

## Section K – 2.4 One Design Division

### K. 01 SCOPE

The rules in this Section K apply to 2.4 One-Design Division boats with relevant certificate. These boats may race in both open 2.4mR Class events and in closed One-Design Division events for both able-body and disabled sailors, and in disabled-sailor-only events such as Paralympics, IFDS World Championships, country trials to such events etc.

This Section K will only apply when it is referred to in Notice of Race and Sailing Instructions.

### K.02 2.4 One-Design Rules

The 2.4 One-Design Division Rules are **closed** rules.

Sections A – G and J with amendments given in this Section K and K1 – K4 shall apply. The amendments in Section K are such that a boat built complying with these rules also will comply with the 2.4mR Class Rules and will consequently be a 2.4mR boat.

(Thus Rules Sections D.6, D.7, D.8 and H will not be needed to use as their requirements are taken account of in the design defined in the 2.4One-Design Construction Manual.)

New paragraphs, amended paragraphs or replaced paragraphs are written with a “K” in front of the paragraph number and will replace the paragraph with the same number without the “K”. New paragraphs are identified by [ADDED], and amended or replaced paragraphs are identified by [AMENDED] after their number

Where not the whole Rule is amended, only the sub-rule heading is given and not the Rule heading. (C.5 = Rule number, C.5.1 = sub-rule number)

### K.03 General rules

A 2.4 One-Design Division boat shall be certified as a 2.4mR boat and shall be built or approved according to the rules in this Section K.

A One-Design boat shall be built according to 2.4 One-Design Construction Manual.

A Norlin Mk III **hull** built before 2010-01-01 which is intended to be approved as a One-Design boat shall be checked against and found to meet the requirements in Section K2.

### K. 04 Additions and Amendments of the 2.4mR Class Rules

#### KA General

KA.9.3 [ADDED] The licensed hull builder shall pay a per hull License Fee to the ICA, which shall then send the ICA One-Design Division sticker to the licensed hull Builder.

KA.9.4 [ADDED] An owner of a Norlin Mk III hull built before 2010-01-01 which has been approved to comply with the rules in this Section K, checked according to Section K2, shall send this documentation to the ICA together with the registration fee to receive the ICA One-Design Division sticker.

KA.11.5 [ADDED] For an OD-certificate to be issued to a hull built after 2010-01-01 not previously **certified**:

- (a) **Certification control** shall be carried out by the builder as “in house certification” If the builder has not been approved for that, the **certification control** shall be carried out by the **official measurer** who shall complete the appropriate documentation, and the builder shall sign a declaration on the certificate, that the boat was built according to rules KD.3.2 (a) and (b).
- (b) The documentation and **certification** fee, if required, shall be sent to the **certification authority**.
- (c) Upon receipt of a satisfactorily completed documentation and **certification** fee, if required, the **certification authority** may issue an OD-certificate. The ICA measurement form shall be used.

KA.11.6 [ADDED] For an OD-certificate to be issued to a hull built before 2010-01-01 not previously certified:

- (a) **Certification control** shall be carried out by the **official measurer** who shall complete the appropriate documentation.
- (b) The documentation and **certification** fee, if required, shall be sent to the **certification authority**.
- (c) Upon receipt of a satisfactorily completed documentation and certification fee, if required, the certification authority may issue a OD-certificate. The ICA measurement form shall be used.

KA.11.7 [ADDED] An OD-certificate shall record the following information:

- (a) Class
- (b) OD-Certification authority
- (c) Sail number issued by the **certification authority**
- (d) ISAF Building Plaque Number
- (e) Builders details and hull number (hull number not needed for boats built before 2010-01-01)
- (f) Class Association One-Design Division Sticker Number
- (g) Date of issue of initial OD-certificate
- (h) Date of issue of OD-certificate
- (i) Date of flotation check according to B.2.
- (k) Type of **rudder** (only for boats built before 2010-01-01)

KA.12.2 [ADDED] An OD-certificate becomes invalid upon:

- (a) the change to any items recorded on the OD-certificate as required under KA.11.7 (a) – (l).
- (b) withdrawal by the OD-**certification authority**,
- (c) the issue of a new OD-**certificate**,
- (d) the boat is given a new sail number (e.g. in case of export of an old boat).

KA.14.3 [ADDED] The **certification authority** may issue an OD-certificate to a previously certified hull:

- (a) when it is invalidated under KA.12.2 (a), after receipt of the old OD-certificate and if needed appropriate documentation given by an **official measurer**, and **certification** fee if required.
- (b) when it is invalidated under KA.12.2 (b), at its discretion.
- (c) when it is invalidated under KA.12.2 (d)
- (d) in other cases, by application of the procedure in KA.11.

## **KA.15 [ADDED] RETENTION OF CERTIFICATION DOCUMENTATION**

KA.15.1 The **certification authority** shall:

- (a) retain the original documentation upon which the current OD-certificate is based.
- (b) upon request, transfer this documentation to the new **certification authority** if the **hull** is exported.

## **KB Boat Eligibility**

KB.4.3 [ADDED] The confirmation shall be done by an official measurer or a person authorised by the NCA or MNA stating date of the check.

KB.4.4 [ADDED] A flotation check is valid maximum five (5) years from the date of the previous check. The check shall be accomplished according to Section K3.

KB.5.3 [ADDED] A Class Association One-Design Division Sticker according to KA.10.2 shall be affixed to the **hull** in the cockpit on the port side.

## **KC Conditions for Racing**

KC.4.1 [AMENDED]FOR USE

(a) OPTIONAL

(1) One electrical pump with battery.

(2) Any other portable equipment may be carried on board above the floor (See Section K1 for floor definition).

The total weight of this optional portable equipment shall not exceed 2,0kg. In addition extra sails may be carried on board

KC.5.1 WEIGHT

(a) [AMENDED]

	minimum	maximum
The weight of the <b>boat</b> in dry condition	253 kg	254 kg

The weight shall be taken including **sails** and portable equipment as listed in KC.4.1 (a) and KC.4.2 (a) but excluding portable equipment in KC.4.2 (b).

The seat may be excluded if it fulfils the requirement according to KD.6.2(b).

- (b) [ADDED] The horizontal distance from the hull datum section, section 0 (See Section K1 for definition), to the centre of gravity of the **boat** when its Water line (baseline) is horizontal shall be 1343mm  $\pm$  27mm. (See also Section K4)

KC.5.3 [ADDED] CORRECTOR WEIGHTS

- (a) **Corrector weights** of lead shall be securely fixed to the hull when the **boat weight** is less than the minimum requirement.
- (b) **Corrector weights** shall be placed in the cockpit area above the floor, (See Section K1 for definition of floor), and be located such that the centre of gravity of the **boat** is within the limits according to KC.5.1 (b).

KC.6.1 [AMENDED] MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) Application of fillers to the **hull** for fairing is not allowed in order to change the shape of the original **hull**.
- (b) Routine maintenance such as painting and polishing is permitted without re-measurement and re-**certification**.
- (c) If any **hull** moulding is repaired in any other way than described in (b), an **official measurer** shall verify on the **certificate** that the external shape is the same as before the repair and that no substantial stiffness, or other, advantage has been gained as a result of the repair. The **official measurer** shall also describe the details of the repair on the **certificate**.
- (d) Corrections of ballast weight in order to comply with KC.5.1 (a) and/or (b) will be permitted. It will also be permitted to remove the ballast pigs from the **keel** for certain reasons (transportation, cleaning etc). However the ballast shall be restored such that the **boat** complies with C.5.1.

KC.6.2 [ADDED] BALLAST

- (a) Ballast pigs shall comply with KE.5.
- (b) The maximum weight of the ballast, including any equipment placed below the floor.(e.g. battery), but excluding electrical pump and adherent hoses and cables, is 181kg.

KC.7.2 [ADDED] MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) Routine maintenance such as painting and polishing is permitted without re-measurement and re-**certification**.
- (b) Repair of rudder damages will be permitted without re-measurement and re-certification.

KC.7.3 [ADDED] USE

- (a) Boats shall have the standard **rudder**. Dimensions of the **rudder** shall comply with templates and given in Section K1.
- (b) Boats built before 2010-01-01, which are not equipped with the standard **rudder**, may have the small standard **rudder**. This shall be stated on the certificate. Dimensions of the small **rudder** shall comply with templates and specifications given in Section K1.

**KC.8 RIG (AMENDED)**

KC.8.1 CONSTRUCTION

- (a) All **spars** shall comply with Section F.

KC.8.2 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) Routine maintenance such as painting and polishing is permitted.

KC.8.3 FITTINGS

- (a) All mandatory fittings and their positioning shall comply with Section F. Other fittings are optional.

KC.8.4 LIMITATIONS

- (a) Only one set of **spars** and standing **rigging** shall be used during an event of less than 8 consecutive days, except when an item has been lost or damaged beyond repair.

KC.8.5 MAST

- (a) DIMENSIONS

	minimum	maximum
<b>Limit mark width</b> .....	10 mm	
<b>Mast spar curvature</b> at a distance of 2700 mm from the <b>mast datum point</b> (See F.2.4 (a)).....		30 mm

- (b) USE

- (1) The **spar** shall be stepped in the mast step in such a way that the heel is not capable of moving more than 2mm athwart ships. The **mast** may be movable in fore-and aft direction.
- (2) The **mast datum point** shall not be above the *measurement point of the deck*. (See D.2.4 (c)).
- (3) Rotating masts are not permitted.

KC.8.6 BOOM

- (a) DIMENSIONS

	minimum	maximum
Limit mark width	10mm	-
<b>Outer point distance</b>		1960mm

- (b) Positioning

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

KC.8.7 WHISKER POLE

- (a) DIMENSIONS

	minimum	maximum
Whisker pole length		2109mm
Whisker pole cross section	22mm	

### KC.8.8 HEADSAIL BOOM

#### (a) CONSTRUCTION

Materials, dimensions, construction and fittings are optional

### KC.8.9 STANDING RIGGING

#### (a) DIMENSIONS

	minimum	maximum
<b>Foretriangle base</b>		1560mm
<i>Forestay height</i> (see F.2.4 (c))		3750mm

#### (b) USE

- (1) Whilst racing the **mast** is not permitted to be adjusted in an athwart ships plane to windward of a plane perpendicular to the deck. The shrouds of boats with adjustable shrouds must be able to be tightened to their upward limit on both sides at the same time.

## KC.8.10 RUNNING RIGGING

(a) MANUFACTURER

Manufacturer is optional

(b) Materials

Materials are optional

(c) Construction

(1) Mandatory

- (1) Mainsail halyard
- (2) Headsail halyard
- (3) Mainsail sheet
- (4) Headsail sheets
- (5) Boom vang
- (6) Backstay control line

(2) Optional

- (1) Mainsail outhaul line
- (2) Mainsail tack and cunningham control lines
- (3) Mainsail traveller control lines
- (4) Mainsheet bridle system, fixed or with adjustment lines
- (5) Mainsail sheet fine tune
- (6) Headsail cunningham control line
- (7) Headsail fairleads or blocks adjustment lines
- (8) Whisker pole control line
- (9) **Headsail boom** control lines
- (10) Forestay, backstay and shroud adjustment lines
- (11) **Mast** control lines fore and aft at deck
- (12) **Mast** control lines fore and aft at butt
- (13) Shock cords for whisker pole retention
- (14) Shock cords for **Headsail boom** outhaul

(d) USE

The use of **running rigging** is optional, except for that only one mainsail sheet may be used.

## KC.9.1 (AMENDED) GENERAL

(a) Modifications, Maintenance and repair

- (1) **Sails** shall not be altered in any way except as permitted by these **class rules**.
- (2) Routine maintenance such as repair of damage is permitted without re-measurement and re-**certification**.
- (b) Limitations
  - (1) Not more than 2 main sails and 3 jibs shall be used during an event of the status National Championship or higher and of less than 8 consecutive days, except when a **sail** has been lost or damaged beyond repair.

#### KC.9.2 MAINSAIL

(a) USE

- (3) [ADDED] The **luff** bolt rope shall be in the **spar** groove or track.

(b) IDENTIFICATION

The national letters and sail number shall comply with these class rules.

#### KC.9.3 JIB

(a) USE

- (2) [ADDED] **Headsail boom** headsail shall only be used together with a **headsail boom**.

#### KC.9.4 [ADDED] MODIFICATIONS, MAINTENANCE AND REPAIR

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

## **KD Hull**

### **KD.2 GENERAL**

#### KD.2.1 RULES

- (a) [AMENDED] The **hull** shall comply with the **class rules** in force at the time of initial **certification**.
- (b) [ADDED] The **hull** shall be built according to 2.4OD Construction Manual.
  - (c) [ADDED]A **hull** built before 2010-01-01 shall be verified to comply with requirements in Section K2.

## KD.2.2 (AMENDED) DEFINITIONS

### (a) HULL DATUM POINT

The **hull datum point** is a point on the centreline of the hull placed at the intersection of the outside of the hull and the aft surface of the rudderstock.

### (b) HULL DATUM SECTION, (SECTION 0)

The vertical cross section perpendicular to the water line and transverse to the centre line through the datum point is defined as the *hull datum section* (section 0). This shall be permanently marked on starboard and port sides on both the **sheerline** and the deck near the **sheerline**.

### (c) DECK MEASUREMENT POINT

The measurement point of the deck is a point, at the vertical cross section 1972mm from the Section 0, 36mm above the covering board level, measured 15mm from the outmost part of the hull shell in this section.

## KD.2.3 IDENTIFICATION

(b) [ADDED] The hull shall carry the International Class Association One-Design Division sticker, see B.3.1

(c) [ADDED] The **hull** shall carry information of: builder, date built and the boat's sequential identification number and any country specific requirements permanently embossed or debossed into the **hull**.

(d) [ADDED] Boats built before 2010-01-01 are excluded from (c).

## KD.2.4 [ADDED] MODIFICATIONS, MAINTENANCE AND REPAIR

(a) The hull shell and deck shall not be altered in any way except as permitted by these rules.

(b) Bulkheads and reinforcements may be modified in such an extent as specified in Section K1.

(c) Holes not bigger than necessary for the installation of fittings and passage of lines may be made in the deck and reinforcing parts. Slits longer than 60mm in the deck for shrouds are not permitted..

(d) Routine maintenance such as painting and polishing is permitted without re-measurement and re-**certification**.

(e) If any **hull** moulding is repaired in any other way than described in D.2.3(d), an **official measurer** shall verify on the **certificate** that the external shape is the same as before the repair and that no substantial stiffness, or other, advantage has been gained as a result of the repair. The **official measurer** shall also describe the details of the repair on the **certificate**.

## KD.2.5 [ADDED] BUILDERS

(a) The **hull** shall be built by a builder licensed by the ICA.

(b) All moulds shall be approved by the ICA.

(c) Boats built before 2010-01-01 are excluded from (a) and (b) and shall comply with the rules in Section K2.

## KD.3 HULL

The rule D.3 does not apply for boats built after 2010-01-01.

#### **KD.4 DECK**

The rule D.4 does not apply for boats built after 2010-01-01.

##### **KD.5.1 CONSTRUCTION**

- (b) (ADDED) Flotation elements shall comply with ISO 12217-3 Annex C.
- (c) (ADDED) The bulkheads may be made water tight forming a buoyancy tank.
- (d) (ADDED) Compartments containing flotation elements shall be inspectable by a hole of minimum diameter 150mm placed not more than 100mm below the underside of the deck.

#### **KD.6 (AMENDED) SEAT**

##### **KD.6.1 MATERIALS**

- (a) Materials are optional

##### **KD.6.2 CONSTRUCTION**

- (a) Seat included in **boat weight**
  - (1) Construction is optional.
- (b) Seat excluded from the **boat weight**, see C.6.1.
  - (1) Construction is optional except for what is given in (2)
  - (2) When the seat is placed in its position for sailing, the centre of gravity of the seat, shall be located not less than 220mm above the floor level. The floor level is defined in Section K1.
  - (3) The approval of the seat shall be marked on it by an **official measurer**.

#### **KD.7 LIMITATIONS WITH RATING PENALTIES**

The rule D.7 does not apply for boats built after 2010-01-01.

#### **KD.8 LIMITATIONS**

The rule D.8 does not apply for boats built after 2010-01-01.

#### **KD.9 ASSEMBLED HULL**

##### **KD.9.1 FITTINGS**

- (a) (AMENDED) MANDATORY

The following fittings shall be positioned in accordance with the construction manual

- (1) Suitable fitting for towing
- (2) Forestay attachment fitting
- (3) Shroud plates
- (4) **Mast** step
- (5) Lifting eyes
- (6) Rudder post
- (7) Floor board
- (7) Traveller track, bridle, or turning block for mainsheet

- (8) One manual bilge pump permanently installed which may discharge through hull shell or deck
  - (10) A suitable fitting or device shall be installed in the deck level, in order to prevent the **mast** to move astern of that position, which corresponds to the **Foretriangle base** , 1560mm.
  - (11) Manual steering system which may include quadrants, tiller arms, steering lines, foot pedals, fairleads, turning blocks and steering tiller.
- (b) (ADDED) OPTIONAL
- (1) Athwartship or vertical consoles (no more than two) for mounting fairleads, cleats, and fittings for sail and spat control lines and steering systems.
  - (2) Sheaves, fairleads, and cleats on or through the deck for sail, forestay, backstay, seat, hiking harness, and **spar** position control and adjustment lines.
- (c) (ADDED) CONSTRUCTION
- (1) The position of the fitting in (a) (10) shall be such that the distance from fore side of the **mast** to the intersection between the forestay and the deck is  $\leq 1560$ mm.
  - (2) No fittings may be attached to the outside of the **hull** (This means that e.g. plastic flaps between **hull** and **rudder** are not allowed)

## KE – HULL APPENDAGES

### KE.4 RUDDER BLADE AND RUDDER STOCK

#### KE.4.1 [AMENDED] RULES

- (a) The **rudder** shall comply with the current **class rules**.

#### KE.4.2 [AMENDED] MATERIALS

- (c) The **rudder** shall be made according to 2.4 OD Construction Manual.

#### KE.4.3 [AMENDED] DIMENSIONS

- (b) The **rudder** shall comply with the relevant templates according to plans given in Section K1.
- (c) The leading and trailing edges of the **rudder** shall comply with the relevant templates specified in Section K1.

#### KE.4.4 [ADDED] WEIGHTS

	minimum	maximum
Standard <b>rudder</b> including rudder stock	1.1kg	1.6kg
Standard small <b>rudder</b> including rudder stock	1.0kg	1.5kg

## **KE.5 BALLAST**

### KE.5.2 [AMENDED] CONSTRUCTION

- (a) The ballast shall be internal in the boat and removable from the inside of the boat. It shall be divided in lead pigs consisting of minimum 8 pieces and maximum 16 pieces. The maximum weight of one pig is 30kg.
- (b) Ballast pigs shall have their primary dimension in horizontal direction.
- (c) The maximum weight of the ballast, including any equipment placed below the floor. (e.g., battery), but excluding electrical pump and adherent hoses and cables, is 181kg.

## **KF Rig**

### KF.1.2 OPTIONAL

- (b) [ADDED] **Headsail boom**

### KF.2.3 [AMENDED] DEFINITIONS

- (a) **Mast datum point**

The **mast datum point** is a point on the forward side of the mast 3750mm (**Forestay height**) below the forestay **rigging point**. The **mast datum point** shall be marked by a punch.

### KF.2.4 [ADDED] CERTIFICATION

- (a) The **official measurer** shall **certify spars** except **headsail boom** and shall sign and date the **certification mark**.
- (b) An MNA may appoint one or more persons at a manufacturer to measure and **certify spars** produced by that manufacturer in accordance with the ISAF In-house Certification Guidelines.
- (c) No **certification** of standing and running **rigging** is required.

### KF.2.5 [ADDED] MANUFACTURER

- (a) No licence is required.

### KF.3.1 [AMENDED] MATERIALS

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

### KF.3.3 [ADDED] FITTINGS

- (a) MANDATORY
  - (1) Boom attachment fitting
  - (2) Shroud attachments
  - (3) A set of **spreaders**
  - (4) Mainsail halyard sheave
  - (5) Headsail halyard sheave

(b) OPTIONAL

Other fittings and instrumentation are optional

KF.3.4 [AMENDED] DIMENSIONS

<b>Additional dimensions to F.3.4</b>	<b>minimum</b>	<b>maximum</b>
<b>Mast limit mark width</b>	10mm	12mm
<b>Lower point height</b>	340mm	350mm
<b>Upper point height</b>	4990mm	5000mm
<b>Lower point to upper point</b>	4630mm	4650mm
<b>Forestay height</b>	3749mm	3750mm
<b>Shroud height</b>	3900mm	4000mm
<b>Spreader;</b>		
<b>length</b>	350mm	400mm
<b>height</b>	1950mm	2050mm

KF.4.1 [AMENDED] MATERIALS

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

F.4.3 [AMENDED] DIMENSIONS

	<b>minimum</b>	<b>maximum</b>
<b>Outer point distance</b>		1960mm
<b>Boom spar cross section</b> between <b>mast</b> and <b>outer point</b> ;		
vertical		75mm
transverse	27mm	55mm

KF.4.4 [ADDED] FITTINGS

(a) Fittings of the **boom** are optional

KF.5.1 [AMENDED] MATERIALS

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

KF.5.2 [AMENDED] DIMENSIONS

	<b>minimum</b>	<b>maximum</b>
<b>Whisker pole length</b>		2106mm
<b>Whisker pole dimension</b>	22mm	

KF.5.3 [ADDED] FITTINGS

(a) Fittings are optional

F.5.4 [ADDED] MANUFACTURER

(a) Manufacturer is optional.

## **KF.6 [AMENDED] STANDING RIGGING**

### KF.6.1 MATERIALS

- (a) The **standing rigging** excluding backstay and forestay shall be of stainless steel.
- (b) Material of backstay and forestay is optional.

### KF.6.2 CONSTRUCTION

#### (a) MANDATORY

- (1) Forestay
- (2) Upper shrouds and lower shrouds which shall be attached under deck and have the same attachment point under deck
- (3) Backstay

### KF.6.3 FITTINGS

- (a) Fittings are optional

### KF.6.4 DIMENSIONS

- (a) Dimensions are optional

## **KF.7 [ADDED] RUNNING RIGGING**

### KF.7.1 MATERIALS

- (a) See C.9.10.

### KF.7.2 CONSTRUCTION

#### (a) MANDATORY

See KC.9.10.

#### (b) OPTIONAL

See KC.9.10.

### KF.7.3 FITTINGS

- (a) Fittings are optional

### KF.7.4 DIMENSIONS

- (a) Dimensions are optional

## **KF.8 [ADDED] HEADSAIL BOOM**

### KF.8.1 MANUFACTURER

- (a) Manufacturer is optional.

### KF.8.2 MATERIALS

- (a) Materials are optional .

### KF.8.3 CONSTRUCTION

- (a) Construction is optional

#### KF.8.4 FITTINGS

- (a) Fittings are optional.

#### KF.8.5 DIMENSIONS

- (a) Dimensions are optional

### KG Sails

#### G.2.3 [AMENDED] SAILMAKER

- (a) No licence is required.

#### G.3.1 IDENTIFICATION

- (c) [AMENDED] The national letters and sail numbers shall comply with the RRS, but as an alteration to RRS APPENDIX G1.2 b), the national letters and sail numbers shall be of the following minimum dimensions:

Height	250mm ± 20mm
Thickness	30mm ± 10mm
Space between adjoining letters and numbers	45mm ± 10mm

#### KG.3.2 CONSTRUCTION

- (a) [AMENDED] The construction shall be: **soft sail, single ply sail** and the **body of the sail** shall consist of **single ply**.
- (c) [ADDED] 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, one **window**, tell tales, sail shape indicator stripes and items as permitted or prescribed by other applicable *rules*.
- (d) [ADDED] The **leech** shall not extend aft of straight lines between:
  - (1) the **aft head point** and the intersection of the **leech** and the upper edge of the nearest **batten pocket**,
  - (2) the intersection of the **leech** and the lower edge of a **batten pocket** and the intersection of the **leech** and the upper edge of an adjacent **batten pocket** below,
  - (3) the **clew point** and the intersection of the **leech** and the lower edge of the nearest **batten pocket**.

#### KG.3.3 [AMENDED] MATERIALS

- (a) The **ply** fibres material is optional
- (b) Materials of **stiffenings**, cornerboards, sail reinforcements and battens are optional.

#### KG.3.4 [AMENDED] DIMENSIONS

	minimum	maximum
<b>Leech length</b>	4950mm	5150mm

	minimum	maximum
<b>Leech length</b>	4950mm	5150mm
<b>Half width</b>		1333mm
<b>Three-quarter width</b>		804mm
Upper width at upper leech point 500mm from <b>head point</b>		372mm
<b>Top width</b>		72mm
Batten pocket length: uppermost pockets: outside		480mm
intermediate and lowermost pockets: outside		680mm
Batten pocket width: outside		60mm
<b>Primary reinforcements</b>		800mm
<b>Secondary reinforcements</b>		800mm

KG.4.1 [AMENDED] CONSTRUCTION

- (a) The construction shall be: **soft sail, single ply sail** and the **body of the sail** shall consist of single **ply**.
- (b) The following are permitted: Stitching, glues, tapes, corner eyes, hanks, batten pocket elastic, **batten pocket patches**, batten pocket end caps, leech line with cleat, **windows**, tell tales, sail shape indicator stripes and items as permitted or prescribed by other applicable *rules*.

KG.4.2 [AMENDED] MATERIALS

- (a) The **ply** fibres material is optional.
- (b) Materials of **stiffenings**, cornerboards, sail reinforcements and battens are optional.

KG.4.3 [AMENDED] TYPES OF HEADSAILS

- (a) Standard headsail. No limitations of use.
- (b) Headsail boom **headsail**. Use is limited to together with a **headsail boom**.

KG.4.4 [AMENDED] DIMENSIONS OF STANDARD HEADSAIL

	minimum	maximum
<b>Foot length</b>	mm	1716mm
<b>Three-quarter width</b>	mm	437mm
<b>Half width</b>	mm	827mm
<b>Top width</b>	-	40mm
<b>Number of battens</b>		3
<b>Batten pocket or batten length:</b>		
<b>outside</b>	-	400mm
<b>Batten pocket width:</b>		
<b>outside</b>	-	60mm
<b>Head point to intersection of leech and centreline of uppermost batten pocket</b>	700mm	mm
<b>Clew point to intersection of leech and centreline of lowermost batten pocket</b>	700mm	mm

	minimum	maximum
<b>Primary reinforcement</b>		600mm
<b>Secondary reinforcement:</b>		600mm

KG.4.5 [ADDED] DIMENSIONS OF HEADSAIL BOOM HEADSAIL

	minimum	maximum
<b>Foot length</b>	mm	1482mm
<b>Three-quarter width</b>	mm	468mm
<b>Half width</b>	mm	850mm
<b>Top width</b>	-	40mm
<b>Number of battens</b>		3
Batten pocket or batten length:		
<b>outside</b>	-	400mm
Batten pocket width:		
<b>outside</b>	-	60mm
Head point to intersection of leech and centreline of uppermost batten pocket	700mm	mm
Clew point to intersection of leech and centreline of lowermost batten pocket	700mm	mm
<b>Primary reinforcement</b>		600mm
<b>Secondary reinforcement</b>		600mm

## Section K1 – Hull, internal structure and rudder specifications

### J.1 HULL

- |     |  |                |  |
|-----|--|----------------|--|
| (1) | Profile drawing                              | Drawing number | 1  |
|     | Showing                                      |                |  |
|     |  |                | <ul style="list-style-type: none"><li>• definition of base line</li><li>• definition of floor and floor level</li><li>• permitted long ships tolerances of internal structure</li><li>• placing of <b>keel</b> profile templates</li><li>• placing of cross section templates of <b>hull</b> and <b>keel</b></li></ul> |
| (2) | Cross section of <b>hull</b> and <b>keel</b> |                | 2  |
|     | Showing                                      |                |  |
|     |  |                | <ul style="list-style-type: none"><li>• definition of floor and floor level</li><li>• definition of deck measurement point</li><li>• permitted athwartship tolerances of internal structure</li></ul>  |
| (3) | Cross section templates                      |                | 3  |
|     | Definition of templates at                   |                |  |
|     |  |                | <ul style="list-style-type: none"><li>• Section A</li><li>• Section 0</li><li>• Section 1</li><li>• Section 2</li><li>• Section 3</li><li>• Section 4</li><li>• Stern template</li></ul>   |
| (4) | <b>Keel</b> section templates                |                | 4  |
|     | Definition of templates                      |                |  |
|     |  |                | <ul style="list-style-type: none"><li>• Vertical template</li><li>• Horizontal template 400mm below base line</li><li>• Horizontal template 600mm below base line</li><li>• Leading and trailing edges</li></ul>   |
| (5) | Rudder templates                             |                | 5  |
|     | Definition of templates                      |                |  |
|     |  |                | <ul style="list-style-type: none"><li>• Profile</li><li>• Cross section 1</li></ul>  |

- Cross section 2
- Leading and trailing edges

(6) Rudder templates of small **rudder** 6

Definition of templates

- Profile
- Cross section 1
- Cross section 2
- Leading and trailing edges

## SECTION K2 – REQUIREMENTS FOR OLD NORLIN MARK III BOATS BUILT BEFORE 2010-01-01

### K2.1 SCOPE

In order to be approved as a 2.4 One-Design Division Boat, the boat shall meet the following requirements:

- 1 The boat shall have been built before 2010-01-01.
- 2 The **hull** of the boat shall have been built in moulds which were produced from the first “Master Plug Boat” of the Norlin Mark III design.\*
- 3 The boat shall have a valid 2.4mR Certificate
- 4 The boat shall after been checked against requirements in Section K have been found to meet these requirements.  
\*Hulls built in moulds which were produced from a properly built **hull** according to 2 above may even be accepted.

### K2.2 COMPLIANCE WITH SPECIFICATIONS IN SECTIONS KC - KF

Before approving a Norlin mark III boat built before 2010-01-01 it shall be checked that the **boat** complies with specifications in Sections KC – KF referred to in the table below, where amended requirements are given.

Specification	Appliance
KC.4.1	Applies
KC.5.1	Applies
KC.5.3	Applies
KC.6.1-6.2	Apply
KC.7.2-7.3	Apply
KC.8	Applies
KC.9.2-9.30	Apply
KD.2.1	Applies
KD.2.3	Applies (The sticker in (b) will be issued after approval)
KD.2.4(a), (c), (d) and (e)	Apply
KD.5.1	Applies
KD.6	Applies
KD.9	Applies
KE.4.1	Applies
KE.4.3-4-4	Apply
KE.5.1	Applies
KF.1.2	Applies
KF.2.3-2.5	Apply
KF.3.1	Applies but also wood is permitted
KKF.3.3	Applies
KF.3.4	Applies, but dimensions of <b>spreaders</b> and positions of <b>spreaders</b> and shrouds do not apply for masts built before

	2010-01-01.
KF.4.1	Applies but even wood is permitted
KF.4.3-4.4	Apply
KF.5.1-5.4	Apply
KF.6.1	Applies
KF.6.2	Applies, but mast without lower shrouds is permitted
KF.6.3-6.4	Apply
F.8.1-8-5	Apply

### K2.3 CHECKS OF THE HULL BY TEMPLATES.

The templates and their positions are defined in Section K1

Clearance to templates at:	minimum	maximum
Section A		
Template placed perpendicular to the water line	0	2mm
Section 0		
Template placed perpendicular to the water line	0	2mm
Section 2		
Template placed perpendicular to the water line	0	2mm
Section 4		
Template placed perpendicular to the water line	0	2mm
Underside of keel at section 2		
Template placed perpendicular to the water line	0	2mm
Keel profile at 400mm below the base line		
Template placed parallel to the water line	0	2mm
Keel profile at 600mm below the base line		
Template placed parallel to the water line	0	2mm
Aft most part of stern foil template		
Placed on the stern $\pm$ 100 from centre plane	0	2mm
Leading and trailing edges of the keel	0	1mm
Rudder profile template	0	5mm
Rudder cross section templates 1 and 2	0	2mm
Leading and trailing edges of the <b>rudder</b>	0	1mm
Small rudder profile template	0	10mm
Small rudder cross section templates 1 and 2	0	3mm
Leading and trailing edges of the small <b>rudder</b>	0	1mm

### K2.4 ADDITIONAL CHECKS

See Drawing K1, 1

Item	Ideal dim	Min	Max
LOA	4181mm	4179mm	4183mm
Distance from section 0 to aft end of <b>hull</b>	648mm	641mm	649mm
Distance between the fore end of the <b>fore triangle base</b> and the fore end of the <b>hull</b>	0 - 10mm	0mm	80mm

Beam of <b>hull</b> at <b>sheerline</b> at section 0		570mm	578mm
Beam of <b>hull</b> at <b>sheerline</b> at section 2		800mm	813mm
Beam of <b>hull</b> at <b>sheerline</b> at section 4		302mm	306mm
Distance between section 0 and the fore end of the deck hole for the mast			2043mm
Chain girth measure at section 2 from <b>sheerline</b> to <b>sheerline</b> round the <b>keel</b>			2752mm

Visual checks shall be made to see that the **hull** shape has not been changed by application of fillers or by grinding. In such cases the **hull** shape shall be restored to its original shape. When in doubt even templates in the sections 1 and 3 shall be checked, where relevant. The same tolerances as for cross sections 0, 2 and 4 apply.

## **Section K3 – Flotation check**

### **K3.1 CONDITION OF THE BOAT**

The **boat** shall be in racing condition according to Rule C.5.1 and with an additional weight of 35kg when the check is done in salt water. The weight may be altered to 28kg when the check is done in fresh water.

Hatches to the watertight tanks, if any, shall be opened in order to let the tanks to be filled with water.

### **K3.2 EXECUTION OF THE CHECK**

The boat shall be filled with water and tilted over to starboard, to port, to the bow and to the stern in order to let the air enclosed under deck and other parts of the hull to come out.

### **K3.3 REQUIREMENTS**

The boat shall float in an approximately horizontal position. Neither the stern nor the bow shall have tendencies to sink under the water level.

## **Section K4 – Procedure when measuring centre of gravity of the boat**

### **K4.1 CONDITIONS**

The **boat** shall be in the same condition as when weighing it according to C.5.1.

The **mast** shall be placed in its position for racing. The **boom** shall be attached to the **mast** and be placed with its aft end on deck in the centre plane of the boat. The main sail shall be placed parallel to the boom and the jib placed on the fore deck.

The **boat** shall be hanging in a lifting rope going between the two lifting eyes.

### **K4.2 MEASURING PROCEDURE**

The position of the hook on the lifting rope shall be adjusted in order to have the **boat** hanging in a horizontal position. This can be checked by placing a water-level in the centre plane of the boat from the forward cockpit frame to the aft cockpit frame with a 1 mm shim plate between the water-level and the aft frame.

A plummet is hanged in the hook as low as possible near the floor. The centre of gravity is measured horizontally from the section 0, which is permanently marked on the **sheerline**, to the line of the plummet.

The location of corrector weights may be a mean to give the **boat** the right centre of gravity.