



# **NORDIC FOLKBOAT**

## **INTERNATIONAL CLASS RULES**

**2017 – 2020**

**Edition 2019**

**(Latest changes/amendments in RED)**

**Effective: January 1<sup>st</sup>, 2017**

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## 1. GENERAL

The Nordic Folkboat was designed in 1941 to a specification of the Scandinavian Sailing Association.

### 1.10 Purpose of the Class Rules

- 1.11. The intention of these rules is to ensure that the yachts are as identical as possible in hull shape, weight, weight distribution and sail plan. The construction of the hull, and the spars, sails and rigging are controlled by these rules.

It is impossible to foresee every conceivable innovation which may be thought of in the future and to mention every suggestion that has been ruled illegal in the past. When considering anything in connection with the boat or its sails or equipment which is not clearly covered by the class rules, plans or specifications, you must assume that it is illegal, and must obtain a ruling from the Class Technical Committee before attempting it.

### 1.20 Authority

- 1.21 The international authority for the class is the Scandinavian Yacht Racing Union (SYRU) which shall co-operate with the Nordic Folkboat International Association (NFIA) in all matters concerning these rules.

- 1.22 Neither the SYRU nor the NFIA accept any legal responsibility in respect of these rules and plans or any claim arising there from.

- 1.23 In countries where there is no national yachting authority (NA)\*, or the NA does not wish to administer the class, its functions as stated in these rules shall be carried out by the NFIA or its delegated representatives, a National Nordic Folkboat Class Association (NNFA).

\* The SYRU is not a National Authority (NA).

### 1.24 Advertising

All Nordic Folkboat Class Races organized under the authority of the NFIA and NNFA shall be classified as per WORLD SAILING – Regulation 20 (Appendix 1 Advertising Codes).

**1.30 Language**

**1.31** The official language of the class is English and in the event of dispute over translation, the English text shall prevail.

**1.32** The word "shall" is mandatory and the words "may" and "can" are permissive.

**1.33** Wherever in these rules the words "class rules" are used they shall be taken as including the plans, diagrams and the measurement form.

**1.40 Interpretation**

**1.41** These rules shall be read in conjunction with the official plans and measurement form.  
(Note: The official plans are listed at the end of these rules).

**1.42** Departure of any kind from the plans is prohibited, unless either a plan of the proposed departure has been approved by the SYRU or it is authorised by these rules.

**1.43** In the event of a discrepancy between the rules, measurement form or plans the matter shall be referred to the SYRU.

**1.44** Any interpretation of these rules shall be made by the Technical Committee of the NFIA which should consult the SYRU.

**1.50 Measurement and Measurers**

**1.51** Except where other methods of measurement are specifically indicated all measurement shall be carried out in accordance with the current WORLD SAILING, Equipment Rules of Sailing.

**1.52** Only a measurer nominated by a National Authority and approved by the NFIA shall measure a yacht, its spars, sails and equipment, and sign the declaration on the measurement form. After consultation with the NA however, the NFIA may approve one or more individuals within a sail loft or a spar manufacturer to measure sails or spars manufactured by that loft or spar manufacturer.

**1.53** A measurer shall not measure a yacht, its spars, sails or equipment owned or built by himself, or in which he is an interested part, or has a vested interest, however measurers within a sail loft or spar manufacturer as stated in rule 1.52 are excluded from this rule for sail loft or spar measurement only.

**1.54** New or substantially altered sails shall be measured by a measurer who shall apply a Certification Mark (an official stamp, sticker or sail button) onto the sail according to the regulations of the NA and near this, his signature and date shall be indelibly written.

- 1.55** Measurement of boats constructed from timber
- 1.56** The construction of a timber hull shall only be commenced after the builder has reached an agreement with a certified measurer about the measurement. The measurer shall be granted access to the construction site at any time in order for him to carry out measurement checks.
- 1.57** The measurer is obligated to carry out the following inspections after:
- a.** The keel has been laid and stem and horn timber have been erected. The dimensions and shape of the keel and stem and horn timber shall be checked against the drawings and class rules.
  - b.** The building frames shall be finished but not placed at their positions. The shape shall be checked against the drawings.
  - c.** A weight certificate for the iron ballast keel shall be on hand and the weight shall be permanently punched into the ballast on the starboard side aft end.  
The shape shall be checked against the drawings.
  - d.** The hull planking has been completed and the floor pieces, frames, beam shelf and deck beam etc. but no deck has been fitted. The hull dimensions shall be checked against the drawings.
  - e.** The hull and rig have been completed, and the measurement marks have been positioned. Compliance with the weight requirements as specified later shall be checked.

It shall be obligatory for the boat builder to notify the measurer in good time, when the above inspections are due.

- 1.58** Measurement of boats constructed in G.R.P.
- 1.59** The licensed builder shall issue for each of the following components a weight certificate.
- a.** The iron ballast keel in accordance with rule 1.57 c and 4.
  - b.** The hull shell including laminated internal mouldings and fwd berth.
  - c.** The deck complete with cabin, cockpit coamings and main bulkhead.
- Point b & c shall be after adding together the weight of the GRP components.
- 1.59.1** The measurer shall satisfy himself that the yacht complies with the requirements of these rules and shall clearly state on the measurement form any variation from the rules (i.e. rolling/furling headsail etc).
- 1.59.2** The measurer shall include on the measurement form the N.F.I.A. plaque number.

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- 1.60 Application of Rules and Re-measurement**
- 1.61** If a yacht is to be re-measured (see rule 1.64 below) this shall be carried out in accordance with the rules in force at the time the yacht's original measurement certificate was issued, except that spars, rigging and sails shall be measured in accordance with the current class rules.
- 1.62** Re-measurement of the hull after a major repair or alteration shall be carried out in accordance with either the current class rules or those in force when the yacht's original measurement certificate was issued.
- 1.63** Replacement spars, rigging and sails shall be measured in accordance with the current class rules.
- 1.64** Re-measurement may be carried out on the instructions of the SYRU, a NA, the NFIA or the race committee except that re-measurement of the hull shall be permitted only if there is reason to believe:
- .1** the hull shape has been altered, or
  - .2** the yacht had been incorrectly measured before the measurement certificate was issued.
- 1.65** Adjustment of any of the corrector weights shall be made only after the yacht has been officially re-weighed by an official measurer with a scale that has been officially certified within the preceding twelve months.
- Re-weighing may take place under the requirements of rule 1.64 or on the owner's instructions. When a yacht is re-weighed under rule 1.65, any or all of her corrector weights may be removed or amended acc. to rule 1.66.
- 1.66** The revised details of the corrector weights shall be entered on the measurement certificate which shall be sent to the owner's National Authority to be re-validated or re-issued.
- 1.67 Class Fee**
- 1.67.1** A class fee (CF) as prescribed by SYRU shall be paid on each boat built. This CF shall be paid to the NFIA which shall issue an official SYRU plaque. Only GRP yachts first registered before 1st January 1996 shall have the plaque permanently fixed.
- All yachts either wooden or GRP first registered after 1st January 1996 shall have the SYRU plaque permanently fixed on the inboard face of the starboard cabin front.
- 1.67.2** The NFIA is responsible for the collection and distribution of the CF.
- 1.67.3** The CF is payable by the builder on each boat built, whether or not it is subsequently measured and registered.
- 1.67.4** The SYRU plaque number shall be entered on the yacht's measurement certificate.

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- 1.70 Measurement Certificate**
- 1.71 No Nordic Folkboat shall take part in class races unless it has a valid measurement certificate and its owner is a current member of a NNFA.**
- 1.72 A valid measurement certificate is an original or copy of the measurement form which has been endorsed by an NA or is a special measurement certificate issued by an NA.**
- 1.73 To obtain a Measurement Certificate:**
- .1 The owner shall apply to his NA for a sail number. (Each country shall issue sail numbers which shall be consecutive beginning from one. The number shall be preceded by the national letters. Each number shall be used once only.)**
  - .2 The national letters and sail number of the yacht shall be carved in the inside fwd cabin bhd of a wooden hull, or in the equivalent position in a GRP hull. The letters and numbers shall not be less than 30mm in height and carved to a depth of not less than 2mm.**
  - .3 An official measurer shall measure the yacht and complete a measurement form.**
  - .4 The owner sends the completed measurement form to his NA, together with any registration fee required.**
  - .5 On completion of the above the NA may issue a Measurement Certificate.**
  - .6 Where the measurer has endorsed the measurement form with any comments regarding the boat not conforming to class rules the N.A shall not issue a measurement certificate until the boat fully conform to class rules.**
- 1.74 Change of ownership invalidates the measurement certificate and the original certificate shall be returned to the NA together with a written application containing the name, address and club of the new owner and any re-registration fee that may be required by the NA. A certificate shall then be issued to the new owner. Re-measurement and re-carving of national letters and sail number shall not be necessary to revalidate a certificate.**
- 1.75 A copy of the completed and signed measurement form shall be supplied to the NFIA Secretary by the builder or the owner. If the boat is not yard finished this copy shall be supplied by the owner before the yacht is raced.**
- (New owners are requested to inform the NFIA Secretary of their purchase to enable a record to be kept of the movement of boats.)**
- 1.80 Owner's Responsibility**
- 1.81 It is the responsibility of the owner to see that his yacht, spars, sails and equipment comply with the class rules and relevant International Yacht Racing Rules at all times and that alterations, replacements or repairs to the yacht, spars, sails or equipment do not invalidate the measurement certificate.**
- Note: Alterations, repairs or replacements which are not re-measured may invalidate a yacht's certificate.**



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- 1.90 Builders**
- 1.91 NORDIC FOLKBOATS shall be produced only by builders licensed by the NFIA.**
- 1.92 Amateur building may be permitted without NFIA license. For the purpose of this rule - an amateur shall be a person who is not building more than 1 boat in 3 years for his own use only.**
- 1.93 Application for a license shall be made to the NFIA. The NFIA shall consult with the SYRU and the NNFA before granting any license.**
- 1.94(a) The builder shall be obligated to construct all NORDIC FOLKBOATS in accordance with the current rules.**
- 1.94(b) All GRP Nordic Folkboats shall be constructed only from Hull, Rudder and keel mouldings approved by N.F.I.A.**
- 1.94(c) The manufacturer of the aluminium alloy mast is obligated to construct the mast in accordance with the current rules. The prototype has to be approved by NFIA.**
- 1.95 The builder shall be obligated to (make good) eliminate any infringements of the class rules made by him during the construction at his own expense.**
- 1.96 Repeated infringements of the class rules by the builder shall result in the builder's license being revoked.**
- 1.97 Sub-contracting by the licensed builder is permitted providing the NFIA has been informed in writing. The licensed builder is solely responsible for ensuring the class rules are complied with.**
- 1.98 The builder shall permit the measurer to inspect the work at any time during its progress.**

**2. HULL AND DECK****2.10 General**

**2.11** The boat shall be constructed in one of the following ways:

Clinker planked in accordance with class rule 2.20 or, glass reinforced plastic (see rule 2.40).

**2.12** Except as specifically stated in these rules combinations of the different methods of construction are prohibited. (See rule 2.413)

**2.13** The shape of the hull shall be in accordance with the lines plan and the table of offsets and be within the tolerances specified in the rules and the measurement form.

**2.14** Stations are spaced at 500mm.

**2.15** Stations 2, 4, 6, 8, 10, 12 and 14 shall be permanently marked (by screws in a wooden hull or countersinks in a GRP hull) on the covering board and in the hull just above the ballast keel at station 8 on both sides of the yacht, and on the centreline of the stem (at stations 12 and 14).

**2.16** The transom shall be flat. A set not  $\pm 2$ mm in any direction is not considered to contravene this rule.

**2.161** The round (camber) of the top of the deck shall not exceed 30mm per 1000mm of the width of the boat at that location (e.g. at station 11 where the yacht's beam is 1910mm the round shall not exceed 58mm) see rule 2.213.

**2.20 Lapstrake (Clinker) Planked Construction**

**2.201** The yacht shall be constructed in accordance with the Construction Plan.

**2.202** The sizes of timber shown on the Construction Plan are minimum finished sizes.

**2.203** Where particular kinds of wood are mentioned other kinds of wood may be used provided they have specific weights and durability not less than those specified.

**2.204** Where the inboard edges of structural members are not fixed to other structural members, they may be rounded off. Such rounding shall not exceed 5mm radius.

**2.205** The stem, wood keel, counter timber and stern post shall be of oak. Alternatively iroko teak may be used. If it is being used, dimensions shall be increased by 10%. The increase shall be added to the inside.

**2.206** The transom shall be wood not less than 20mm thick, and with a specific gravity, not less than 500 kg/m<sup>3</sup>. An oak frame of min 70mm x 20mm size is to be fitted to the inside of the transom. The transom and the stern post shall be notched together. The free cross section of the stern post shall be not less than 50mm x 50mm. Horizontal knees at the transom are not mandatory when the deck is made from plywood overlaid with teak.

- 2.207 Planking**
- 2.207.1** All planking shall be either in Scandinavian pine, larch or Oregon pine or mahogany. The planking shall not be less than 15mm thick, with the exception of the overlaps.
- 2.207.2** The total thickness of both planks in the way of the overlaps shall not be less than 23mm. This shall not apply within 600mm from the fore stem or the transom, to be measured on the outside of each plank.
- 2.207.3** The overlap of each plank shall not be less than 23mm.
- 2.207.4** The planks may be chamfered on the lower outside edge, but for only half of the material thickness, and the chamfer shall not extend more than 7.5mm above the lower outside edge.
- 2.207.5** No less than 16 clinker lapstrake planks shall be fitted to each side at station 8.
- 2.207.6** With the exception of the lower (keel plank), the maximum width of the planks shall be 130 mm. without the overlap.
- 2.207.7** The keel plank shall not be wider than 300 mm and must be in one piece.
- 2.207.8** If counter sunk head nails or screws are being used in the planking, 5mm deep plugs may be used, provided that the overlaps (clinker) of the planks are connected by a suitable and durable adhesive.
- 2.207.9** If no plugs are being used, only a small conical counter sunk is permitted for the heads of screws or nails.
- 2.207.10** A gouged out cove line may be fitted to the sheer (upper) plank.
- 2.207.11** The planks shall be fastened to the frames with copper nails (11 gauge) clenched on roves or turned over, or with 5mm diameter. silicon bronze or stainless steel screws 40-45mm long, in accordance with rule 5.70.
- 2.208 Floors - Frames - Beams & Deck**
- 2.208** The two double or laminated frames abreast the mast at stations 10 and 10.5 shall be of ash or oak 46mm x 28mm. The aft frame may on the top be twisted so that the chain plate may be attached to it in the way of the beam shelf.
- 2.209** All other frames shall be of ash or oak at 250mm centres. They shall be 23mm x 28mm. All frames may be hot bent or laminated or grown. All frames may be notched in to the keel, or the stem. Frames at station No. 1.5 and 2 are not mandatory.
- 2.210** Floor timbers shall be of oak or iroko.
- Between station No. 5 and station No. 10 (both included):  
Min. thickness 48mm, min. arm lengths measured horizontal from CL: 350mm
- All other floors: Min. thickness 36mm, min. arm lengths measured from the CL at the stations No. 12:  
350mm / No. 13: 300mm / No. 14: 250mm
- Floor timber at station No. 4.5 is not mandatory.

- 2.212 The shelf shall be of Scandinavian pine, fir or larch 24mm x 85mm between frame 6 and 12 and may be tapered down to the ends to 24mm x 65mm.
- 2.213 The round (camber) of beams shall not exceed 30mm per 1000mm of its length (e.g. at station 11 where the yacht's beam is 1910mm the round shall not exceed 58mm).  
See rule 2.161.
- 2.214 Beams and the carling shall be of larch, Scandinavian pine or Oregon pine of the following dimensions:
- Mast beams and beams at the end of the cockpit shall not be less than:  
55mm x 36mm at the centreline reducing to 38mm x 36mm at the sides.
- Complete beams between stations 1 and 16 shall not be less than:  
35mm x 30mm at the centreline reducing to 30mm x 30mm at the sides.  
Spacing shall not exceed 250mm centre to centre.
- Half beams at the sides of the cockpit, etc. shall not be less than:  
30mm x 24mm. Spacing shall not exceed 250mm centre to centre.
- The carlings shall be a minimum of 38mm x 36mm.
- 2.215 The deck may be of Scandinavian pine or fir, not less than 14mm, or plywood not less than 12.5mm. All versions shall be covered with canvas of not less than 240g/m<sup>2</sup> and painted, or covered with any other material of equivalent weight, and weighing total not less than 7kg/m<sup>2</sup>.
- 2.216 The deck may be of plywood overlaid with teak **or iroko**, of not less than 18mm total thickness and weighing not less than 7kg/m<sup>2</sup>.
- 2.217 The toe rail on each side shall be of mahogany or oak or teak **or iroko**, not less than 20mm high and extending the full length of the boat. The toe rail may be moved with its outside edge not more than 2mm outside of the sheerline.
- 2.218 A rubbing strake of half round section not smaller than 13mm x 26mm and not larger than 14mm x 28mm shall be fitted around the sheer line. Material shall be oak or mahogany or teak **or iroko**. A dripping groove of not more than 3mm x 3mm may be fitted around the sheer line.
- 2.219 A bench board may be fitted on deck in the way of the cockpit.
- A If it is fitted, it shall not be longer than the inside length of the cockpit, nor exceed forward of the aft surface of the aft cabin bhd or the fwd surface of the aft cockpit coaming, at deck level.
- B It shall not exceed more than 120mm inboard from the sheerline, shall in no place be outside the sheerline, and not exceed 80mm in width.
- C Thickness shall not exceed 20mm.
- D It shall be supported by up to 4 legs placed at equal distances.
- E The material shall be oak, teak, mahogany **or iroko**.

**2.30 Cabin and Cockpit**

**2.31** The cabin sides and cockpit coamings shall be of either not less than 16mm thickness oak, or not less than 18mm thickness mahogany.

**2.32** The cabin top shall be of Scandinavian pine or fir no less than 14mm thick. It shall be covered with canvas of not less than 240g/m<sup>2</sup> and painted or covered with any other material of equivalent weight.

The cabin top may also be of plywood not less than 14mm thick or plywood overlaid with teak with a total thickness of not less than 14mm.

**2.33** No less than 7 deck beams shall be fitted. Spacing shall not exceed 250mm. Material to be oak or ash no less than 25mm x 25mm.

**2.40 Glass Reinforced Plastic Boat****2.401 General**

These rules permit the construction in glass reinforced polyester resin (GRP) and are supplementary to, and shall be read in conjunction with the official plans.

**2.402 Materials**

- .1** Any chopped strand glass fibre material may be used with a rigid high strength, low water absorption rate thermosetting resin (except epoxy). The glass content of the combination shall be not less than 30 % of the total weight.
- .2** Unless otherwise specified the glass reinforcement shall be uniformly distributed over the whole of the moulding.
- .3** Three samples of any proposed GRP lay up of the hull shell shall be supplied to the NFIA Technical Committee for checking that it complies with the Class Rules. One shall be returned, stamped as approved, to the Builder and be available for measurement of hulls using approved electronic gauges, or samples may be taken out of the hull and deck.
- .4** The NFIA or SYRU may take core samples in order to establish correlation between hull and deck construction and the samples submitted.

**2.403 Hull Shell**

The SQM area weight of the exterior hull moulding shall be not less than specified below and the total weight of moulding shall be not less than 420kg.

The various thicknesses specified below are minimum sizes, and shall be uniform in longitudinal direction.

**Example of Construction:****Above W.L.:**

2 layers of gelcoat	0.60 kg/m <sup>2</sup>
8 layers of 450g/m <sup>2</sup> glass mat & resin thickness 6.8mm	12.40 kg/m <sup>2</sup>
2 finishing resin coat	0.40 kg/m <sup>2</sup>
<b>total</b>	<b>13.40 kg/m<sup>2</sup></b>

**Below W.L.:**

2 layers of gelcoat	0.60 kg/m <sup>2</sup>
9 layers of 450g/m <sup>2</sup> glass mat & resin thickness 7.6mm	13.80 kg/m <sup>2</sup>
2 finishing resin coat	0.40 kg/m <sup>2</sup>
<b>total</b>	<b>14.80 kg/m<sup>2</sup></b>

**Below internal floor moulding:**

2 layers of gelcoat	0.60 kg/m <sup>2</sup>
12 layers of 450g/m <sup>2</sup> glass mat & resin thickness 10mm	18.20 kg/m <sup>2</sup>
2 finishing resin coat	0.40 kg/m <sup>2</sup>
<b>total</b>	<b>19.20 kg/m<sup>2</sup></b>

**Notes:**

- The first layer of glass mat shall be powder bound.
- The thicknesses noted shall be uniformly tapered on both sides.
- The transom shall be of sandwich construction with no less than 10mm closed cell foam or balsa of no less than 60 kg/m<sup>3</sup>.
- The internal plank edges may be rounded off to a 3mm radius.

**2.404 Keel Reinforcement**  
( in the case of hull shell moulding in two halves )

The centreline of the hull shell moulding shall be reinforced in way of the stem, keel and stern with additional glass and resin. The keel reinforcement if used shall extend from the centreline of the yacht, for a distance, g, around the girth, to a point, d, 350mm from the centreline (see diagram 5 GRP).

The laminate shall be of not less than 12 layers of 450g glass mat per m<sup>2</sup> in a thickness not less than 10mm below a point 1/2 g distance from the centreline. Above the 1/2 g distance the laminate shall reduce uniformly to the upper limit of the reinforcement. The weight of glass and resin shall be evenly distributed along the centreline.

**2.405 Internal Moulding**

A separate internal moulding to take the floorboards shall be bonded to the exterior hull moulding and it shall extend at least from station 3 to station 12.

The top edge of the moulding shall not be below a continuous fair curve on each side of the yacht between the minimum points. No part of the moulding shall extend below 1000mm from a line joining the two sheerlines nor shall it, at any point, extend higher than 200mm below the deck.

The internal moulding may incorporate a web or frames, at its forward and aft ends.

The weight of the laminate in the internal moulding shall be not less than 8.1kg/m<sup>2</sup>.

Example of construction:

Gelcoat	0.60 kg/m <sup>2</sup>
5 layers of 450g/m <sup>2</sup> glass thickness 4mm	7.50 kg/m <sup>2</sup>
<b>Total</b>	<b>8.10 kg/m<sup>2</sup></b>

Horizontal surfaces shall be of sandwich construction with no less than 10mm closed cell foam or balsa of not less than 60 kg/m<sup>3</sup> between the third and fourth layer of glass.

The internal moulding shall be bedded on a uniform wet laminate of not less than 3kg/m<sup>3</sup> or may be bonded within the weight requirements of rule 2.403.

The space below the cockpit shall be filled with closed cell foam or balsa in accordance with the drawings.

Floors in not less than 10 layers of 450g glass mat per m<sup>2</sup>, in a thickness of 8mm, and forming a Z, shall be fitted in accordance with rule 2.407.

**2.406 Mast Step**

The mast step shall be longitudinally within 2° parallel to the waterline and may be incorporated in the interior hull moulding. The mast step shall incorporate an additional weight of laminate of not less than 3kg/m<sup>2</sup> over and above the specified amounts for the internal hull moulding.

**2.407 Floors**  
( internal moulding / plywood version )

Floors shall be arranged as follows:

One floor forward of station 11

One floor within 100mm of station 11

A minimum of three floors between station 11 and the main bulkhead, which shall count as floor, provided it reaches down to the keel sole.

At least one floor aft of the main bulkhead

The maximum spacing between adjacent floors shall be 750mm.

The floors may be formed as part of the internal mast step and hull moulding.

No part of the top edge of a floor shall extend below 900mm from a line joining the sheer lines.

The minimum floor height is 180mm.

The floors shall be bonded to the hull with a laminate of not less than 6kg/m<sup>2</sup> (for example: 4 layers of 450g mat).

**2.408 (Spare number)**

**2.409 Deck, Coamings, Cabin and Main Bulkhead**

The deck and main bulkhead shall be of sandwich construction. Two deck beams shall be laminated to the underside of the completed foredeck moulding in accordance with the drawings with a laminate of not less than 3kg/m<sup>2</sup> giving a minimum weight on the face of the beams of 7kg/m<sup>2</sup>. This laminate shall extend not less than 30mm, from each side of the deck beam.

If the core is of balsa its thickness shall not be less than 8mm and its density shall not be less than 130kg/m<sup>3</sup>.

If the core is of foam its thickness shall not be less than 10mm and its density shall not be less than 60kg/m<sup>3</sup>.

The internal and external laminates of the deck shall each comprise a minimum of 3 layers of glass. The total weight of glass and resin on each side of the core shall be not less than 3kg/m<sup>2</sup>.

Example of construction of sandwich deck:

<b>Outer deck shell</b>	
2 layers of gelcoat	0.6 kg/m <sup>2</sup>
3 layers of 450g/m <sup>2</sup> glass	4.1 kg/m <sup>2</sup>
<b>Sandwich core</b>	
10mm closed cell foam or balsa of not less than 60kg/m <sup>3</sup>	0.6 kg/m <sup>2</sup>
Resin for foam	0.4 kg/m <sup>2</sup>
<b>Inner deck shell</b>	
2 layers of 450g/m <sup>2</sup> glass	2.7 kg/m <sup>2</sup>
1 internal resin coat	0.3 kg/m <sup>2</sup>
<b>Total</b>	<b>8.7 kg/m<sup>2</sup></b>

Total thickness of glass and resin shall not be less than 4mm.

Plywood crush pads shall be fitted in way of winches, forestay, mast, shrouds, rudder, cleats and sheaves.

**2.410 The total weight of the complete deck, coamings, cabin top, main bulkhead and sides for cabin stowage boxes shall not be less than 170kg.**



**2.411 Bonding Hull to Deck**

The deck and hull shall be bonded together and reinforced by a suitable and durable marine adhesive and min. 4.2mm diameter, stainless screws at min. 120mm centres, or by a laminate where the width of each successive layer of glass in the bonding laminate shall be less than the previously applied one in order to reduce local high stress points.

(Example of construction: 5 layers of 450g glass 17.5m long x average width 0.15m).

The total weight of this bonding material shall be not less than 2.5kg.

Additional support for the deck moulding shall be provided at the fwd end of the cabin by including either plywood knees or partial bulkheads.

**2.412 Weight of Assembled Hull and Deck Mouldings**

The weight of the completed hull and deck mouldings shall not be less than 590kg.  
This includes all bonding.

**2.413 A wooden cabin top and sides may be permitted subject to prior approval being obtained from the NFIA of details of its connection to the GRP cabin sides.**

Wooden coamings in accordance with the rules for the timber planked boats may be permitted subject to prior approval being obtained from the NFIA of the details of their connection to the GRP deck.

A wooden deck, in accordance with the rules for the timber planked boat may be permitted subject to prior approval being obtained from the NFIA of the details of its connections to the GRP hull. (Note: For the purpose of this rule the covering board can be considered to be part of the deck.)

A GRP cabin and coaming or whole deck may be added to a GRP hull subject to prior approval from the NFIA.

**2.414 Additional reinforcement of a boat with a GRP hull which shall be of wood, plywood, foam and/or GRP, may be fitted in accordance with the following:**

Positions which are not included in the drawing F.4.1. or materials which exceed the specified minimum thicknesses by more than 20% shall not be included in the weight of assembled hull & deck moulding (see rule 2.412).

This especially so in the hull area below the CWL and on the hull sides from the mast to 3.4m behind.

**3. CABIN, COCKPIT and HATCHES****3.10 Cabin**

- 3.11** The length of the top of the cabin top shall not be less than 1850mm. Measured from the aft face of the main bulkhead to the intersection of the deck and the forward edge of the cabin top. The length of the top of the cabin roof shall not be less than 1785mm, measured horizontally from the aft face of the main bulkhead to the intersection of the cabin top roof and the forward sloping face of the cabin top.
- 3.12** The aft end of the cabin top and the main bulkhead shall not be more than 300mm forward of Station 6. The cabin hatch shall have a clear opening of not more than 600mm x 600mm fwd of the main bulkhead.
- 3.13** The height of the sides of the cabin above the top of the deck, shall not be less than 190mm at Station 8. The arch of the cabin top measured at the same station shall not be less than 150mm. The camber of the cabin deck may be altered only as necessary to prevent double bended surfaces.
- 3.14** The shape of the cabin shall be in accordance with the drawings. Its breadth at Station 8 shall not be less than 1550mm. At this point the vertical height of the cabin from the cabin floor shall not be less than 1230mm.
- 3.15** The cabin shall be totally enclosed. The internal arrangements of the cabin and cabin fittings shall be in accordance with the drawings.
- 3.16** The fwd cabin bulkhead may be vertical. At the C.L. it shall have a height of not less than 200mm.
- 3.17** The cabin sides may extend fwd of the fwd cabin bulkhead.
- 3.18** The sliding hatch shall be so constructed that it is retained permanently on its slides and be made in accordance with the drawings. It must be on board together with the doors while racing.
- 3.19** The shape of the portholes is optional.

**3.20 Cockpit**

- 3.21** The arrangement and layout of the cockpit is optional. A self draining cockpit is optional.
- 3.22** The cockpit shall not extend further aft than Station 3 and not further forward than 50mm of Station 3.
- The width of the side deck outside the cockpit shall not be less than 250mm and not more than 310mm.
- The height of the cockpit coaming aft of the cabin shall not be less than 200mm.  
At Station 4 1 / 2 it shall not be less than 140mm. At Station 3 it shall not be less than 80mm.
- 3.25** The cockpit coaming shall fair into the cabin sides and a cap may be fitted not exceeding 40mm x 20mm. Round corners on the aft end of the coaming to the thwartships coaming are not permitted. The coaming may end aft of the athwartship coaming. On the outside a rounding of not more than 15mm R is permitted.

**3.30 Hatches**

**3.31** One hatch forward of the mast is permitted. If fitted it shall not exceed 500mm x 500mm and it shall be properly framed, and have a hinged cover so constructed that it is retained permanently on the frame. It shall be capable of being secured in the closed position. The hatch cover shall not be less in strength than that part of the deck it replaces, the weight shall not be less than 2.5 kg.

**3.40 Floorboards**

Floorboards shall not exceed 16mm in thickness and shall be of wood.

**3.41** The floorboards shall extend in width from berth to berth and longitudinally from the main bulkhead to Station 10.  
The weight of the floorboards and stiffeners shall not exceed 25 kg in a wooden hull and 15 kg in a GRP hull.

**4. BALLAST KEEL**

**4.10** The ballast keel shall be cast iron. Uneven surfaces, blow holes or bolt pockets shall not be filled with lead, but may be filled with any material not heavier than cast iron. Fairing shall not alter the general shape, curvature or rounding of the iron keel. The shape shall be in accordance with the keel drawing. The keel bolts may pass through the keel or may be threaded in.

**4.20** The weight of the keel shall be a minimum 1000 kg maximum 1050 kg. If bolts or studs are threaded in, the weight of the keel shall be a minimum of 1007 kg maximum 1057 kg.

**4.30** The keel shall be weighed and a certificate of its weight issued. This weight shall be recorded on the measurement form. The weight shall be permanently punched in on the starboard aft end of the keel.

**4.40** The keel shall be measured at stations 5, 6, 7, 8, 9 and 10 in accordance with the plans.

**4.50** (Spare No)

**4.60** Station 8 on the keel ( 1867 mm. +/- 5 mm. from its aft end measured along the top surface ) shall be within 5mm of the Station 8 mark on the hull.

**4.70** The aft end of the keel may have a pin hole from the bottom pintle of the rudder. This pin hole may be bushed with another suitable bearing material.

**5. RUDDER and TILLER**

**5.10** The rudder material shall be either wood or GRP (glass fibre reinforced Polyester/Epoxy) or GRP and closed cell foam with a minimum density of 40 kg/m<sup>3</sup> or a combination of these, in accordance with the drawing and the following table of offsets.

**5.20** Dimensions of rudder:

Distances along the fore edge from lower edge of rudder	Distances upright from the forward edge of rudder ± 20mm	
0mm	105mm	
289mm	240mm	
640mm	385mm	
991mm	470mm	
ca. 1220mm	490mm	max. breadth
1342mm	480mm	
CWL 1528mm	415mm	
1693mm	270mm	
ca. 2006-ca.2700mm	160mm	

The trailing edge shall be a fair continuous curve.

The rudderhead is optional but shall be in character in accordance with the drawing.

**5.30** The shape of the rudder cross section is optional except that the rudder thickness including any protective coating shall:

- Not be less than 35 mm, measured in the thickest part of the cross section placed within 50 mm from the leading edge
- Not be less than 15 mm, measured 20 mm from the trailing edge
- Not exceed 50mm, measured in the thickest part of any cross section below the CWL

**5.40** The rudder shall be hinged with not less than 3 hinges or pintles in accordance with the drawings as close as possible to the horn timber. The horn timber shall not be hollowed out and there shall be no fairing strips between the hull and rudder.

**5.50** The tiller material shall be wood.  
The tiller shall be removable and situated above the deck.  
The tiller shall not be divided or of hooped design.  
A tiller extension is optional.

**5.60** The weight of the rudder, including its pintles and fittings, shall not be less than 15 kg.

**5.70 Fastenings**

**5.71** The material for the fastenings shall be galvanised steel or stainless steel. Exceptions shall be boat nails in the beam shelf, planking, frames or floors which are to be clenched or riveted. They shall be of copper. Screws on the plank ends at the stem or transom along the keel and floors shall be of stainless steel, bronze or brass.

**5.72** The diameter of the bolts shall not be less than:

- .1) 19mm in the ballast keel
- .2) 9.5mm in the keel-stem, floors at centre
- .3) 4mm in the beam shelf and vertical knees

**5.73** The diameter of the screws shall not be less than:

- .1) - 5.5mm No 12
  - in the arms of floors
  - in the transom frame
  - in the planking along the rabbet line and the transom
- .2) - 4.75mm No 10
  - in the bottom end of the frame to the keel and stem
- .3) 4mm No 8
  - in the deck to the sheer plank and transom including frame

**5.74** The copper boat nails shall have a square section of not less than:

- .1) - 3.5mm x 3.5mm between the planking and frames
- .2) - 3 mm x 3 mm in the planking between the frames, not less than 2 nails between each pair of frames.
- .3) - 4.5 mm x 4.5 mm between frames and shelf.

All boat nails shall be riveted with matching conical washers.

**5.75** Keel bolt backing plates

The combined weight of the keel bolt backing plates shall not exceed 1.5kg.

**5.76** Chain plates

The chain plates may be separated into an upper and below deck part which shall be connected by bolts.

## 6. SPARS

The spars shall be made of either one kind of wood or of aluminium alloy. It is permitted to combine a mast of wood with a boom of aluminium alloy and vice versa.

### 6.1 Timber Mast

6.1.1 The mast shall be made in accordance with the timber mast drawing of one kind of wood only, except that the lower part of the main sail luff groove, and the area where the forestay and shrouds are connected to the mast, may be strengthened with hardwood, which shall not extend more than 600mm along the mast. The number of pieces/slats is optional.

Repairing of damage to the mast may be carried out in GRP or similar material.

6.1.2 The mast shall only be made of European spruce - European pine - Oregon pine or Sitka spruce. The mast shall be in solid wood, but may be glued together. A ducting or groove along the mast of no more than 9mm x 9mm for the toplight electrical cable is permitted.

6.1.3 The mast diameter shall not be less than specified on the timber mast drawing and may be increased by not more than 10mm. If the mast is stepped on deck, the diameter may be increased in accordance with the drawing.

6.1.4 The luff groove shall be wholly outside of the diameter. This means that longitudinally there is an increase of 23mm to the athwart ships dimension. The luff groove may be cut away below a point 600mm above the upper edge of the lower measurement band. Below the luff groove the mast shall be round.

6.1.5 The rake of the mast is optional. The foot of the mast shall be fixed and not be capable of being moved while racing. A rotating or permanently bent mast is prohibited. However a permanent set in the aft side of the mast not exceeding 100mm between upper and lower measurement bands is not considered to contravene this rule.

6.1.6 The clear opening of the mast hole in the deck shall not be larger than 120mm diameter. The diameter of the mast at the top of the deck shall not be less than 100mm and not more than 110mm.

6.1.7 The distance from the fore side of the mast, with the mast in the centre of the mast hole, to the intersecting point of the centre line of the forestay or its extension with the deck shall not exceed 2000mm.

6.1.8 The mast positions with The mast may be stepped on deck in the same position provided for the keel stepped mast. The additional deck beams in associated knees and the mast step shall be in accordance with the drawings.

6.1.9 A bracket or chock may be fitted at the mast head to keep the backstay (preventer) clear of the sail. This bracket shall not extend more than 100mm from the aft edge of the mast.

6.1.10 The top of a mast shall not extend more than 300mm and not less than 250mm above lower edge of upper measurement band.

**6.1.11** Measurement bands ( M.B. ) each not less than 13mm wide and clearly discernible while racing shall be marked on the mast as follows:

**M.B. No. I:**

with its upper edge “Lower Mast Point” 1000mm  $\pm$  10mm above deck. This measurement shall be taken along the aft side of the mast in its most upright position.

A stop shall be fitted to prevent the top of the boom being below the top of the “Lower Mast Point”.

**M.B. No. II:**

on the foreside of the mast with its lower edge “Forestay Height Point” 5500mm max. above the “Lower Mast Point.

The intersecting point of the forestay or its extension with the foreside of the mast shall not be above the “Forestay Height Point”.

**M.B. No. III:**

with its lower edge “Upper Mast Point” 8750mm maximum above the “Lower Mast Point”

If tape is being used as measurement band, it shall be varnished over.

**6.1.12** Jumper struts of either wood and or stainless steel and or aluminium alloy shall be fitted with their upper edges 5500mm  $\pm$  20mm above the lower measurement band and shall not be less than 450mm  $\pm$  5mm long between the outside of the mast and bearing-points. They shall be connected at points within 100mm of the bearing-points by a cross member of a diameter not less than 4mm. The distance between the bearing points of the jumper struts shall be 900mm  $\pm$  10mm.

**6.1.13** The headsail halyard shall not be attached higher than the forestay.

**6.1.14** The foot of the mast shall not be above a point 1950mm below the upper edge of the lower measurement band.

**6.2** Aluminium Alloy Mast.

The aluminium alloy mast shall comply with paragraphs 6.1.5 and 6.1.7 – 6.1.14 and the paragraphs 6.2.1 –6.2.10 stated below. The mast spar shall be constructed out of one continuously drawn extrusion with integrated fixed groove for the main sail luff rope.

Each mast manufactured or measured after 01 January 2009 shall permanently have attached to it, approx. 100mm above the Heel plug and on the starboard side of the spar, an official N.F.I.A. plate, on which the masts particulars, in accordance with Rule 6.2.10, shall be entered. The manufacturer shall punch or engrave the plate after it has been fixed to the spar to ensure that it cannot be transferred to any other spar.

**6.2.1** The mast spar shall comply with the following dimensions and in accordance with the aluminium alloy mast section drawing No. 12.

**At 600mm above MB I to Heel Point:**

**Athwartships: Min dia = 100mm. Max = 112mm.**

**Fore and aft: Min dia = 100mm. Max = 112mm**

**At MB II;**

**Athwartships: Min dia = 100mm. Max = 112mm.**

**Fore and aft: Min dia = 115mm. Max = 130mm**

**At MB III;**

**Athwartships: Min dia = 60mm. Max = 94mm.**

**Fore and aft: Min dia = 65mm. Max = 100mm**

**6.2.2** The untapered or unreduced part of the mast spar shall have a section weight not less than 3,10 kg/m.

- 6.2.3 The mast spar shall be tapered from above a point 5500mm but not more than 7000mm above the Lower Mast Point (MB I) to the top. The taper shall be convex or straight. However local hollows not exceeding 3mm in depth will not be considered as contravening this rule.
- 6.2.4 The method of attachment of standing rigging is optional.
- 6.2.5 Running rigging may be lead internally along the mast spar. Halyards shall be lead out above deck.
- 6.2.6 The mast complete with all fixed fittings and jumper struts shall weigh not less than 37kg (33kg for the mast stepped on the deck). If the mast is found to be underweight a corrector weight shall be permanently fixed inside or outside the mast spar so as to bring the weight up to the required minimum. Position of the corrector weight is optional.
- 6.2.7 The mast complete with all fixed fittings, jumper struts, standing and running rigging shall weigh not less than 17.5kg (18kg for the mast stepped on the deck) when it is supported at the Lower Mast Point (MB I) and weighed at the Upper Mast Point (MB III).  
For the purpose of the measurement the halyards shall be in sailing position and the standing rigging lightly secured along the mast spar.  
The ends of the rigging below the Lower Mast Point (MB I) shall hang freely or may rest on the ground so as not to affect the weight at the Upper Mast Point (MB III).  
If the mast is found to be underweight at the Upper Mast Point (MB III) a corrector weight shall be permanently fixed inside or outside the mast spar so as to bring the weight at the Upper Mast Point (MB III) up to the permitted minimum. Position of the corrector weight is optional. The position and weight of the corrector weight shall be noted on the measurement form.
- 6.2.8 A hinge is permitted between deck level and 500mm above deck level. The hinge shall be locked when it is in sailing position.
- 6.2.9 The clear opening of the mast hole in the deck shall not be larger than 120mm diameter. The diameter of the mast at the top of the deck shall not be less than 100mm and not more than 112mm.
- 6.2.10 The mast shall be supplied with following permanently information:
- Manufacturer: \_\_\_\_\_  
 Year of manufacture: \_\_\_\_\_ Spar No: \_\_\_\_\_  
 Section weight: \_\_\_\_\_  
 Top weight: \_\_\_\_\_  
 Corrector weight: \_\_\_\_\_ gr. Fixed : \_\_\_\_\_ mm above MB I.

### 6.3 Boom

The boom shall be made in accordance with the drawing and rule 6.3.2 of Aluminium alloy or of one kind of wood only.

- 6.3.1 Only European pine, Oregon pine or Sitka spruce are permitted when manufactured in wood. The cross section of the boom shall not be less than 105 x 40 mm nor more than 120 x 65 mm. The edges of the boom may be rounded off to a maximum radius of 12mm.



- 6.3.2** The boom shall incorporate a groove for the mainsail foot boltrope. The boom may be cut away to a maximum depth of 45 mm on the aft end and 25 mm on the fwd end or the groove opened out for not more than 200 mm forward of the boom measurement band for the insertion of a track, or other device, to control the clew of the mainsail; and for not more than 500 mm measured from the aft side of the mast, to permit the insertion of the mainsail foot bolt rope.
- 6.3.3** A measurement band (Boom Point) not less than 13mm wide and clearly discernible while racing shall be marked on the boom with its forward edge not more than 3380 mm from the line of the aft edge of the mast, projected if necessary and disregarding any local projections or cut outs
- 6.3.4** The Aluminium alloy boom shall be constructed of one continuously drawn extrusion with integrated fixed groove for the mainsail footrope. It may have an integrated fixed groove for the sheeting and the boom control arrangements.
- 6.3.5** The weight of the Aluminium alloy boom including all fixings and a device to control the clew of the mainsail shall not be less than 9 kg.
- If the boom is found to be under weight a corrector weight shall be permanently fixed inside or outside the boom profile so as to bring the weight up to the required minimum. CG of the corrector weight shall be positioned not more than 1750mm in front of the Boom Point.
- The position and weight of the corrector weight shall be noted on the measurement form.
- 6.3.6** A permanently bent boom is prohibited.  
However, a permanent set not exceeding 50 mm between the forward end and the measurement band is not considered to contravene this rule.
- 6.3.7** The boom shall not be tapered or cut away except as permitted in rule 6.3.2
- 6.3.8** A stop shall be fitted, to prevent any part of the sail to move aft of the Boom Point.  
( Please note: The length of the boom spar is optional ).
- 6.4** Whisker (Jib) pole
- The length and position of the whisker pole are optional.  
Material shall be wood or aluminium alloy.
- 6.5** Spinnaker Boom
- The spinnaker boom shall be of wood or of aluminium alloy.
- 6.5.1** No part of the spinnaker boom, including fittings, shall be capable of extending more than 2.05m. from the forward centre of the mast.

**7. RIGGING**

**7.10** Standing rigging shall be of steel wire of not less than the following diameters:

main shrouds	7 mm	min breaking load 2400 kg
forestay	one of 7 mm	min breaking load 2400 kg
jumper stays	5 mm	
permanent backstay (preventer)	3 mm	
Turnbuckles for shrouds & forestay	min diameter	
	11mm	

The dimensions of other rigging are optional.

**7.20** Shrouds shall intersect the deck not less than 900mm from the yacht's centreline and shall be attached to steel chain plates. The fore and aft position of the shrouds at the deck shall be between two athwart ship straight lines at a distance of min. 280mm and max. 360 mm aft of the mast's aft edge. The mast shall be in its most upright position.

**7.30** Shrouds and forestay shall be adjusted with turnbuckles or link plates only.

**7.40** Adjustment of the forestay and shrouds is prohibited while racing. The jumper stays may be adjustable above the deck only.

**7.50** (Spare number)

**7.60** The standing rigging shall intersect with the face of the mast (port side rigging to port side mast, starboard to starboard) between the following dimensions measured above the upper edge of the lower measurement band.

	Maximum	Minimum
Jumper stay, upper end	8750 mm	8500 mm
Jumper stay, lower end	2265 mm	2235 mm
Forestay	5500 mm	optional
Main shrouds	5500 mm	5300 mm
Lower shrouds	2265 mm	2150 mm

(Lower shrouds permitted for deck stepped mast only.)

Shrouds shall always intersect the mast below the jumper struts.

All measurements are taken at centre wires.

**7.70** All standing rigging shall be adjustable above the deck only.

**7.80** The spinnaker shall be suspended from a point not more than 100mm above the lower edge of measurement band No. II defined by rule 6.1.11, and shall not exceed more than 30mm forward of the forward edge of the mast.

**8. FITTINGS**

- 8.10** Fittings are optional except where specifically restricted or prohibited by these rules.
- 8.20** A headsail furling device may be fitted instead of a fixed forestay deck fitting. Furling of the jib is prohibited while racing.
- 8.30** Winches, tackles, levers and other devices not specifically prohibited are permitted for any purpose on board, except for the adjustment of shrouds and forestay and mast foot.
- 8.40** The method of sheeting the mainsail and headsails is optional except that fittings for sheets shall be placed so that they do not protrude outboard of the sheer line.
- 8.50** Devices for the measurement of depth, speed through water, heading, timing and devices making use of the Global Positioning System (GPS) are permitted, but it is prohibited for the instruments to correlate measured data for depth and speed through water to any other measured data.
- 8.60** No other devices than a topping lift and a rigid boom vang are permitted to apply vertical lift to the main boom. The mounting points of a main boom topping lift shall be above the M.B. No. III and abaft the boom M.B. (boom point).

**9. SAILS**

- 9.01** Only main and headsails shall be used during any race. A NA or an organising club may permit the use of a spinnaker for a regatta, but only after previous announcement in the notice of race and sailing instructions.
- 9.10** General
- 9.11** Sails shall be made and measured in accordance with WORLD SAILING, Equipment Rules of Sailing, except where varied herein.
- 9.12** Sails shall be made of woven cloth. The Body of the sails shall be of single ply construction. The sizes of reinforcements are optional. The weight/thickness of the ply shall be within the limits specified below:

Mainsail, Headsail	250g/m <sup>2</sup> minimum ply weight (min ply folded thickness = 0.48mm)
Spinnaker (if permitted)	35g/m <sup>2</sup> minimum ply weight (min. ply, folded thickness = 0.11mm)

Note: Sails may be made of different cloth weights within the above limits.

The weight in g/m<sup>2</sup> of the body of the sail shall be indelibly marked by the sail maker together with his signature or stamp or sail maker label, and the date near the tack (in the spinnaker near the head). Measurement by the thickness may also govern according to the scale of equivalence in the WORLD SAILING Equipment Rules of sailing.

- 9.13** Two unwoven transparent panels are allowed in each sail. The total area in each sail shall not exceed 0,5m<sup>2</sup> No part of such a window shall be closer to the luff, leech or foot than 150mm.
- 9.14** The class insignia (letter F), national letters and sail numbers shall be placed as laid down in current WORLD SAILING Racing Rules, Appendix G.

Letters and numbers shall not be less than the following dimensions:

Height	300 mm
Width	200 mm (excluding number 1 and letter I)
Thickness	min 40 mm - max 50 mm
Space between adjoining letters and numbers	60 mm

- 9.15** Double-luffed sails and loose-footed mainsails are prohibited.
- 9.16** Each sail shall be measured and approved by an official measurer who shall stamp or fix an official sail button and sign and date a mainsail or headsail near the tack, and a spinnaker near the head, all acc. To rule 1.54.
- 9.17** Each sail measured and used after 1st July 1994 shall have permanently fixed, near its tack, an official NFIA red button. No sail shall be accepted for its first measurement without the NFIA button. The measurer shall sign near the button on the sail. The button shall not be transferred to another sail. Buttons shall only be available from the NFIA secretary (or treasurer) or the National Folkboat Association and the cost shall be fixed by the NFIA in a general meeting.
- Button location:**  
The sail-button shall be located on the sail, near its tack. A minimum distance of 100 mm from the national measure-button is recommended, in not less than two layers of cloth to a max. thickness of 3.5 mm.
- 9.20** Mainsail
- 9.21** The mainsail shall comply with the measurements on the measurement diagram. The luff of the sail shall have a continuous bolt rope which shall be within the full length of the mast groove or the luff of the sail may be attached to the mast by slides. The foot of the sail shall have a continuous rope which shall be within the full length of the boom's groove while sailing.
- 9.22** Cross widths shall be measured between points on the leech and the nearest point on the luff (including any bolt rope), as follows:
- Hollows in the leech in the way of measured points shall be bridged.
- The upper-point of the leech is located at 500 mm from the head point.  
The upper-width shall not exceed 370 mm.
- The three-quarter point of the leech is located at 2280 mm from the head point. The three-quarter width shall not exceed 1310 mm.
- The half point of the leech is located at 4570 mm from the head-point.  
The half-width shall not exceed 2225 mm..
- 9.23** There shall be four batten pockets on the leech of the sail, each within 100mm of the respective point which divides the leech into five equal parts. Strengthening patches on the inner end of each batten pocket may be self adhesive
- 9.24** The outside lengths of the batten pockets shall not exceed:
- |            |         |
|------------|---------|
| Top        | 800 mm  |
| Lower tree | 1050 mm |
- 9.25** No part of the sail shall extend beyond the inner edge of the boom measurement band or the lower edge of the upper mast measurement band. The line of the top of the boom shall not be below the upper edge of the lower mast measurement band.

- 9.30**        **Headsail**
- 9.31**        **The jib or headsail shall comply with the measurements on the measurement diagram. RR 50.4 shall not apply.**
- 9.32**        **The distance from the head point to the mid-point of the foot shall not exceed the average of the length of the luff and leech by more than 100 mm.  
The mid-point of the foot shall be found by placing the centre of the clew cringle over the tack point.  
The head-width shall not exceed 140 mm, measured between the luff and leech at points 200mm from the head point.  
The mid-girth shall not exceed 1270 mm, measured between the leech and luff at a point 2700 mm from the head point.**
- 9.33**        **The foot of the jib shall not be concave anywhere.**
- 9.34**        **The jib shall not enclose the forestay but shall be connected to the forestay by jib hanks or similar means, for the duration of the race. If jib hanks out of soft material are being used, each shall not be wider than 25mm and not more than 15 shall be used.**
- 9.35**        **Three batten pockets are permitted on the leech of the headsail, each not exceeding 300mm, 400mm and 600mm inside length, dividing the leech into equal parts with a tolerance of 100mm. Chaffing patches may be self-adhesive.**
- 9.36**        **The foot irregularity of sails first measured after 1st January 2013 may not exceed 30 mm. The foot irregularity is defined as the maximum distance between the edges of the foot when first the lowest point of the luff and then the lowest point of the leech are superimposed on any part of the foot.**
- 9.50**        **Spinnaker**
- 9.51**        **The spinnaker shall be a three cornered sail symmetrical about its centreline and shall comply with the measurements on the measurement diagram.**
- 9.52**        **The luffs and the foot shall be taped with stretch resistant tape, and the luff and leach lengths shall be equal.(i.e. spinnaker must be symmetrical.) The spinnaker shall not embody any device capable of altering its shape.**
- 9.53**        **The dimensions of the attachment of the swivel, or the cringle at the head of the spinnaker and which is within the sail, shall not exceed 38 mm. The horizontal dimensions of any device or fitting at the head of the spinnaker shall not exceed 38mm.**
- 9.54**        **All measurements shall be made with enough tension applied to just remove the wrinkles across the line of measurement.**
- 9.55**        **Luff and leech lines shall be equal**
- 9.56**        **Not more than one spinnaker may be used in any one race**

**10. WEIGHT OF NORDIC FOLKBOAT**

- 10.10** The weight of the boat shall not be less than 1930 kg. weighed complete with floorboards, pumps, seats, and all fittings normally used on board whilst racing, together with the following:  
Mast and boom ( without whisker pole and /or spinnaker pole ) with all their fittings, standing rigging, halyards and sheets for mainsail.  
The equipment included in the weight of not less than 1930kg shall not thereafter be removed whilst racing and shall be in its normal position whilst racing; e.g. the helmsman's seat.
- 10.20** If the boat is found to be underweight, corrector weights of any material having a specific gravity no greater than that of lead, totalling not more than 30 kg, shall be fastened to the hull as described in 10.20.1, 10.20.2 and 10.20.3 below.
- 10.20.1** Boats built before 01.01 2002 are permitted to have corrector weights to bring the keel weight up to a maximum of 1050 kg.. The actual keel weight shall be confirmed by the measurement certificate.  
Corrector weights shall be mounted in the bilge at stations 8, 5, 9, 6 and 7, the sequence is mandatory, in pieces up to 10 kg. Pieces may be split if lifting eyes are in the way.
- 10.20.2** Remaining hull correctors shall be placed:  
To 40 % at not less than 3.40 m aft of the forward face of the mast, no deeper than 578 mm below a line joining the two sheer lines.  
To 60% not less than 0.25 m and not more than 0.60 m forward of the forward face of the mast, no deeper than 844 mm below a line joining the two sheer lines.
- The corrector weight may be divided and placed off the centerline. Boats built 01.01.2002 or later and found to be underweight are permitted to have hull correctors only totaling not more than 30 kg and mounted as described in 10.20.2 above.
- Keel correctors and additional correctors are not permitted.
- (Note: Grandfathers law applies to boats built before 1' January 2000 – see rule 1.61)
- 10.30** The correctors shall be fixed by such means that they cannot be removed without the use of tools.
- 10.40** The weight and position of all corrector weights shall be entered on the yacht's measurement certificate.

**11. EQUIPMENT**

**11.10** The following equipment shall be on board while racing:

- .1** A suitable anchor of not less than 12 kg. or alternatively :
  - a suitable anchor of not less than 6 kg. together with chain attached to it making a total weight of not less than 12 kg.
  - a suitable aluminium anchor of not less than 4.5 kg together with chain attached to it making a total weight of not less than 12 kg.
- .2** Not less than 25m of anchor rope. Material shall be synthetic of a diameter not less than 12mm or woven band of a width not less than 25mm of same breaking load. If chain is attached to the anchor rope, its length may be included.
- .3** Two mooring lines with a total length of not less than 20 m and a diameter of not less than 12 mm.
- .4** One manual bilge pump, permanently installed. Electrical bilge pump with their battery may be installed but shall not be included in boat weight.
- .5** A personal Flotation Device (PFD) with minimum buoyancy of 50 Newton shall be carried for each person on board. Each PFD shall be either of the compressed gas automatically inflatable, or of the permanently buoyant type, or a combination of both.  
(Recommendation: the PFD should be of bright clearly visible color, when immersed in water.)
- .6** One oar or paddle not less than 1.4 m long.
- .7** One rigid bucket min. capacity: 9 litre.
- .8** Two lifting eyes shall be attached to the keel, keel bolts or to the sides or undersides of the floor timbers. The weight of each lifting eye shall not exceed 3kg.

**11.11** In addition to the above the following is permitted.

- .1** Mast guard.
- .2** Tie-rod between deck and mast step.
- .3** Spare.
- .4** Handrails on the cabin top and foredeck. The distance from the handrails to the centreline of the boat shall not exceed 650 mm.
- .5** A bow and stern pulpit as well as stanchions and lifelines may be fitted.
- .6** A Bulkhead within 150 mm of station 14,5.
- .7** Spinnaker chute or spinnaker tunnel on deck may be fitted.
- .8** Buoyancy tanks, bags or compartments.
- .9** Two access-holes in the top of the fwd berth, of which the total area which shall not exceed 0.26m<sup>2</sup>. The corner radius shall not be smaller than 25mm. The cut-out(s) shall have a distance of not less than 150mm to the inner hull side.
- .10** Limitation of sails during the races:
  - Not more than two suits of sails consisting of two Mains and two Jibs shall be used for
  - GOLD CUP
  - SESSAN CUP
  - NATIONAL CHAMPIONSHIPS

**12. PROHIBITIONS**

- 12.10** Altering the effective length of the shrouds or forestay while racing is prohibited.
- 12.20** Hydraulic, pneumatic or electrical adjusting or trimming systems are prohibited.
- 12.30** Except for corrector weights in accordance with rule 10 inside ballast is prohibited.
- 12.40** Self-bailers or means other than pumps for draining the cockpit while racing.

**13. CREW**

- 13.10** There shall be two or three persons on board while racing. Only if the total weight of three crew members does not exceed 200 kg, the crew may consist of four persons. The number of persons may be specified in the Notice of Race. A boat shall compete with the same number of persons throughout an event. Any change of persons (crew) shall be approved by the Race Committee.
- 13.20** Hiking in accordance with CR 13.20 is the action of moving the crew's body weight as far to windward as possible on an upwind course. It means it is acceptable to have the crew's body between the middle of the thigh and feet outside the sheer line on a reaching or downwind course.

When hiking it is permitted to use the boat's normal equipment in normal position to assist a member of the crew moving the crew's body weight to windward but the crew's body between the middle of the thigh and feet shall not be outboard of the sheer line.

Examples of normal equipment in normal position: Sheets, vang, seats, trim lines, rudder, and tiller.

Loose or fixed handholds outside the cockpit coaming, not further forward than 200mm from the main bulkhead, are permitted, minimum distance to sheer line 100mm.”

Examples of equipment not permitted as assist when hiking: Lifting straps, equipment mounted with the purpose to assist when hiking and trim lines installed but without function.



## Appendix

**The principal dimensions of the Nordic Folkboat:**

L.o.a.:	7.68 m.
L.w.l.:	6.00 m.
Beam:	2.20 m.
Lowest freeboard from cwl	0.568 m.
Draft from cwl	1.20 m.
Displacement from cwl	2.15 m <sup>3</sup> .
Sail area (actual)	24.00 m <sup>2</sup> .
Keel weight min /max	1000kg / 1050 kg.

**LIST OF OFFICIAL PLANS**

Plan No.	Description	Scale	Date
1	Lines of hull	1 : 10	Jan 1961
2	Frame sections	1 : 1	Jan 1961
3	Transom	1 : 1	Jan 1961
4	Keel plan and transom	1 : 1	Dec 1962
5	Construction plan, wood	1 : 10	Jan 1966
6	Deck beam with mast on deck		Jan 1961
7	Sail and rigging plan	1 : 10	Jan 2003
8	Sail measurement diagram - Main		Oct 1998
9	Sail measurement diagram - Headsail		Apr 2005
10	Sail measurement diagram - Spinnaker		Oct 1995
11	Spar and Rig diagram	no scale	Apr 2003
12	Aluminium Alloy Mast	1:20/1:2	Jan 2009
13	Keel trailing edge		Feb 1987

**For boats made in GRP:**

1	Hull drawings	1 : 10	Nov 1976
2	Deck members	1 : 10	Nov 1976
3	Connection hull / deck	1 : 1	1976 /1977
4	Chainplates	1 : 1	Oct 1977
5	Keel reinforcement diagram		Aug 1994

## List of Issued Amendments

DATE	REF NO	RULE NO	PAGE	AMENDMENT
10.02.1998	97/1	-	-	RULES REISSUED WITH ALL AMENDMENTS TODATE
23.03.1999	99/1	1.24	4	
		9.12	27	
		9.14	27	
		9.22	Drg	
		9.31	29	ALL AMENDMENTS REISSUED
		9.31	29	
		9.50	Drg	
		9.52	29	
		10.20	30	
		10.31	30	
				List of Plans 8/9 dates altered
29.02.2000	00/1	3.11	18	ALL NEW AMENDMENTS ISSUED
		9.12	27	
		10.20	30	
		10.31	30	
01.01.2001	01/1	6.1 – 6.10	22	Details of Alloy mast and boom added Whisker pole and spinnaker Rules renumbered
		6.2	23	
		6.3	24	
		6.4	25	
		6.5	25	
			3	Table of contents altered to show new rule numbers
01.01.2002		1.24	4	
		1.94(a)	9	
		1.94(b)	9	
		5.74.4	21	ALL AMENDMENTS ISSUED
		8.50	27	
		8.60	27	
		9.13	27	
		9.56	30	
		10.10	30	
		10.20	30	
		10.20.1	30	
		10.20.2	30	
		10.40	30	
		11.10.1	31	
		11.10.2	31	
		11.10.3	31	
01.01.2003		5.6	20	
		8.6	27	ALL AMENDMENTS ISSUED
		11.10.4	30	
		11.10.3	30	

On sail plan; remove max. Length of the boom; insert O/L optional

DATE	REF NO	RULE NO	PAGE	AMENDMENT
01.01.2004		6.3.1 6.3.5	24 25	ALL AMENDMENTS ISSUED
01.01.2005		1.24 b 1.59.1 1.59.2 1.73.6 4.60 9.32 11.10.7	4 6 6 8 19 29 31 33	ALL AMENDMENTS ISSUED (Principal dimensions): The Beam dimension and the Oal. is amended from 2.20 m. max. to 2.20 m. and from 7.68 m. max. to 7.68 m.
01.01.2007		5.10	20	Epoxy resin added
01.01.2008		5.10 5.30 5.50 9.22 9.32	20 20 20 28 29	Re-worded to suit applied methods of rudder building Re-worded for the purpose of clarification Re-worded for the purpose of clarification Re-worded for the purpose of simplification The word POINT added for the purpose of clarification
01.01.2009		1.52 1.53 1.54 6.2 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 6.2.6 6.2.7 6.2.8 6.2.9 6.2.10	5 5 5 23 23 23 24 24 24 24 24 24 24 24 24	Spar / Spar Manufacturer added Spar / Spar Manufacturer added
01.01.2013		13.10 2.405 2.407 8.50 9.13 9.21 9.35 9.36 10.20.2 11.10.4 11.10.5 13.20	32 15 16 27 27 28 29 29 30 31 31 32	2 or 3 person on board while racing Last clause re-worded for the purpose of clarification Re-worded for the purpose of clarification Rule change on GPS Rule change to increase transparent panels in sails Words added to the purpose of clarification Rule change for new lengths of batten pockets New CR to define foot irregularity of jibs Rule change to simplify wording Rule change re. bilge pump Rule change re. personal flotation device Rule change and clarification of 'hiking'
01.08.2014		1.24	4	Rule change acc. to WORLD SAILING regulation 20

01.04.2015	10.10	30	Words added to the purpose of clarification
22.11.2016	1.24	4	Change name ISAF to WORLD SAILING
	1.51	5	
	9.11	27	
	9.12	27	
	9.14	27	
		35	
01.01.2017	8.20	27	Permit of a headsail furling device
	8.60	27	Permit of a rigid boom vang
	9.21	28	Permit of slides for the luff of the mainsail
	9.24	28	Re-definiton of the lengths of batten pockets
	11.10	31	Permit of more alternatives re. anchor nature
	13.10	32	4 people on board while racing in exceptional cases
			On sail measurement plans: reinforcement wording changed to the purpose of clarification
01.01.2019	1.94(c)	9	Added for clarification reasons re. CR 1.9
	2:216	13	Iroko added for environmental aspects
	2.217	13	Iroko added for environmental aspects
	2.218	13	Iroko added for environmental aspects
	2.219	13	Iroko added for environmental aspects

Date: January, 1<sup>st</sup>, 2019