X-35 One Design
Designed in 2005
By X-Yachts A/S

Approved by the International Sailing Federation

X-35 One Design Class Rules 14 November 2006
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X-35 One Design hulls, hull appendages and rigs are manufacturing controlled and the sails are measurement controlled.

X-35 One Design hulls, hull appendages and rigs shall only be manufactured by X-Yachts A/S or by manufacturers licensed by X-Yachts A/S. Equipment is required to comply with the International X-35 One Design Building Specification.

X-35 One Design hulls, hull appendages, rigs and sails, after having left the manufacturer, shall only be altered to the extent permitted in Section C of the class rules.

Owners and crews should be aware that compliance with rules in Section C is NOT checked as part of the fundamental certification.

Rules regulating the use of equipment during a race are contained in Section C of these class rules, in ERS Part I, ISAF Offshore Special Regulation and in the Racing Rules of Sailing.

This introduction only provides an informal background and the X-35 One Design Class Rules proper begin on the next page.

The X-35 One Design hull and deck, rig and hull appendages will be in-house certified.
PART I – ADMINISTRATION

Section A – General

A.1 LANGUAGE
A.1.1 The official language of the class is English and in case of dispute over translation the English text shall prevail.
A.1.2 The word “shall” is mandatory and the word “may” is permissive.

A.2 ABBREVIATIONS
A.2.1 ISAF International Sailing Federation
MNA ISAF Member National Authority
ICA X-35 International Class Association
RCA Regional Class Association
ERS Equipment Rules of Sailing
RRS Racing Rules of Sailing
OSR ISAF Offshore Special Regulations

A.3 AUTHORITIES
A.3.1 The international authority of the class is the ISAF which shall cooperate with ICA in all matters concerning these class rules.
A.3.2 Notwithstanding anything contained herein, the certification authority has the authority to withdraw a certificate and shall do so on the request of the ISAF.

A.4 ADMINISTRATION OF THE CLASS
A.4.1 ISAF has delegated its administrative functions of the class to MNAs. The MNA may delegate part or all of its functions, as stated in these class rules, to an RCA.
A.4.2 In countries where there is no MNA, or the MNA does not wish to administrate the class, its administrative functions as stated in these class rules shall be carried out by the ICA which may delegate the administration to an RCA.

A.5 ISAF RULES
A.5.1 These class rules shall be read in conjunction with the ERS.
A.5.2 Except where used in headings, when a term is printed in “bold” the definition in the ERS applies and when a term is printed in “italics” the definition in the RRS applies.

A.6 CLASS RULES VARIATIONS
A.6.1 At Class Events – see RRS 88.1.d) – ISAF Regulation 26.5(f) applies. At all other events RRS 86 applies.

A.7 CLASS RULES AMENDMENTS
A.7.1 Amendments to these class rules
A.8  CLASS RULES INTERPRETATION
A.8.1 Interpretation of class rules shall be made in accordance with the ISAF regulations

A.9  INTERNATIONAL CLASS FEE AND ISAF BUILDING PLAQUE
A.9.1 The licensed hull builder shall pay the International Class Fee.
A.9.2 ISAF shall, after having received the International Class Fee for the hull, send the ISAF Building Plaque.
A.9.3 Section A.9 will first come into effect after the class has been recognized by ISAF.

A.10  SAIL NUMBERS
A.10.1 Sail numbers shall be issued by the MNA.
A.10.2 National letters and sail numbers shall conform to the current RRS Appendix on “Identification on Sails”.
A.10.3 It is preferred to use the build number of the X-35 as sail number preceded by the national letters, e.g. build No 101 from Denmark “DEN 101”, except where the MNA has its own sail number system.

A.11  HULL CERTIFICATION
A.11.1 A certificate shall record the following information:
   (a) Class
   (b) X-Yachts A/S and the Danish sailing federation (DS)
   (c) Sail number issued by the certification authority
   (d) Owner
   (e) Hull identification
   (f) Builder/Manufacturers details
   (g) Date of issue of initial certificate
   (h) Date of issue of certificate

A.12  INITIAL HULL CERTIFICATION
A.12.1 A separate measurement form will be issued to the hull and spars upon completion and measurement by the builders:
   (a) Certification control shall be carried out by the official measurer who shall complete the appropriate documentation.
A.13 VALIDITY OF CERTIFICATE
A.13.1 A hull certificate becomes invalid upon:
   (a) significant repair or replacement to the hull, keel, rudder or spar and the change to any items recorded on the hull certificate as required under A.11.
   (b) the date of expiry
   (c) withdrawal by the certification authority
   (d) the issue of a new certificate
   (e) change of ownership

A.14 HULL RE-CERTIFICATION
A.14.1 The certification authority may issue a certificate to a previously certified hull:
   (a) when it is invalidated under A.13.1(a), (b) or (e), after receipt of the old certificate, and certification fee if required
   (b) when it is invalidated under A.13.1 (c), at its discretion
   (c) in other cases, by application of the procedure in A.12.

A.15 RETENTION OF CERTIFICATION DOCUMENTATION
A.15.1 The authority shall:
   (a) retain the original documentation upon which the current certificate is based.
   (b) upon request, transfer this documentation to the new certification authority if the hull is exported.

A.16 OWNER’S OBLIGATION
A.16.1 A copy of the X-35 One Design Certificate shall be kept on board the yacht while racing.
Section B – Boat Eligibility
For a boat to be eligible for, it shall comply with the rules in this section.

B.1 CLASS RULES AND CERTIFICATION

B.1.1 THE BOAT SHALL:
(a) be in compliance with the class rules.
(b) have a valid hull certificate.
(c) have valid certification marks as required
(d) have Builders Plaque

B.2 CLASS ASSOCIATION MARKINGS

(a) A valid Class Association Sticker, if required by the RCA or the ICA, shall be affixed to the hull certificate.
(b) Sails other than the storm trysail and storm jib shall carry a Class Association Sail Sticker.
PART II – REQUIREMENTS AND LIMITATIONS

The crew and the boat shall comply with the rules in Part II when racing. In case of conflict Section C shall prevail. The rules in Part II are closed class rules. Certification control and equipment inspection shall be carried out in accordance with the ERS except where varied in this Part.

Section C – Conditions for Racing

C.1 RULES
(a) RRS 50.4 shall not apply.
(b) The boat shall be equipped to the minimum standard ISAF Offshore Special Regulations category IV, or the category which is specified by race organizers, whichever is greater, shall be carried on the X-35 One Design while racing.
(c) The ERS Part 1 – Use of equipment shall apply except were deleted or amended as modified by these rules

C.2 CREW
Section C2 shall only apply to official X-35 class events as published by the X-35 class association. Sections C.2.3 and C.2.4 will only apply from 01.01.2007.

C.2.1 LIMITATIONS
(a) The ISAF Sailor classification, Reg 22, shall apply. The crew shall consist of no more than 2 persons either unclassified or classified Group 3. All other crew shall hold a valid Group 1 or Group 2 classification. Competitors without a current classification, or whose employment circumstances have changed, may apply for a new certificate electronically from the ISAF website www.sailing.org/isafsailor.
(b) The crew shall consist of minimum 5 persons.
(c) No crew member shall be substituted during an event, unless substitution is authorized by the Race Committee.

C.2.2 WEIGHTS
In One Design Class events the maximum weight of the crew dressed in swimwear shall not exceed 640 kg at weigh-in prior to the start of a regatta.
C.2.3 STEERING
Owners and Group 1 crew members may steer the yacht. Except for emergencies involving safety of the yacht or crew, Group 2 or Group 3 competitors are prohibited from steering while racing in sanctioned One Design Class events, or in any One Design Class racing.

C.2.4 OWNERS
For purposes of C.2.3, owners shall be defined as members of the X-35 One Design Association and shall hold legal ownership interest in the boat being steered (of at least 30% of fair market value of the new or brokerage boat price for Group 2 competitors and 50% of fair market value of the new or brokerage boat price for Group 3) evidenced by appropriate documentation. The appropriate documentation has to be provided to the regional/national class organisation by the owner (Group 2 or 3) at least 2 month before participation in an official X-35 one design class event, in which the X35 class rules apply. For purposes of 1.2, chartering a boat does not constitute ownership. In the case of a chartered boat, only Group 1 competitors or Group 2 and 3 Owners shall be permitted to steer during sanctioned One Design Class events or in any One Design Class racing.

C.3 PERSONAL EQUIPMENT
C.3.1 MANDATORY
As per the Offshore Special Regulations

C.3.2 TOTAL WEIGHT
The total weight of each competitor’s clothing and equipment shall not exceed 10 kg.

C.4 ADVERTISING
C.4.1 LIMITATIONS
Advertising shall only be displayed in accordance with Category C of the ISAF Advertising Code.

C.4.2 In addition to advertising permitted in C 4.1 the Class may request the following:
(a) The boat type to be displayed on each side of the coaming as fitted by the builder
(b) The builders name and logo to be displayed on each side of the cabin roof as fitted by the builder
(c) The Class International board may request display of event advertising on the hull within ISAF Advertising Code 20.3 (d).

C.5 PORTABLE & OPTIONAL EQUIPMENT
C.5.1 FOR USE
(a) MANDATORY
(1) One main anchor of not less than 10 kg in weight positioned according to drawing appendix H9 and one anchor warp of minimum length 30 m, positioned according to appendix H9. Anchor and warp not to be moved during racing unless for the purpose of anchoring.
Minimum weight of anchor and warp 18.5 kg.
(2) Towing rope minimum 30 m long of not less than 10 mm in diameter.
(3) One mechanical compass
(4) One emergency tiller

(B) OPTIONAL
(1) Electronic or mechanical timing devices
(2) Mooring lines
(3) Electronic navigation devices, charts and other navigational equipment
(4) There are no restrictions on portable equipment carried except were defined elsewhere within these rules
(5) Winch handles
(6) Fixed magnetic compass
(7) Running rigging in accordance with F7
(8) Saloon table and loose seat cushions in saloon may be removed while racing.

The optional items, as specified in section C.5.B, or the amount of fuel and water in the tanks shall not be used for re-trimming, ballasting or alternating fore and aft trim of the yacht for the sole purpose of improving the yacht’s performance for a specific wind range during a series.

C.6 BOAT

C.6.1 WEIGHT
The weight of the boat in dry condition ..................minimum maximum
4490 kg  4590 kg

The weight shall be taken excluding sails
The weight shall be taken with equipment checked and listed by measurer during the official weight measuring. Equipment and installation that can be included in class weight is listed in appendix H7.
A measurement certificate (Appendix H8) shall be onboard, signed by measurer.

C.6.2 CORRECTOR WEIGHTS
(a) Corrector weights of lead shall permanently fastened when the boat weight is less than the minimum requirement.
(b) The corrector weights shall be distributed with 1/3 of total corrector weight permanently mounted under centre shelf in saloon equally divided between port and starboard and 2/3 of total corrector weight permanently mounted under floorboard just behind main bulkhead. Position defined according to Appendix H6.
Permanently mounted is defined as bolted or glued and installation must be approved by measurer.

C.7 HULL

C.7.1 FITTINGS
(a) Hand hole covers and drainage plugs shall be kept in place at all times.
(b) Hull skin fittings shall not be altered in any form or type.
C.7.2 FINISHING AND POLISHING
(a) **Hull** surface may be wet sanded and/or polished. **Hull** lines and curves shall not be altered.
(b) Primer and antifouling is optional
(c) Routine maintenance such as painting, polishing and minor repairs is permitted without new **certification control** and **re-certification**.

C.8 DECK
C.8.1 FITTINGS
(a) Deck fittings as per appendix H1 and H2 shall only be replaced by equipment as specified in appendix H1 and H2 or by equipment that in weight is no lighter than equipment defined in appendix H1 and H2.
(b) Hiking padding on lower guard rail wire is optional.
(c) Routine maintenance such as painting, polishing and minor repairs is permitted without new **certification control** and **re-certification**.
(d) The bathing ladder may be stowed below deck, but shall be on board.
(e) While racing, the cabin roof portlights must be closed.

C.9 HULL APPENDAGES
C.9.1 MODIFICATION, MAINTENANCE AND REPAIR
(a) The **keel** and **rudder** shall comply within the maximum templates as defined in the construction manual and with the following tolerances measured perpendicular to **keel** or **rudder** surface, respectively. The permitted distance between the maximum templates and the **keel** surface is between 0 and 4 mm. The **keel** fin surfaces to be ruled between templates #330 through to #1230.
(b) The permitted distance between the maximum templates and the **rudder** blade surface is between 0 and 4 mm. **Keel** and **rudder** fairing and painting is permitted provided that the dimensions detailed in appendix H4 are met.
(b) Transverse width on keel and rudder in the areas from trailing edge to 15 mm forward of trailing edge is free ie. Not limited by distance to maximum templates as described in C.9.1 a).

C.10 RIG
C.10.1 BUILDER:
- All **spars** including spares and replacements shall be supplied by licenced **spar** supplier and shall comply with Construction manual, approved sparmakers construction details and X-35 One design **class rules**.

C.10.2 MODIFICATIONS AND REPAIR
**Spars** shall not be modified from the approved construction drawings in any way without written approval from the X-35 International Board and X-Yachts A/S.
C.10.3 FITTINGS
All mast fittings and there positioning shall comply with approved construction drawing from supplier and X-Yachts.

C.10.4 Limitations
(a) Only one set of spars and standing rigging shall be used during an event, except when an item has been lost or damaged beyond repair.

C.10.5 Mast
(a) DIMENSIONS
(1) The vertical position of the mast is defined as the distance from the forward bottom edge of the spar profile to the mast lower point forward edge.
   The distance shall be 3069 mm ± 5 mm.
(b) STEPPING
(1) The spar shall be stepped in the mast step as fitted by the builder and the mast step shall not be adjusted.
(2) The mast shall not be adjusted during racing.
(3) The mast foot may only be moved within the standard slots in the mast foot.

C.10.6 BOOM
(a) DIMENSIONS
   minimum maximum
   Limit mark width ............................................ 20 mm
   Boom outer point distance ............................... 4900 mm
(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.

C.10.7 SPINNAKER POLE
(a) DIMENSIONS
   minimum maximum
   Spinnaker pole length ............................................ 4180 mm
   Spinnaker pole cross section ............................. 76 mm
   at half pole length
   Spinnaker pole weight .......................................... 4.6 kg

C.10.8 STANDING RIGGING
(a) DIMENSIONS
   .................................................................
(b) ADJUSTMENT
(1) Rigging links and rigging screws shall not be adjusted while racing.
(c) BACKSTAY
(1) Supplier is optional.
(2) Material shall be HMPE
(3) Dimension shall be minimum 10 mm in diameter
C.10.9 RUNNING RIGGING

(a) MANUFACTURER
   (1) Manufacturer is optional.

(b) Materials
   (2) Materials shall either be polyester or HMPE.

(c) Construction
   (1) MANDATORY

<table>
<thead>
<tr>
<th>Description</th>
<th>QTY</th>
<th>Min Ø non-stripped [mm]</th>
<th>Max length of stripped part [m]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainsail halyard</td>
<td>1</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Mainsail sheet</td>
<td>1</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Mainsail traveller control line</td>
<td>1</td>
<td>8</td>
<td>0</td>
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<tr>
<td>Reefing 1</td>
<td>1</td>
<td>10</td>
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<td>Genoa Halyard</td>
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<td>Genoa sheets</td>
<td>2</td>
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<td>Genoa in-haulers 1</td>
<td>2</td>
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</tr>
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<td>Genoa in-haulers 2</td>
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<td>2,5</td>
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<tr>
<td>Genoa adjusters</td>
<td>2</td>
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<tr>
<td>Combi halyard</td>
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<td>15</td>
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<td>Spinnaker sheets</td>
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<td>10</td>
<td>4,9</td>
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<tr>
<td>Spinnaker tweakers</td>
<td>2</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Spinnaker pole downhaul 1</td>
<td>1</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Spinnaker pole downhaul 2</td>
<td>1</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Backstay control line 1</td>
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<td>8</td>
<td>1,2</td>
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<td>1</td>
<td>6</td>
<td>4,5</td>
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<td>Backstay control line 3</td>
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<tr>
<td>Vang control lines 1</td>
<td>2</td>
<td>6</td>
<td>0</td>
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<tr>
<td>Cunningham control lines 1</td>
<td>2</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Cunningham control lines 2</td>
<td>2</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Mainsail – outhaul lines</td>
<td>2</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

(b) OPTIONAL
   (1) Change or reaching sheet
   (2) Reefing Line 2
   (3) Spinnaker guys
   (4) Headsail Barber haulers capable of modifying the sheeting angle in one direction only of maximum purchase 10:1
   (5) Single line spinnaker Barber haulers capable of modifying the sheeting angle in one direction only of maximum purchase 2:1
   (6) Light air spinnaker sheets
   (7) Shockcord, tape or short ropes may be used to protect blocks, other deck gear and rigging from chafe
   (8) Reeling netting and shockcord for securing **sails** on the foredeck
(9) A short strop with snapschackle at the forestay and/or a combination of two snapschackles to facilitate sail changing and handling

(10) Sail prefeeder(s) to facilitate sail handling

(11) Recommended robe length as per table below:

<table>
<thead>
<tr>
<th>Description</th>
<th>Min length Total m]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainsail halyard</td>
<td>36</td>
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<tr>
<td>Mainsail sheet</td>
<td>38</td>
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<tr>
<td>Mainsail traveller control line</td>
<td>12</td>
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<td>Reefing 1</td>
<td>19</td>
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<td>Genoa Halyard</td>
<td>34</td>
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<tr>
<td>Genoa sheets</td>
<td>12</td>
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<tr>
<td>Genoa in-haulers 1</td>
<td>7,5</td>
</tr>
<tr>
<td>Genoa in-haulers 2</td>
<td>6</td>
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<tr>
<td>Genoa adjusters</td>
<td>14</td>
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<td>Combi halyard</td>
<td>39</td>
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<tr>
<td>Spinnaker sheets</td>
<td>23</td>
</tr>
<tr>
<td>Spinnaker tweakers</td>
<td>7</td>
</tr>
<tr>
<td>Spinnaker pole downhaul 1</td>
<td>23</td>
</tr>
<tr>
<td>Spinnaker pole downhaul 2</td>
<td>1</td>
</tr>
<tr>
<td>Backstay control line 1</td>
<td>1,2</td>
</tr>
<tr>
<td>Backstay control line 2</td>
<td>4,5</td>
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<tr>
<td>Backstay control line 3</td>
<td>20</td>
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<tr>
<td>Vang control lines 1</td>
<td>14</td>
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<tr>
<td>Cunningham control lines 1</td>
<td>9</td>
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<tr>
<td>Cunningham control lines 2</td>
<td>1,5</td>
</tr>
<tr>
<td>Mainsail – outhaul lines</td>
<td>9</td>
</tr>
</tbody>
</table>

(d) Fittings

(1) MANDATORY
   Headfoil or roller furling track with two headsail grooves

(2) MATERIALS
   Headfoil shall either be of plastic or aluminium.

(e) OPERATION

(1) The mainsail sheet shall be led as standard delivered to cockpit aft winches as per deck drawing in Appendix H1. The two ends of the mainsheet may be spliced to form a continuous loop.

(2) The headsail sheet shall be led to cockpit coaming forward winches. A change or reaching sheet may be let to any winch.

(3) The spinnaker sheet and guy shall be led to either halyard winches on cabin roof or to cockpit coaming forward winches.

(4) The spinnaker pole topping lift shall be one of the combi halyards or the genoa halyard and be led to either side of cabin roof to jammer on coach roof as installed per standard and deck drawing in Appendix
H1. In addition, cam cleats (Ronstan RF5020 Midi or equivalent) for the combi and genua halyards may be added to the mast below their exits. These cleats are not intended to carry the full working load of these halyards. Max 3 forward looking halyards shall be installed. One of the three halyards may be led through the spare halyard sheave below the standard genua halyard sheave.

(5) The spinnaker pole downhaul shall be led either to swivels basis both sides on the cabin roof as per deck drawing in Appendix H1.

(6) The kicking strap shall be led to swivel basis on both side of cabin roof as per deck drawing in Appendix H1 and installed per standard equipment.

(7) The mainsail clew outhaul shall be led to swivel basis on both sides of cabin roof as per deck drawing in Appendix H1 and installed per standard equipment.

(8) The mainsail Cunningham control shall be led to swivel basis on both side of cabin roof as per deck drawing in Appendix H1 and installed per standard equipment.

C.11 SAILS

C.11.1 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 minor repairs to batten pockets are permitted without re-measurement and re-certification.

C.11.2 NOT FOR USE
(a) Carbon battens are not permitted

C.11.3 LIMITATIONS
(a) Not more than one mainsail, two Max jibs, one OSR heavy weather jib, two spinnakers and one storm trisail and one storm jib shall be carried aboard.

(b) Not more than one mainsails, two jibs, one OSR heavy weather jib, two spinnakers and one storm trisail and one storm jib shall be used during an event, except when a sail has been lost or damaged beyond repair. In that case a class measurer or race committee shall give his permission to replace damaged sails.

(c) Sails used in a class event shall have the class sail sticker attached and signed as per Appendix H5. Only sails with registered class sail stickers shall be used.

Storm try sail and storm jib do not require class sail sticker.

(d) In addition to the base inventory (1 mainsail, 2 headsails (number 1 jib), 2 spinnakers and 1 ISAF OSR Heavy weather jib), outlined in paragraph G.1. each yacht is permitted four (4) new class sails per calendar year (January 1 to December 31) to be used in that year.

In the first year of racing each yacht is permitted a total of maximum 10 (6+4) sails that require sail sticker according to the class rules.

Unless otherwise specified in the Sailing Instructions, each yacht shall only use registered sails for the duration of the regatta, complying with paragraph C11.3 a & b.
Charterers who do not own an X-35 may purchase an original inventory, plus four sail stickers per year, and transfer sails to different chartered boats.

Charterers and X-35 owners who charter are permitted to transfer their own sails to a chartered boat, or may use sails registered to the chartered boat, but may not combine inventories. X-35 owners cannot charter a boat and purchase a set of charter sails. X-35 owners with multiple boats cannot transfer sail inventories from boat to boat. Transfer of boat ownership to either immediate family members or a non-sailing Owner to increase sail entitlements is not permitted. Swapping of boat ownership between X-35 owners to increase sail entitlement is not permitted. Should a sail be destroyed during a regatta, the owner of the boat or a representative from that boat may apply to the Race Committee for a replacement sail to be registered in place of the destroyed sail.

C.11.4 MAINSAIL
(a) IDENTIFICATION
(1) The national letters and sail numbers shall comply with the RRS except where prescribed otherwise in these class rules
(2) National letters and sail numbers are required on the sail (e.g. NED 35, DEN 35 etc.)

(b) USE
(1) The sail shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the sail at sea.
(2) The highest visible point of the sail, projected at 90° to the mast spar, shall not be set above the lower edge of the mast upper limit mark. The intersection of the leech and the top of the boom spar, each extended as necessary, shall not be behind the fore side of the boom outer limit mark.
(3) Luff ropes or batten cars shall be in the spar groove.

C.11.5 JIB
(a) USE
(1) The sail shall be hoisted on a halyard. If a furling headstay is in use, the sail shall not be furled.

(b) IDENTIFICATION
No identification numbering is required.

C.11.6 SPINNAKER
(a) USE
(1) The sail shall be hoisted on a halyard.

(b) IDENTIFICATION
(1) The national letters and sail numbers shall comply with the RRS except where prescribed otherwise in these class rules
(2) National letters and sail numbers are required on the sail (e.g. NED 35, DEN 35 etc.)
Section D – Hull

D.1 PARTS

D.1.1 MANDATORY
(a) Hull shell
(b) Deck
(c) Bulkheads

D.2 GENERAL

D.2.1 RULES
(a) The hull shall comply with the class rules in force at the time of initial certification.

D.2.2 CERTIFICATION
See Rule A.13.

D.2.3 MODIFICATIONS, MAINTENANCE AND REPAIR
(a) The hull shell, deck, bulkheads shall not be altered in any way except as permitted by these class rules.
(b) Holes not bigger than necessary for the installation of fittings and passage of lines may be made in the hull, deck and bulkheads. Coring, cutting of holes and removal of material for the purpose of changing the inertia of the yacht is not permitted.
(c) Routine maintenance such as painting, filling of minor scratches and polishing is permitted without re-measurement and re-certification.
(d) If any hull moulding is repaired in any other way than described in D.2.3(c), 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.2.4 DEFINITIONS
(a) HULL DATUM POINT
The hull datum point is on centerline at the aft extremity of the hull underside.

D.2.5 IDENTIFICATION
(a) The hull shall carry the Builders Plaque permanently placed in the cockpit.

D.2.6 BUILDERS
(a) The hull shall be built by a builder licensed by X-Yachts A/S.
(b) All moulds shall be approved by X-Yachts A/S.

D.3 HULL, SHELL, DECK AND BULKHEADS

D.3.1 MATERIALS
(a) As specified in the construction manual.
D.3.2 CONSTRUCTION
(a) Shall be built in accordance with the construction manual
(b) No part of the structure shall be altered in any way other than by an approved X-Yachts service agent.
(c) Any major repair after damage should be done in accordance with the original construction manual by an X-Yachts approved service agent.

D.4 INTERIOR FITOUT
D.4.1 MATERIALS
(a) As specified in the construction manual.

D.4.2 CONSTRUCTION
(a) Shall be built in accordance with the construction manual
(b) No part of the standard interior fit out shall be altered in any way other than by an approved X-Yachts service agent.
(c) Any major repair after damage should be done in accordance with the original construction manual by an X-Yachts approved service agent.

D.4.3 EQUIPMENT
(a) All equipment shall be fitted and placed as originally installed by the builder and specified as per construction manual.

D.5 MECHANICAL INSTALLATION
D.5.1 MATERIALS
(a) As specified in the construction manual.

D.5.2 CONSTRUCTION
(a) Shall be built in accordance with the construction manual
(b) No part of the mechanical fit out shall be altered in any way other than by an approved X-Yachts service agent.
(c) Any major repair after damage should be done in accordance with the original construction manual by an X-Yachts approved service agent.

D.5.3 FOR USE
(a) MANDATORY
(1) One inboard engine, Yanmar 3 YM20C, 20 HK (14,8 kW) with Yanmar SD20 sail and an X-Yachts A/S approved 2 bladed folding propeller 16”x12.
The engine may be used only to charge batteries.

D.6 ELECTRICAL SYSTEM
D.6.1 MATERIALS
(a) As specified in the construction manual.

D.6.2 CONSTRUCTION
(a) Shall be built in accordance with the construction manual
(b) No part of the electrical system shall be altered in any way other than by an approved X-Yachts service agent.
(c) Any major repair after damage should be done in accordance with the original construction manual by an X-Yachts approved service agent.
D.7 ASSEMBLED HULL & DECK

D.7.1 FITTINGS

(a) MANDATORY
   (1) Factory fit standard fittings in accordance with the construction manual.
   Fittings shall be positioned as delivered from the factory
   (2) Race package equipment shall only contain fittings as per deck drawing and race package equipment list in Appendix H2 and be placed as defined in deck drawing in Appendix H2.
   (3) Equipment differing from the race package per appendix H2 shall not be lighter in weight compared to components from appendix H2 and shall be placed as defined in deck drawing in Appendix H2.

(b) OPTIONAL
Options listed can be part of the Measurement Certificate
(see also Section C5. and appendix H7):
   (1) Spray hood deck fittings
   (2) 2 Cabinets in saloon
   (3) Cooling compressor
   (4) Heating system
   (5) Hotwater container
   (6) Holding tank installation
   (7) Radio/CD with loudspeakers
   (8) Cockpit loudspeakers
   (9) Unrestricted Electronic Instruments
   (10) Shower in cockpit
   (11) Other permanently mounted equipment such as lee cloth, saltwater system etc.
Section E – Hull Appendages

E.1 PARTS

E.1.1 MANDATORY
(a) Keel
(b) Rudder

E.2 NOT IN USE

E.3 KEEL

E.3.1 RULES
(a) The keel shall comply with the class rules in force at the time of the initial certification of the hull.

E.3.2 CERTIFICATION
(a) The certification authority shall certify keels

E.3.4 MANUFACTURERS
(a) Manufacturers shall be licensed by X-Yachts A/S.

E.3.5 MATERIALS
(a) The keel bulb shall be made of lead.
(b) The keel fin shall be made of cast iron
(c) The keel shall be in capsulated in fibre glass and epoxy.

E.3.6 CONSTRUCTION
(a) The keel shall be manufactured from a pattern approved by X-Yachts A/S.

E.3.7 DIMENSIONS
In accordance with the construction manual.

E.3.8 WEIGHTS
In accordance with the construction manual.

E.4 RUDDER BLADE, RUDDER STOCK

E.4.1 RULES
(a) The rudder blade shall comply with the class rules in force at the time of certification.
E.4.2 MANUFACTURERS
(a) Manufacturers shall be licensed by the X-Yachts A/S.

E.4.3 MATERIALS
(a) The **rudder** blade and **rudder** stock shall be made as per construction manual.

E.4.4 CONSTRUCTION
(a) The **rudder** blade shall be manufactured in a mould approved by X-Yachts A/S in accordance with the construction manual.

E.4.5 DIMENSIONS
(a) In accordance with the construction manual.

E.4.6 POSITION
(a) In accordance to construction manual.

E.4.7 FITTINGS
(a) OPTIONAL
(1) Autopilot

**E.5 WHEEL STEERING SYSTEM**

E.5.1 RULES
(a) Wheel steering system and steering mechanism including the quadrant shall be supplied by and installed by licensed manufacturer in accordance with the construction manual.

(b) Emergency tiller can be mounted on top of **rudder** shaft.
Section F – Rig

F.1 PARTS

F.1.1 MANDATORY
(a) Mast
(b) Boom
(c) Standing rigging
(d) Running rigging

F.1.2 OPTIONAL
(a) Spinnaker pole

F.2 GENERAL

F.2.1 RULES
(a) The spars and their fittings shall comply with the class rules in force at the time of certification of the spar.
(b) The standing and running rigging shall comply with the class rules.

F.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR
(a) Spars shall not be altered in any way except as permitted by these class rules.
(b) Routine maintenance such as cleaning and polishing is permitted without re-measurement and re-certification.

F.2.3 CERTIFICATION
(a) The official measurer shall certify spars and shall sign and date the certification mark.
(b) No certification of standing and running rigging is required.

F.2.4 DEFINITIONS
(a) MAST DATUM POINT
As specified in the construction manual and licensed spar manufacturer’s tolerances.

F.2.5 MANUFACTURER
(a) Licensed by X-Yachts A/S
(b) Replacement spars shall only be supplied by the builder or the Licensed Spar Manufacturer

F.3 MAST

F.3.1 MATERIALS
(a) The spar shall be of anodised aluminium

F.3.2 CONSTRUCTION
(a) In accordance with the construction manual
F.3.3 FITTINGS
(a) MANDATORY
   (1) In accordance with construction manual
(b) OPTIONAL
   (1) Additional instrumentation, lights, wind indicators may be mounted on the mast

F.3.4 DIMENSIONS
(a) In accordance with construction manual.

F.4 BOOM
F.4.1 MATERIALS
(a) The **spar** shall be of anodised aluminium.

F.4.2 CONSTRUCTION
(a) In accordance with the construction manual

F.4.3 FITTINGS
(a) As per construction manual
(b) OPTIONAL
   (1) Second reefing line

F.4.4 DIMENSIONS
(a) In accordance with construction manual.

F.5 SPINNERAKER POLE
F.5.1 MANUFACTURER
(a) Manufacturer is optional.

F.5.2 MATERIALS
(a) The **spar** shall be of either aluminium alloy or Carbon (area of aramid reinforcement are permitted).

F.5.3 CONSTRUCTION
(a) Construction is optional

F.5.4 FITTINGS
(a) Fittings are optional.

F.5.5 DIMENSIONS minimum maximum
   **Spinnaker pole spar cross section** ...................... 76 mm
   **Spinnaker pole length** ........................................ 4180 mm

F.6 STANDING RIGGING
F.6.1 MATERIALS
(a) The standing **rigging** shall be of stainless steel, except of the backstay

F.6.2 CONSTRUCTION
(a) In accordance with the construction manual

F.6.3 FITTINGS
(a) MANDATORY
(1) In accordance with construction manual
(b) OPTIONAL
   (1) Furling forestay

F.6.4 DIMENSIONS
(a) In accordance with construction manual.
Section G – Sails

G.1 PARTS

G.1.1 MANDATORY
(a) Mainsail
(b) Number 1 Jib
(c) ISAF OSR Heavy Weather Jib
(d) ISAF OSR Storm Trisail

G.1.2 OPTIONAL
(a) Additional Number 1 Jib
(b) Spinnaker 1
(c) Spinnaker 2
(d) Storm Jib

G.2 GENERAL

G.2.1 RULES
(a) Sails shall comply with the class rules in force at the time of certification.

G.2.2 CERTIFICATION
(a) The official measurer shall certify mainsails and headsails in the tack and spinnakers in the head and shall sign and date the certification mark.
(b) An MNA may appoint one or more persons at a sailmaker to measure and certify sails produced by that manufacturer in accordance with the ISAF In-house Certification Guidelines.

G.2.3 DEFINITIONS
(a) Not in use

G.2.4 SAILMAKER
(a) No licence is required.

G.3 MAINSAIL

G.3.1 PARTS
(a) One (1) mainsail is mandatory.

G.3.2 IDENTIFICATION
(a) The class insignia shall conform with the dimensions and requirements as detailed in the diagram contained in Appendix H3 (sail plan).

G.3.3 MATERIALS
(a) The ply fibres shall be of either Dacron, Polyester, Aramid or Carbon.
G.3.4 CONSTRUCTION

(a) The construction shall be: **soft sail, single ply sail**.

(b) The **body of the sail** shall consist entirely of either woven ply or non-woven ply.

(c) The **sail** shall have five batten pockets in the leech.

(d) The **sail** shall be constructed with a usable slab reef at one point adjacent to the **luff**, one point adjacent to the **leech**.

(e) The following are permitted: Stitching, glues, tapes, bolt ropes, corner eyes, headboard with fixings, Cunningham eye or pulley, batten pocket patches, **batten pocket elastic**, batten pocket end caps, mast and boom slides, **leech** line with cleat, **windows**, tell tales, sail shape indicator stripes and items as permitted or prescribed by other applicable rules.

(f) 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**.

(g) More than one slap reef is permitted.

G.3.5 DIMENSIONS

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leech length</td>
<td></td>
<td>15070 mm</td>
</tr>
<tr>
<td>Mainsail upper point minus Mainsail lower point</td>
<td>14250 mm</td>
<td></td>
</tr>
<tr>
<td>Boom outer point distance</td>
<td></td>
<td>4900 mm</td>
</tr>
<tr>
<td>Quarter width</td>
<td></td>
<td>4140 mm</td>
</tr>
<tr>
<td>Half width</td>
<td></td>
<td>3190 mm</td>
</tr>
<tr>
<td>Three-quarter width</td>
<td></td>
<td>1880 mm</td>
</tr>
<tr>
<td>Upper width</td>
<td></td>
<td>1080 mm</td>
</tr>
<tr>
<td>Top width</td>
<td></td>
<td>210 mm</td>
</tr>
<tr>
<td>Window to sail edge</td>
<td></td>
<td>100 mm</td>
</tr>
<tr>
<td>Leech Reefing point</td>
<td></td>
<td>1750 mm 2000 mm</td>
</tr>
</tbody>
</table>

**Upper Leech Point is the point on the leech equidistant from the head point and the three-quarter leech point.**

G.3.6. BATTEN LENGTH

(a) The **leech** shall have 5 battens.

(b) The top batten may be full batten.

(c) The top batten shall be positioned with minimum 1950 mm from **head point** of the mainsail, to the centreline of the **batten pocket**, at **leech**.

Top **Inside Batten Pocket Length**....................... maximum 1170 mm
Inside Batten Pocket Length # 2 from head ............ maximum 1220 mm
Inside Batten Pocket Length # 3 from head ............ maximum 1520 mm
Inside Batten Pocket Length # 4 from head ............ maximum 1820 mm
Inside Batten Pocket Length # 5 from head ............ maximum 2120 mm

G.4 HEADSAILS

G.4.1 MATERIALS
(a) The ply fibres shall consist of either Polyester, Aramid or Carbon.

G.4.2 CONSTRUCTION
(a) The construction shall be: soft sail, single ply sail.
(b) The body of the sail shall consist entirely of either woven or non-woven ply.
(c) The headsail shall have 4 batten pockets in the leech.
(d) The following are permitted: Stitching, glues, tapes, corner eyes, hanks, batten pocket elastic, batten pocket patches, batten pocket end caps, leech line with cleat, one window, tell tales, sail shape indicator stripes and items as permitted or prescribed by other applicable rules.

G.4.3 DIMENSIONS

<table>
<thead>
<tr>
<th></th>
<th>minimum</th>
<th>maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luff length</td>
<td>14400 mm</td>
<td>14600 mm</td>
</tr>
<tr>
<td>Foot length</td>
<td></td>
<td>4750 mm</td>
</tr>
<tr>
<td>Luff Perpendicular</td>
<td></td>
<td>4450 mm</td>
</tr>
<tr>
<td>Three-quarter width</td>
<td></td>
<td>1210 mm</td>
</tr>
<tr>
<td>Half width</td>
<td></td>
<td>2290 mm</td>
</tr>
<tr>
<td>Quarter width</td>
<td></td>
<td>3340 mm</td>
</tr>
<tr>
<td>Top width</td>
<td></td>
<td>100 mm</td>
</tr>
</tbody>
</table>

G.4.4 BATTEN LENGTH
Top Inside Batten Pocket Length ........................................ full batten
Inside Batten Pocket Length # 2 maximum .......................... 920 mm
Inside Batten Pocket Length # 3 maximum ......................... 1220 mm
Inside Batten Pocket Length # 4 maximum ......................... 1520 mm

G.5 ISAF OSR HEAVY WEATHER JIB

PARTS
(a) One (1) ISAF OSR Heavy Weather Jib is mandatory.

G.5.1 MATERIALS
(a) The ply fibres shall consist of either Polyester, Aramid or Carbon.
G.5.2 CONSTRUCTION
(a) The construction shall be: **soft sail, single ply sail**.
(b) The **body of the sail** shall consist entirely either of **woven** and/or **non-woven ply**.
(c) The headsail shall have 4 **batten pockets** in the **leech**.
(d) The **leech** shall not extend beyond a straight line from the aft head point to the clew point.
(e) The following are permitted: Stitching, glues, tapes, corner eyes, hanks, batten pocket elastic, **batten pocket patches**, batten pocket end caps, **leech** line with cleat, one **window**, tell tales, sail shape indicator stripes and items as permitted or prescribed by other applicable **rules**.

G.5.3 DIMENSIONS

<table>
<thead>
<tr>
<th></th>
<th>minimum</th>
<th>maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luff length</td>
<td>14250 mm</td>
<td>14450 mm</td>
</tr>
<tr>
<td>Foot length</td>
<td></td>
<td>4480 mm</td>
</tr>
<tr>
<td>Luff Perpendicular</td>
<td></td>
<td>3920 mm</td>
</tr>
<tr>
<td>Half width</td>
<td></td>
<td>1830 mm</td>
</tr>
<tr>
<td>Top width</td>
<td></td>
<td>100 mm</td>
</tr>
</tbody>
</table>

G.5.4 BATTEN LENGTH

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Inside Batten Pocket Length</td>
<td>full batten</td>
</tr>
<tr>
<td>Inside Batten Pocket Length #2</td>
<td>770 mm</td>
</tr>
<tr>
<td>Inside Batten Pocket Length #3</td>
<td>1070 mm</td>
</tr>
<tr>
<td>Inside Batten Pocket Length #4</td>
<td>1370 mm</td>
</tr>
</tbody>
</table>

(a) Alternative attachment along the luff.

G.6 SPINNAKERS

G.6.1 PARTS
(a) Two (2) spinnakers are allowed

G.6.2 MATERIALS
(a) The spinnakers shall be made of commercial available woven nylon

G.6.3 DIMENSIONS
The spinnakers shall be symmetric around the centreline
(a) Spinnaker 1 with a minimum actual cloth weight of 34 g/m². The sailmaker shall mark the weight and make of cloth permanently near the head of the spinnaker

<table>
<thead>
<tr>
<th></th>
<th>maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leech length</td>
<td>14360 mm</td>
</tr>
<tr>
<td>Luff length</td>
<td>14360 mm</td>
</tr>
<tr>
<td>Difference between two luff length</td>
<td>100 mm</td>
</tr>
<tr>
<td>Half width maximum</td>
<td>7750 mm</td>
</tr>
<tr>
<td>Foot length maximum</td>
<td>7520 mm</td>
</tr>
</tbody>
</table>
(b) Spinnaker 2 with a minimum actual cloth weight of 38 g/m²
The sailmaker shall mark the weight and make of cloth permanently near the head of the spinnaker
Dimensions as per Spinnaker 1

G.7 ISAF OSR STORM JIB

G.7.1 PARTS
(a) One (1) ISAF OSR storm jib is allowed

G.7.2 MATERIALS
(a) The ply fibres shall in accordance with the OSR.

G.7.3 CONSTRUCTION
(a) The construction shall be in accordance with the OSR.
(b) The entire body of the sail shall be made from a highly visible colour.

G.7.4 DIMENSIONS

<table>
<thead>
<tr>
<th></th>
<th>minimum</th>
<th>maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luff length</td>
<td>8000 mm</td>
<td></td>
</tr>
<tr>
<td>Leech length</td>
<td>6250 mm</td>
<td></td>
</tr>
<tr>
<td>Foot length</td>
<td>3450 mm</td>
<td></td>
</tr>
<tr>
<td>Luff Perpendicular</td>
<td>2560 mm</td>
<td></td>
</tr>
</tbody>
</table>

Weight of ply of the body of the sail ..........375 g/m²

G.8 ISAF OSR TRISAIL

G.8.1 PARTS, MATERIALS AND CONSTRUCTION
(a) Shall be in accordance with the OSR. It is suggested that the minimum weight of ply used in the body of the sail is 375 g/m².
(b) The entire body of the sail shall be made from a highly visible colour.

G.8.2 DIMENSIONS
Shall be in accordance with OSR. The suggested size is as follows:

<table>
<thead>
<tr>
<th></th>
<th>maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luff length</td>
<td>7200 mm</td>
</tr>
<tr>
<td>Leech length</td>
<td>8020 mm</td>
</tr>
<tr>
<td>Foot length</td>
<td>3300 mm</td>
</tr>
</tbody>
</table>
PART III – APPENDICES

The rules in Part III are **closed class rules**. Measurement shall be carried out in accordance with the ERS except where varied in this Part.

Section H

H1 Deckplan
H2 Guide to race package equipment list
H3 Sailplan – only use as guide.
H4 Keel check measurement drawing
H5 Instruction for class sail sticker attachment
H6 Position of corrector weights
H7 Equipment and installations qualifying for minimum class weight
H8 Measurement certificate
H9 Drawing showing position of anchor and anchor warp while racing

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