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Class Rules

International Tempest Class



The Tempest was designed in 1965 by Ian Proctor and was adopted as a World Sailing class in 1966.

sport / nature / technology



World Sailing
Class Association

INDEX

PART I – ADMINISTRATION

Section A – General

A.1	Language	4
A.2	Abbreviations	4
A.3	Authorities and Responsibilities	4
A.4	Administration of the Class	4
A.5	World Sailing Rules	4
A.6	Sailing Instructions	5
A.7	Class Rules Amendments	5
A.8	Class Rules Interpretations	5
A.9	International Class Fee(s) and World Sailing Building Plaque	5
A.10	Sail Numbers	5
A.11	Certification	6
A.12	Validity of Certificates	6
A.13	Compliance with Class Rules	6
A.14	Re-Certification	6
A.15	Definitions	7

Section B – Boat Eligibility

B.1	Certificate	7
B.2	Certification Marks	7
B.3	Class Association Sticker	7

PART II – REQUIREMENTS AND LIMITATIONS

Section C – Conditions for Racing

C.1	General	8
C.2	Crew	8
C.3	Personal Equipment	8
C.4	Advertising	8
C.5	Portable Equipment	9

C.6	Boat	9
C.7	Hull	10
C.8	Hull Appendages	10
C.9	Rig	11
C.10	Sails	12

Section D– Hull

D.1	General	13
D.2	Hull Components	13
D.3	Gunwale Rubbing Strakes	14
D.4	Mast Partners	14
D.5	Traveller Track	14
D.6	Assembled Hull	14

Section E – Hull Appendages

E.1	General	18
E.2	Keel.....	18
E.3	Rudder Blade, Rudder Stock and Tiller	19

Section F – Rig

F.1	Parts	20
F.2	General	20
F.3	Mast	21
F.4	Boom	22
F.5	Spinnaker Pole	23
F.6	Standing Rigging	23
F.7	Running Rigging	23

Section G – Sails

G.1	Parts	24
G.2	General	24
G.3	Mainsail	25
G.4	Headsail	26
G.5	Spinnaker	26

INTRODUCTION

*International Tempest is a one-design class. The **Class Rules**, Construction and Measurement Plans and Building Specifications are intended to ensure that **boats** of this class are alike in **hull**, deck, **keel** form, construction, and weight; **rudder** shape; sail area and some other items that affect performance.*

International Tempest hulls, hull appendages, rigs and sails are measurement controlled.

International Tempest hulls, hull appendages, rigs and sails may, after having left the manufacturer, 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 certification process.

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

This introduction only provides an informal background and the International Tempest Class Rules proper begin on the next page.

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 MNA Member National Authority
- ITA International Tempest Association
- NTA National Tempest Association
- ERS Equipment Rules of Sailing
- RRS Racing Rules of Sailing

A.3 AUTHORITIES AND RESPONSIBILITIES

- A.3.1 The international authority of the class is World Sailing which shall co-operate with the ITA in all matters concerning these **class rules**.
- A.3.2 No legal responsibility with respect to these **class rules**, or accuracy of measurement, rests with:
 - World Sailing,
 - The MNA,
 - The ITA,
 - An NTA.
 - The **certification authority**,
 - An **official measurer**,No claim arising from these **class rules** can be entertained.
- A.3.3 Notwithstanding anything contained herein, the **certification authority** has the authority to withdraw a **certificate** and shall do so on the request of the World Sailing.

A.4 ADMINISTRATION OF THE CLASS

- A.4.1 World Sailing 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 NTA.
- 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 ITA which may delegate the administration to an NTA.

A.5 WORLD SAILING 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 SAILING INSTRUCTIONS

- A.6.1 These **class rules** shall not be varied by sailing instructions except as provided by A.8.2.
- A.6.2 At World, Continental or Regional Championships the sailing instructions may vary these **class rules** only with the agreement of the ITA.

A.7 CLASS RULES AMENDMENTS

- A.7.1 Amendments to these **class rules** shall be proposed by the ITA and require to be approved by the World Sailing in accordance with World Sailing Regulations.

A.8 CLASS RULES INTERPRETATIONS

A.8.1 GENERAL

Interpretation of **class rules** shall be made in accordance with World Sailing Regulations.

A.8.2 AT AN EVENT

Any interpretation of **class rules** required at an event may be made by an international jury constituted in accordance with the RRS. Such interpretation shall only be valid during the event and the organising authority shall, as soon as practical after the event, inform World Sailing, the MNA and the ITA.

A.9 INTERNATIONAL CLASS FEE(S) AND WORLD SAILING BUILDING PLAQUE

- A.9.1 The licensed builder shall pay the International Class Fee(s).
- A.9.2 World Sailing shall, after having received the International Class Fee for the hull, send World Sailing Building Sticker, ITA plaque and a measurement form to the licensed hull builder.
- A.9.3 The International Class Fee shall be on the basis of 3.0 percent of the average retail price of the boat in standard form, without sails, in Britain. This Fee shall incorporate the designer's fee of 1.5 percent, the International Tempest Association administration fee of 1.1 percent and the International Sailing Federation fee of 0.4 percent.

The amount of the International Class Fee shall always be assessed on the above basis and shall be reviewed and if necessary revised on the recommendation of the International Tempest Association.

A.10 SAIL NUMBERS

- A.10.1 Sail numbers shall be identical to the **hull** number

A.11 CERTIFICATION

- A.11.1 For a **hull** not previously **certified**, all items required by the measurement(s) form to be measured shall be measured by an **official measurer** and the details entered onto the form(s).
- A.11.2 The measurement form(s), and **certification** fee if required, shall be sent to the **certification authority** in the country where the **hull** is to be registered after completion of measurement.
- A.11.3 Upon receipt of a satisfactorily completed measurement form(s) and **certification** fee if required within the time limit, the **certification authority** shall issue a **certificate**.
- A.11.4 The **certification authority** shall retain the original measurement form(s), which shall be transferred to the new **certification authority** upon request if the **hull** is exported.

A.12 VALIDITY OF CERTIFICATES

- A.12.1 A **certificate** becomes invalid upon:
- (a) The date of expiry,
 - (b) Change of ownership,
 - (c) Withdrawal by the **certification authority**,
 - (d) The issue of another **certificate**,

A.13 COMPLIANCE WITH CLASS RULES

- A.13.1 The owner is responsible for the Measurement **Certificate** or certified measurement form remaining valid.
- A.13.2 A **boat** ceases to comply with the **class rules** upon:
- (a) The use of equipment which does not comply with the **class rules**,
 - (b) The use of equipment that does not comply, or that causes the **boat** not to comply, with limitations recorded on the **certificate**,
 - (c) Alteration or repair to items required by the measurement form(s) to be measured, other than permitted routine maintenance and minor repairs.
 - (d) A change of **class rules** that causes equipment in use to cease to be permitted, except where the equipment may comply with the **class rules** in force at the time of its initial **fundamental measurement**.

A.14 RE-CERTIFICATION

- A.14.1 A **hull** may be re-certified by the issue of a new **certificate**, showing dates of initial and new **fundamental measurement** as applicable:

(a) WHEN A CERTIFICATE BECOMES INVALID UPON CHANGE OF OWNERSHIP

The new owner shall apply for re-certification by sending the old **certificate**, and fee if required, to the **CA** in the country where the hull is to be re-certified. If this **CA** is different from the previous **CA** then the new **CA** should receive the hull measurement form(s) from the old **CA** prior to re-certification.

- (b) WHEN A CERTIFICATE HAS BEEN WITHDRAWN, OR WHEN THE CERTIFICATE AND MEASUREMENT FORM(S) CANNOT BE LOCATED

The owner shall arrange for **fundamental measurement** as required for initial **certification** and then apply for re-certification by sending the hull measurement form(s), and fee if required, to the **CA** in the country where the **hull** is to be re-certified. The ITA may issue the **hull** a new identification number(s).

- A.14.2 A **boat** that has ceased to comply with its **certificate** it may be brought into compliance:

(a) By carrying out **fundamental measurement** of the affected equipment.

A.15 DEFINITIONS

A.15.1 Schedule A boats - All boats built before 1990 are schedule A boats.

A.15.2 Schedule B boats - All boats built after 1990 are schedule B boats.

Section B – Boat Eligibility

For a **boat** to be eligible when *racing*, the rules in this section shall be complied with.

B.1 CERTIFICATE

B.1.1 The hull shall have a valid **certificate** including **corrector weight** details.

B.2 CERTIFICATION MARKS

B.2.1 Items that require **certification marks** shall be so marked.

B.3 CLASS ASSOCIATION STICKER

B.3.1 A valid class association sticker shall be affixed to the **hull** in a conspicuous position.

PART II – REQUIREMENTS AND LIMITATIONS

The **crew** and the **boat** shall comply with the rules in Part II when *racing*. Measurement to check conformity with rules of Section C is not part of **fundamental measurement**.

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

Section C – Conditions for Racing

C.1 GENERAL

C.1.1 RULES

- (a) The following RRS rules shall not apply:
 - (1) The racing rule RRS 49.1 is altered such that a trapeze may be used.
 - (2) **Sail** identification shall comply with the RRS except as provided by C10.6(b)
- (b) The ERS Part 1 – Use of Equipment shall apply.

C.2 CREW

C.2.1 LIMITATIONS

- (a) The **crew** shall consist of 2 persons.
- (b) The trapeze shall not be used by more than one person at any time.
- (c) No **crew** member shall be substituted during an event of less than 6 consecutive days, unless authorised in writing by the race committee or jury.

C.3 PERSONAL EQUIPMENT

C.3.1 MANDATORY

- (a) Personal buoyancy for all crew members.
- (b) Trapeze harness. The weight of the trapeze harness shall not exceed 3.5 kg and shall have positive buoyancy.

C.4 ADVERTISING

C.4.1 LIMITATIONS

Advertising shall only be displayed in accordance with the World Sailing Advertising Code.

C.5 PORTABLE EQUIPMENT

C.5.1 FOR USE

(a) **Mandatory**

- (1) One anchor of not less than 2kg in weight and with not less than 15m of line of a minimum 5mm in diameter.

(b) **Optional**

- (1) Electronic or mechanical timing devices
- (2) Electronic or Mechanical Compass(s)
- (3) Wind Indicator

C.5.2 NOT FOR USE

(a) **Mandatory**

- (1) Two paddles of a minimum 1000mm long and of 0.4kg minimum weight.

(b) **Optional**

- (1) Mooring line
- (2) Towing rope of a minimum 15 m long of not less than 5 mm in diameter.

C.6 BOAT

C.6.1 WEIGHT

The weight of the **boat** in dry condition minimum 480 kg

The weight shall be taken excluding **sails** and all portable equipment as listed in C5.

C.6.2 CORRECTOR WEIGHTS

- (a) **Corrector weights** of metal shall be permanently fastened to the forward cockpit bulkhead with no part of the correctors less than 200mm from the cockpit floor when the **boat** weight is less than the minimum requirement.
- (b) The total weight of such **corrector weights** shall not exceed 15kg. See also rule B.1.1.

C.6.3 FLOTATION

- (a) The **hull** shall be fully decked and have closed cell foam flotation element(s), which are to be installed as follows:

Forward – To provide 150kg minimum positive buoyancy in the forward buoyancy compartment and;

Centre/Aft – To provide 150kg minimum positive buoyancy in the centre and/or aft buoyancy compartment with no part more than 1370mm from the aft cockpit bulkhead.

- (b) Owners are responsible for maintaining the effectiveness of the buoyancy compartments and ensuring they are watertight. The hatch into the aft buoyancy compartment need not be entirely watertight.

C.7 HULL

C.7.1 MODIFICATIONS AND MAINTENANCE

- (a) The hull shell, deck, bulkheads, and Bridge deck shall not be altered in any way except as permitted by these **class rules** and shall not decrease the effectiveness of the buoyancy compartments.
- (b) Holes not bigger than necessary for the installation of fittings
- (c) Routine maintenance such as painting, minor repairs and polishing is permitted without re-measurement and re-**certification**.
- (d) Hull mouldings may be sanded and painted and/or polished and have scratches repaired providing the shape is not altered.
- (e) If any hull moulding is repaired in any other way than described in C.7.1(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**.

C.7.2 FITTINGS

(a) **Mandatory**

- (1) Two openings, each 110mm x 180mm maximum dimensions for cockpit self bailers.

minimum maximum

Trapeze Straps. Not more than two flexible toe straps are permitted on each side. Distance between fixing points 160mm

(b) **Use**

- (1) Hand hole covers and drainage plugs shall be kept in place at all times.
- (2) Trapeze toe straps shall not permit the crew's feet or normal shoe to be supported out of contact with the hull or gunwale rubbing bead or permitted non-slip material.

C.8 HULL APPENDAGES

C.8.1 MAINTENANCE

- (a) Routine maintenance such as painting, minor repairs and polishing is permitted without re-measurement and re-**certification**.

C.8.2 LIMITATIONS

- (a) Only one **centreboard/keel** and one **rudder** blade shall be used during an event of less than 6 consecutive days, except when a **hull appendage** has been lost or damaged beyond repair.
- (b) The fore and aft position of the **keel** may be adjusted within the limits of the keel slot, but the position of the **keel** shall not be altered when racing. The forward edge of the fin, where it meets the underside of the hull, shall be not more than 3865mm nor less than 3805mm from the transom, measured along the centreline of the hull.

C.9 RIG

C.9.1 MAINTENANCE

Routine maintenance such as minor repairs is permitted without re-measurement and re-**certification**.

C.9.2 LIMITATIONS

- (a) Only one set of **spars** and standing **rigging** shall be used during an event of less than 6 consecutive days, except when an item has been lost or damaged beyond repair.
- (b) Two spinnaker poles may be carried onboard and used

C.9.3 MAST

(a) Dimensions

	minimum	maximum
The extreme lower end of the mast located		
Above the cockpit floor extended as necessary		40mm
Distance between the Lower Point and its closest point of the cockpit floor	1165mm	1175mm
The mast position from hull datum point as Defined in D.1.3		4190mm

(b) Use

The **spar** shall be stepped above the cockpit floor, aft of the forward main bulkhead in the mast step in such a way that the heel is not capable of moving.

C.9.4 BOOM

(a) Dimensions

	minimum	maximum
Limit mark width	10 mm	
Boom point distance		3380 mm

(b) Use

- (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.9.5 SPINNAKER POLE

(a) Fittings

Fittings are optional.

C.9.6 STANDING RIGGING

(a) Dimensions

	Minimum	Maximum
The longitudinal distance between the intersection of the forestay and the centreline of the deck,		

and the HDL measured parallel to the deck 6249mm ... 6435mm

(b) **Use**

- (1) The effective length of a shroud may be altered.
- (2) The effective length of a forestay may be altered.

C.9.7 **RUNNING RIGGING**

(a) **Use**

- (1) The attachment of any control wire adjacent to the shroud to control its length shall be attached to the side deck within a radius of 90mm of the centre of the shroud plate.
- (2) On Schedule A boats the shroud control wire shall not take more than 25% of the load of the shroud, and on schedule B boats the shroud control wire shall not take more than 50% of the load

(b) **Materials**

Materials are optional.

C.10 SAILS

C.10.1 **MAINTENANCE**

- (a) Routine maintenance such as minor repairs are permitted without re-measurement and re-**certification**.

C.10.2 **LIMITATIONS**

- (a) Not more than 1 mainsail, 1 jib and 2 spinnakers shall be carried aboard.
- (c) Not more than 2 mainsails, 2 jibs, and 3 spinnakers shall be used during an event of less than 6 consecutive days, except when a **sail** has been lost or damaged beyond repair.

C.10.3 **MAINSAIL**

(a) **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** and **foot** bolt ropes shall be in the **spar** grooves or tracks.

(b) **Identification**

The sail numbers shall comply with the RRS.

C.10.4 **JIB**

(a) **Use**

The sail shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the sail at sea.

C.10.6 SPINNAKER

(a) **Use**

Only one spinnaker may be hoisted at a time.

(b) **Identification**

RRS rule G.1.3(d) is modified so that National letters are not mandatory.

Section D – Hull

D.1 GENERAL

D.1.1 RULES

- (a) The **hull** shall comply with the **class rules** in force at the time of initial **certification**.

MOULDS

- (a) The **hull** shall be constructed only from official moulds. These moulds shall be checked by an **Official Measurer** appointed by the National Authority using Measurement Templates. These checks shall take place prior to commencement of production.
- (b) Application for the issue of new moulds and patterns for **hull** and **keel**, and measurement templates shall be made to the ITA and World Sailing, which shall authorise delivery from the approved source.

D.1.2 CERTIFICATION

See Rule A.11.

D.1.3 DEFINITIONS

- (a) Hull Datum Line (HDL). Vertical centre line of the transom excluding the aft deck overhang.

D.1.4 IDENTIFICATION

- (a) The hull number and the mould number shall be engraved on the forward face of the aft bulkhead approximately on the centerline. Each digit of the number shall be a minimum of 20 mm in height and 15 mm in width except for the number 1.
- (b) For boats built in 1999 or later, the hull number, which is identical to the sail number, shall be obtained from World Sailing.

D.1.5 BUILDERS

- (a) The hull shall be built by a builder licensed by World Sailing.
- (b) All moulds shall be approved by World Sailing.

D.2 HULL COMPONENTS

D.2.1 THE HULL COMPONENTS

- (a) Schedule “A” **boats** - hull shell, deck, buoyancy tanks, gunwale and rubbing strakes, bulkheads, mast partners, bridge deck, aft hatch cover and hull girders.
- (b) Schedule “B” **boats** –hull shell, deck, buoyancy tanks, gunwale and rubbing strakes, bulkheads, deck extension (mast partners), bridge deck, aft hatch cover, hull girders, forward bulkhead hatch cover, and keel slot cover.

D.2.2 MATERIALS

- (a) All hull components shall comply with the Tempest Building Specifications and the Construction Manual unless otherwise specified in these **class rules**.

D.2.3 CONSTRUCTION

- (a) All hull components shall comply with the Tempest Building Specifications and drawings unless otherwise specified in these **class rules**.

D.3 GUNWALE AND RUBBING STRAKES

D.3.1 MATERIALS

- (a) Timber, Plastic or some resilient material.

D.3.2 CONSTRUCTION

- (a) Schedule B boat the rubbing strake may be discontinued in the centre section from points on the deck edges at 1580mm and 3880mm from the aft edge of the aft deck at its longitudinal centreline. In this section the sheerline shall be flush with the outer edge of the rubbing strake.

D.4 MAST PARTNERS

D.4.1 MATERIALS

Aluminium which may be anodised or a fibreglass laminate moulding.

D.5 TRAVELLER TRACK

D.5.1 CONSTRUCTION

- (a) On schedule A boats the traveller track shall extend beyond the bridge deck moulding and onto the side decks themselves. On schedule B boats the traveller track is optional. If fitted, it shall extend, where possible, the full length of the bridge deck moulding.

D.6 ASSEMBLED HULL

D.6.1 FITTINGS

Optional

- (1) Halyard tensioners
- (2) Mainsail sheet blocks, fairleads and cleats
- (3) Mainsail Cunningham blocks, fairleads and cleats
- (4) Stemhead fitting
- (5) Headsail sheet blocks, fairleads and cleats
- (6) Headsail Cunningham blocks, fairleads and cleats
- (7) Headsail Barber hauler fairleads, blocks and cleats
- (8) Spinnaker sheet and guy fairleads, blocks and cleats
- (9) Spinnaker Barber hauler fairleads, blocks and cleats
- (10) Spinnaker up/down haul fairleads, blocks and cleats

- (11) Spinnaker sock
- (12) Outhaul fairleads, blocks and cleats
- (13) Cunningham fairleads, blocks and cleats
- (14) Shroud/forestay adjustment fairleads, blocks and cleats
- (15) Kicker fairleads, blocks and cleats
- (16) Tiller lock
- (17) Toe straps not capable of extending outboard
- (18) Hand holds on deck
- (19) Stowage clips or bags for paddle(s), spinnaker pole, sail bags and other equipment
- (20) Compasses
- (21) Toe chocks
- (22) Stern rubbing bead. Section as gunwale rubbing bead.
- (23) Keel slot fairing plates and rollers.
- (24) Cockpit drainage tube flaps
- (25) Drain plugs

D.6.2 PIERCING

The following holes may be made, provided the integrity of the buoyancy tanks are maintained.

- (a) In accordance with the construction and measurement drawings.
- (b) For permitted watertight tubes or slots through the buoyancy tanks.
- (c) Permitted access holes.

Watertight Tubes

- (1) One tube connecting bow bulkhead to forward cockpit bulkhead for a control line.
- (2) A spinnaker chute tube connecting bow bulkhead to forward cockpit bulkhead or cockpit side deck.
- (3) One tube connecting spinnaker well to forward bulkhead.
- (4) Two tubes connecting aft cockpit bulkhead to transom for cockpit drainage.
- (5) One tube connecting each cockpit side to aft deck for spinnaker sheets.
- (6) **Rudder** shaft tube.

Access Holes

- (1) On Schedule “B” **boats** one aperture for an inspection hatch with not more than two holes for inspection ports in hatch cover.
- (2) Three inspection ports in cockpit side deck.
- (3) One inspection port in each side deck

D.6.3 LIFTING EYES

- (a) Foreward - A hole shall be provided in the keel supporting angles for attachment of the forward lifting strop.
- (b) Aft - One or two aft lifting eyes shall be located as shown on the Construction Plans.

(c) Capacity - Each lifting eye and its attachment to the boat shall be capable of withstanding a vertical load of 500kg.

D.6.4 DIMENSIONS

The hull shall be measured according to the Hull Measurement Plan, which is part of these rules.

The keel line shall be taken as the intersection line from transom to stem of the hull shell and the **hull** centreplane.

The sections shall be taken as vertical, transverse planes at the following positions:

- Section H1: at 300 mm from HDL as defined in D.1.3
- Section H2: at 1520 mm from HDL as defined in D.1.3
- Section H3: at 2750 mm from HDL as defined in D.1.3
- Section H4: at 4750 mm from HDL as defined in D.1.3
- Section H5: at 5500 mm from HDL as defined in D.1.3

The baseline shall be on the centreplane of the **hull** at the following vertical distances:

172 mm from the **hull** shell at section H5 : 330 mm from the **hull** shell at the transom

	minimum	maximum
Hull length excluding aft deck overhang .....	...	6680 mm
Vertical distance from baseline to underside of hull shell;		
At transom	330 mm	330 mm
At section H1	302 mm	308 mm
At section H2	203 mm	213 mm
At section H3	127 mm	139 mm
At section H4	111 mm	121 mm
At section H5	172 mm	172 mm
Transom horizontal curve.....	54 mm	66 mm
Radius between skin of boat and the surface of the transom		6 mm
The angle between the base line and the transom	88.5°	91.5°
Vertical distance from the hull shell to underside of keel		
At the intersection with hull and aft edge of the fin	865 mm	900 mm
Forestay attachment point from HDL as		
Defined in D.1.3	6249 mm	6435 mm
Beam of hull , excluding rubbing strakes and fittings, at sheerline, at sections H1-5;		
Horizontal distance from inner edge of template to		
Sheerline.....	19 mm	38 mm
Vertical distance from upper edge of template to		
Sheerline... ..	0 mm	16 mm
Template H6 applied to the stem, distance from top of		
Template to stem	46 mm	56 mm

Longitudinal distance from HDL as defined in D.1.3.	
To intersection of keel trailing edge and hull	3290 mm
To intersection of keel leading edge and hull	3865 mm
Top forward edge of rudder blade to HDL as defined in D.1.3	610 mm 650 mm
Forward cockpit bulkhead to HDL as defined in D.1.3	4510 mm 4590 mm
Aft cockpit bulkhead to HDL as defined in D.1.3	1490 mm 1535 mm
Distance from HDL as defined in D.1.3 to centre of shroud plate holes	3915 mm
Shroud plate to sheerline	20 mm
Sheer at forward cockpit bulkhead	135 mm 155 mm
Cockpit floor depth at forward cockpit bulkhead.....	365 mm 385 mm
Sheer at aft cockpit bulkhead.....	35 mm 55 mm
Curve of aft deck at aft cockpit bulkhead inside cockpit side	21 mm..... 31 mm
Cockpit floor depth from sheerline at aft cockpit bulkhead	285 mm..... 305 mm
Gunwale rubbing strakes;	
width	13 mm 19 mm
distance from transom excluding overhang of aft deck;	
.....	25 mm
distance from stemhead excluding stemhead fitting	
.....	130 mm
Overall height of keel angle	40 mm
Distance from HDL as defined in D.1.3 to aft end of mast partners	4190 mm
Drain holes in bow bulkhead.....	7 mm
Cockpit self bailer holes fore and aft.....	180 mm
Cockpit self bailer holes athwart	110 mm
Cockpit drain tubes internal diameter	80 mm
Watertight tube internal diameter bow to cockpit bulkhead	55 mm
Watertight tube internal diameter spinnaker stowage well	10mm 20 mm
Inspection ports diameter	155 mm
Forward bulkhead inspection hole if fitted fore and aft	600 mm
Forward bulkhead inspection hole if fitted athwart.....	500 mm
Spinnaker chute tube internal diameter	210 mm
Spinnaker sheet tube internal diameter.....	55 mm
Inspection holes in cockpit floor fore and aft.....	250 mm
Inspection holes in cockpit floor athwart	155 mm
Chute mouth, including any radius or fairing into the normal and general surface of the foredeck, from HDL as defined in D.1.3.....	5865 mm
Inspection port in side deck from shroud plate	230 mm

Hatch opening in aft deck fore and aft	475 mm
Hatch opening in aft deck athwart.....	475 mm
Rudder housing slot in aft deck fore and aft.....	365 mm 395 mm
Rudder housing slot in aft deck athwart.....	43 mm 57 mm

D.6.5 WEIGHTS

	minimum	maximum
Hull weight including rudder	226 kg	...
Hull weight including all hull appendages	453 kg

Schedule B boats only:

Keel slot cover.....	5 kg
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D.6.6 HULL CORRECTOR WEIGHTS

- (a) **Corrector weights** of metal shall be permanently fastened to the forward cockpit bulkhead with no part of the correctors less than 200mm from the cockpit floor when the **boat** weight is less than the minimum requirement.
- (b) The total weight of such **corrector weights** shall not exceed 15kg. See also rule B.1.1.

Section E – Hull Appendages

E.1 GENERAL

E.1.1 RULES

- (a) Hull appendages shall comply with the **class rules** in force at the time of **certification**.

E.1.2 CERTIFICATION

- (a) The **official measurer** shall **certify hull appendages** and shall sign and date the **certification mark**.
- (b) An MNA may appoint one or more persons at a manufacturer to measure and **certify hull appendages** produced by that manufacturer in accordance with World Sailing guidelines.

E.1.3 MANUFACTURERS

- (a) The **hull appendages** shall be made by manufacturers licensed by World Sailing.

E.2 KEEL

E.2.1 MATERIALS

- (a) The **fin** shall be of mild steel and may be galvanised, zinc sprayed, zinc coated or stainless steel.
- (b) The **keel** may be glass reinforced plastic coated or plastic coated.
- (c) The **bulb** shall be made of lead, unless otherwise specified in Rule E.2.2(c)

E.2.2 CONSTRUCTION

- (a) The **keel** shall be manufactured from a pattern approved by World Sailing.
- (b) The shape of the bulb shall be checked, after attachment to the fin, by Measurement Templates as shown on the Measurement Plan.
- (c) The cast bulb may be reduced in weight by the removal of lead and the substitution of a lighter material up to the minimum weight requirement of the keel.
- (d) The fin shall be arranged so as to be removable from the hull. Spacers and/or filling compound may be used to prevent the fin from moving horizontally within the slot. Filling compound shall not be used outside the hull to form a radius or fillet between the fin and hull.
- (e) The forward and aft edges of the fin shall be parallel.
- (f) The finished fin shall be of uniform thickness, except that the thickness may be reduced at the forward and aft edge.

E.2.3 DIMENSIONS

	minimum	maximum
Thickness of finished fin	9.5 mm	13 mm
The width of the exposed section of the fin, measured		

at right angles to the forward edge.	503 mm	.....	513 mm
Reduction of thickness of fin from forward edge.....	.....	80 mm	
Reduction of thickness of fin from aft edge .....	.....	105 mm	
Horizontal distance from centre of aft end of keel bulb to fin at forward edge	882 mm	.....	908 mm
Radius at the intersection of the fin and the upper surface of the bulb .....	.....	4 mm	

E.2.4 WEIGHTS

	minimum	maximum
Keel	200 kg	..... 232 kg

E.3 RUDDER BLADE, RUDDER STOCK AND TILLER

E.3.1 MATERIALS

- (a) The **rudder** blade shall be made with only the following materials:- wood, resin reinforced with glass fibre, or plastic foam (which includes micro balloons) and may be painted.

E.3.2 CONSTRUCTION

- (a) The profile shall conform to the Measurement Template.
(b) The section is optional
(c) The design of the tiller, tiller extension and rudder frame are optional

E.3.3 FITTINGS

(a) **Mandatory**

- (1) Tiller
(2) Tiller extension

(b) **Optional**

- (1) Tiller extension clip

E.3.4 DIMENSIONS

	minimum	maximum
The edge of the rudder to the edge of the template R. ....	.....	7 mm
Horizontal section.....	...	50 mm
Horizontal section within 400mm from the upper edge at its point of greatest thickness. ....	.....	40 mm
Rudder stock diameter .....	.....	22 mm

E.3.5 WEIGHTS

	minimum	maximum
Rudder , including the rudder stock	6.5 kg	.....

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 poles**

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 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.
- (c) An MNA may appoint one or more persons at a manufacturer to measure and **certify spars** produced by that manufacturer in accordance with World Sailing guidelines.

F.2.3 DEFINITIONS

- (a) The **Mast Datum Point** is the **Lower Point**

F.2.4 MANUFACTURER

- (a) Manufacturer is optional.

F.3 MAST

F.3.1 MATERIALS

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

F.3.2 CONSTRUCTION

- (a) The **spar** extrusion shall include a fixed sail groove or track, which may or may not be integral with the **spar** but shall be of the same material.
- (b) The taper shall be convex or straight and local hollows of more than 3mm on the longitudinal surface of the tapered portion are prohibited.

F.3.3 FITTINGS

- (a) **Mandatory**
 - (1) Mast head fitting

- (2) Shroud tangs
- (3) A set of spreaders
- (4) Mainsail halyard sheave box
- (5) Headsail halyard sheave box
- (6) Spinnaker halyard sheave box
- (7) Spinnaker pole fitting
- (8) Spinnaker pole lift block with attachment
- (9) Spinnaker pole downhaul block with attachment
- (10) Gooseneck
- (11) Heel fitting
- (12) Sheaves for halyards

(b) **Optional**

- (1) One mechanical wind indicator
- (2) Compass bracket
- (3) Kicking strap attachment

F.3.4 DIMENSIONS

	minimum	maximum
Mast spar cross section between the lower point height and the forestay height		
fore-and-aft	91 mm	
transverse	72 mm	
Mast spar cross-section between the upper point height and the forestay height.		
fore-and-aft	56 mm	
transverse	49 mm	
Mast spar cross-section ratio, fore and aft : transverse	1.27:1	
Mast taper point from datum point	6060 mm	
Mast limit mark width	10 mm	
Lower point to upper point	7620 mm	
Forestay height	5670 mm	5945 mm
Shroud height	5670 mm	5945 mm
Spinnaker Pole fitting projection	50 mm	
Spinnaker hoist height	6100 mm	

F.3.5 WEIGHTS

	minimum	maximum
Mast weight	17.5 kg	
Tip weight	6.75 kg	

F.4 BOOM

F.4.1 MATERIALS

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

F.4.2 CONSTRUCTION

- (a) The **spar** extrusion shall include a fixed sail groove or track which may or may not be integral with the **spar** but shall be of the same material.
- (b) The **boom** section shall be uniform between the points on the **boom** 50mm and 3330mm from its forward end.

F.4.3 FITTINGS

(a) **Mandatory**

- (1) Mainsheet blocks with attachments
- (2) Clew outhaul attachments
- (3) Kicking strap fitting
- (4) Gooseneck attachment

(b) **Optional**

- (1) Strops for mainsheet blocks
- (2) Spinnaker pole stowage fittings
- (3) Clew outhaul blocks

F.4.4 DIMENSIONS

minimum maximum

Boom spar cross section between the points on the
boom 50mm and 3330mm from its forward end.

vertical 63 mm

transverse 53 mm

The **boom** excluding fittings listed in F.4.3 shall pass through
a circular hole.

Diameter 90 mm

F.5 SPINNAKER POLE

F.5.1 MANUFACTURER

- (a) Manufacturer is optional.

F.5.2 MATERIALS

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

F.5.3 FITTINGS

- (a) Fittings are optional.

F.5.4 DIMENSIONS

minimum maximum

Spinnaker pole length 2565 mm

F.6 STANDING RIGGING

F.6.1 MATERIALS

- (a) The standing **rigging** shall be of stainless steel.

F.6.2 CONSTRUCTION

(a) **Mandatory**

- (1) The forestay and shrouds shall be of circular section.

(b) **Optional**

- (1) The material of the backstay.

F.6.3 FITTINGS

(a) **Mandatory**

- (1) Forestay
- (2) Shroud

(b) **Optional**

- (1) Backstay
- (2) Shroud adjustment equipment
- (3) Forestay adjustment equipment
- (4) Lower shrouds

F.7 RUNNING RIGGING

F.7.1 MATERIALS

- (a) Materials are optional.

F.7.2 CONSTRUCTION

(a) **Mandatory**

- (1) Mainsail halyard
- (2) Mainsail sheet
- (3) Kicking strap
- (4) Headsail halyard
- (5) Headsail sheets
- (6) Spinnaker halyard
- (7) Spinnaker sheet and guy
- (8) Spinnaker pole lift and downhaul

(b) **Optional**

- (1) Mainsail Cunningham line
- (2) Mainsail outhaul
- (3) Headsail Cunningham line
- (4) Single line headsail Barber haulers
- (5) Single line spinnaker Barber haulers
- (6) Shroud control lines
- (7) Forestay control lines

F.7.3 FITTINGS

(a) **Optional**

- (1) One block or eye in each headsail Barber hauler to run on headsail sheet
- (2) One block or eye in each spinnaker Barber hauler to run on spinnaker sheet or guy

Section G – Sails

G.1 PARTS

G.1.1 MANDATORY

- (a) Mainsail
- (b) Headsail

G.1.2 OPTIONAL

- (a) Spinnaker

G.2 GENERAL

G.2.1 RULES

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) Sail Labels - An officially numbered Tempest Sail Label or button shall be permanently affixed, near to the **tack** of each mainsail and jib, and near the **head** of each spinnaker.
- (c) An MNA may appoint one or more persons at a sail maker to measure and **certify sails** produced by that manufacturer in accordance with World Sailing guidelines.

G.2.3 SAILMAKER

Sail maker is optional.

G.3 MAINSAIL

G.3.1 IDENTIFICATION

- (a) The Class Insignia is the letter “T” and shall be placed on the sail in accordance with the RRS.

G.3.2 MATERIALS

The **ply** fibre materials are optional.

G.3.3 CONSTRUCTION

- (a) The construction shall be: **soft sail, single ply sail**.
- (b) The **body of the sail** may consist of either **woven ply** or **laminated ply** or a combination of the two.
- (c) The **sail** shall have four batten **pockets** in the **leech**.
- (d) 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**.
- (e) The following are permitted: **secondary reinforcement** at a corner, 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, tell tales, sail shape indicator stripes, sail identification, sail maker labels, royalty label, sail button, **certification mark**, a maximum of two **windows**.

G.3.4 DIMENSIONS

	minimum	maximum
Leech length .....	...	8300 mm
Quarter width .....	...	3080 mm
Half width .....	...	2370 mm
Three-quarter width .....	...	1410 mm
Top width .....	...	160 mm
Primary reinforcement .....	...	400 mm
Window		
Area	0.2 m ²	
Distance from nearest edge of sail.....	150mm	1500mm
Batten pocket length:		
Top pocket:		
inside .....	...	1500 mm
Other pockets:		
inside .....	...	1050 mm
Batten pocket width:		
inside .....	...	50 mm
Head point to intersection of leech and centreline of		
uppermost batten pocket	1650 mm	
Clew point to intersection of leech and centreline of		
lowermost batten pocket	1650 mm	

G.4 HEADSAIL

G.4.1 MATERIALS

- (a) The **ply** fibre materials are optional.

G.4.2 CONSTRUCTION

- (a) The construction shall be: **soft sail, single ply sail**.
- (b) The **body of the sail** may consist of either **woven ply** or **laminated ply** or a combination of the two.
- (c) The **leech** shall not extend beyond a straight line from the aft **head point** to the **clew point**.

- (d) The following are permitted: **secondary reinforcement** at a corner, a maximum of two **windows**, Stitching, glues, tapes, corner eyes, hanks, poppers, Velcro hanks, luff wire, leech line with cleat, tell tales, sail shape indicator stripes, sail maker labels, royalty label, sail button, **certification mark**.

G.4.3 DIMENSIONS

	minimum	maximum
Luff length	6350 mm	
Leech length	5980 mm	
Foot length	2490 mm	
Foot median	6250 mm	
Top width	40 mm	
Primary reinforcement	400 mm	
Window:		
Area	0.1 m ²	
Distance from nearest edge of sail	150mm	1500mm

G.5 SPINNAKER

G.5.1 MATERIALS

- (a) The **ply** fibre materials are optional.

G.5.2 CONSTRUCTION

- (a) The construction shall be: **soft sail, single ply sail**.
- (b) The following are permitted: **secondary reinforcement** at a corner, stitching, glues, tapes, corner eyes, recovery line eyes, tell tales, sail maker label, royalty labels, sail button, sail identification, **certification mark**.
- (c) The spinnaker shall be symmetrical about a line joining the **head point** to the **mid foot point**

G.5.3 DIMENSIONS

	minimum	maximum
Leech lengths	6700 mm	
Foot length	4000 mm	
Foot Median	7500 mm	
Half width	3750 mm	4400 mm
Primary reinforcement	400 mm	

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