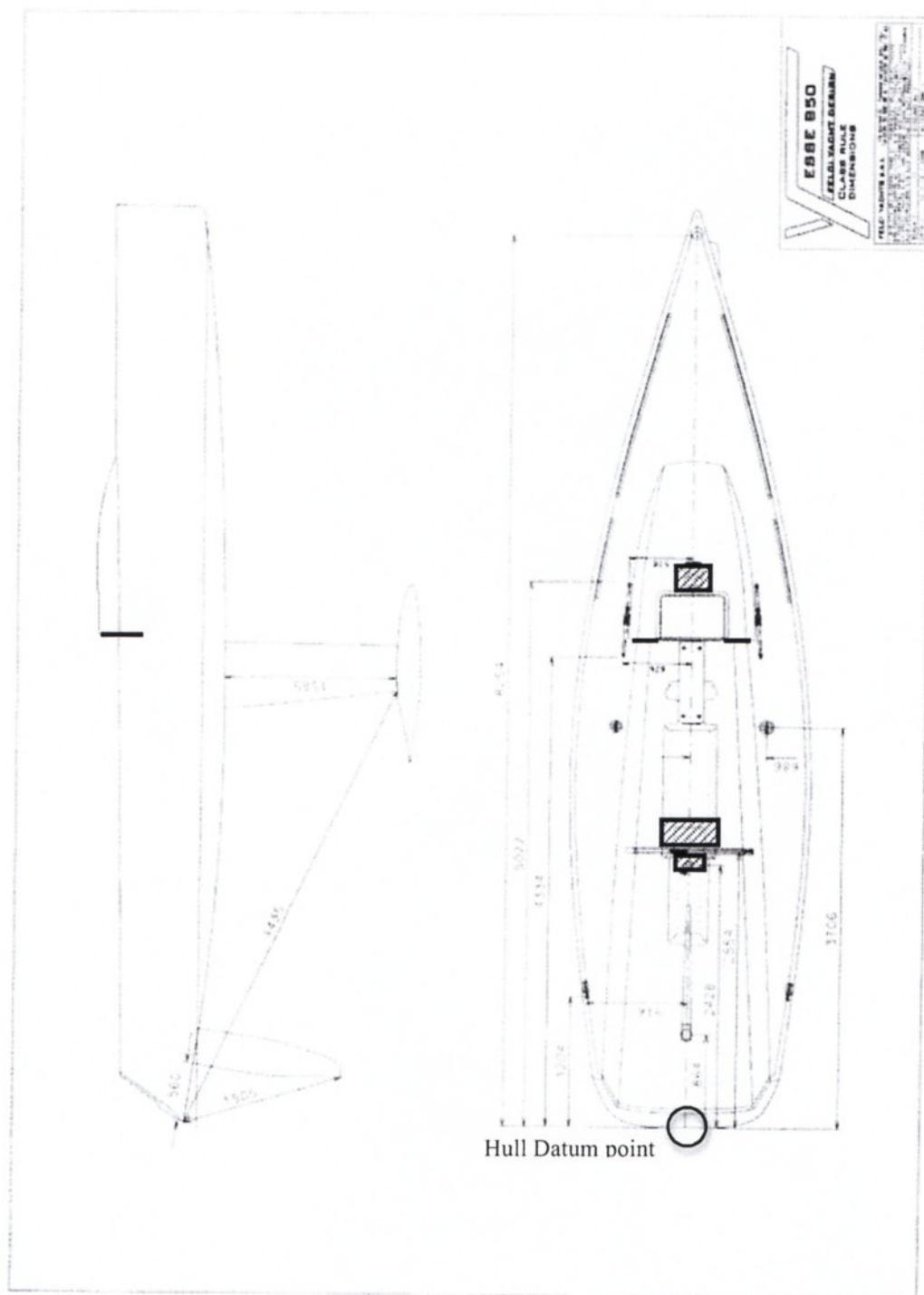
Appendix B - Sail plan

Appendix C - Corrector weights positions

Appendix D - Sails measurements

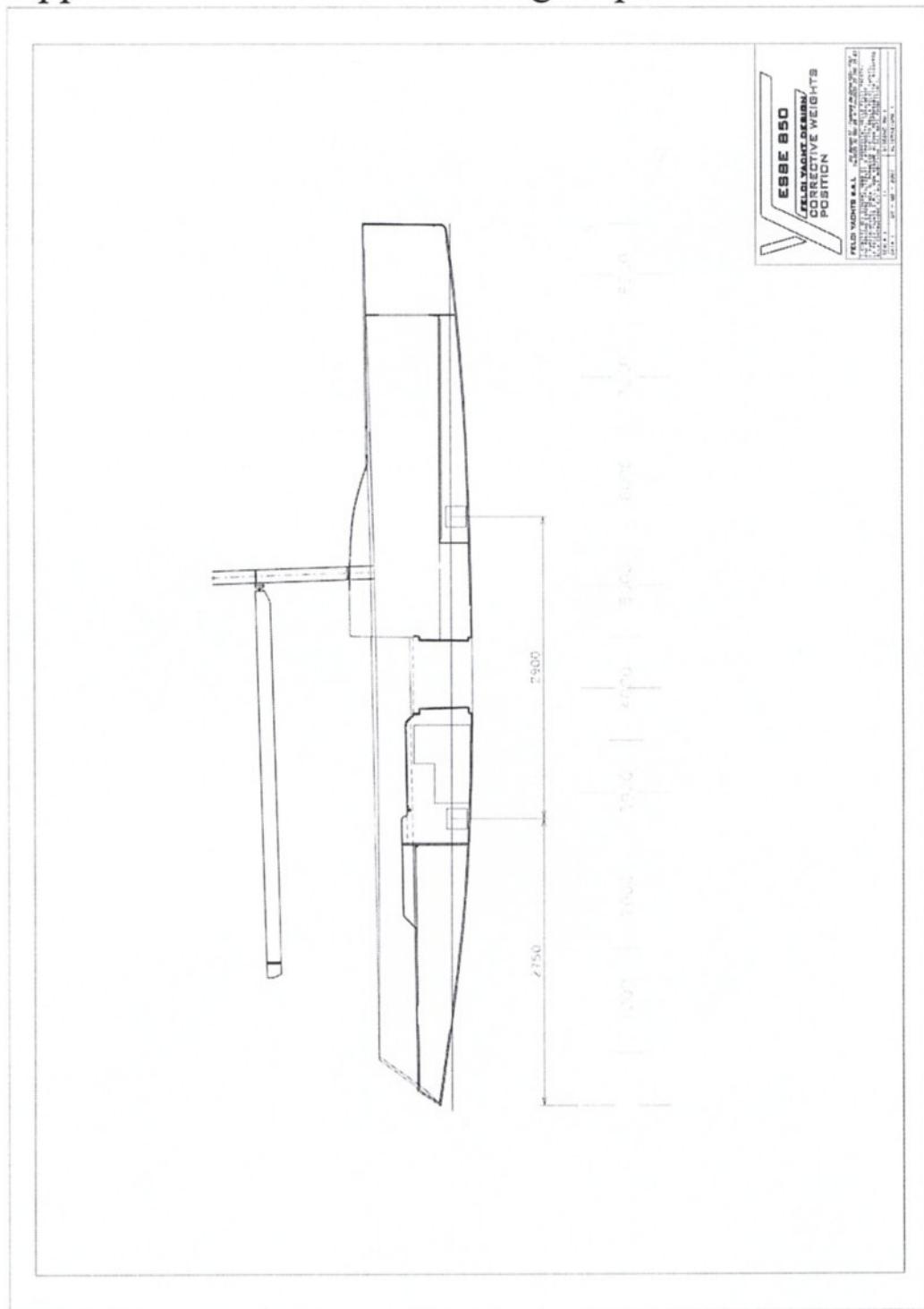
Appendix A - Hull and appendices dimensions

 Areas where control lines may pass through the deck



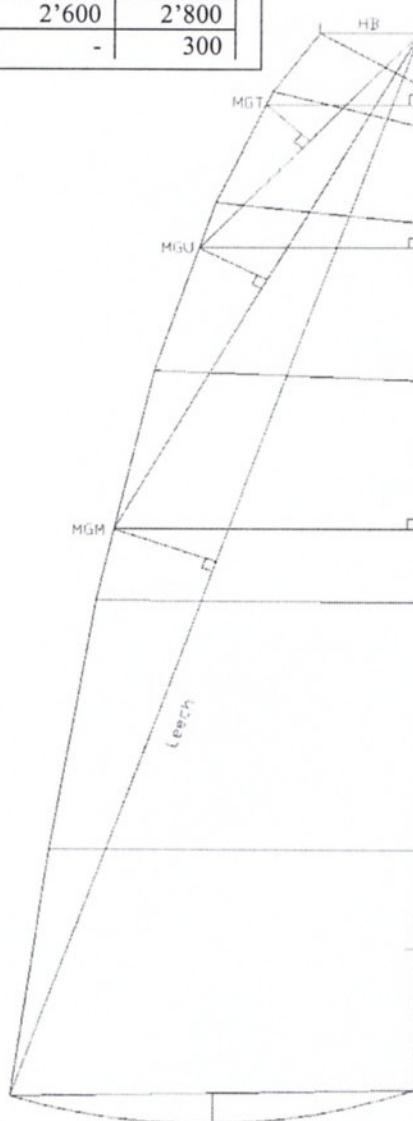
Appendix B - Sail plan

Appendix C - Corrector weights positions



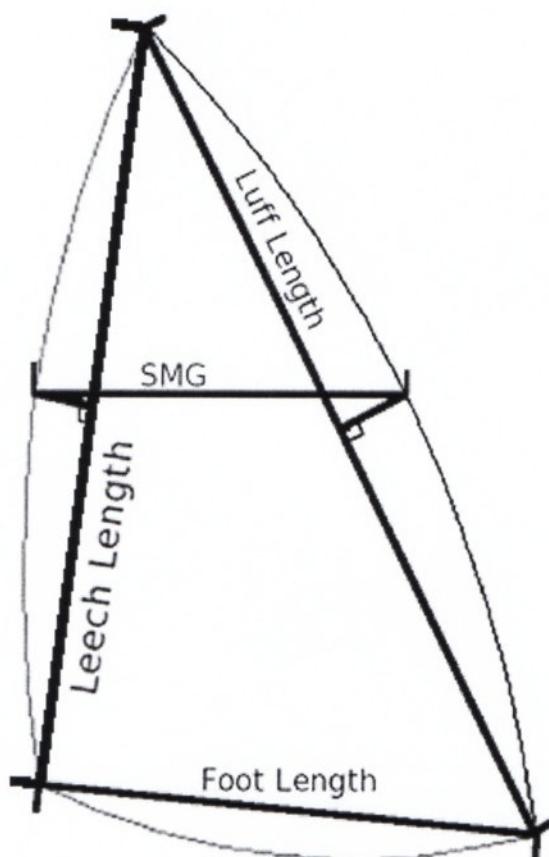
Appendix D - Sails Measurements

Mainsail		
Dimension in mm	Min	Max
HB	800	900
MGT	1'200	1'400
MGU	1'800	2'000
Leech	2'600	2'800
Shelf	-	300



Asymmetrical Spinnaker

Dimension in mm	Min	Max
Luff length	-	13'250
Foot length	-	7'400
SMG	-	7'000
Leech Length	-	11'250



Medium Jib

esse 850 

