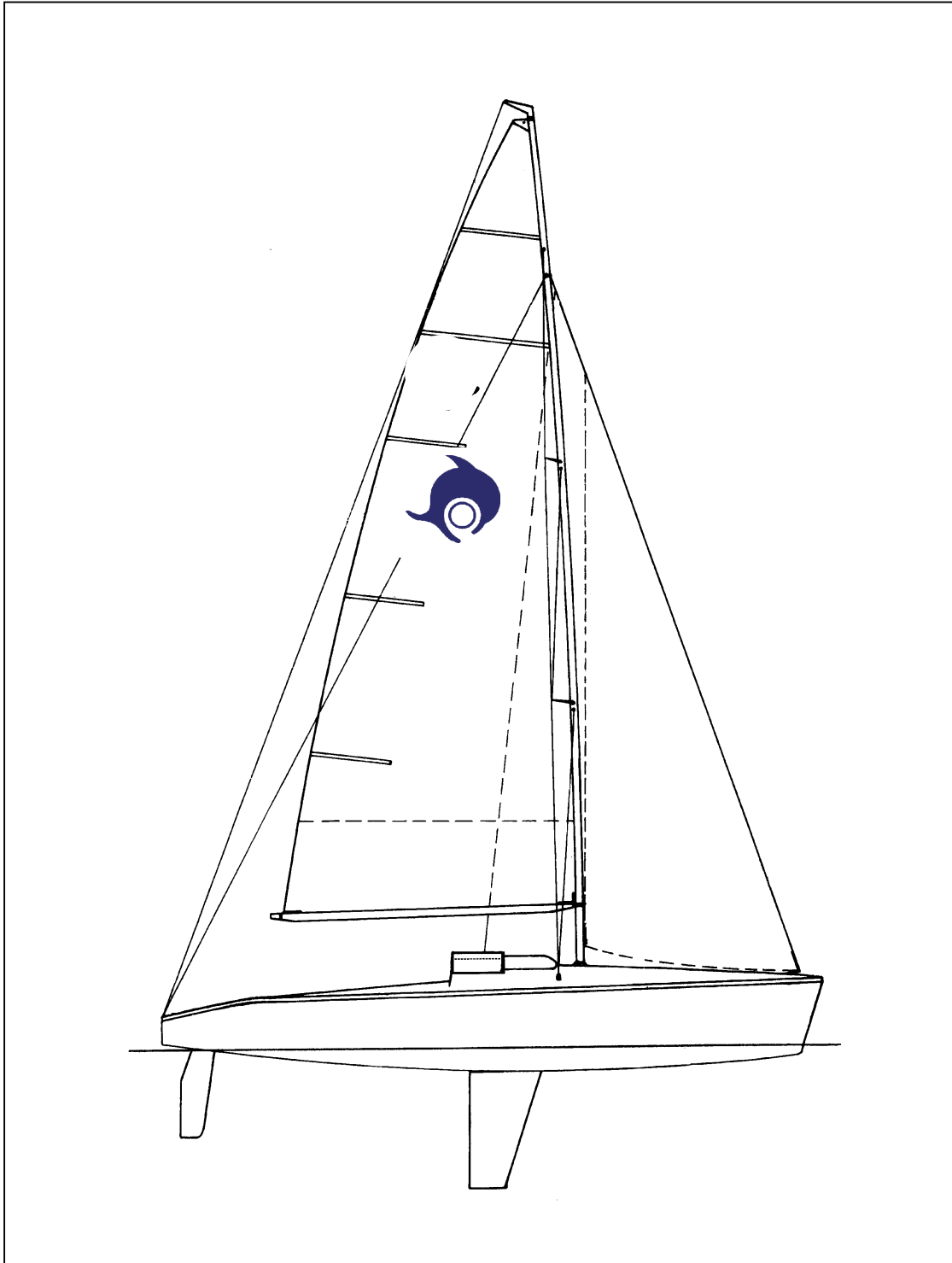


**2010**  
**International DOLPHIN 81**  
**Class Rules**





# PART I – ADMINISTRATION

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## PREAMBLE

The Dolphin 81 was designed in 1993 by Ettore Santarelli (Italy) and was adopted officially as a national A class in Switzerland in 2001.

As long as Dolphin 81 is not a ISAF class all terms and statements concerning ISAF shall be ignored. This excludes links to references like ISAF RRS and ISAF ERS.

## Section A – General

### A.1 TYPE OF CLASS RULES

A.1.1 These are **closed class rules**.

The intention of these rules is to ensure the boats are identical in construction, hull, shape, weight, equipment, rigging and sail plan to achieve equal appearance, performance and utilisation.

### A.2 LANGUAGE

A.2.1 The official language of the class is English and in case of dispute over translation the English text shall prevail.

A.2.2 The word “shall” is mandatory and the word “may” is permissive.

### A.3 ABBREVIATIONS

|       |         |  |
|-------|---------|--|
| A.3.1 | ISAF    | International Sailing Federation   |
|       | MNA     | ISAF Member National Authority   |
|       | INTD81A | International Dolphin 81 Association   |
|       | NCA     | National Class Association (xxxD81A), where xxx is the official national Code, ex. ITA for Italy |
|       | ERS     | Equipment Rules of Sailing   |
|       | RRS     | Racing Rules of Sailing  |



## A.4 AUTHORITIES AND RESPONSIBILITIES

Rules related to ISAF will only be in force when the class will request recognised or international status.

- A.4.1 The international authority of the class is the ISAF which shall co-operate with the INTD81A in all matters concerning these **class rules**.
- A.4.2 Neither the ISAF, the MNA, the INTD81A, an NCA, the **certification authority** nor an **official measurer** is under no legal responsibility in respect of these **class rules** or accuracy of measurement and no claim arising from them can be entertained.
- A.4.3 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.5 ADMINISTRATION OF THE CLASS

- A.5.1 ISAF has delegated its administrative functions of the class to MNA's. The MNA may delegate part or all of its functions, as stated in these **class rules**, to an NCA.
- A.5.2 In countries where there is no MNA, or the MNA does not wish to administer the class, its functions as stated in these **class rules** shall be carried out by the INTD81A which may delegate the administration to an NCA.

## A.6 ISAF RULES

- A.6.1 These **class rules** shall be read in conjunction with the ERS. Where a term is used in its defined sense, it is printed in "**bold**" type if defined in the ERS and in "*italic*" type if defined in the RRS.

## A.7 CHAMPIONSHIP RULES

- A.7.1 The Class Championship Rules shall apply at World, Continental and National Championships.

## A.8 SAILING INSTRUCTIONS

- A.8.1 These **class rules** shall not be varied by sailing instructions except as provided by A.8.2.
- A.8.2 At World, Continental or National Championships the sailing instructions may vary these **class rules** only with the agreement of the INTD81A.

## A.9 AMENDMENTS TO CLASS RULES

- A.9.1 Amendments to these **class rules** shall be proposed by the INTD81A, or an MNA, and require to be approved by the ISAF.

## A.10 INTERPRETATION OF CLASS RULES

### A.10.1 GENERAL

Interpretation of **class rules**, except as provided by A.10.2, shall be made in accordance with the ISAF Regulations.



## A.10.2 AT AN EVENT

Any interpretation of **class rules** required at an event may be made by a international jury constituted in accordance with the RRS. Such interpretation shall only be valid during the event and the organising authority shall, as soon as practical after the event, inform the ISAF, the MNA and the INTD81A of such interpretation.

## A.11 INTERNATIONAL CLASS FEE(S) AND ISAF PLAQUE

A.11.1 The International Class Fee(s) shall be paid by the licensed hull builder.

A.11.2 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.12 SAIL NUMBERS

A.12.1 Sail numbers shall be issued by the INTD81A.

A.12.2 As long as there is only one builder the sail number shall correspond to the hull number.

A.12.3 In addition, the **boat** shall carry the sail letters applicable to her nationality as defined in RRS.

A.12.4 National letters may be placed in front of the numbers at the same level.

## A.13 INITIAL CERTIFICATION

A.13.1 For a hull not previously **certified**, all items required to be measured by the measurement form shall be measured by an **official measurer** and the details entered onto the form.

A.13.2 The measurement form, together with any **certification** fee, shall be sent to the **certification authority** in the country where the hull is to be registered within 4 weeks after completion of measurement.

A.13.3 Upon receipt of a satisfactorily completed measurement form and the fee within the specified time limit the **certification authority** may issue a **certificate**. The **certification authority** shall retain the original measurement form. The measurement form(s) shall be transferred to the new **certification authority** when a hull is exported.

A.13.4 The full "Measurement Certificate" contains a cover sheet of the MNA and the Dolphin 81 Association Measurement Form. A copy of the full "Measurement Certificate" shall be carried all the time on board.

## A.14 VALIDITY OF CERTIFICATES

A.14.1 A **certificate** becomes invalid upon:

(a) The date of expiration

(b) Change of ownership

(c) Any alteration or repair to items required by the measurement form to be measured, other than permitted routine maintenance



- (d) Any alteration to **corrector weights** required by the measurement form to be measured

## A.15 RE-CERTIFICATION

- A.15.1 Upon expiration the owner shall apply to the **certification authority** for a new **certificate** together with any re-**certification** fee that may be required. A new **certificate** shall then be issued to the owner.
- A.15.2 Upon change of ownership the new owner shall apply to the **certification authority** in the country where the hull shall be registered for a new **certificate**. The application shall include the old **certificate** and any re-**certification** fee that may be required. In the case of an imported hull the **certification authority** shall request the measurement form(s) from the previous **certification authority**. A new **certificate** shall then be issued to the new owner.
- A.15.3 Upon alteration or repair to an item required by the measurement form to be measured the relevant item shall be re-measured by an **official measurer** and the details entered on a new form. The new form together with the old **certificate** and any re-**certification** fee that may be required shall be sent to the **certification authority** in the country where the hull is registered within 4 weeks after completion. A new **certificate**, showing the dates of initial and new **fundamental measurement**, may then be issued to the owner.
- A.15.4 Upon alteration to **corrector weights** the parts shall be re-weighed by an **official measurer** and the details entered on the old invalid **certificate**. The old **certificate** and any re-**certification** fee that may be required shall be sent to the **certification authority** within 4 weeks after completion. A new **certificate** may then be issued to the owner.



## Section B – Boat Eligibility

For a **boat** to be eligible to *race*, the rules in this section shall be complied with.

### **B.1 CERTIFICATE**

B.1.1 The hull shall have a valid **certificate** including **corrector weight** details.

### **B.2 CERTIFICATION MARKS**

B.2.1 Items that require **certification marks** shall be so marked.

### **B.3 FLOTATION CHECK**

B.3.1 not applicable

### **B.4 CLASS ASSOCIATION STICKER**

B.4.1 A valid class association sticker, if required by the NCA or the INTD81A, shall be affixed in a conspicuous position on the hull shell astern.



## PART II – REQUIREMENTS AND LIMITATIONS

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The crew and the **boat** shall comply with the rules in this Part when *racing*. Measurement to check conformity with rules of Section C is not part of **fundamental measurement**.

### Section C – Conditions for Racing

#### C.1 GENERAL

##### C.1.1 TYPE OF CLASS RULES

The rules in this Section are **closed class rules**.

##### C.1.1 MEASUREMENT

Measurement shall be carried out in accordance with the ERS.

#### C.2 ADVERTISING

##### C.2.1 LIMITATIONS

The **boat** shall display only such advertising as permitted by RRS, Appendix 1, Category C

#### C.3 CREW

##### C.3.1 LIMITATIONS

- (a) The crew shall consist of a minimum of 3 persons and a maximum of 6 persons.
- (b) No crew member shall be substituted during an event of less than 3 consecutive days, unless authorised by the race Committee.

##### C.3.2 WEIGHTS

The total weight of the crew on board while racing dressed in underwear shall not exceed 420 kg.

#### C.4 PERSONAL EQUIPMENT

##### C.4.1 COMPETITOR'S CLOTHING AND EQUIPMENT

The use of weight jackets is prohibited.

##### C.4.2 HIKING HARNESS

not applicable

##### C.4.2 TRAPEZE HARNESS

not applicable



## **C.5 PORTABLE EQUIPMENT**

### **C.5.1 FOR USE**

#### **(a) Mandatory**

- (i) Personal flotation vests shall be carried for each crew member on board.
- (ii) One hand bailer or bucket of not less than 7 ltrs capacity.
- (iii) One anchor of not less than 4 kg in weight or one anchor of not less than 2.5 kg and a chain of not less than 1.5 kg in weight. One warp with not less than 30 m length and not less than 8 mm in diameter
- (iv) Floating devices having a minimum buoyancy of 400 kg and a minimum weight of 3 kg.
- (v) One navigation light at the head of the mast with minimum 5 W power and with a battery with at least 11 Ah capacity and a minimum weight of 4 kg.
- (vi) One life buoy with a floating line of at least 30 m.
- (vii) One first aid kit

#### **(b) Optional**

- (i) Electronic sailing equipment, navigation and tactical equipment and the appropriate sensors
- (ii) Electronic or mechanical timing devices
- (iii) Navigation lights, tactical and navigation instruments and their associated power sources
- (iv) Mooring line

### **C.5.2 NOT FOR USE**

#### **(a) Mandatory**

- (i) Towing ropes with minimum total length of 20 m of not less than 8 mm in diameter
- (ii) Two paddles, one of them with a gaff fitting
- (iii) One outboard engine, ready for use, with a minimum dry weight of 16 kg, including a fuel tank of at least 2 ltrs fuel at the end of the race and the engine support
- (iv) Two fenders
- (v) One cockpit hatch, two cushions, all floor panels, four wooden panels
- (vi) All lifting slings



The skipper assures that the combined weight of battery, anchor and engine at racing time is at minimum that value defined in the actual measurement certificate of the raced boat.

## C.6 BOAT

### C.6.1 DIMENSIONS

The dimensions of the hull are specified by appendix A

### C.6.2 WEIGHT

- (a) The weight of the **boat** in dry condition shall be at minimum 950 kg. The weight shall be taken excluding **sails** but including: laminated corrector weights (if needed), rig (ready to sail), all sheets needed to sail, one spinnaker pole, one cockpit hatch, two “original style” cushions, all floor panels, four wooden panels, one engine support and all lifting slings, two mast supports, but without flotation devices and without other mandatory equipment.
- (b) A combined weight is defined as battery (min 4kg) plus anchor (min 4kg) plus engine (min 16kg). The combined weight is to compensate higher manufacturing weights and is calculated in the individual measurement form and shall be always on board. The combined weight is per definition between 24kg and 40kg.
- (c) The weight of the **boat** ready to race is minimum 1010 kg. This includes the boat as defined in C.6.2.(a) the minimum sail weight (17kg) and the minimum weight of the flotation devices (3kg) and the combined weight as defined in C.6.2.(b).
- (d) The calculation scheme is explained in the measurement form.

### C.6.3 CORRECTOR WEIGHTS

- (a) **Corrector weights** of lead or steel shall be permanently fastened to the hull when the **boat** weight is less than the minimum requirement.
- (b) Corrector weights shall be composed of five equal heavy plates, permanently laminated to the hull with resin at five positions, which are stipulated in Annex A.
- (c) The total weight of such **corrector weights** shall not exceed 40 kg. See also rules A.15.4 and B.1.1.

### C.6.4 FLOTATION

- (a) The **hull** shall be fully decked and has flotation elements.
- (b) Fully decked **hulls** shall comply with ISO 11812 and ISO 12216.
- (c) Flotation elements shall comply with ISO 12217-3 Annex C.

## C.7 HULL

### C.7.1 MAINTENANCE

- (a) Routine maintenance such as painting or application of antifouling and polishing is permitted without re-measurement and re-**certification**.



- (b) It is not allowed to core, drill out, rebuild, replace materials, grind, reshape profiles or contours or relocate standard equipment.

## C.8 HULL APPENDAGES

### C.8.1 MAINTENANCE

- (a) Routine maintenance such as painting or polishing is permitted without re-measurement and re-**certification**.
- (b) The keel may be painted with antifouling.

### C.8.2 LIMITATIONS

- (a) Only one **keel** and one **rudder** blade shall be used during an event of less than 3 consecutive days, except when a **hull appendage** has been lost or damaged beyond repair. Such replacement may be made only with the approval of the race committee. The race committee shall then remove or cross any **equipment limitation mark** attached to the replaced **hull appendage**.

### C.8.3 KEEL

#### (a) **Dimensions**

The relevant dimensions are specified on appendix B

### C.8.4 RUDDER

#### (a) **Dimensions**

The relevant dimensions are specified on appendix B.

## C.9 RIG

### C.9.1 MAINTENANCE

- (a) Routine maintenance such as replacing damaged items by original spare parts is permitted without re-measurement and re-**certification**.

### C.9.2 LIMITATIONS

- (a) Only one set of **spars** and standing **rigging** shall be used during an event of less than 3 consecutive days, except when a item has been lost or damaged beyond repair. Such replacement may be made only with the approval of the race committee. The race committee shall then remove or cross any **equipment limitation mark** attached to a replaced **spar**.

### C.9.3 MAST

#### (a) **Dimensions**

The relevant dimensions are specified in section F.3 and appendix C.

#### (b) **Use**

The **spar** shall be stepped in the mast step in such a way that the heel is not capable of moving.



#### C.9.4 BOOM

##### (a) **Dimensions**

The relevant dimensions are specified in section F.4 .

##### (b) **Use**

The intersection of the aft edge of the mast and the top of the boom, each extended as necessary, shall not be below the upper edge of the lower mast **band** when the boom is at 90° degree to the mast.

#### C.9.5 SPINNAKER POLE

##### (a) **Dimensions**

The relevant dimensions are specified in section F.5 .

#### C.9.6 STANDING RIGGING

##### (a) **Dimensions**

|   | minimum | maximum |
|---|---------|---------|
| <b>Foretriangle base</b> .....              | 2630 mm | 2670 mm |
| <b>Foretriangle / Forestay height</b> ..... |         | 8765 mm |
| <b>Forestay length</b> .....                |         | 9240 mm |

(from rigging point to forestay plate; centre of attachment)

**Mast rake** .....11730 mm

(Mast rake = distance where the main halyard crosses the lower edge of the backstay crane during measurement to the center of the aftermost edge of the cockpit floor (backstay and runners loose; see Appendix H)

##### (b) **Use**

- (i) The mast shall only be controlled and trimmed by the runners, the backstay and the tension of the halyards. The mast shall be fixed at the deck collar with chocks in the masthole.
- (ii) Rigging links and rigging screws shall not be adjusted during race.
- (iii) Hydraulic devices are prohibited.

#### C.9.7 RUNNING RIGGING

##### (a) **Use**

- (i) It is not allowed to lead any sheets under deck.
- (ii) Exeptions are:
  - Control lines for Jib/Genoa furler

### C.10 SAILS

#### C.10.1 MAINTENANCE

- (a) Routine maintenance such as minor repair work is permitted without re-measurement and re-**certification**.



## C.10.2 LIMITATIONS

- (a) Mandatory are 1 mainsail, 1 jib, 1 genoa and 1 spinnaker.
- (b) Not more than 1 mainsail, 1 jib, 1 genoa, and 1 top spinnaker, 1 7/8 spinnaker shall be carried aboard.
- (c) The gross weight of the mandatory sails is minimum 17.0 kg.

## C.10.3 MAINSAIL

### (a) Identification

The sail number shall comply with the RRS. National letters shall be placed above and numbers below the 3. batten from top.

National letters may be placed in front of the numbers at the same level. In this case national letters and numbers shall be placed between the 3. and 4. batten from top.

### (b) Use

- (i) The **sail** shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the **sail** at sea.
- (ii) The highest visible point of the **sail**, projected at 90° to the mast **spar**, shall not be set above the lower edge of the upper mast **spar band**. The intersection of the **leech** and the top of the boom **spar**, each extended as necessary, shall not be behind the fore side of the boom **spar band**.
- (iii) **Luff** and **foot** bolt ropes shall be in the **spar** grooves or tracks.

## C.10.4 JIB

### (a) Identification

No sail number be required on the jib.

### (b) Use

The **sail** shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the **sail** at sea.

## C.10.5 GENOA

### (a) Identification

No sail number be required on the genoa.

### (b) Use

The **sail** shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the **sail** at sea.

## C.10.6 GENNAKER

No gennaker shall be used.

## C.10.6 SPINNAKER

### (a) Identification

The sail number shall comply with the RRS. National letters may be placed in front of the numbers at the same level.



(b) **Use**

The **sail** shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the **sail** at sea.

## **C.11 RADIO COMMUNICATION**

### **C.11.1 LIMITATION**

- (a) A boat shall neither make radio transmissions while racing nor receive radio communications not available to all boats. This restriction also applies to mobile telephone sets.

## **Section D – Hull**

### **D.1 PARTS**

#### **D.1.1 MANDATORY**

- (a) Hull shell
- (b) Deck
- (c) Buoyancy devices
- (d) Bulkheads

#### **D.1.2 OPTIONAL**

- (a) Bow berth

### **D.2 GENERAL**

#### **D.2.1 TYPE OF CLASS RULES**

The rules in this Section are closed **class rules**.

#### **D.2.2 MEASUREMENT**

- (a) Measurement shall be carried out in accordance with the ERS.
- (b) The **hull** shall comply with the **class rules** in force at the time of initial **fundamental measurement**.

### **D.3 CERTIFICATION**

*See Rule A.13*

### **D.4 IDENTIFICATION**

- D.5.1 The **hull** shall carry permanently fixed a identification plaque placed on the rear side of the main sheet traveller.

### **D.5 BUILDERS**

- D.5.1 The hull shall be built by a builder authorised and licensed by the license owner.
- D.5.2 The license owner is: Maxi Dolphin s.r.l.



Via Gandhi 9 – 25030 Erbusco (Bs) - Italy

D.5.3 All moulds shall be approved by the license owner.

## **D.6 HULL SHELL**

### **D.6.1 MATERIALS**

- (a) The hull shell shall be built from reinforced polyester resin according to the basic design of the designer.
- (b) The use of fibres other than glass is prohibited.
- (c) The application of any antifouling is permitted.
- (d) It is not allowed to use any filler to improve the shape of the hull.
- (e) It is not allowed to core, drill out wholes, replace or rebuild materials or to relocate standard equipment.
- (f) The hull shall not have special textured surfaces which could increase boat speed.

### **D.6.2 CONSTRUCTION**

- (a) The builder shall construct the hull by installing the stringers and bulkheads before it leaves the mould.

## **D.7 DECK**

### **D.7.1 MATERIALS**

- (a) The deck shall be built from reinforced polyester resin.
- (b) The use of fibres other than glass is prohibited.

### **D.7.2 CONSTRUCTION**

- (a) The deck shall be reinforced by a sandwich layer construction.

## **D.8 BUOYANCY DEVICES**

### **D.8.1 CONSTRUCTION**

- (a) Buoyancy equipment shall comprise of floating devices with a buoyancy of 400 kg at minimum and a minimum weight of 3 kg.

## **D.9 GUNWALE RUBBING STRAKES**

not applicable

## **D.10 BULKHEADS**

### **D.10.1 MATERIALS**

- (a) The bulkheads shall be of wood.

### **D.10.2 CONSTRUCTION**

- (a) The bulkheads are laminated with the hull and the deck.



## D.11 THWARTS

not applicable

## D.12 ASSEMBLED HULL

### D.12.1 FITTINGS

Carbon fittings are allowed for blocks, cleats, cover of runner sheets, tiller, cleat support (on the front side of the entrance to the cabin).

#### (a) **Mandatory**

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

- (i) Stemhead fitting
- (ii) Forestay fitting
- (iii) Shroud plates
- (iv) Headsail tracks
- (v) Mainsheet track with one traveller
- (viii) Mast step
- (ix) Backstay
- (x) Runners
- (xi) Stantions and pulpit and pushpit

#### (b) **Optional**

- (i) Mainsail sheet blocks, fairleads and cleats
- (ii) Mainsail Cunningham blocks, fairleads and cleats
- (iii) Maximum two headsail sheet winches, selftailing allowed
- (iv) Headsail sheet blocks, fairleads and cleats
- (v) Spinnaker sheet and guy fairleads, blocks and cleats
- (vi) Spinnaker Barber hauler fairleads, blocks and cleats
- (vii) Stowage clips for paddle(s), spinnaker pole, sail bags and other equipment
- (viii) Compasses
- (ix) Cleat support (mounted on the front side of the entrance to the cabin)

### D.12.2 DIMENSIONS

The **Hull** shall be manufactured from official moulds and shall conform to the official templates.

**Hull** overall length .....min 8090 mm, max 8110 mm  
Beam of **hull**, excluding rubbing strakes and fittings, at sheerline;  
at widest point .....min 2690 mm, max 2710 mm



|   |                          |
|---|--------------------------|
| Longitudinal distance from <b>hull datum point</b> ;<br>to rear end of <b>keel</b> bottom line trailing edge<br>..... | min 3770 mm, max 3790 mm |
| Straight line measurement from <b>hull datum point</b> ;<br>to rear end of <b>keel</b> tip.....                       | min 4105 mm, max 4125 mm |
| Longitudinal dimension of mast <b>spar</b> hole .....   | max 140 mm               |
| Horizontal distance from centre of forestay attachment<br>to forward end of <b>hull</b> .....                         | min 270 mm               |
| Longitudinal distance from aft mast spar hole<br>to centre of shroud plates .....                                     | min 190 mm, max 210 mm   |
| Transverse distance between centres of shroud plates<br>.....   | min 1490 mm, max 1510 mm |
| Headsail tracks;<br>Movement of headsail block.....   | max 600 mm               |
| Traverse distances between tracks ....  | min 1490 mm, max 1510 mm |
| Jib tracks;<br>Movement of jib block .....  | max 600 mm               |
| Traverse distances between<br>centres of jib tracks .....   | min 990 mm, max 1010 mm  |
| Mainsheet track;<br>length .....  | max 1350 mm              |
| vertical height cockpit floor to top above track .....  | max 370 mm               |
| Headsail track length .....   | 600 mm                   |
| Jib track length.....   | 600 mm                   |

The pulpit, the pushpit and the four stanchions shall be of stainless steel and have a minimum height of 450 mm, except the two front stanchions with a minimum height of 300 mm. Lifelines of wire not less than 3 mm (plus approx. 3mm coating of plastic) or lines of HMPE (Dyneema, Spectra) not less than  $\varnothing$  4 mm shall be attached at the pulpit and shall pass through the stanchions.

Between the pushpit and the stanchion in the middle of the hull length a webbing belt is allowed to use.

The stanchions shall extend outboard of the sheerline maximum 65 mm on each side.

When pushing down hard (about 50 Newton) on the lifeline or webbing belt between the pushpit and the stanchion in the middle of the hull length, the distance to the deck shall not be less than 50 mm. Position of helmsman and crew shall be inside of the lifelines or the belt, conforming to RRS 49.2.

The lifelines may have pads for comfortable hiking.

### D.12.3 WEIGHT

not applicable



#### D.12.4 HULL CORRECTOR WEIGHTS

- (a) The total weight of **corrector weights** shall not exceed 40 kg.

## Section E – Hull Appendages

### E.1 PARTS

#### E.1.1 MANDATORY

- (a) **Keel**
- (b) **Rudder**

### E.2 GENERAL

#### E.2.1 TYPE OF CLASS RULES

The rules in this Section are closed **class rules**.

#### E.2.2 MEASUREMENT

Measurement shall be carried out in accordance with the ERS.

### E.3 KEEL

#### E.3.1 MEASUREMENT

The **keel** shall comply with the **class rules** in force at the time of the initial **fundamental measurement** of the **hull**.

#### E.3.2 CERTIFICATION

- (a) The **official measurer** shall **certify keels** and shall sign the **certification mark** and date it with the date of **fundamental measurement**.
- (b) A MNA may appoint one or more persons at a manufacturer to measure and **certify keels** produced by that manufacturer. A special license shall be awarded for that purpose.

#### E.3.3 MANUFACTURERS

- (a) Manufacturers shall be licensed by the license owner.

#### E.3.4 MATERIALS

- (a) The **keel** shall be made of a stainless steel casing (AISI 304) filled with lead representing the ballast.
- (b) The **keel** may be painted with antifouling.
- (c) It is not allowed to use any filler to improve the shape of the **keel**.
- (d) The **keel** shall not have special textured surfaces which could increase boat speed.

#### E.3.5 CONSTRUCTION

- (a) The **keel** shall be manufactured from a pattern approved by the licence owner.



#### E.3.6 FITTINGS

##### (a) **Mandatory**

The keel shall be fastened with 7 screws M12.

#### E.3.7 DIMENSIONS

The dimensions of the **keel** are shown on appendix B.

#### E.3.8 WEIGHTS

The weight of the **keel** shall be ..... minimum maximum  
420 kg ..... 425 kg

### E.4 RUDDER BLADE, RUDDER STOCK AND TILLER

#### E.4.1 MEASUREMENT

The **rudder** blade shall comply with the **class rules** in force at the time of **fundamental measurement**.

#### E.4.2 CERTIFICATION

(a) The **official measurer** shall **certify rudder** blades and shall sign the **certification mark** and date it with the date of **fundamental measurement**.

(b) A MNA may appoint one or more persons at the manufacturer to measure and **certify rudder blades** produced by that manufacturer. A special license shall be awarded for that purpose.

#### E.4.3 MANUFACTURERS

(a) The manufacturer shall be licensed by the license owner.

#### E.4.4 MATERIALS

(a) The **rudder** blade shall be of reinforced polyester resin. The use of fibres other than glass is prohibited.

(b) The **rudder** stock shall be of any kind of aluminium alloy.

(c) The tiller and its extensions may be of any material .

(d) It is not allowed to use any filler to improve the shape of the **rudder**.

(e) The **rudder** shall not have special textured surfaces which could increase boat speed.

#### E.4.5 CONSTRUCTION

(a) The **rudder** blade shall be manufactured in a mould approved by the license owner.

#### E.4.6 FITTINGS

not applicable

#### E.4.7 DIMENSIONS

The dimensions of the rudder blade are specified on appendix B.



## Section F – Rig

### F.1 PARTS

#### F.1.1 MANDATORY

- (a) **Mast**
- (b) **Boom**
- (c) Standing **rigging**
- (d) Running **rigging**
- (e) One **spinnaker pole**

#### F.1.2 OPTIONAL

- (a) Second **spinnaker pole**

### F.2 GENERAL

#### F.2.1 TYPE OF CLASS RULES

The rules in this Section are closed **class rules**.

#### F.2.2 MEASUREMENT

Measurement shall be carried out in accordance with the ERS. The spar marks shall be in a contrasting colour.

### F.3 MAST

#### F.3.1 MEASUREMENT

The **spar** and its fittings shall comply with the **class rules** in force at the time of **fundamental measurement** of the **spar**.

#### F.3.2 CERTIFICATION

- (a) The **official measurer** shall **certify** the **spar** and shall sign the **certification mark** and date it with the date of **fundamental measurement**.
- (b) An MNA may appoint one or more persons at a manufacturer to **certify spars** produced by that manufacturer. A special license shall be awarded for that purpose.

#### F.3.3 IDENTIFICATION

- (a) The mast shall be uniquely numbered at **certification**. The numbers shall be impressed to the mast rear left side at the level 0.000 (see appendix C). The numbering scheme is “ hullnr • mastnr “ (example 81142 • 1 ; this means hull 81142, sailnr 142, first mast on this boat). The • shall be exactly at the level of 0.000 of the mast and impressed with a tool. The layout is defined in appendix G.

#### F.3.4 MANUFACTURER

- (a) The manufacturer shall be licensed by the license owner.



### F.3.5 MATERIALS

(a) The **spar** shall be of aluminium alloy. It may be anodised.

### F.3.6 CONSTRUCTION

(a) The **spar** extrusion shall include a fixed sail groove or track.

(b) The cross section of the constant section of the spar is specified on appendix F

(c) A constant profile with taper at the upper part shall be used.

### F.3.7 FITTINGS

#### (a) **Mandatory**

- (i) Mast head fitting
- (ii) Shroud tangs
- (iii) Two sets of fixed spreaders
- (iv) Mainsail halyard sheave box
- (v) Headsail halyard sheave box
- (vi) Two Spinnaker halyard sheave box
- (vii) Two spinnaker pole fittings
- (viii) Spinnaker pole lift block with attachment
- (ix) Kicking strap attachment
- (x) Gooseneck
- (xi) Heel fitting with sheaves for halyards
- (xii) Backstay crane as specified in appendix C. A flexible device may be fixed to the backstay crane for the purposes of lifting a lightly loaded backstay above the top batten.

#### (b) **Optional**

- (i) Mechanical wind indicator
- (ii) Sensors for wind direction and speed
- (iii) Mechanical boom lifter

### F.3.8 DIMENSIONS

|   | minimum        | maximum  |
|---|----------------|----------|
| <b>Mast length</b> .....  | 11540 mm       | 11560 mm |
| Mast spar cross section .....   | see appendix F |          |
| <b>Mast limit mark width</b> .....  | 20 mm          |          |
| <b>Lower mast point height</b> .....  | 1010 mm        |          |
| <b>Distance between Lower mast point height and upper mast point height</b> ..... | 9600 mm        |          |
| <b>Upper mast point height</b> .....  | 10600 mm       |          |
| <b>Forestay height</b> .....  | .8765 mm       |          |



|   |                    |
|---|--------------------|
| <b>Shroud height</b> .....              | ..8855 mm          |
| <b>Spinnaker pole fitting:</b>          |                    |
| <b>height</b> .....                     | ... 1800 mm        |
| <b>projection</b> .....                 | ....50 mm          |
| <b>7/8 Spinnaker hoist height</b> ..... | ..8855 mm          |
| <b>Top Spinnaker hoist height</b> ..... | 10600 mm           |
| <b>lower Spreader</b>                   |                    |
| <b>length</b> .....                     | 790 mm ... 810 mm  |
| <b>height</b> .....                     | 3390 mm 3410 mm    |
| <b>upper Spreader</b>                   |                    |
| <b>length</b> .....                     | 540 mm ... 560 mm  |
| <b>height</b> .....                     | 6290mm 6310 mm     |
| <b>upper Diamonds</b>                   |                    |
| <b>length</b> .....                     | 240 mm ... 260 mm  |
| <b>height</b> .....                     | 8940 mm 8960 mm    |
| <b>Taper range from</b> .....           | 8900 mm ..mast end |

#### F.3.9 WEIGHTS

|  |                |
|--|----------------|
| <b>Weight of the constant section of the spar</b> minimum..... | 1.98 kg / m    |
| <b>Mast tip weight</b> .....                                   | not applicable |

#### F.3.10 SHROUDS ON FITTINGS

The shrouds may be attached at the front or the backwards shroud fitting.

### F.4 BOOM

#### F.4.1 MEASUREMENT

The **spar** and its fittings shall comply with the **class rules** in force at the time of **fundamental measurement** of the **spar**.

#### F.4.2 CERTIFICATION

**Certification** is not required.

#### F.4.3 IDENTIFICATION

(a) The **spar** shall not be numbered.

#### F.4.4 MANUFACTURER

(a) Manufacturer is optional.

#### F.4.5 MATERIALS

(a) The **spar** shall be of aluminium alloy. It may be anodised.

#### F.4.6 CONSTRUCTION

- (a) The **spar** extrusion shall include a fixed sail groove or track.
- (b) A constant profile without taper shall be used.



#### F.4.7 FITTINGS

##### (a) **Mandatory**

- (i) One or multiple sheave mainsheet blocks with attachments; the mainsheet shall be attached at the traveller; the mainsheet shall be attached at the mainsheet track.
- (ii) Clew outhaul block and attachments
- (iii) Kicking strap fitting
- (iv) Gooseneck attachment

##### (b) **Optional**

- (i) Spinnaker pole stowage fittings

#### F.4.8 DIMENSIONS

|   | minimum | maximum |
|---|---------|---------|
| <b>Boom sail limit mark width</b> ..... | 20 mm   |         |
| <b>Boom point distance</b> .....        |         | 3600 mm |
| <b>Upper width</b> .....                | 70 mm   | 80 mm   |
| <b>Lower width</b> .....                | 35 mm   | 45 mm   |
| <b>Height</b> .....                     | 110 mm  | 120 mm  |

Boom point distance shall be measured between the forward edge of the band held at 90° to the mast and parallel to the centre line of the boat.

### F.5 SPINNAKER POLE

#### F.5.1 MEASUREMENT

The **spar** and the fittings shall comply with the **class rules** in force at the time of **fundamental measurement** of the **spar**.

#### F.5.2 CERTIFICATION

**Certification** is not required.

#### F.5.3 IDENTIFICATION

- (a) The **spar** shall not be numbered.

#### F.5.4 MANUFACTURER

- (a) Manufacturer is optional.

#### F.5.5 MATERIALS

- (a) The **spar** shall be of aluminium alloy. It may be anodised.

#### F.5.6 CONSTRUCTION

- (a) Tube without taper.
- (b) Teleskopik or automatic spinnaker poles are prohibited.



#### F.5.7 FITTINGS

(a) Fittings may be of any material.

#### F.5.8 DIMENSIONS

**Spinnaker pole spar cross section**..... min 48 mm\*

(\* for the 3600 mm pole a cross section of 55 mm is recommended)

**Spinnaker overall pole length**

**incl. fittings** .....max 3600 mm

### F.7 STANDING RIGGING

#### F.7.1 MEASUREMENT

The standing **rigging** shall comply with the current **class rules**.

#### F.7.2 CERTIFICATION

**Certification** is not required.

#### F.7.3 MANUFACTURER

(a) Manufacturer is optional.

#### F.7.4 MATERIALS

(a) The standing **rigging** shall be of stainless steel.

#### F.7.5 CONSTRUCTION

##### (a) **Mandatory**

- (i) A forestay of ..... minimum diameter of 4 mm
- (ii) Lower and upper shrouds of..... minimum diameter of 4 mm
- (iii) Intermediate shrouds of ..... minimum diameter of 2.5 mm
- (iv) A backstay of ..... minimum diameter of 2.5 mm
- (v) Runners of ..... minimum diameter of 3.0 mm
- (vi) Jumpers of ..... minimum diameter of 2.5 mm

#### F.7.6 FITTINGS

##### (a) **Mandatory**

- (i) Forestay rigging link
- (ii) Shroud rigging screw
- (iii) Backstay
- (iv) Runners

##### (b) **Optional**

- (i) Double grooved forestay profile.



- (ii) Jib/Genoa furler may be installed and used. Jib/Genoa furler gear including controlling lines may be installed over or under deck.

(c) **Prohibited for use**

- (i) -

F.7.7 DIMENSIONS

Forestay length of ..... max 9240 mm

**F.8 RUNNING RIGGING**

F.8.1 MEASUREMENT

The running **rigging** shall comply with the current **class rules**.

F.8.2 CERTIFICATION

**Certification** is not required.

F.8.3 MANUFACTURER

- (a) Manufacturer is optional.

F.8.4 MATERIALS

- (a) It is not allowed to use any carbon fiber or kevlar

F.8.5 CONSTRUCTION

(a) **Mandatory**

- (i) Mainsail halyard
- (ii) Mainsail sheet
- (iii) Kicking strap
- (iv) Headsail halyard
- (v) Headsail sheets
- (vi) Spinnaker halyard top
- (vii) Spinnaker halyard 7/8
- (viii) Spinnaker sheet and guy
- (ix) Spinnaker pole lift and downhaul
- (x) Reef sheet

(b) **Optional**

- (i) Mainsail Cunningham line
- (ii) Mainsail outhaul
- (iii) Single line spinnaker barber haulers capable of modifying the sheeting angle in one direction only.



## F.8.6 FITTINGS

### (a) **Mandatory**

- (i) The runners may be tightened by a tackle with a maximum purchase of 16:1.

### (b) **Optional**

- (i) One block or eye in each spinnaker Barber hauler to run on spinnaker sheet or guy.

## Section G – Sails

### G.1 PARTS

#### G.1.1 MANDATORY

- (a) Mainsail
- (b) Genoa
- (c) Jib
- (d) One Spinnaker

#### G.1.2 OPTIONAL

- (a) Second Spinnaker
- (b) Storm jib

### G.2 GENERAL

#### G.2.1 TYPE OF CLASS RULES

The rules in this Section are closed **class rules**.

#### G.2.2 MEASUREMENT

- (a) Measurement shall be carried out in accordance with the ERS.
- (b) **Sails** shall comply with the **class rules** in force at the time of **fundamental measurement**.
- (c) LPG of genoa and jib are defined **including** 20 mm width of forestay profile if used.

#### G.2.3 CERTIFICATION

- (a) The **official measurer** shall **certify** mainsails and headsails in the **tack** or **clew** and spinnakers in the **head** and shall sign the **certification mark** and date it with the date of **fundamental measurement**.
- (b) A MNA may appoint one or more persons at a sail maker to measure and **certify sails** produced by that manufacturer. A special license shall be awarded for that purpose.
- (c) Measurement by thickness may also govern in accordance with ISAF ERS.



- (d) It is not allowed to attach any non functional elements to the sail to increase the gross weight of the **sails**.

#### G.2.4 SAIL MAKERS

Sail maker is optional.

### G.3 MAINSAIL

#### G.3.1 IDENTIFICATION

- (a) The class insignia shall be in blue colour and on both sides of the mainsail and above national letters and shall conform with the dimensions and requirements as detailed in Appendix D and Appendix I. For dark coloured sails, the class insignia, the national identification, and the sail numbers shall be contrasting. In this case a white or black insignia is allowed as well.
- (b) The class insignia shall be positioned below and close to the second batten from top.
- (c) The dolphin in the class insignia shall looking forward.

#### G.3.2 CONSTRUCTION

- (a) The construction shall be: **Soft sail, single ply sail**.
- (b) The **body of the sail** shall consist of the **woven** or **laminated ply** throughout. The **ply** fibres shall be of polyester.
- (c) It is forbidden to use any carbon fibres, kevlar or any other high-tech materials, even in small quantities.
- (d) The **sail** shall have 5 batten **pockets** in the **leech**.
- (e) The **leech** shall not extend beyond a straight line from the **aft head point** to the intersection of the **leech** and the upper edge of the upper **batten pocket** and a straight line from the **clew point** to the intersection of the **leech** and the lower edge of the lower **batten pocket**.
- (f) The sail shall be constructed so that it can be reefed by means of slab reefing at one or two points adjacent to the **luff**, one or two points adjacent to the **leech** and minimum two corresponding points in the **body of the sail**.
- (g) The mainsail shall be equipped with at least one set of reefs, placed not lower than 1100 mm above boom. An additional set of reefs may be installed, not lower than 3040 mm above boom.
- (h) The following are permitted: Stitching, glues, tapes, bolt ropes, corner eyes, headboard with fixings, Cunningham eye or pulley, **batten pocket patches**, batten pocket elastic, batten pocket end caps, mast and boom slides, leech line with cleat, **windows**, tell tales, sail shape indicator stripes.
- (i) Constructions of 3-dimensional shape are permitted (expl 3DL, Genesis).



- (j) The measurer shall indelibly mark the weight of the sail near the **tack** or **clew** together with the date and his signature or stamp.
- (k) The foot of the mainsail may be constructed as shelf foot or loose foot.

### G.3.3 DIMENSIONS (see appendix D)

|   | minimum | maximum          |
|---|---------|------------------|
| <b>Leech length</b> .....   |         | 10200 mm         |
| <b>Quarter width</b> .....  |         | 3200 mm          |
| <b>Half width</b> .....   |         | 2500 mm          |
| <b>Three-quarter width</b> .....  |         | 1500 mm          |
| <b>7/8 width</b> .....  |         | 870 mm           |
| <b>Top width</b> .....  |         | 180 mm           |
| Total weight of the <b>sail</b> without <b>battens</b> .....  | 7.7 kg  |                  |
| <b>Batten pocket</b> patches .....  |         | unlimited        |
| <b>Primary reinforcement</b> .....  |         | 450 mm           |
| <b>Secondary reinforcement</b> .....  |         | unlimited        |
| <b>Seam width</b> .....   |         | 40 mm            |
| <b>Window</b> area total .....  |         | 1 m <sup>2</sup> |
| <b>Window to sail edge</b> .....  | 150 mm  |                  |
| Headboard from <b>head point</b> .....  |         | 180 mm           |
| <b>Aft Head point</b> to intersection of <b>leech</b> and centreline of<br>uppermost <b>batten pocket</b> .....             | 1350 mm |                  |
| <b>Head point</b> to intersection of <b>luff</b> and centreline of<br>uppermost <b>batten pocket</b> .....                  | 1350 mm |                  |
| <b>Aft Head point</b> to intersection of <b>leech</b> and centreline of<br>second-uppermost <b>batten pocket</b> .....      |         | 3200 mm          |
| <b>Head point</b> to intersection of <b>luff</b> and centreline of<br>second-uppermost <b>batten pocket</b> .....           |         | 3200 mm          |
| <b>Clew point</b> to intersection of <b>leech</b> and centreline of<br>lowermost <b>batten pocket</b> .....                 |         | 1750 mm          |
| <b>Distance</b> between the intersections of <b>leech</b> and centrelines of<br>the 3 lowermost <b>batten pockets</b> ..... |         | 1750 mm          |
| <b>batten pockets</b> length for the lower 3 <b>battens</b> .....   |         | 1100 mm          |
| <b>batten</b> length for the lower 3 <b>battens</b> .....   |         | 1000 mm          |

## G.4 GENOA

### G.4.1 CONSTRUCTION

- (a) The construction shall be: **Soft sail, single ply sail.**
- (b) The **body of the sail** shall consist of the **woven** or **laminated ply** throughout. The **ply** fibres shall be of polyester.
- (c) It is forbidden to use any carbon fibres, kevlar, or any other high-tech materials, even in small quantities.
- (d) The headsail shall not have any **battens** in the **leech**.
- (e) The **leech** shall not extend beyond a straight line from the aft **head point** to the **clew point**.



- (f) The following are permitted: Stitching, glues, tapes, corner eyes, hanks, leech line with cleat, **windows**, tell tales, sail shape indicator stripes.
- (g) Constructions of 3-dimensional shape are permitted (expl 3DL, Genesis).
- (h) The measurer shall indelibly mark the weight of the sail near the **tack** or **clew** together with the date and his signature or stamp.

G.4.2 DIMENSIONS (see appendix E)

|  | minimum | maximum          |
|--|---------|------------------|
| <b>Luff length</b> .....                                   | .....   | 8790 mm          |
| <b>LPG</b> .....   | .....   | 3600 mm          |
| <b>Top width</b> with forestay profile .....               | .....   | <b>70 mm</b>     |
| <b>Top width</b> without forestay profile .....            | .....   | <b>90 mm</b>     |
| Total <b>weight</b> of the <b>sail</b> without hanks ..... | 4.5 kg  | .....            |
| <b>Seam width</b> .....                                    | .....   | 40 mm            |
| <b>Primary reinforcement</b> .....                         | .....   | 450 mm           |
| <b>Secondary reinforcement</b> .....                       | ..      | unlimited        |
| <b>Window area total</b> .....                             | .....   | 1 m <sup>2</sup> |
| <b>Window to sail edge</b> .....                           | .....   | 150 mm           |

G.5 JIB

G.5.1 CONSTRUCTION

- (a) The construction shall be: **Soft sail, single ply sail**.
- (b) The Jib shall have 3 **battens**. **Roller-Battens are permitted.**
- (c) The **body of the sail** shall consist of the **woven** or **laminated ply** throughout. The **ply** fibres shall be of polyester or polyamide.
- (d) It is forbidden to use any carbon fibres, kevlar, or any other high-tech materials, even in small quantities.
- (e) The following are permitted: Stitching, glues, tapes, corner eyes, **batten pocket patches**, batten pocket elastic, batten pocket end caps, hanks, leech line with cleat, recovery line eyes, tell tales, sail shape indicator stripes.

G.5.2 DIMENSIONS (see appendix E)

|   | minimum | maximum          |
|---|---------|------------------|
| <b>Luff length</b> .....                        | .....   | 8190 mm          |
| <b>LPG</b> .....                                | .....   | 2400 mm          |
| <b>Top width</b> with forestay profile .....    | .....   | 70 mm            |
| <b>Top width</b> without forestay profile ..... | .....   | 90 mm            |
| <b>Batten pocket patches</b> .....              | ..      | unlimited        |
| <b>Seam width</b> .....                         | .....   | 40 mm            |
| <b>Primary reinforcement</b> .....              | .....   | 450 mm           |
| <b>Secondary reinforcement</b> .....            | ..      | unlimited        |
| <b>Window area total</b> .....                  | .....   | 1 m <sup>2</sup> |



|   |               |
|---|---------------|
| <b>Window to sail edge</b> .....          | 150 mm        |
| <b>Batten pocket length outside</b> ..... | <b>380 mm</b> |
| <b>Batten length</b> .....                | 300 mm        |

## G.6 SPINNAKER

### G.6.1 CONSTRUCTION

- The construction shall be: **Soft sail, single ply sail**.
- The **body of the sail** shall consist of the same **woven ply** throughout. The **ply** fibres shall be of polyester or polyamide.
- It is forbidden to use any carbon fiber, kevlar or any other high-tech materials, even in small quantities.
- The following are permitted: Stitching, glues, tapes, corner eyes, recovery line eyes, tell tales.
- The weight in  $g/m^2$  of the **body of the sail** shall be indelibly marked near the **head point** by the sail maker together with the date and his signature or stamp.

### G.6.2 DIMENSIONS OF TOP SPINNAKER

|   | minimum | maximum  |
|---|---------|----------|
| <b>Leech lengths</b> .....                | ...     | 10800 mm |
| <b>Foot length</b> .....                  | ...     | 6500 mm  |
| <b>Foot Median</b> .....                  | ...     | 12800 mm |
| Difference between <b>diagonals</b> ..... | ...     | 100 mm   |

**Half width** ..... 6500 mm

Weight of **ply** of the **body of the sail** ..... 33.0 .....  $gr/m^2$   
 → Measurement by thickness may also govern in accordance with ISAF Equipment Rules.

### G.6.3 DIMENSIONS OF 7/8 SPINNAKER

|   | minimum | maximum  |
|---|---------|----------|
| <b>Leech lengths</b> .....                | ...     | 9000 mm  |
| <b>Foot length</b> .....                  | ...     | 5400 mm  |
| <b>Foot Median</b> .....                  | ...     | 10300 mm |
| Difference between <b>diagonals</b> ..... | ...     | 80 mm    |

**Half width** ..... 5400 mm

Weight of **ply** of the **body of the sail** ..... 36.0 .....  $gr/m^2$   
 → Measurement by thickness may also govern in accordance with ISAF Equipment Rules.



## PART III – APPENDICES

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|   |              |
|---|--------------|
| <b>Appendix A – Hull, deck</b>                | <b>V 1.3</b> |
| <b>Appendix B – Appendages</b>                | <b>V 1.1</b> |
| <b>Appendix C – Rig</b>                       | <b>V 1.2</b> |
| <b>Appendix D – Mainsail</b>                  | <b>V 1.2</b> |
| <b>Appendix E – Headsails</b>                 | <b>V 1.0</b> |
| <b>Appendix F – Mast cross section</b>        | <b>V 1.0</b> |
| <b>Appendix G – Marking of mast</b>           | <b>V 1.0</b> |
| <b>Appendix H – Mast Rake</b>                 | <b>V 1.1</b> |
| <b>Appendix I – Dolphin 81 Class Insignia</b> | <b>V 1.1</b> |

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