

The
Equipment Rules of Sailing
for 2005 – 2008

International Sailing Federation

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INTRODUCTION

The Equipment Rules of Sailing consists of three parts:

- Part I – Rules for use of the equipment. The **boat** – the sports equipment used in sail racing – and the **personal equipment**
- Part II – Equipment definitions
- Part III – Rules governing equipment control and inspection

Revision

The equipment rules are revised and published every four years by the International Sailing Federation, the international authority for the sport. This edition becomes effective on 1 January 2005. Changes to the equipment rules are permitted under ISAF Regulations 32.1.2 and 32.2. No changes are contemplated before 2009, but any changes determined to be urgent before then will be announced through national authorities and posted on the ISAF website – www.sailing.org.

Status

The ERS are adopted by ISAF as a code governing the use of equipment while racing. The ERS are made applicable as stated in Applicability, below:

Applicability

The ERS may be made applicable by:

- (a) **Class Rules.**
- (b) Adoption by a rating authority for racing under its jurisdiction.
- (c) Adoption in the notice of race and sailing instructions for an event.
- (d) Prescriptions of an MNA for racing under its jurisdiction.
- (e) Other ISAF codes and rules adopted by Council.

Changes

The ERS may only be changed as follows:

- (a) Prescriptions of an MNA may change an ERS rule, for racing under its jurisdiction.
- (b) Sailing instructions may change an ERS rule by referring specifically to it and stating the change, but may not change any portion of the ERS adopted in **class rules**.
- (c) A rating authority may change an ERS rule for racing within its jurisdiction.
- (d) **Class rules** may change ERS rules B.7, B.9, H1, H2, H3, H.4, H5 and H.6.

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.

Terminology

A term used in its defined sense is printed in “**bold**” type if defined in the ERS and in “*italic*” type if defined in the RRS.

Abbreviations

ISAF	International Sailing Federation
MNA	ISAF Member National Authority
ICA	International Class Association
NCA	National Class Association
ERS	The Equipment Rules of Sailing
RRS	The Racing Rules of Sailing

PART I – USE OF EQUIPMENT

Section A – During an Event

A.1 CLASS RULES

A.1.1 Boats without Class Rules

The **boat** and other items of equipment shall comply with the ERS Part I.

A.1.2 Boats with Class Rules

The **boat** and other items of equipment shall comply with its **class rules**, and the ERS Part I except as changed by its **class rules** to the extent permitted by Changes (c) or (d).

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.

A.3 IDENTIFICATION ON SAILS

See RRS rule 77 Identification on Sails.

A.4 ADVERTISING

See RRS Appendices Section II, Appendix 1 – ISAF Advertising Code.

A.5 SKIN FRICTION

See RRS rule 53 Skin Friction.

A.6 EQUIPMENT INSPECTION

See RRS rule 78 Compliance with Class Rules; Certificates.

Section B – When Racing

B.1 PERSONAL BUOYANCY AND LIFE-SAVING EQUIPMENT

See RRS rule 1 Safety and RRS rule 40 Personal Buoyancy; Harnesses.

B.2 PERSONAL EQUIPMENT

See RRS rule 43 Competitor Clothing and Equipment.

B.3 LIMITATIONS ON EQUIPMENT

See RRS rule 47 Limitations on Equipment and Crew.

B.4 LIMITATIONS ON CREW AND CREW POSITION

See RRS rule 47 Limitations on Equipment and Crew and RRS rule 49 Crew Position.

B.5 MANUAL POWER

See RRS rule 52 Manual Power.

B.6 EJECTING OR RELEASING OF SUBSTANCE

See RRS rule 53 Skin Friction.

B.7 SETTING OF SPARS

B.7.1 Mainsail, Foresail and Mizzen Booms set on a Mast

When the sail is set on the boom, the extension of the upper edge of the **spar** shall intersect the mast **spar** above the **lower limit mark**, with the boom on the mast **spar** centreplane and at 90° to the mast **spar**.

B.7.2 Headsail Booms

The fore end of the boom **spar** shall be approximately on the **boat** centreplane.

B.7.3 Spinnaker and Whisker Poles

See RRS rule 50 Setting and Sheeting Sails.

B.7.4 Bowsprits

The **inner limit mark** shall not be outboard the **hull** when the **bowsprit** is set.

B.8 SETTING OF RIGGING

B.8.1 Forestays

See RRS rule 54 Forestays and Headsail Tacks.

B.9 SETTING, SHEETING AND CHANGING SAILS

B.9.1 Trilateral Mainsails, Foresails and Mizzen

- (a) The **sail** shall be below the mast **upper limit mark**.
- (b) The **leech**, extended as necessary, shall intersect the upper edge of the boom **spar** forward of the **outer limit mark**.
- (c) The **foot** of a loose footed sail, extended as necessary, shall intersect the mast **spar** above the **lower limit mark**.

B.9.2 Headsails

The **tack** of any headsail set on a **bowsprit** shall be attached aft of the **outer limit mark**.

See also RRS rule 54 Forestays and Headsail Tacks.

B.9.3 Spinnaker Staysails and Mizzen Staysails

The **tack** shall be inboard the **sheerline**.

See also RRS rule 50 Setting and Sheeting Sails.

B.10 CENTRE OF GRAVITY

B.10.1 Corrector weights shall be securely fixed.

See also RRS rule 51 Movable Ballast.

B.11 ANCHORING, MAKING FAST AND HAULING OUT

See RRS rule 45 Hauling Out; Making Fast; Anchoring.

B.12 FOG SIGNALS AND LIGHTS

See RRS rule 48 Fog Signals and Lights.

PART II – DEFINITIONS

Section C – General Definitions

C.1 PERSONAL TERMS

C.1.1 Crew

A competitor, or team of competitors, that operates a **boat**.

C.1.2 Skipper

The **crew** member onboard who is in charge of the **boat** and the **crew** and all other persons aboard.

C.1.3 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 buoyancy**, safety harnesses and hiking aids worn to keep the person aboard or afloat.

C.1.4 Personal Buoyancy

A device worn around the upper part of the torso capable of keeping a person afloat.

C.2 BOAT TERMS

C.2.1 Boat

The sports equipment used by the **crew** to take part in a race.

It comprises:

hull(s)

hull appendage(s)

ballast

rig

sail(s)

associated fittings

all other items of sports equipment used excluding consumables and **personal equipment**.

C.2.2 Sailboard

A **boat**.

C.2.3 Major Axes

The three major axes of the **boat** at 90° to each other – vertical, longitudinal and transverse – shall be related to the waterplane with the **boat** in measurement trim and the **hull** centreplane.

See H.3.

C.2.4 Boat Length

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

See H.3.4.

C.2.5 Ballast

Weight installed to influence the stability, flotation or total weight of the **boat**. It can be of any material and positioned anywhere in the **boat**.

C.2.6 Corrector Weight

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

C.2.7 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.2.8 Event Limitation Mark

A mark placed by a race committee on equipment whose replacement at the event is controlled by the **class rules**.

C.3 RULES

C.3.1 Class Rules

The rules that specify the **boat** as it shall be used for racing.

C.3.2 Closed Class Rules

Class rules where anything not specifically permitted by the **class rules** is prohibited.

C.3.3 Open Class Rules

Class rules where anything not specifically prohibited by the **class rules** is permitted.

C.4 EQUIPMENT CONTROL AND INSPECTION

See H.1 and H.2.

C.4.1 Fundamental Measurement

The control methods used as the primary means to establish the physical properties of equipment.

C.4.2 Certification Control

Control for **certification** required by **class rules**, or a **certification authority**, which may include **fundamental measurement**.

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**.

C.4.5 Equipment Inspector

A person appointed by a race committee to carry out **equipment inspection**.

C.4.6 International Measurer

A person authorised by the ISAF to inspect prototype boats of specific ISAF classes and recognised by ISAF as qualified to assist in **equipment inspection** at international events for those classes.

C.5 CERTIFICATION

C.5.1 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.5.2 Certify

To issue a **certificate**, or to attach a **certification mark** after successful **certification control**.

C.5.3 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**.

C.5.4 Certification Mark

Proof of successful **certification control** of a part requiring **certification**, attached or made by an **official measurer**.

Section D – Hull Definitions

D.1 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 MEASUREMENT POINTS

D.2.1 Hull Datum Point

The point on the **hull** centreplane specified in the **class rules** from which **hull** measurements are taken.

D.3 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.4 WEIGHT

D.4.1 Hull Weight

The weight of the **hull**.

Section E – Hull Appendage Definitions

E.1 TERMS

E.1.1 Hull Appendage

Any item of equipment – including the items listed at E.1.2 to E.1.13 – 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 Keel

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

E.1.3 Bilge Keel

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

E.1.4 Fin

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

E.1.5 Bulb

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

E.1.6 Skeg

A **fin** attached immediately in front of a **rudder**.

E.1.7 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.

E.1.8 Daggerboard

A retractable **hull appendage**, attached approximately on the **hull** centreplane and not rotating, primarily used to affect leeway.

E.1.9 Bilgeboard

A retractable **hull appendage**, attached off the **hull** centreplane, primarily used to affect leeway.

E.1.10 Rudder

A movable **hull appendage** primarily used to affect steerage.

E.1.11 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

Definitions relating to:

“BOOM” also apply to “Gaff” and “Sprit”

“SPINNAKER POLE/WHISKER POLE” also apply to “Jockey Pole”

“BOWSPRIT” also apply to “Bumpkin”

F.1 GENERAL TERMS

F.1.1 Rig

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

F.1.2 Spar

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

F.1.3 Spreader

Any equipment attached at one or both ends to **spars, sails** or other **rigging** and capable of working in compression.

F.1.4 Rigging

Any equipment attached at one or both ends to **spars**, **sails** or other **rigging** and capable of working in tension only.

F.2 LIMIT MARK DIMENSIONS

F.2.1 Limit Mark Width

The minimum width measured in the length direction of the **spar**.

F.3 FORETRIANGLE DIMENSIONS

F.3.1 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.

F.3.2 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.

F.4 MAST TERMS

F.4.1 Mast

The **spar**, its **rigging**, **spreaders**, fittings and any **corrector weights**, excluding any fittings that are not essential to the function of the mast as part of the **rig**.

F.5 MAST MEASUREMENT POINTS

F.5.1 Mast Datum Point

The point on the **mast** specified in the **class rules** used as a datum for measurement.

F.5.2 Heel Point

The lowest point on the **spar** and its fittings.

F.5.3 Top Point

The highest point on the **spar** and its fittings.

F.5.4 Lower Point

The highest point of the **lower limit mark** at the aft edge of the **spar**.

F.5.5 Upper Point

The lowest point of the **upper limit mark** at the aft edge of the **spar**.

F.6 MAST LIMIT MARKS

F.6.1 Lower Limit Mark

The **limit mark** for the setting of a boom **spar** or **sail**.

F.6.2 Upper Limit Mark

The **limit mark** for the setting of a **sail**.

F.7 MAST DIMENSIONS

See H.3.

F.7.1 Mast Length

The distance between the **heel point** and the **top point**.

F.7.2 Lower Point Height

The distance between the **mast datum point** and the **lower point**.

F.7.3 Upper Point Height

The distance between the **mast datum point** and the **upper point**.

F.7.4 Rigging Point

When **rigging** is attached:

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

BY TANG WITH BOLT: The lowest point of the **spar** bolt where it intersects the **spar**.

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

F.7.5 Forestay Height

The distance between the **mast datum point** and the **rigging point**.

F.7.6 Shroud Height

The distance between the **mast datum point** and the **rigging point**.

F.7.7 Back Stay Height

The distance between the **mast datum point** and the **rigging point** or the **top point** whichever is the lowest.

F.7.8 Check Stay Height

The distance between the **mast datum point** and the **rigging point**.

F.7.9 Trapeze Height

The distance between the **mast datum point** and the **rigging point**.

F.7.10 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** and extended as necessary.

F.7.11 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

F.7.12 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.

(a) FORE-AND-AFT: Measured with the aft edge up.

(b) TRANSVERSE: Measured with the one side up.

See H.4.5.

F.7.13 Mast Spar Cross Section

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

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

F.7.14 Mast Spar Weight

The weight of the **spar** including fittings and **corrector weights**.

F.7.15 Mast Weight

The weight of the **mast**.

F.7.16 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.

F.8 MAST FITTINGS

F.8.1 Spreader

(a) 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**.

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

F.8.2 Spinnaker Pole Fitting

- (a) **HEIGHT**: The distance between the **mast datum point** and the centre of the highest bearing part of the fitting.
- (b) **PROJECTION**: The shortest distance between the outermost point of the fitting and the **spar**.

F.9 BOOM TERMS

F.9.1 Boom

The **spar**, its **rigging**, fittings and any **corrector weights**, but excluding sheets, sheet blocks and kicking strap/strut arrangement.

F.10 BOOM MEASUREMENT POINTS

F.10.1 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.11 BOOM LIMIT MARKS

F.11.1 Outer Limit Mark

The **limit mark** for the setting of the mainsail.

F.12 BOOM DIMENSIONS

See H.3.

F.12.1 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**.

F.12.2 Boom Spar Curvature

The greatest distance 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 when the **spar** is resting on one side.

F.12.3 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.

(a) VERTICAL: Measured with the top edge up.

(b) TRANSVERSE: Measured with one side up.

See H.4.5

F.12.4 Boom Spar Cross Section

(a) VERTICAL: The vertical dimension, including any **sail** track, at a specified distance from the **outer point**.

(b) TRANSVERSE: The transverse dimension at a specified distance from the **outer point**.

F.12.5 Boom Weight

The weight of the **boom**.

F.13 SPINNAKER/WHISKER POLE TERMS

F.13.1 Spinnaker/Whisker Pole

The **spar**, its fittings, bridle arrangement(s), end fitting control lines and any **corrector weights**.

F.14 SPINNAKER/WHISKER POLE DIMENSIONS

See H.3.

F.14.1 Spinnaker/Whisker Pole Length

The distance between the ends of the **spinnaker/whisker pole**.

F.14.2 Spinnaker/Whisker Pole Spar Cross Section

The sectional dimensions at specified distances from an end of the **spinnaker/whisker pole**.

F.14.3 Spinnaker/Whisker Pole Weight

The weight of the **spinnaker/whisker pole**.

F.15 BOWSPRIT TERMS

F.15.1 Bowsprit

The **spar**, fittings and any **corrector weights**.

F.16 BOWSPRIT MEASUREMENT POINTS

F.16.1 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**.

F.16.2 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.17 BOWSPRIT LIMIT MARKS

F.17.1 Bowsprit Inner Limit Mark

The **limit mark** for the setting of the **spar**.

F.17.2 Bowsprit Outer Limit Mark

The **limit mark** for the setting of the headsail.

F.18 BOWSPRIT DIMENSIONS

See H.3.

F.18.1 Bowsprit Point Distance

The distance between the **bowsprit inner point** and the **bowsprit outer point**.

F.18.2 Bowsprit Spar Cross Section

The sectional dimensions at specified positions.

F.18.3 Bowsprit Weight

The weight of the **bowsprit**.

Section G – Sail Definitions

Subsection A – Trilateral Sails

Definitions relating to:

“MAINSAIL” also apply to “Foresail” and “Mizzen”

“HEADSAIL” also apply to “Jib”, “Genoa”, “Gennaker” and “Staysail”.

G.1 GENERAL SAIL TERMS

G.1.1 Sail

An item of equipment attached to the **rig**, used to propel the **boat** including any of the following added parts when they are present:

sail reinforcements

batten pockets

windows

stiffening

tabling

attachments

other parts as permitted by **class rules**

G.1.2 Body of the Sail

The **sail** excluding the areas where parts are added as per G.1.1.

G.1.3 Ply

A sheet of sail material.

G.1.4 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.

G.1.5 Woven Ply

A **ply** which, when torn, can be separated into fibres without leaving evidence of a film.

G.1.6 Laminated Ply

A **ply** made up of more than one layer.

G.1.7 Single-Ply Sail

A **sail**, except at **seams**, where all parts of the **body of the sail** consist of only one **ply**.

G.1.8 Double Luff Sail

A **sail** with more than one **luff**, or a **sail** passing around a stay or **spar** and attached back on itself.

G.1.9 Seam

Overlap where two or more **ply** forming the **body of the sail** are joined.

G.1.10 Tabling

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

G.1.11 Batten Pocket

Additional **ply** to form a pocket for a batten.

G.1.12 Sail Opening

Any opening other than openings created by **attachments** or **batten pockets**.

G.1.13 Window

Transparent **ply** covering a **sail opening**.

G.1.14 Stiffening

Corner boards and battens.

G.1.15 Attachments

Bolt ropes,
tablings that surround, or are fixed to, bolt ropes,
luff wires including any cringles and seizing,
cringles,

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

See H.5.3.

G.2 SAIL EDGES

G.2.1 Foot

The bottom edge.

G.2.2 Leech

- (a) MAINSAIL and HEADSAIL: The aft edge.
- (b) SPINNAKER: The edges other than the **foot**.

G.2.3 Luff

MAINSAIL and HEADSAIL: The fore edge(s).

G.3 SAIL CORNERS

G.3.1 Clew

The area where the **foot** and the **leech** meet.

G.3.2 Head

The area at the top.

G.3.3 Tack

The area 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 **leeches**, extended as necessary.

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

The intersection of the **leech** extended as necessary and the line through the **head point** at 90° to the **luff**.

G.5.6 Mid Foot Point

(a) MAINSAIL and HEADSAIL: The point on the **foot** equidistant from the **tack point** and the **clew point**.

(b) SPINNAKER: The point on the **foot** equidistant from the **clew points**.

G.6 SAIL REINFORCEMENT

G.6.1 Primary Reinforcement

An unrestricted number of additional layers of **ply** of permitted material:

- 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
- where permitted by the **class rules**

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 Batten Pocket Patch

Secondary reinforcement at the inner end of a **batten pocket**.

G.6.4 Chafing Patch

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

G.6.5 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

- (a) MAINSAIL and HEADSAIL: The distance between the **clew point** and the **tack point**.
- (b) SPINNAKER: The distance between the **clew points**.

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 leech points**.

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 leech points**.

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 leech points**.

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 leech points**.

G.7.8 Top Width

The distance between the **head point** and the **aft head point**.

G.7.9 Diagonal

- (a) SPINNAKER: The distance between a **clew point** and the opposite **half leech point**.

G.7.10 Foot Median

The distance between the **head point** and the **mid foot point**.

G.7.11 Luff Perpendicular

- (a) MAINSAIL and HEADSAIL: 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 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 shall be ignored.
- (b) OUTSIDE: The distance between the **sail edge** and the external extreme end of the **batten pocket**, measured parallel to the pocket centreline.

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 dimension of the **sail reinforcement** from a **sail corner measurement point**.
- (b) ELSEWHERE: The greatest dimension of the **sail reinforcement**.

G.8.5 Seam Width

The width of a **seam** measured at 90° to the **seam**.

G.8.6 Tabling Width

The width of a **tabling** measured at 90° to the **sail edge**.

G.8.7 Attachment Size

(a) AT A CORNER OR AN EDGE

(1) 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**.

(2) WIDTH

The greatest dimension measured perpendicular to the length.

(b) ELSEWHERE

The greatest dimension of the **attachment**.

Subsection B – Additions for Other Sails

The following definitions for other sails,

e.g. “Gaff Sails”, “Lugsails” and “Spritsails”,

are additional to or vary those given in Subsection A of this Section.

G.2 SAIL EDGES

G.2.4 Head

The top edge.

G.3 SAIL CORNERS

G.3.4 Peak

The area where the **head** and the **leech** meet.

G.3.5 Throat

The area 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 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 III – 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.
- 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 attaching 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 **certification authority** in the country where the event takes place, which if in doubt shall consult the authority responsible for interpreting the **class rules**.

H.3 AXES OF MEASUREMENT

- 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 planes through the measurement points at 90° to the **spar**.
- 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.5 SAIL MEASUREMENT

H.5.1 Conditions of Sail

The **sail** shall

- be dry,
- not be attached to **spars** or **rigging**,
- have all battens removed,
- have pockets of any type flattened out,
- have just sufficient tension applied to remove wrinkles across the line of the measurement being taken and
- have only one measurement taken at a time.

H.5.2 Hollows in Sail Edges

Where the **sail edge** is 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**;
- between the **tack point** and adjacent **batten pocket**;
- at an **attachment**,

the **sail** shall be flattened out in the area of the **sail edge**, the 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 ignored when measuring.

H.6 CHECKING MATERIALS

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

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*¹ See Section G, Subsection B – Additions for Other Sails