THE

EQUIPMENT RULES

OF

SAILING

for 2013–2016

International Sailing Federation
As the leading authority for the sport, the International Sailing Federation promotes and supports the protection of the environment in all sailing competition and related activities throughout the world.

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INTRODUCTION

The Equipment Rules of Sailing includes and references:

- Rules for use of equipment.

- Definitions of equipment, measurement points and measurements for use in class rules and other rules and regulations.

- Rules governing certification control and equipment inspection.

Terminology

A term used in its defined sense is printed in “bold” if defined in the ERS and in “italic” if defined in the RRS. Other words and terms are used in the sense ordinarily understood in nautical or general use in English.

Abbreviations

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Revision

The Equipment Rules are revised and published every four years by the International Sailing Federation (ISAF), the international authority for the sport. This edition becomes effective on 1 January 2013 except that for an event beginning in 2012 the date may be postponed by the Notice of Race and Sailing Instructions. Changes to the Equipment Rules are permitted under ISAF Regulations 32.1.2 and 32.2. No changes are contemplated before 2017, but any changes determined to be urgent before then will be announced through National Authorities and posted on the ISAF website (sailing.org).

Applicability

The ERS may be made applicable by:

(a) Class Rules.

(b) Adoption in the notice of race and sailing instructions.

(c) Prescriptions of an MNA for races under its jurisdiction.

(d) ISAF Regulations.

(e) Other documents that govern races.
INTRODUCTION

Changes

The ERS may only be changed as follows:

(a) Prescriptions of an MNA may change a rule in ERS Part 1, for races under its jurisdiction.

(b) Class rules may change ERS rules as permitted by rule A.1.

These restrictions do not apply if rules are changed to develop or test proposed rules in local races. The MNA may prescribe that its approval is required for such changes.

Marginal markings indicate substantial changes to the 2009 – 2012 edition.
In addition to the rules in Part 1, class rules and the Racing Rules of Sailing contain rules governing the use of equipment. Appendix 1 provides a list of those racing rules.

Section A – During an Event

A.1 CLASS RULES
Class rules may change rules B.1 and B.2

A.2 CERTIFICATE

A.2.1 Having a Certificate
The boat shall have such valid certificate as required by its class rules or the certification authority.

A.2.2 Compliance with a Certificate
The boat shall comply with its certificate.
See also RRS rule 78 Compliance with Class Rules; Certificates.
Section B – While Racing

B.1 POSITION OF EQUIPMENT

B.1.1 Mast Upper Limit Mark
The mainsail shall be below the mast upper limit mark.

B.1.2 Mast Lower Limit Mark
When a sail is set on a main boom, foremost boom or mizzen boom, the extension of the upper edge of the spar shall intersect the mast spar above the mast lower limit mark, with the boom spar on the mast spar centreplane and at 90° to the mast spar.

B.1.3 Boom Outer Limit Mark
The leech of any sail set on a boom, extended as necessary, shall intersect the upper edge of the boom spar forward of the boom outer limit mark.

B.1.4 Bowsprit Outer Limit Mark
The tack of any headsail set on a bowsprit shall be attached aft of the bowsprit outer limit mark.

B.1.5 Bowsprit Inner Limit Mark
The bowsprit inner limit mark shall not be outboard the hull when the bowsprit is set.

B.2 HEADSAIL BOOMS
The fore end of a headsail boom shall be approximately on the boat centerplane.

B.3 SPINNAKER STAYSAILS AND MIZZEN STAYSAILS
The tack of a spinnaker staysail or mizzen staysail shall be inboard the sheerline.
PART 2 – DEFINITIONS

Section C – General Definitions

C.1 CLASS

C.1.1 Class Authority
The body that governs the class as specified in the class rules.

C.2 RULES

C.2.1 Class Rules
The rules that specify:
- the boat and its use, certification and administration.
- the crew.
- personal equipment and its use, certification and administration.
- portable equipment and its use, certification and administration.
- any other equipment and its use, certification and administration.
- changes to the Racing Rules of Sailing as permitted by RRS 86.1(c).

The term includes rules of handicap and rating systems.

C.2.2 Closed Class Rules
Class rules where anything not specifically permitted by the class rules is prohibited.

C.2.3 Open Class Rules
Class rules where anything not specifically prohibited by the class rules is permitted.

C.2.4 Class Rules Authority
The body that provides final approval of the class rules, class rule changes and class rule interpretations.

C.3 CERTIFICATION

C.3.1 Certification Authority
For the hull: the ISAF, the MNA of the owner, or their delegates.
For other items: the ISAF, the MNA in the country where the certification shall take place, or their delegates.

C.3.2 Certify/Certification
To issue a certificate, or apply a certification mark after successful certification control.
C.3.3 Certificate
Documentary proof, issued by the certification authority, of successful certification control of the hull, or any other parts required by the class rules or a certification authority.
The term includes handicap and rating certificates.

C.3.4 Certification Mark
Proof of successful certification control of a part requiring certification applied as required by the class rules or a certification authority.

C.4 CERTIFICATION CONTROL AND EQUIPMENT INSPECTION
See H.1 and H.2.

C.4.1 Fundamental Measurement
The methods used as the primary means to establish the physical properties of equipment.

C.4.2 Certification Measurement
The methods used as means of equipment control required by class rules, or a certification authority, for certification.

C.4.3 Equipment Inspection
Control carried out at an event as required by the notice of race and the sailing instructions which may include fundamental measurement.

C.4.4 Official Measurer
A person appointed or recognised, by the MNA of the country where the control takes place, to carry out certification control and when the class rules permit, certification. An MNA may have delegated this responsibility.

C.4.5 In-House Official Measurer
An official measurer appointed in accordance with the ISAF In-House Certification Programme.

C.4.6 Equipment Inspector
A person appointed by a race committee to carry out equipment inspection.

C.4.7 Limit Mark
A clearly visible mark of a single colour, contrasting to the part(s) on which it is placed, indicating a measurement point.

C.4.8 Event Limitation Mark
A mark placed by a race committee on equipment whose replacement at the event is controlled by the class rules.
C.5 PERSONAL DEFINITIONS

C.5.1 Crew
A competitor, or team of competitors, that operates a boat.

C.5.2 Skipper
The crew member on-board who is in charge of the boat and the crew and all other persons aboard.

C.5.3 Personal Equipment
All personal effects carried or worn and items worn on board to keep warm and/or dry, and/or to protect the body, personal flotation device, safety harnesses and hiking aids worn to keep the person aboard or afloat.

C.5.4 Personal Flotation Device
Personal equipment as required by the rules to assist the user to float in water.

C.6 BOAT DEFINITIONS

C.6.1 Boat
The equipment used by the crew to take part in a race.
It includes:
- hull(s)
- structure(s) connecting hulls
- hull appendage(s)
- ballast
- rig
- sail(s)
- fittings
- boat corrector weights and all other items of equipment used
but excludes
- consumables
- personal equipment and portable equipment.

C.6.2 Boat Types
(a) MONOHULL
A boat with one hull.
(b) MULTIHULL
A boat with more than one hull.
(c) WINDSURFER
A boat.
(d) KITE-BOARD
A boat.
C.6.3 **Boat Control Definitions**

(a) **MAJOR AXES**

The three major axes of the boat at 90° to each other – vertical, longitudinal and transverse – shall be related to the baseline and the hull centreplane.

See H.3.

(b) **MEASUREMENT TRIM**

Measurement trim is achieved when either, as specified in class rules,

(i) two points on the hull(s) are at set distances perpendicular to a plane – the plane, the points and distances to be specified in class rules, or

(ii) as determined by flotation with the boat in the condition as specified in class rules.

(c) **WATERLINE**

The line(s) formed by the intersection of the outside of the hull(s) and

(i) a plane specified in the class rules, or

(ii) the water surface when the boat is floating in measurement trim.

(d) **WATERPLANE**

The plane passing through the waterline.

(e) **BALLAST**

Weight installed to influence the stability, flotation or total weight of the boat.

**Ballast types:**

(i) **INTERNAL BALLAST**

Ballast positioned inside a hull.

(ii) **EXTERNAL BALLAST**

Ballast positioned outside a hull.

(iii) **MOVEABLE BALLAST**

Internal ballast or external ballast that may be moved.

(iv) **VARIABLE BALLAST**

Water ballast the amount of which may be varied.

(v) **CORRECTOR WEIGHT**

Weight installed in accordance with the class rules to correct deficiency in weight and/or its distribution.

C.6.4 **Boat Dimensions**

(a) **BOAT LENGTH**

The longitudinal distance between the aftermost point and the foremost point of the boat with sails and spars set as appropriate.

See H.3.4.
Part 2  DEFINITIONS

(b) BOAT BEAM
The transverse distance between the outermost points of the boat.

(c) WATERLINE LENGTH
The longitudinal distance between the aftermost point and the foremost point of the waterline.

(d) WATERLINE BEAM
The transverse distance between the outermost points of the waterline.

(e) DRAFT
The vertical distance between the waterplane and the lowest point of the boat.

(f) MINIMUM DRAFT
The draft with all hull appendages in their highest position.

(g) MAXIMUM DRAFT
The draft with all hull appendages in their lowest position.

(h) BOAT WEIGHT
The weight of the boat.

C.6.5 Portable Equipment
Equipment permitted by class rules excluding:
- the boat,
- personal equipment, and
- consumables.

Typical examples of portable equipment would include, mooring lines, paddles and bailers.
Section D – Hull Definitions

D.1 HULL TERMS

D.1.1 Hull
The shell including any transom, the deck including any superstructure, the internal structure including any cockpit, the fittings associated with these parts and any corrector weights.

D.1.2 Sheerline
The line formed by the intersection of the top of the deck and the outside of the hull shell, each extended as necessary.

D.1.3 Sheer
The projection of the sheerline on the centreplane.

D.2 HULL MEASUREMENT POINTS

D.2.1 Hull Datum Point
A point on the hull specified in the class rules from which hull measurements can be taken.

D.3 HULL DIMENSIONS

D.3.1 Hull Length
The longitudinal distance between the aftermost point and the foremost point on the hull(s), excluding fittings.
See H.3.4.

D.3.2 Hull Beam
The maximum transverse distance between the outermost points of the hull(s) excluding fittings.

D.4 WEIGHT

D.4.1 Hull Weight
The weight of the hull.
Section E – Hull Appendage Definitions

E.1 HULL APPENDAGE TERMS

E.1.1 Hull Appendage

Any item of equipment – including the items listed in E.1.2 – which is:

- wholly or partly below the sheerline or its extension when fixed or when fully exposed if retractable,
- attached to the hull shell or another hull appendage, and
- used to affect: stability, leeway, steerage, directional stability, motion damping, trim, displaced volume,

Any of the following shall be included in the hull appendage:

- corrector weights,
- integral ballast, and
- associated fittings.

E.1.2 Hull Appendage Types

(a) KEEL

A fixed hull appendage, attached approximately on the hull centreplane, primarily used to affect stability and leeway.

(b) BILGE KEEL

A fixed hull appendage, attached off the hull centreplane, primarily used to affect stability and leeway.

(c) CANTING KEEL

A movable hull appendage primarily used to affect stability, attached approximately on the hull centreplane and rotating around a single longitudinal axis.

(d) FIN

A fixed hull appendage primarily used to affect leeway or directional control.

(e) BULB

A hull appendage containing ballast at the bottom of another hull appendage primarily used to affect stability.

(f) SKEG

A fin attached immediately in front of a rudder.

(g) CENTREBOARD

A retractable hull appendage, attached approximately on the hull centreplane and rotating about a single transverse axis which may move in relation to the hull, primarily used to affect leeway.

(h) DAGGERBOARD

A retractable hull appendage, attached approximately on the hull centreplane and not rotating, primarily used to affect leeway.
(i) BILGEBOARD
A retractable hull appendage, attached off the hull centreplane, primarily used to affect leeway.

(j) RUDDER
A movable hull appendage primarily used to affect steerage.

(k) TRIM TAB
When a rudder(s) is used, a movable hull appendage, attached at the aft, or fore edge of another hull appendage.
Section F – Rig Definitions

F.1 GENERAL RIG TERMS

F.1.1 Rig

The spars, spreaders, rigging, fittings and any corrector weights.

F.1.2 Rig Configurations

(a) UNA RIG
A single-masted rig with a mainsail only.

(b) SLOOP RIG
A single-masted rig with a mainsail and one staysail headsail.

(c) CUTTER RIG
A single-masted rig with more than one staysail headsail.

(d) KETCH RIG
A two-masted rig with the fore mast – the mainmast – taller than the aft mast – the mizzenmast – set forward of the rudder stock.

(e) YAWL RIG
A two-masted rig with the fore mast – the mainmast – taller than the aft mast – the mizzenmast – set aft of the rudder stock.

(f) SCHOONER RIG
A two-masted rig with the fore mast – the foremast – shorter than, or the same height as, the aft mast – the mainmast.

F.1.3 Spar

The main structural part(s) of the rig, to, or from which sails are attached and/or supported.

F.1.4 Spar Types

(a) MAST

A spar on which the head or throat of a sail, or a yard, is set. Includes its standing rigging, running rigging, spreaders, fittings and any corrector weights, but not running rigging and fittings that are not essential to the function of the mast as part of the rig.

Mast Types:

(i) MAINMAST

(a) The only mast in a una rig, sloop rig or cutter rig.
(b) The fore mast in a ketch rig or yawl rig.
(c) The aft mast in a schooner rig.

(ii) FOREMAST

The fore mast in a schooner rig.

(iii) MIZZENMAST

The aft mast in a ketch rig or yawl rig.
(b) BOOM

A spar attached at one end to a mast spar or a hull and on which the clew of a sail is set and on which the tack and/or foot of the sail may be set. Includes its rigging, fittings and any corrector weights, but not running rigging, running rigging blocks and/or any kicking strap/strut arrangement.

**Boom Types:**

(i) FOREMAST SAIL BOOM

A boom attached to a foremast spar to support a foremast sail.

(ii) HEADSAIL BOOM

A boom attached to a hull to support a headsail clew.

(iii) MAIN BOOM

A boom attached to a mainmast spar to support a mainsail.

(iv) MIZZEN BOOM

A boom attached to a mizzenmast spar to support a mizzen.

(v) WISHBONE BOOM

A double boom attached to a mast spar to support a sail and which has one spar on each side of the sail.

c) HULL SPARS

A spar attached to the hull.

(i) BOWSPRIT

A hull spar extending forward to attach rigging and/or the tack of a headsail, or headsails.

(ii) BUMPKIN

A hull spar extending aft to sheet a sail and/or attach rigging.

(iii) DECK SPREADER

A hull spar extending transversely to attach standing rigging.

d) OTHER SPARS

Other spar types include their rigging, fittings and any corrector weights, but not running rigging.

Other Spar Types:

(i) SPINNAKER POLE

A spar attached to the mast spar to set a spinnaker.

(ii) WHISKER POLE

A spar attached to the mast spar and a headsail clew.

(iii) GAFF

A spar attached at one end to a mast spar to set the peak, throat and/or head of a quadrilateral sail.

(iv) SPRIT

A spar attached at one end to a mast spar or a hull to set only the peak of a quadrilateral sail.

(v) YARD

A spar hoisted on a mast spar at a point between its ends to set the head of a quadrilateral sail or the luff of a lateen sail.
F.1.5 **Spreader**

Equipment used to brace a spar, attached at one end to the spar and the other end to rigging and working in compression when in use.

F.1.6 **Rigging**

Any equipment attached at one or both ends to spars, sails or other rigging and capable of working in tension only. Includes associated fittings which are not permanently fixed to a hull, spar or spreader.

F.1.7 **Rigging Types**

(a) **STANDING RIGGING**

Rigging used to support a mast spar or hull spar. It may be adjustable.

**Standing Rigging** types:

(i) **SHROUD**

Rigging used to provide transverse support for a mast spar or hull spar and which may also provide longitudinal support and is not detached when racing.

(ii) **STAY**

Rigging mainly used to provide longitudinal support for a mast spar or hull spar or a sail.

(iii) **FORESTAY**

Rigging used to provide forward support for a mast spar and is not detached when racing.

(b) **RUNNING RIGGING**

Rigging primarily used to adjust a spar, a sail or a hull appendage.

**Running Rigging** types:

(i) **HALYARD**

Rigging used to hoist a sail, spar, flag or a combination thereof.

(ii) **BACKSTAY**

Rigging mainly used to provide aft support for a mast spar above the upper limit mark.

(iii) **RUNNING BACKSTAY**

Rigging used to provide aft support for a mast spar at a point, or points, between the upper limit mark and the forestay rigging point.

(iv) **CHECKSTAY**

Rigging used to provide aft support for a mast spar at a point, or points, between the lower limit mark and the forestay rigging point.

(v) **OUTHAUL**

Rigging used to trim the clew of a sail along a boom spar.

(vi) **SHEET**

Rigging used to trim the clew of a sail, or a boom spar.

(vii) **SPINNAKER GUY**

Rigging used to trim the tack of a spinnaker.
Part 2  DEFINITIONS

(c) OTHER RIGGING
(i) TRAPEZE

Rigging attached to a mast spar used to support a single crew member.

F.1.8 Foretriangle
The area formed by the foreshide of the foremost mast spar, the foremost forestay and the deck including any superstructure.

F.1.9 Limit Marks
(a) LIMIT MARK DIMENSIONS
(i) LIMIT MARK WIDTH
The minimum width measured in the length direction of the spar.

F.2 MAST MEASUREMENT DEFINITIONS

F.2.1 Mast Measurement Points
(a) MAST DATUM POINT
The point on the mast specified in the class rules used as a datum for measurement.
(b) HEEL POINT
The lowest point on the spar and its fittings.
(c) TOP POINT
The highest point on the spar and its fittings.
(d) LOWER POINT
The highest point of the lower limit mark at the aft edge of the spar.
(e) UPPER POINT
The lowest point of the upper limit mark at the aft edge of the spar.

F.2.2 Mast Limit Marks
(a) LOWER LIMIT MARK
The limit mark for the setting of a boom spar or sail.
(b) UPPER LIMIT MARK
The limit mark for the setting of a sail.

F.2.3 Mast Dimensions
See H.4.
(a) MAST LENGTH
The distance between the heel point and the top point.
(b) LOWER POINT HEIGHT
The distance between the mast datum point and the lower point.
(c) UPPER POINT HEIGHT
The distance between the mast datum point and the upper point.

(d) RIGGING POINT
When rigging is attached:

BY HOOK TERMINAL: The lowest point of the hook where it intersects the spar, extended as necessary.

BY TANG WITH THROUGH FIXING: The lowest point of the spar through fixing where it intersects the spar.

BY EYE WITH BOLT OR OTHER THROUGH FIXING: The lowest point of the spar bolt, or through fixing, where it intersects the spar.

IN OTHER WAYS: The intersection of the outside of the spar, extended as necessary, and the centreline of the rigging.

(e) FORESTAY HEIGHT
The distance between the mast datum point and the rigging point.

(f) SHROUD HEIGHT
The distance between the mast datum point and the rigging point.

(g) BACKSTAY HEIGHT
The distance between the mast datum point and the rigging point or the top point whichever is the lowest.

(h) CHECKSTAY HEIGHT
The distance between the mast datum point and the rigging point.

(i) TRAPEZE HEIGHT
The distance between the mast datum point and the rigging point.
(j) SPINNAKER HOIST HEIGHT
The distance between the mast datum point and the intersection of the spar and the lower edge of the spinnaker halyard, when at 90° to the spar, each extended as necessary.

(k) MAST SPAR CURVATURE
The greatest distance between the spar and a straight line from the upper point to the lower point taken at 90° to the straight line when the spar is resting on one side.

(l) MAST SPAR DEFLECTION
The difference in distance, at a specified distance from the mast datum point, between the spar and a straight line from the upper point to the lower point taken at 90° to the straight line with and without a specified load at the specified distance when the spar is horizontal at and supported at these points.

(i) FORE-AND-AFT: Measured with the aft edge up.
(ii) TRANSVERSE: Measured with one side up.
See H.4.5.
(m) MAST SPAR CROSS SECTION

(i) FORE-AND-AFT: The fore-and-aft dimension, including any sail track, at a specified distance from the mast datum point.

(ii) TRANSVERSE: The transverse dimension, at a specified distance from the mast datum point.

(n) MAST SPAR WEIGHT

The weight of the spar including fittings and corrector weights.

(o) MAST WEIGHT

The weight of the mast.

(p) MAST TIP WEIGHT

The weight of the mast measured at the upper point when the spar is supported at the lower point.

See H.4.6.

(q) MAST CENTRE OF GRAVITY HEIGHT

The distance from the mast datum point to centre of gravity of the mast.

F.2.4 Mast Fittings

(a) SPREADER

(i) LENGTH: The distance between the inner edge of the shroud at the lower edge of the spreader and the intersection of the lower edge of the spreader, extended as necessary, and the spar.

(ii) HEIGHT: The distance between mast datum point and the intersection of the lower edge of the spreader, extended as necessary, and the spar.
(b) SPINNAKER POLE FITTING

(i) HEIGHT: The distance between the mast datum point and the centre of the highest bearing part of the fitting.

(ii) PROJECTION: The shortest distance between the outermost point of the fitting and the spar.

F.3 BOOM MEASUREMENT DEFINITIONS

F.3.1 Boom Measurement Points

(a) OUTER POINT

The point on the boom outer limit mark, at the upper edge of the spar, nearest the fore end of the spar.

F.3.2 Boom Limit Marks

(a) OUTER LIMIT MARK

The limit mark for the setting of a mainsail, foresail or mizzen.

F.3.3 Boom Dimensions

See H.4.

(a) OUTER POINT DISTANCE

The distance between the outer point and the aft edge of the mast spar, with the boom spar on the mast spar centreplane and at 90° to the mast spar.

(b) BOOM SPAR CURVATURE

The greatest distance between the spar and a straight line from the uppermost fore end of the spar to the outer point or, where there is no outer point, to the uppermost aft end of the spar, taken at 90° to the straight line when the spar is resting on one side.
(c) BOOM SPAR DEFLECTION
The difference in distance, at a specified distance from the outer point, between
the spar
and a straight line from the outer point to the top of the fore end of the spar
taken at 90° to the straight line and with and without a specified load at the specified distance when the spar is horizontal and supported at these points.
(i) VERTICAL: Measured with the top edge up.
(ii) TRANSVERSE: Measured with one side up.
See H.4.5.

(d) BOOM SPAR CROSS SECTION
(i) VERTICAL: The vertical dimension, including any sail track, at a specified distance from the outer point.
(ii) TRANSVERSE: The transverse dimension at a specified distance from the outer point.

(e) BOOM WEIGHT
The weight of the boom.
F.4 SPINNAKER/WHISKER POLE MEASUREMENT DIMENSIONS

See H.4.

(a) SPINNAKER/WHISKER POLE LENGTH
The distance between the ends of the spinnaker/whisker pole.

(b) SPINNAKER/WHISKER POLE SPAR CROSS SECTION
The sectional dimensions at specified distances from an end of the spinnaker/whisker pole.

(c) SPINNAKER/WHISKER POLE WEIGHT
The weight of the spinnaker/whisker pole.

F.5 BOWSPRIT MEASUREMENT DEFINITIONS

F.5.1 Bowsprit Measurement Points

(a) BOWSPRIT INNER POINT
The point of the bowsprit inner limit mark, at the upper edge of the spar, nearest the outboard end of the spar.

(b) BOWSPRIT OUTER POINT
The point of the bowsprit outer limit mark, at the upper edge of the spar, nearest the inner end of the spar, or the outboard end of the spar when there is no outer limit mark.

F.5.2 Bowsprit Limit Marks

(a) BOWSPRIT INNER LIMIT MARK
The limit mark for the setting of the spar.

(b) BOWSPRIT OUTER LIMIT MARK
The limit mark for the setting of a headsail.

F.5.3 Bowsprit Dimensions
See H.4.

(a) BOWSPRIT POINT DISTANCE
The distance between the bowsprit inner point and the bowsprit outer point.

(b) BOWSPRIT SPAR CROSS SECTION
The sectional dimensions at specified positions.

(c) BOWSPRIT WEIGHT
The weight of the bowsprit.
F.6 FORETRIANGLE MEASUREMENT DEFINITIONS

F.6.1 Foretriangle Dimensions

(a) FORETRIANGLE BASE
The longitudinal distance between the intersection of the fore side of the mast spar, extended as necessary, and the deck including any superstructure, and the intersection of the centreline of the forestay, extended as necessary, and the deck, or bowsprit spar.
See H.3.4.

(b) FORETRIANGLE HEIGHT
The distance between the intersection of fore side of the mast spar, extended as necessary, and the deck including any superstructure, and the forestay rigging point.
See H.4.

(c) FORETRIANGLE AREA
Half the product of the foretriangle base and the foretriangle height.
Section G – Sail Definitions

Subsection A – Trilateral Sails

Definitions relating to sails with only three sail edges:

“MAINSAIL” also applies to foremost sail and mizzen.
“HEADSAIL” also applies to “jib” and “genoa”.
“SPINNAKER” also applies to “gennaker”.

G.1 GENERAL SAIL TERMS

G.1.1 Sail

An item of equipment, used to propel the boat. It includes any of the following added parts:

- sail reinforcements
- batten pockets
- windows
- stiffening
- tabling
- sail edge ropes and wires
- attachments
- other parts as permitted by class rules.

G.1.2 Set Flying

A sail set with no sail edge attached to the rig.

G.1.3 Sail Types

(a) MAINSAIL

A sail with the luff attached to the mainmast spar. The lowest of the sails if more than one sail with the luff set to that spar.

(b) FOREMAST SAIL

A sail with the luff attached to the foremost spar. The lowest of the sails if more than one sail with the luff set to that spar.

(c) MIZZEN

A sail with the luff attached to the mizzenmast spar. The lowest of the sails if more than one sail with the luff set to that spar.

(d) HEADSAIL

A sail set forward of the mast spar, or of the foremost mast spar if more than one mast.
G.1.4 Sail Construction

(a) BODY OF THE SAIL
The sail excluding the areas where parts are added as per G.1.1.

(b) PLY
A sheet of sail material which may be made up of a number of layers.

(c) SOFT SAIL
A sail where the body of the sail is capable of being folded flat in any direction without damaging any ply other than by creasing.

(d) WOVEN PLY
A ply which, when torn, can be separated into fibres without leaving evidence of a film.

(e) LAMINATED PLY
A ply made up of more than one layer.

(f) SINGLE-PLY SAIL
A sail, except at seams, where all parts of the body of the sail consist of only one ply.

(g) DOUBLE LUFF SAIL
A sail with more than one luff, or a sail passing around a spar and attached back on itself.

(h) SEAM
Overlap where two or more ply forming the body of the sail are joined.

(i) DART
An overlap formed at a sail edge by overlapping the ply edges of a cut in the body of the sail.

(j) TUCK
Overlap where a ply is folded and joined.

(k) BATTEN POCKET
Additional ply to form a pocket for a batten.

(l) SAIL OPENING
Any opening other than openings created by attachments or batten pockets.

(m) WINDOW
A predominantly transparent ply in the body of the sail.

(n) STIFFENING
Corner boards and battens.
(o) ATTACHMENTS

- cringles
- straps
- hanks
- slides
- adjustment eyes
- adjustment points
- reefing eyes
- reefing points, and
- blocks and their fastenings.

See H.5.3.

(p) SAIL EDGE SHAPE

The shape of a sail edge as a comparison with a straight line between

- corner points or,

in the case of a leech other than of a gennaker or spinnaker, between the clew point and the aft head point.

G.2 SAIL EDGES

G.2.1 Foot

The bottom edge.

G.2.2 Leech

The aft edge.

G.2.3 Luff

The fore edge.

G.2.4 Sail Leech Hollow

Concavity in the shape of a leech between

- adjacent batten pockets, or
- a batten pocket and the adjacent corner point, or

in the case of a mainsail, foremost sail, mizzen or a headsail other than a spinnaker or a gennaker, between the aft head point and the adjacent batten pocket.

G.3 SAIL CORNERS

G.3.1 Clew

The region where the foot and the leech meet.

G.3.2 Head

The region at the top.

G.3.3 Tack

The region where the luff and the foot meet.
G.4 SAIL CORNER MEASUREMENT POINTS

G.4.1 Clew Point

The intersection of the foot and the leech, each extended as necessary.

G.4.2 Head Point

(a) MAINSAIL: The intersection of the luff, extended as necessary, and the line through the highest point of the sail at 90° to the luff.

(b) HEADSAIL: The intersection of the luff, extended as necessary, and the line through the highest point of the sail, excluding attachments, at 90° to the luff.

(c) SPINNAKER: The intersection of the luff and the leech, extended as necessary.
Part 2  Definitions

G.4.3 Tack Point
The intersection of the foot and the luff, each extended as necessary.

G.5 OTHER SAIL MEASUREMENT POINTS

G.5.1 Quarter Leech Point
The point on the leech equidistant from the half leech point and the clew point.

G.5.2 Half Leech Point
The point on the leech equidistant from the head point and the clew point.

G.5.3 Three-Quarter Leech Point
The point on the leech equidistant from the head point and the half leech point.

G.5.4 Upper Leech Point
The point on the leech a specified distance from the head point.
G.5.5 Aft Head Point
MAINSAIL and HEADSAIL: The intersection of the leech extended as necessary and the line through the head point at 90° to the luff.

G.5.6 Quarter Luff Point
The point on the luff equidistant from the half luff point and the tack point.

G.5.7 Half Luff Point
The point on the luff equidistant from the head point and the tack point.

G.5.8 Three-Quarter Luff Point
The point on the luff equidistant from the head point and the half luff point.

G.5.9 Upper Luff Point
The point on the luff a specified distance from the head point.

G.5.10 Mid Foot Point
The point on the foot equidistant from the tack point and the clew point.

G.6 SAIL REINFORCEMENT

G.6.1 Primary Reinforcement
An unrestricted number of additional layers of ply of permitted material:
- at a corner
- at a adjustment point
- at a reefing point adjacent to the luff
- at a reefing point adjacent to the leech
- at a sail recovery point
- where permitted by the class rules
Part 2  DEFINITIONS

G.6.2 Secondary Reinforcement

Not more than two additional layers of ply of permitted material each not thicker than the maximum thickness of the ply of the body of the sail:

- at a corner
- at an adjustment point
- at a reefing point adjacent to the luff
- at a reefing point adjacent to the leech
- at a sail recovery point
- to form a flutter patch
- to form a chafing patch
- to form a batten pocket patch
- where permitted by the class rules

G.6.3 Tabling

Additional ply and/or folded ply overlap(s) at a sail edge.

G.6.4 Batten Pocket Patch

Secondary reinforcement at an end of a batten pocket.

G.6.5 Chafing Patch

Secondary reinforcement where a sail can touch a spreader, stanchion, shroud or spinnaker pole.

G.6.6 Flutter Patch

Secondary reinforcement on the leech or the foot at the end of a seam.
G.7 PRIMARY SAIL DIMENSIONS

See H.5.

G.7.1 Foot Length

The distance between the clew point and the tack point.

G.7.2 Leech Length

The distance between the head point and the clew point.

G.7.3 Luff Length

The distance between the head point and the tack point.

G.7.4 Quarter Width

(a) MAINSAIL and HEADSAIL: The shortest distance between the quarter leech point and the luff.
(b) SPINNAKER: The distance between the quarter luff point and the quarter leech point.

G.7.5 Half Width

(a) MAINSAIL and HEADSAIL: The shortest distance between the half leech point and the luff.
(b) SPINNAKER: The distance between the half luff point and the half leech point.

G.7.6 Three-Quarter Width

(a) MAINSAIL and HEADSAIL: The shortest distance between the three-quarter leech point and the luff.
(b) SPINNAKER: The distance between the three-quarter luff point and the three-quarter leech point.

G.7.7 Upper Width

(a) MAINSAIL and HEADSAIL: The shortest distance between the upper leech point and the luff.
(b) SPINNAKER: The distance between the upper luff point and the upper leech point.
Part 2  DEFINITIONS

G.7.8  Top Width
(a) MAINSAIL and HEADSAIL: The distance between the head point and the aft head point.

G.7.9  Diagonals
(a) CLEW DIAGONAL: The distance between the clew point and the half luff point.
(b) TACK DIAGONAL: The distance between the tack point and the half leech point.

G.7.10  Foot Median
The distance between the head point and the mid foot point.
G.7.11 **Luff Perpendicular**
The shortest distance between the **clew point** and the **luff**.

G.8 **OTHER SAIL DIMENSIONS**
See H.5.

G.8.1 **Batten Pocket Length**
(a) **INSIDE**: The greatest distance between the **sail edge** and the internal extreme end of the **batten pocket**, measured parallel to the pocket centreline. The effect of any elastic or other retaining device and any local widening for batten insertion shall be ignored.

(b) **OUTSIDE**: The greatest distance between the **sail edge** and the external extreme end of the **batten pocket**, measured parallel to the pocket centreline. The effect of any local widening for batten insertion shall be ignored.

G.8.2 **Batten Pocket Width**
(a) **INSIDE**: The greatest distance between inside edges of the **batten pocket** measured at 90° to pocket centreline. Local widening for batten insertion shall be ignored.

(b) **OUTSIDE**: The greatest distance between the outside edges of the **batten pocket** measured at 90° to the pocket centreline. Local widening for batten insertion shall be ignored.

G.8.3 **Foot Irregularity**
The maximum distance between the edges of the **foot** when first the **tack point** and then the **clew point** are superimposed on any part of the **foot**.

G.8.4 **Reinforcement Size**
(a) **AT A CORNER**: The greatest distance measured from the **sail corner measurement point**.

(b) **TABLING WIDTH**: The width of **tabling** measured at 90° to the **sail edge**.

(c) **ELSEWHERE**: The greatest dimension of the **sail reinforcement**.
Part 2  DEFINITIONS

G.8.5  Seam Width
The width of a seam measured at 90° to the seam.

G.8.6  Dart Width
The width of a dart measured at 90° to the dart centreline.

G.8.7  Tuck Width
The width of a tuck measured at 90° to the tuck centreline.

G.8.8  Attachment Size
(a) AT A CORNER OR AN EDGE
   (i) LENGTH
      AT THE HEAD: The dimension from the head point along the luff or its extension to a line through the highest point of the attachment at 90° to the luff.
      AT THE TACK: The dimension from the tack point along the luff or its extension to a line through the lowest point of the attachment at 90° to the luff.
      AT THE CLEW: The greatest dimension from the clew point.
      AT AN EDGE: The greatest dimension from the sail edge.
   (ii) WIDTH
      The greatest dimension measured perpendicular to the length.
(b) ELSEWHERE
   The greatest dimension of the attachment.

G.8.9  Window Ply Area
The area of the window ply.

G.8.10  Window Area
The window ply area excluding seams.
Part 2  DEFINITIONS

Subsection B – Additions for Other Sails

The following definitions for non-trilateral sails are additional to or vary those given in Subsection A of this Section.

G.2  SAIL EDGES

G.2.5  Head
The top edge.

G.3  SAIL CORNERS

G.3.4  Peak
The region where the head and the leech meet.

G.3.5  Throat
The region where the head and the luff meet.

G.4  SAIL CORNER MEASUREMENT POINTS

G.4.4  Peak Point
The intersection of the head and leech, each extended as necessary.

G.4.5  Throat Point
The intersection of the head and luff, each extended as necessary.

G.5  OTHER SAIL MEASUREMENT POINTS

G.5.2  Half Leech Point
The point on the leech equidistant from the peak point and the clew point.

G.5.3  Three-Quarter Leech Point
The point on the leech equidistant from the peak point and the half leech point.

G.5.4  Upper Leech Point
The point on the leech a specified distance from the peak point.
G.7 PRIMARY SAIL DIMENSIONS

See H.5.

G.7.2 Leech Length
The distance between the peak point and the clew point.

G.7.3 Luff Length
The distance between the throat point and the tack point.

G.7.9 Diagonals
(a) CLEW DIAGONAL
The distance between the throat point and the clew point.

G.7.10 Foot Median
The distance between the peak point and the mid foot point.

G.7.12 Head Length
The distance between the peak point and the throat point.
PART 3 – RULES GOVERNING
EQUIPMENT CONTROL AND INSPECTION

Section H – Equipment Control and Inspection

H.1 CERTIFICATION CONTROL
H.1.1 An official measurer shall not carry out certification control of any part of a boat owned, designed or built by himself, or in which he is an interested party, or has a vested interest, except where permitted by the MNA or ISAF for In-House Certification.

H.1.2 If an official measurer is in any doubt as to the application of, or compliance with, the class rules he shall consult the certification authority before signing a certification control form or applying a certification mark.

H.1.3 An official measurer shall only carry out certification control in another country with the prior agreement of the MNA for that country.

H.2 EQUIPMENT INSPECTION
H.2.1 If an equipment inspector is in any doubt as to the application of, or compliance with, the class rules, the question should be referred to the authority responsible for interpreting the class rules.

H.3 MEASUREMENT AXES
H.3.1 For a boat, unless otherwise specified, words such as “fore”, “aft”, “above”, “below”, “height”, “depth”, “length”, “beam”, “freeboard”, “inboard” and “outboard” shall be taken to refer to the boat in measurement trim. All measurements denoted by these, or similar words, shall be taken parallel to one of the three major axes.

H.3.2 For a component, unless otherwise specified, width, thickness, length etc. shall be measured as appropriate for that component, if relevant without reference to the major axes.

H.3.3 Unless otherwise specified, measurements shall be the shortest distance between the measurement points.

H.3.4 Unless otherwise specified, longitudinal measurements shall be taken parallel to the longitudinal major axis.
H.4 RIG MEASUREMENT

H.4.1 Measurements in the length direction shall be taken along the spar at the side relevant for the measurement and between sectional planes through the measurement points at 90° to the spar at each point.

H.4.2 Fittings, local curvature and local cut away, shall be ignored when measuring a spar or dimensions taken to a spar.

H.4.3 No external pressure shall be applied to a spar when measuring unless specifically prescribed.

H.4.4 Adjustable fittings shall be set in the position that gives the greatest value when the measurement is taken.

H.4.5 Mast spar deflection and boom spar deflection shall be checked with free ends of rigging not supported by the spar.

H.4.6 Mast tip weight shall be checked with any halyards fully hoisted and rigging tied to the spar at the lower limit mark with lower ends hanging free or resting on the ground.

H.4.7 Mast centre of gravity height shall be checked with any halyards fully hoisted and rigging pulled taut and tied to the spar as close to the lower point as possible.
H.5 SAIL MEASUREMENT

H.5.1 Condition of the Sail

For measurement the sail shall:

(a) be dry,
(b) not be attached to spars or rigging,
(c) unless the class rules prescribe otherwise, have all battens removed,
(d) have pockets of any type flattened out,
(e) have just sufficient tension applied to remove wrinkles across the line of the measurement being taken,
(f) have only one measurement taken at a time and
(g) be weighed with all attachments.

H.5.2 Hollows in Sail Leeches

Where there is a sail leech hollow and a measurement point falls in the hollow:

- between adjacent batten pockets
- between the aft head point and adjacent batten pocket
- between the clew point and adjacent batten pocket

At an attachment, the sail shall be flattened out in the area of the sail edge, the sail edge hollow shall be bridged by a straight line and the shortest distance from the measurement point to the straight line shall be measured. This distance shall be added to the measurement being taken.

H.5.3 Excluding Attachments

Attachments at a sail edge, other than a bolt rope and tabling, shall be excluded when measuring.

H.6 CHECKING MATERIALS

Unless specifically prescribed by the class rules, materials are not subject to certification control.

H.7 WEIGHT MEASUREMENT

H.7.1 Conditions for Weight Measurement

The boat shall:

- be dry.
- be in compliance with the class rules.
APPENDIX 1

Racing rules that govern the use of equipment:
1 Safety
40 Personal Flotation Devices
42 Propulsion
43 Competitor Clothing and Equipment
45 Hauling Out; Making Fast; Anchoring
47 Limitations on Equipment and Crew
48 Fog Signals and Lights; Traffic Separation Schemes
49 Crew Position; Lifelines
50 Setting and Sheetling Sails
51 Movable Ballast
52 Manual Power
53 Skin Friction
54 Forestays and Headsail Tacks
77 Identification on Sails
78 Compliance with Class Rules; Certificates
80 Advertising

It should be noted that racing rule 86.1 permits some of these racing rules to be changed. The ISAF Advertising Code (ISAF Regulation 20) and Appendices G and H of the racing rules are made applicable by racing rules 80, 77 and 43 respectively. That code and those appendices contain rules governing the use of equipment.
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<td>Yawl Rig</td>
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*1 See Section G, Subsection B – Additions for Other Sails