

Class 40' Box-Rule: Additional 2007 clauses in red

BASIC RULES

This box-rule applies to monohull yachts with the aim of racing offshore in real time.

A monohull is a boat with a single flotation plane at rest or under sail, whose hull depth in any transversal section shall not decrease towards the centre-line.

The current ISAF (RRS, ERS and OSR) rules apply.

The Class 40 Class Rules for Monohulls are the open type set out in Paragraph C.3.3 of the ERS (Rules of Equipment for Sailing boats), meaning that anything that is not expressly forbidden, limited or enforced, is authorized.

The official language of the class is French.

Class 40 monohulls are destined for offshore competition.

Skippers should note that their piloting is not without danger under certain sailing conditions, and that the decision to race is theirs alone, to enforce Article 4 of the RRS.

The safety of the boat and its crew is the inalienable responsibility of the sole owner, or its skipper, which must ensure that the yacht is in a good condition all over, perfectly seaworthy, and that it is manoeuvred by an experienced crew, which has taken the appropriate training and is physically capable of confronting the bad weather.

To enforce article 3 (c) of the RRS and whatever the circumstances of the possible accident, no legal responsibility can be sought from whatever party as regards the ISAF, the ANM (FFVoile), Class 40, or an official measurer of the present rules.

The class must respect the conditions set out in Category C of the Publicity Code of the ISAF Ruling (Chapter IV; 20).

The production Class 40 and prototypes will share a common ranking.

The results of the 90° test and the weight of the boats can be referred to at the class secretariat.

All boats without exception may be the subject of random scrutineering (possibly at the expense of the offender). Any modification affecting the class measurement should be signaled to the class measurer.

Routing is forbidden in competition.

Chapter 1

GENERAL CHARACTERISTICS

100. GENERAL REMARKS

The boat must comply with all aspects of the 'NF EN ISO 12217 Small Craft- Stability and Buoyancy Assessment and Categorisation - part 2: Sailing boats of hull length greater than or equal to 6m' for design category A, as well as the requirements set out in the OSR for Sailing Category 1.

In the event of conflict between the OSR and the NF EN ISO 12217 standard, the latter will prevail.

These rules are modified in the following way:

->ISO 12217-2 : 6.3.2 'Alternative requirement for categories A & B' does not apply.

See 301. of these rules

-> OSR Cat :

- 'ABS certification', does not apply.
 - a) 3.03.1 b) 'IMS Stability Index' does not apply.
 - b) 3.04.3 'Stability Standards', replace 'can' by 'must'. See 301 of these rules.
 - c) 3.04.4 'Companionway' does not apply, replaced by the restrictions noted in the ISO
 - d) 3.08.3 12217-2 standard: 6.2.2.2
 - e) 3.14.3a
 - f) 3.14.7 'Pulpit position', modified, see 403 of these rules.
 - 'Pushpits/Pulpits, stanchions, guardrails', modified, see 403 of these rules
 - g) 3.19.1 'Bunks', modified, see 104 of these rules.
 - h) 3.21.1 'Drinking water', does not apply.

 - i) 4.01.2 'Hull marking'. Modified, see 307 of these rules
 - j) 4.26.4 f 'Working jib'. Modified, see 212.04 of these rules.
 - k) Annexe H 'Organisation of Ocean Races. Does not apply.
- RRS
- a) 50.4 'Foresails', modified. See 212.03.01 of these rules.
 - b) 51. 'Moveable ballast'. Does not apply.

101. APPENDAGES

The appendages are limited to a single fixed keel when sailing and a maximum of two moveable appendages. Note: daggerboards are forbidden.

102. RIGGING

Rotating and canting masts are not allowed.

Stays, backstays, runners and shrouds (permanent and temporary) must be fixed to the chainplates situated inside the natural intersection of the hull and deck extension.

A tolerance of 20 mm is acceptable for attached chainplates.

Deck spreaders are forbidden.

103. SAIL AREA

The number of sails on board is limited to 8, including the storm jib and the storm try sail. **Solely the 8 onboard sails at the start may be used during a race.**

All the materials other than woven or laminated polyester materials are forbidden in the manufacture of the mainsail and the genoa/jib, with the exception of two sails, which can be made from any material.

Carbon battens and carbon batten pockets are forbidden

All materials other than Nylon are prohibited in the manufacture of spinnakers.

The mainsail must bear the Class 40 insignia, which must be obtained exclusively from the Class 40.

104. INTERIOR FIXTURES

In addition to the OSR rules Cat 1, there must be on board:

- 1 chart table installed in a permanent way.
- a minimum of 4 berths must be installed in a permanent way **(save for articulating berths) and measure a minimum of 1.8m x 0.5m in size.**
- **A minimum of two roof portlights providing lateral visibility (of clear glass) measuring a minimum combined area of 0.2m² outside the companionway.**
- **WC: fixed and usable**
- **Fixed water tanks containing a combined minimum of 40l**
- **A limited number of additional water bottles, specified for each race, may be carried.**

Chapter 2

DIMENSIONS:

200. DIMENSIONS

The dimensions that must be measured in compliance with the NF EN ISO 8666 standard are indicated by the name EN/ISO 8666 followed by the relevant chapter.

201. LOADING CONDITION

The boat loading condition for the measurement trim is the Light Craft Condition LCC (in conformity with 6.3 of the EN ISO 8666 standard and 3.5.1 of the EN ISO12217-2 standard) **excluding** the mooring gear (anchor, chain and mooring line) and the loose external equipment (fenders, warps, mooring lines), **sails, batteries (except for an engine start battery measuring a maximum of 60 Amp) and the liferaft.**

202. HULL LENGTH (L_h): (EN/ISO 8666 5.2.2)

The hull length must not exceed 12.19 m.

Reminder : This measurement does not include rudders and their fittings, bobstay fittings, devoid of devices designed to lengthen the waterline, nor pulpits and pushpits, solar panels and wind vane autopilots.

203. Maximum BEAM (B_{max}): (EN/ISO 8666 5.3.2)

The maximum beam must not exceed 4.50m.

204. Maximum DRAFT (T_{max}): (EN/ISO 8666 45.4.4.1)

The maximum draft must not exceed 3.00m in measurement trim.

205. Average FREEBOARD (m FB)

The average freeboard must not be lower than 1.10m in measurement trim.

The average freeboard is obtained by dividing the vertical projected surface of the upperworks (as far as the sheer line, such as is defined in the EN/ISO 8666) by the hull length (Lh).

206. DISPLACEMENT

The boat weight must not be lower than 4500 kg in loaded condition as defined in 201.

Internal pig ballast (except 'official' pig ballast from the boat's weigh-in), decided upon by the class measurement committee, **will be situated in the boat's outermost compartments.**

207. BALLASTS

207.01 SOLID BALLAST

Reminder: See OSR 2.03.2a

207.02 Liquid ballast:

The maximum volume of transferable liquid ballast is 1500 l, symmetrically distributed (750 l on each side). **The ballast tanks are fixed.**

208. MAST (Highest point)

A band measuring a minimum of 25mm in width in a contrasting colour must be affixed around the top of the mast. The lower part of this band will be situated at a height of 19 m above the water surface when the boat is loaded. No point of any set sail may be situated above the lower part of this band.

In the absence of such a band, the high point will be the highest point of the tube making up the mast.

209. BOOM AND MAINSHEET TRAVELLER TRACK

The aftermost part of the boom must be at least 80cm forward of the aftermost point used to determine the Lh, whatever the trim of the mainsail.

No part of the mainsheet traveller track can be further than 1.25 m from the rear of the boat (dispensation for the grandfather clause for boats launched before 31/01/2007).

210. BOWSPRIT

Once in position, the forward extremity of the bowsprit must not exceed the forward extremity of the boat by over 2.00m of the most forward point used to determine the Lh.

The bowsprit must be retractable (dispensation until 31/12/2007 for the grandfather clause, but solely for boats launched prior to 31/01/07)

211. SPINNAKER POLE

Once in position, the forward extremity of the pole must not exceed the most forward point used to determine the Lh by over 2.00m.

212. SAILS

The true surface area, mainsail + maximum genoa/jib (*see definition in 212.03.01*), must not exceed 115 m².

212.01 REMINDERS AND GENERAL POINTS

212.01.01 The ERS Rules and the layout of Annexe G of the ISAF RRS rules (size and positioning of the sail numbers) fully applies.

212.01.02 The sail numbers are distributed by the Class 40 in chronological order of the requests.

212.02. Mainsail measurement

212.02.01 The sail area of the mainsail (SMGV/MMSS) is given by the formula:

$$\text{SMGV/MMSS} = \text{Luff} * (\text{HB} + 2 * \text{MGT} + 3 * \text{MGU} + 4 * \text{MGM} + 4 * \text{MGL} + 2 * \text{sail foot}) / 16$$

212.02.02 Height

Luff (ERS G.7.3)

212.02.03 Girths

*HB is the girth of the mainsail head (ERS G.7.8)

- MGT, is the upper girth (ERS G.7.7).

Definition: The upper point of the leech is the point on the **leech** that is equidistant from the **halyard point** and the **three quarter way point**.

.-MGU is the girth at the three quarter way point (ERS G.7.6).

.-MGM is the girth at the middle distance point (ERS G.7.5).

.-MGL is the girth at the quarter distance point (ERS G.7.4).

212.02.04 BASE

Sail foot (ERS G.7.1).

212.02.05 The distance between the mid-foot point (ERS G.5.6.a) and the right, passing via the mainsail tack and sheet points must not exceed 0.15 metres.

212.03 Measurements of the genoa/jibs

212.03.01 A genoa/jib is a triangular shaped foresail hoisted along a stay, even if this stay isn't the main stay.

A genoa/jib is a foresail whose width in the middle (ERS G.7.5) is less than or equal to 50% of the luff perpendicular (ERS G.7.11).

212.03.02

LP is the luff perpendicular (ERS G.7.11).

JL is the luff length (ERS G.7.3).

212.03.03 The surface area of the jib (SMF) is given by: $SMF = 0.5 \times JL \times LP$

The distance between the mid-foot point (ERS G.5.6.a) and the right, passing via the genoa/jib tack and sheet points must not exceed 0.10 metres.

212.04 Trysail, working jib and storm jib

Refer to 4.26 of the OSR Cat 1 modified as follows:

A reef band is permitted on the working jib.

The trysail must be made from a material weighing a minimum of 9oz.

212.05 Certificate of sail conformity

The sail manufacturer will sign a document (model supplied by the Class 40) certifying the sail materials, measurements and surface area of the mainsail and each genoa/jib, as well as their total conformity as regards the specifications in the RRS and ERS.

Chapter 3

SAFETY

300. STABILITY: (EN/ISO 12217)

Reminder:

The boat must conform with all aspects of the 'NF EN ISO 12217 Small Craft - Stability and Buoyancy Assessment and Categorisation- part 2: Sailing boats with a hull length greater or equal to 6 m' for the design category A'.

This conformity must have been checked by a measurer substantiated by the Class 40. The measurer will supply the class with a test report (or any other document) justifying that the stability has been checked on the vessel concerned or on a specimen type of that series, and stating the results obtained for each of the requirements of the standard.

The validation of the displacement will be made by the weigh-in (see chapter 301).

The validation of the height of the centre of gravity is based on the 90° test defined in chapter 302. Within the framework of this check, the measurer will note down the following measurements on his report: Lh, Bmax, Tmax, average freeboard, top point of the mast, following the procedures file supplied by the Class 40.

301. DISPLACEMENT CONFORMITY

The weigh-in of a loaded boat must have been carried out in the presence of a measurer substantiated by the Class 40, with the help of a weight indicator also substantiated by the Class 40. This person will supply the class with a report of the weigh-in.

302. 1) 90° TEST

This test is aimed at proving that the boat is capable of righting itself from the broached position **with empty ballast tanks.**

It must be completed in the presence of a measurer substantiated by the Class 40.

When heeled at 90 degrees the loaded boat (see 201) is kept in this position with the aid of a strop passed around the mast at the level of the band at the top point of the mast, **that is 19m** (see 208 of the present rules). **The tension exerted on the strop must be a minimum of 220 kgf and a maximum of 320 kgf.**

If the mast band is placed at under 19m of elevation, the tension on the strop may satisfy the same maximum righting moment. (Designer must supply a calculation notice)

The boat is considered to be heeled at 90 degrees when the aftermost points of the sheer line are situated on the same vertical plane.

A certificate signed by the architect specifying the least favourable ballast configuration must be supplied prior to the test being performed.

303. WATERTIGHT BULKHEADS

A watertight collision bulkhead must be installed at least 15% from the LWL aft of the Lh extremity as well as the bow and aft of the forward extremity of the waterline. A watertight bulkhead must be installed forward of the rudder stock(s) and a minimum of 1m forward of aft extremity of the Lh.

304. COMBINED VOLUME OF THE DECK CAMBER AND THE COACHFOOF

Its minimum volume, measured from the plan passing via the sheer lines (such as is defined in the EN/ISO 8666), must be at least equal to the boat's maximum beam expressed in m³. The presence of a coachroof is obligatory.

A certificate signed by the architect mentioning this volume must be supplied.

305. BUOYANCY VOLUMES

A minimum of 3 m³ of closed-cell foam is required. This volume, divided into a minimum of 4 compartments, must be distributed symmetrically around the boat's centre of gravity. The volume of the sandwich hull lining may be included in this volume of foam (but not the volume of the deck lining, nor that of the bulkheads).

The skipper must supply a file showing the detail and the distribution of the buoyancy volumes signed by the architect, the constructor and by his/herself.

306. PROPULSION

An engine, a transmission fixed at a minimum power of 20 kW and a propeller must be installed.

307. HULL MARKING

The sail number (without its route) must be very clearly inscribed once on the deck (at a minimum height of 450 mm) and once each side of the hull (at a minimum height of 650 mm).

308. SAFETY MATERIALS

Compulsory onboard ground tackle including a 16 kg anchor, 25 m of chain measuring a minimum of 8 mm in diameter and 30 m of Nylon warp measuring a minimum diameter of 14 mm. This so called 'safety' ground tackle must be permanently installed in the boat with dedicated stowage. The latter will be sealed.

Reminder:

The onboard equipment must conform with the OSR ruling for the relevant race category, such as is modified by the present rules.

Chapter 4

COST LIMITATION

Coffee grinders are forbidden

- MATERIALS -

The use of titanium is forbidden

401. HULL, DECK, INTERIOR STRUCTURE AND FITTINGS

Materials forbidden in the construction of the hull, deck, the interior structure and fittings are:

-> Fibres: Carbon fibre, Aramid fibre **and any glass fibre where the maximum tensile strength is in excess of 3800 MPa.**

-> Sandwich cores : Nomex honeycomb cores.

Aluminium alloy honeycomb cores

402. CHAINPLATES

Titanium and carbon are forbidden.

403. STANCHIONS AND PULPITS

All materials other than steel are forbidden.

OSR 3.14.3a): delete the terms “forward of the headstay” in the official English version.

404. BALLAST

Materials denser than lead are forbidden.

405. RUDDERS AND RUDDER SYSTEMS, KEEL FIN.

Forbidden materials are:

- Carbon fibre
- Titanium
- Nomex or aluminium alloy honeycomb cores.

The milling of metal keel fins is forbidden.

406. MAST, BOOM, SPINNAKER POLE, BOWSPRIT

Forbidden materials are:

- Titanium
- Carbon fibre with a tensile Modulus greater than 245 GPa (verification from the manufacturer obligatory)

407. LATERAL STANDING RIGGING

All materials other than steel are forbidden.

- CONSTRUCTION -

408. EQUIPMENT

-Batteries are exclusively lead (acid or gel)

-Carbon winches are forbidden

-Halyard hooks are forbidden

409. HULL, DECK, INTERIOR STRUCTURE AND FITTINGS

Construction using pre-preg materials for the construction of the hull, deck, interior structure and fittings is forbidden.

END