INTERNATIONAL TEMPEST CLASS RULES 2004

GENERAL

Abbreviations used :

ITA	International Tempest Association
NTA	National Tempest Association
ISAF	International Sailing Federation
NA	ISAF National Authority
RRS	ISAF Racing Rules of Sailing
ERS	ISAF Equipment Rules of Sailing

Definitions:

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

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

Authority - The International Sailing Federation (ISAF).

Recognition - The ISAF recognises the International Tempest Class as an international class.

Delegation - The ISAF has delegated the administration of the class to ISAF National Authorities (NA). When a NA has delegated the administration of the Class, the issue of Measurement Certificates, etc., to a National Tempest Association (NTA), the words " NTA" replace the words "NA" when they occur.

Language - The official language of the class is English and in case of dispute over translation the English text shall prevail.

ISAF rules - These rules shall be read in conjunction with the ISAF Equipment Rules of Sailing (ERS). Where a term is used in its defined sense, it is printed in “bold” type if defined in the ERS.

Type of rules - These are **Closed class rules**.

1. OBJECT OF THE CLASS RULES

This 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, and **keel** form, construction, and weight; **rudder** shape; sail area and shape; and some other items that affect performance.

2. PROTECTION OF ONE DESIGN

2.1 **Hull, Deck, Keel and Rudder Mouldings** - All **boats** shall be constructed from official mouldings. Official mouldings shall only be produced by builders licensed by the ISAF. Moulds and patterns for the construction of components shall be numbered and issued only to licensed builders by the "International Tempest Association" (ITA) and ISAF.

2.2 **Issue of New Moulds** - Application for the issue of new moulds and patterns for **hull** and **keel**, and measurement templates shall be made to the ITA and ISAF, which shall authorise delivery from the approved source.

2.3 **Assembly** - The mouldings (as defined by rule 2.1) of the **boats** shall be fully assembled, and solid foam buoyancy shall be installed, by the builder producing the mouldings.

2.4 **Alterations to Moulds** - Only alterations that have been approved in writing by the ITA and ISAF shall be made to any of the official moulds or templates.

2.5 **Issue of Building Licences** - All applications for Licences shall be sent to the ITA. The ITA shall then forward the application of suitable builders to the ISAF for the issue of a licence under the terms agreed between the ISAF and the Copyright Holder, to produce International Tempests conforming to the Class Rules, Construction and Measurement Plans, and Building Specifications. This licence shall be subject to review and withdrawal by the ISAF at any time. The contract signed by the builder shall include a clause guaranteeing the payment of International Class Fees according to rule 24.

2.6 **Identification**

(a) Application shall be made by the builder to the ISAF for the ISAF Sticker and the Plaque of the ITA. Payment of the International Class Fees shall be made to ISAF according Rule 24. The ISAF Sticker will show the boat number, which is identical to the sail number.

(b) For **boats** built in 1999 or later, the hull number is identical to the sail number.

(c) The ITA plaque shall be permanently fixed approximately on the centreline of the forward face of the aft bulkhead. The hull number, builder's serial number and number of the mould from which the hull moulding came shall be shown on the plaque in figures of 5mm minimum height. The plaque is not transferable.

MEASUREMENT

3.1 **Tolerances** - Tolerances are given to allow for minor building errors and distortion through age, but intentional variations within these tolerances are prohibited. All measurements concerning the shape of the **hull** and **keel** shall be taken by an **Official Measurer** appointed by the appropriate NA before the hull or keel leaves the premises of the Licensed Builder. When an **official measurer** considers that there has been any attempt to depart from the design or these rules in any particular, he shall enter the details on the Measurement Form, which shall be forwarded to the NA. The NA shall withhold the Measurement **Certificate** pending an examination of the case, and may grant a Measurement Certificate if approval is subsequently obtained from the ISAF and or the ITA.

3.2 Measurement Certificate/Measurement Form - No **boat** shall be entitled to race or sail as an International Tempest unless the owner holds a valid Measurement **Certificate** or certified measurement form for that boat in his own name.

(a) When a boat is new, or so substantially reconstructed or repaired as to require re-measurement, the Measurement **Certificate** or certified measurement form shall be obtained in the following way:

(i) The Licensed Builder obtains a Measurement Form from the ITA or ISAF.

(ii) An **Official Measurer** properly completes and signs the Measurement Form.

(iii) The Official Measurer sends the completed Measurement Form together with a request for it's certification or a Measurement **Certificate** to the owner's NA, or where no NA exists, to the ITA.

(b) When a **boat** changes ownership, the new owner sends the old Measurement **Certificate** or certified measurement form along with the new ownership details to his NA or, when no NA exists, to the ITA for validation.

(c) The owner is responsible for the Measurement **Certificate** or certified measurement form remaining valid.

3.3 **Keel -** Replacement **keels** shall be measured by an official measurer as specified on the Measurement Form, and the details entered on a Measurement Form which shall then be sent, together with the Measurement **Certificate** or certified measurement form, to the owner's NA or, when no NA exists, to the ITA for revalidation.

3.4 **Sails -** Replacement or substantially altered **sails** shall be measured and signed by an **Official Measurer**.

3.5 **Spars & Rudders -** Replacement or rebuilt **masts**, **booms**, **spinnaker poles** and **rudders** must conform to the appropriate **class rules**.

3.6 **Re-Measurement -** All certificated **boats** shall be liable to re-measurement at any time at the discretion of the NA, the race committee or the ITA. If a Licensed Builder is found to have signed a Measurement Form for a boat that does not measure, he shall be liable to rectify the error and may have his licence as a builder withdrawn.

4. CONSTRUCTION

Construction shall be in accordance with the Construction and Measurement Plans and Building Specifications.

5. HULL

5.1 **Moulds** - 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.

5.2 **Measurements -**

(a) The **hull** shall be measured according to the Hull Measurement Plan, which is part of these rules. Measurement Templates shall be applied to the stem and transversely at horizontal distances from an extension of the vertical centreline of the transom of 330mm according to the Hull Measurement Plan. The keel line shall be measured from a base line formed as shown on the Hull Measurement Plan.

(b) The overall length of the assembled **hull**, excluding stemhead fitting and aft deck overlap, shall be 6680mm maximum measured between perpendiculars.

(c) The radius between the skin of the boat and the surface of the transom shall not exceed 6mm.

(d) The angle between the transom and the waterline axis of the hull as shown on the Hull Measurement Plan shall be 90° ± 1.5°.

(e) A shroud plate shall be positioned with its shroud attachment points not more than 3915mm from the vertical centreline of the transom (excluding aft deck overlap) in accordance with the Hull Measurement Plan.

5.3 **Internal Fittings**

Internal fittings are optional subject to any further limitations or prohibitions within these rules.

6. PIERCING OF THE HULL, DECK, BULKHEADS AND COCKPIT

The hull, deck, bulkheads or cockpit shall not be pierced except by the following openings, which shall not decrease the effectiveness of the buoyancy compartments, some of which are optional as indicated:

6.1 **In the Hull**

(a) Not more than two holes, each of 7mm maximum diameter to permit drainage forward of the bow bulkhead (Optional).

(b) Keel slot as in rule 11.7.

(c) Rudder slot or rudder shaft tube.

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

(e) Not more than two holes through the transom, each of 80mm maximum diameter, connected with the aft cockpit bulkhead (see rule 6.4) by watertight tubes of 80mm maximum internal diameter (Optional).

6.2 **In the Bow Bulkhead**

(a) One hole of 55mm maximum diameter connected by a watertight tube of 55mm maximum internal diameter to the forward cockpit bulkhead (Optional).

(b) One hole to take a spinnaker chute tube, which shall make a watertight joint with the bulkhead (Optional).

6.3 **In the Forward Cockpit Bulkhead**

(a) One hole of 55mm maximum diameter connected by a watertight tube of 55mm maximum internal diameter to the bow bulkhead (Optional).

(b) One hole of 20mm maximum diameter connected to the spinnaker stowage well (when fitted) by a watertight tube of 10mm minimum and 20mm maximum internal diameter.

(c) On boats fitted with the aperture or hatch as permitted in rule 6.7(b): Not more than two inspection ports, each of 155mm maximum diameter, closed in a watertight manner when racing.

On all other boats: One aperture of maximum dimensions 600mm wide by 500mm high for an inspection hatch. The inspection hatch shall be constructed to the same specifications as the bulkhead, and shall be secured to the bulkhead with screws and packing material to form a watertight joint with the bulkhead. Not more than two inspection ports, each of 155mm maximum diameter and closed in a substantially watertight manner when racing, shall be permitted in the inspection hatch.

(d) One hole to take a spinnaker chute tube of 210mm maximum internal diameter which shall make a watertight joint with the bulkhead (Optional).

6.4 **In the Aft Cockpit Bulkhead**

(a) Not more than two holes, each of 80mm maximum diameter, permitting drainage of the cockpit through watertight tubes of 80mm maximum internal diameter connected with the transom (see rule 6.1e) (Optional).

(b) Not more that two holes, each of 55mm maximum diameter, for the spinnaker sheet tube (Optional).

6.5 **In the Cockpit Floor**

(a) Two inspection ports forward of the bridge deck, of maximum dimensions 250mm long by 155mm wide. A hole of 70mm maximum diameter shall be permitted in each inspection port, and shall be fitted with a watertight cover.

(b) Two additional ports as in rule 6.5(a), positioned aft of the keel slot (Optional).

(c) Not more than two cockpit self-bailers each of 110mm x 180mm maximum dimensions at the aft outboard corners of the cockpit as in rule 6.1(d).

6.6 **In each Cockpit Side** (Longitudinal Bulkhead)

(a) Not more than three inspection ports, each of 155mm maximum diameters, closed in a watertight manner when racing (Optional).

(b) One hole to take a spinnaker chute tube of 210mm maximum internal diameter, which shall make a watertight joint with the bulkhead (Optional).

(c) One hole of 55mm maximum diameter, for the spinnaker sheet tube (optional).

6.7 **In the Foredeck**

(a) One aperture of maximum dimensions 205mm x 160mm forward of the bow bulkhead or one aperture for a spinnaker chute mouth. No chute mouth, including any radius or fairing into the normal and general surface of the foredeck, shall at any place be less than 5865mm from the centreline of the transom, measured parallel to the deck.

(b) On schedule A boats, one aperture for a spinnaker stowage well or inspection hatch, as shown in the Construction Plans. The well or inspection hatch shall form a watertight joint with the deck (Optional).

(c) One hole in the spinnaker stowage well (when fitted). See 6.3.b

(d) One slot in each side for the shroud plate specified in rule 5.2(e), sealed with a watertight cover plate. h

6.8 **In each Side Deck**

(a) One hole of 120mm maximum diameter for the sole purpose of mounting a compass, which shall make a watertight joint with the side deck (Optional).

(b) One inspection port of 155mm maximum diameter, with its centre not more than 230mm from the shroud plate, closed in a watertight manner when racing (Optional).

(c) One hole of 55mm maximum diameter, for the spinnaker sheet tube (optional).

6.9 **In the Aft Deck**

(a) One hatch opening of maximum dimensions 475mm x 475mm, which shall be securely closed by a hatch cover when racing.

(b) Rudder housing slot 380mm ± 15mm by 50mm ± 7mm wide or rudder shaft tube.

(c) Not more that two holes, each of 55mm maximum diameter, for the spinnaker sheet tube (optional).

6.10 **Holes for fastenings used to attach fittings -** Holes solely for the fastening of fittings are allowed and shall be sealed to maintain the effectiveness of the buoyancy compartments.

6.11 **Control line tubes -** No lines or controls shall pass through any surface of the hull, deck, bulkheads or cockpit except for the following optional watertight tube connections.

(a) The compartment forward of the bow bulkhead to the forward cockpit bulkhead. (forestay extension).

(b) The spinnaker chute tube as per rules 6.3(d) and 6.6(b). (Spinnaker retrieval line).

(c) Aft deck with cockpit side or aft cockpit bulkhead as per rules 6.4(b). 6.6(c) 6.8(C) and 6.9(c) (spinnaker sheets).

7. MAIN SHROUDS

The effective length of a shroud may be altered when racing. A shroud and its associated fittings, including any means of adjusting its length when racing, shall be attached by its upper end to the mast at a point not more than 275mm from the band specified in rule 16.6(b) and at its lower end directly to the shroud plate (specified in rule 5.2(e)) and, if fitted, a control wire used to adjust the length of the shroud. The attachment of the control wire to the side deck shall be within a radius of 90mm of the centre of the shroud plate. On schedule A boats the control wire shall not take more than 25% of the load of the shroud, and on schedule B boats the control wire shall not take more than 50% of the load.

8. MAST PARTNERS

Construction - The mast partners shall be constructed either from metal or in the form of a moulding that continues the foredeck aft on approximately the same level.

9. BRIDGE DECK/TRAVELLER

9.1 **Bridge deck -** A bridge deck moulding shall be built in. It's design and installation shall conform to the Building Specifications.

9.2 **Traveller -** The mainsheet traveller arrangement shall be as follows:

(a) On schedule A boats: the traveller track shall extend beyond the bridge deck moulding and onto the side decks themselves.

(b) On schedule B boats: the traveller track, if mounted, shall extend to the integral end-stops provided in the bridge deck moulding.

10. GUNWALE RUBBING BEAD

10.1 **Construction –**

(a) On Schedule A boats: a gunwale rubbing bead of timber, plastic or resilient material of 16mm ± 3mm thickness shall extend unbroken from a point not more than 130mm from the bow (excluding stemhead fitting) to a point not more than 25mm from the transom (excluding overlap of aft deck).

(b) On schedule B boats: the gunwale rubbing bead, which shall be as specified in rule 10.1(a) may be discontinued from points on the deck edges at 1580mm to 3880mm from the aft edge of the aft deck at its longitudinal centreline. Between these points the outermost surface of the officially approved deck moulding shall conform to rule 10.1(a), subject to projections permitted by rule 23.9.

11. KEEL

11.1 **Shape -** The **keel** shall consist of a mild steel or stainless steel fin to the shape shown on the Keel Measurement Plan, which shall be checked by a Measurement Template. The **keel** shall have a lead bulb cast in a mould made from officially registered patterns supplied by the ITA. The cast bulb may be reduced in weight in accordance with rule 11.6 by the removal of lead and the substitution of a lighter material.

11.2 **Fin Shape and finish -** The minimum thickness of the finished fin shall be 9.5mm and the maximum thickness shall be 13mm. The radius in the angle between the fin and any part of the upper surface of the bulb shall be not more than 4mm. The forward and aft edges of the fin shall be parallel and the width of the exposed portion, measured as shown on the Keel Measurement Plan, shall be 508mm ± 5mm. The finished fin shall be of uniform thickness, except that the thickness may be reduced for a maximum distance of 80mm from the forward edge and a maximum distance of 105mm from the aft edge. The fin may be galvanised, zinc sprayed, zinc coated, glass reinforced plastic coated or plastic coated.

11.3 **Depth -** The maximum depth of the exposed portion of the **keel**, measured vertically from the point where the aft edge of the fin meets the underside of the hull, to the lowest point of the fin or bulb, shall be 900mm. The minimum keel depth at the same measurement point shall be 865mm.

11.4 **Filling -** 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.

11.5 **Bulb Shape -** The shape of the bulb shall be checked, after attachment to the fin, by Measurement Templates as shown on the Keel Measurement Plan.

11.6 **Weight -** The weight of the fin and bulb together shall be not more than 232kg nor less than 200kg. The weight of the fin and bulb together shall be checked at first measurement and entered on the boat's Measurement Certificate.

11.7 **Slot -** The aft end of the **keel** slot shall be not less than 3290mm from the transom measured along the centreline of the hull. The forward end of the keel slot shall be not more than 3865mm from the transom measured along the centreline of the hull. A cover with a maximum weight of 5kg may cover the keel slot.

11.8 **Position -** 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.

12. RUDDER

12.1 **Construction -** 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.

12.2 **Profile -** The profile of the rudder blade shall conform to the Measurement Template. The edge of the blade shall be not more than 7mm from the edge of the template.

12.3 **Section -** The sectional shape of the rudder blade is optional, but the thickness of the blade shall not exceed 50mm and for or a distance of 400mm from its upper edge, no horizontal section through the blade shall measure less than 40mm at its point of greatest thickness.

12.4 **Shaft -** The rudder shaft shall have a minimum diameter of 22mm.

12.5 **Weight -** The weight of the **rudder** including the **rudder**-**stock** shall not be less than 6.5 kg.

12.6 **Tiller -** The design of the tiller, tiller extension and rudder frame are optional.

12.7 **Position -** With the **rudder** in the fore and aft plane of the hull, the distance from the upper corner of the blade to the extension of the vertical centreline of the transom shall be 630mm ± 20mm.

13. LIFTING EYES

13.1 **Forward -** A hole shall be provided in the keel supporting angles for attachment of the forward lifting strop.

13.2 **Aft -** One or two aft lifting eyes shall be located as shown on the Construction Plans.

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

14. WEIGHT

14.1 **Dry weight -** The hull, in dry condition to the measurer's satisfaction, shall weigh not less than 226kg.

(a) For the purpose of this rule the following items shall be weighed with the hull:

(i) buoyancy apparatus specified in rule 20.
(ii) all fittings securely fixed to the hull as permanent equipment carried when racing.
(iii) the steering assembly, including rudder blade, rudder stock, rudder frame (when fitted), rudder head, tiller and tiller extension.
(iv) control lines.
(v) on schedule B boats: the cover of the keel slot as per rule 11.7.
(vi) any weight correctors specified in rule 14.4.

(b) The following items shall not be weighed with the hull:

(i) main, jib and spinnaker sheets.
(ii) spars and associated rigging.
(i) all other loose gear.

14.2 **Combined weight -** The combined weight of the hull as specified in rule 14.1 and the keel as specified in rule 11.6 shall be not less than 453kg.

14.3 **Racing Weight -** The weight of a **boat** ready to race in dry condition but without sails shall be not less than 482 kg. The weight of the **boat** ready to race shall include the weight of the following:

(i) the hull and keel as specified in 14.2
(ii) all control lines and associated hardware
(iii) all standing and running rigging
(iv) the mast
(v) the boom
(vi) the spinnaker boom
(vii) paddles as per rule 22.5
(viii) anchor and warps as per rule 22.5

14.4 **Correctors -** Weight correctors to a maximum of 15kg may be added to any boat to increase its weight to comply with rules 14.1 and 14.2. Weight correctors shall be of metal and shall be through bolted on the forward cockpit bulkhead, with no part of the correctors less than 200mm from the cockpit floor.

14.5 **Measurement -** The hull weight, the combined hull and keel weight, and the weight of any correctors shall be checked at first measurement and entered on the boat's Measurement Certificate. Thereafter the boat may be re-weighed at any time by an Official Measurer and the weight adjusted by adding or removing the weight correctors, or from the keel bulb within the limits imposed by rule 11, provided that the combined hull and keel weight shall never be less than 453kg as required by rule 14.2. The new weight of the correctors, the keel, and the combined hull and keel shall be entered on the Measurement Certificate and endorsed by the Measurer.

15. MAST POSITION

15.1 The **mast** shall be stepped above the cockpit floor, aft of the forward main bulkhead as shown on the Construction Plan.

15.2 The **mast** shall not be stepped less than 4190mm from the vertical centreline of the transom (excluding aft deck overlap).

16. MAST AND RIGGING

16.1 **Materials -** The material of the mast **spar** shall be aluminium. The **mast** shall be rigged with a standing forestay on the centreline of the hull forward of the luff of the jib and capable of supporting the mast with sails lowered. The extension of the line of the luff of the jib shall meet the centreline of the foredeck or its extension at a point 6342mm ± 93mm from the centreline of the transom measured parallel to the deck. The standing rigging shall be of circular section. The design and construction of the **Mast** and its associated fittings are optional unless otherwise stated in these rules. The material, design and construction of the **rigging** are optional unless otherwise stated in these rules.

16.2 **Section -** The dimensions of the mast section between **the measurement bands** specified in rules 16.6(a) and 16.6(b) shall be not less than 72mm athwartships and 91mm fore and aft. Any taper on the mast shall not extend below a point 1560mm from the extreme upper end. The taper shall be convex or straight and local hollows of more than 3mm on the longitudinal surface of the tapered portion are prohibited. At no place below the **measurement band** specified in rule 16.6(c) shall the mast section measure less than 49mm athwartships and 56mm fore and aft. Holes shall be made in the mast only for the attachment of fittings or the passage of rigging.

16.3 **Weight -** The tip weight of the **mast**, taken at the **measurement band** specified in rule 16.6(c), shall be not less than 7.75kg when the mast is supported at the heel where it normally bears on the mast step. This weight shall be taken with the mast horizontal and complete with all normal fixed fittings, including spreaders and backstay cranes (when used), running and standing rigging (excluding backstays), trapeze wires, handles, hooks or clips (excluding trapeze shock cord or belt). Masthead pennants shall not be included. During weighing the halyards (including all shackles, swivels, etc., not permanently attached to the sails) shall be fully hoisted, so that their eyes are hard against the upper halyard sheaves or leads. The trapeze wires, lower ends of halyards, forestay and shrouds (excluding any fittings for altering the tension of the shrouds which weigh more than 0.25kg each) and any other standing or running rigging shall be stretched along the mast towards its heel and secured to the mast. Adjustable trapeze hooks shall be in the fully raised position. Any rigging extending below the heel of the mast shall be supported and not weighed.

16.3 (a) The total weight of the **mast** and **rigging** as specified in rule 16.3 shall be not less than 17.5kg.

16.4 **Prohibitions -** Permanently bent masts and rotating masts are prohibited.

16.5 **Location -** The extreme lower end of the mast shall be located not more than 20mm above the level of the adjacent cockpit floor.

16.6 **Measurement Bands -** Three **measurement bands** of contrasting colour, 10mm minimum width, shall be painted on the mast thus:

(a) For schedule A boats, one **measurement band** with its upper edge 1135mm ± 5mm from the bearing surface of the mast on the keel angles. For schedule B boats, one **measurement band** with its upper edge 1165mm ± 5mm from the bearing surface of the mast on the keel angles. There shall be a stop on the mast to prevent the upper surface of the boom from extending below the upper edge of this **measurement band**.

(b) One **measurement band** with its lower edge not more than 5945mm and not less than 5935mm above the upper edge of **measurement band** (a). The extended line of the luff of the jib shall not meet the mast above the lower edge of this measurement band. The bearing point of the eye or sheave that supports the spinnaker halyard may extend for a radius of 153mm from the lower edge of this **measurement band.**

(a) One **measurement band** with its lower edge not more than 7620mm above the upper edge of **measurement band** (a).

16.7 The spinnaker pole fitting on the mast shall not extend more than 50mm from the mast.

17. MAIN BOOM

17.1 **Section -** The main **boom**, excluding fixed fittings serving solely to attach sheets, outhaul, kicking strap and spinnaker pole to the boom, shall be able to pass through a 90mm diameter circle.

17.2 **Taper -** The boom section shall be uniform between points on the boom 50mm and 3330mm from its forward end and between these points shall be not less than 63mm deep and 53mm wide. Permanently bent booms are prohibited.

17.3 **Measurement Band -** A **measurement band** shall be painted on the boom with its forward edge 3380mm distant from the general line of the aft surface of the mast, excluding any local curvature, measured along the top of the boom to the mast.

18. SPINNAKER POLE

The maximum overall length, including fittings, shall be 2300mm.

19. SAILS

Refer to Addendum Section G - Sails. See attached.

20. BUOYANCY

Buoyancy units of closed cell foam shall be certified by the Licensed Builder to be securely installed as follows:

20.1 **Forward -** To provide 150kg minimum positive buoyancy in the forward buoyancy compartment; and

20.2 **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.

21. TRAPEZE

21.1 **Weight -** The trapeze harness or belt shall float and shall weigh not more than 3.5kg.

21.2 **Toe straps -** Not more than two toe straps are permitted on each side. Each toe strap shall be flexible, with fitting points not more than 160mm apart. The 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.

22. RULES THAT APPLY WHEN RACING

22.1 **Crew -** There shall be two persons on board. Individual functions of persons on board are not specified.

22.2 **Trapeze -** The trapeze shall not be used by more than one person at a time.

22.3 **Pumping -** RRS 42.3(b) is altered as follows: "Except on a beat to windward, when surfing (rapidly accelerating down the leeward side of a wave) or planing is possible, the boat's crew may pull the sheet and the guy controlling any sail in order to initiate surfing or planing, but not more than three times for each wave or gust of wind."

22.4 **Buoyancy -** 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.

22.5 **Equipment -** The following equipment shall always be carried on board: two paddles, each at least 1000mm in length of 0.4kg minimum weight; one anchor minimum weight 2kg with at least 15 metres of line or cable of 5mm minimum diameter; a life jacket or buoyancy vest for every person on board.

22.6 **Spinnakers -** Not more than two spinnakers shall be carried in the boat.

23. PROHIBITIONS and ALLOWANCES

The following are prohibited:

23.1 Internal ballast or ballast carried by the crew;

23.2 Devices for altering the position of the **keel** when racing;

23.3 Devices for altering the position of the **mast foot** when racing;

23.4 Any contrivance or apparatus extending outboard from the hull, spars or rigging or attached to the crew, the purpose of which is or may be to support or assist in supporting the crew outboard, other than specified in rule 21.2;

23.5 Trim tabs or similar devices on the keel or rudder.

The following are permitted:

23.6 Compasses

23.7 Electronic and mechanical timing devices

23.8 Mechanical wind direction indicators

23.9 Projections beyond the skin for gunwales, stern rubbing bead of similar section to gunwale rubbing bead, toe chocks, toe straps and their attachment points, spinnaker sheet cleats, stemhead fitting, keel, rudder, spinnaker sheet fairleads, backstay tangs projecting not more than 6mm beyond the skin, two self bailers, stem band, keel band, keel slot fairing plates and rollers which shall not project beyond the general surface of the hull, drain plugs, name plates, non-slip material of maximum thickness 2mm, cockpit drainage tube flaps not exceeding 3mm thickness, jib sheet lead plates, normal paint or enamel finishes and mooring fairleads. Only the toe straps in their normal position and the non-slip material may project beyond the gunwale rubbing bead.

24. INTERNATIONAL CLASS FEE

The International Class Fee shall be on the basis of 3 percent of the average retail price (without value added-tax) of the boat in standard form, without sails. This Fee shall incorporate the designer's fee of 1.5 percent, the International Tempest Association's administration fee of 1 percent and the International Sailing Federation's fee of 0.5 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.

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INTERNATIONAL TEMPEST CLASS RULES 2004

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 **clew** and shall sign and date the **certification mark**.

(b) Sail Labels - An officially numbered **Tempest Sail Label** or **button** shall be permanently affixed near the tack of each mainsail and jib, and near one clew of each spinnaker. Sail labels shall be obtained from the ITA.

(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 ISAF guidelines.

G.2.3 SAILMAKER

Sail maker is optional.

G.3 MAINSAIL

G.3.1 IDENTIFICATION

(a) The Class Insignia is the letter “T”. The class insignia, national letters and sail number shall be placed in accordance with the RRS Appendix G.

G.3.2 MATERIALS

The **ply** fibres shall be 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: 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, primary** and **secondary reinforcements**.

G.3.4 DIMENSIONS

	minimum	maximum
Leech length		8300 mm
Head point to **Leech point A**	2100 mm	2100 mm
Head point to **Leech point B**	4200 mm	4200 mm
Head point to **Leech point C**	6300 mm	6300 mm
Width at **leech point A**		1410 mm
Width at **leech point B**		2370 mm
Width at **leech point C**		3080 mm
Head point to intersection of **leech** and centreline of uppermost **batten pocket** (L1)	1650 mm	
Clew point to intersection of **leech** and centreline of lowermost **batten pocket** (L2)	1650 mm	
Top width		160 mm
Primary reinforcements		400 mm
Window area **:**	0.2 m^2	
Batten pocket length (inside):		
top pocket:		1500 mm
other pockets:		1000 mm
Batten pocket width (inside):		50 mm

G.4 HEADSAIL (JIB)

G.4.1 MATERIALS

(a) The **ply** fibres shall be 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: Stitching, glues, tapes, corner eyes, hanks, poppers, Velcro hanks, leech line with cleat, tell tales, sail shape indicator stripes, sail maker labels, royalty label, sail button, **certification mark, primary** and **secondary reinforcements**.

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	

G.5 SPINNAKER

G.5.1 IDENTIFICATION

(a) National letters may be placed on the sail; sail numbers shall be placed on the sail. Sail numbers and national letters when placed on the sail shall conform to the RRS Appendix G.

G.5.1 MATERIALS

(a) The **ply** fibres are optional.

G.5.2 CONSTRUCTION

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

(a) The following are permitted: Stitching, glues, tapes, corner eyes, recovery line eyes, tell tales, sail maker label, royalty labels, sail button, sail identification, **certification mark, primary** and **secondary reinforcements.**

(b) The spinnaker shall be symmetrical about a line joining the **head point** to the **mid foot point.**

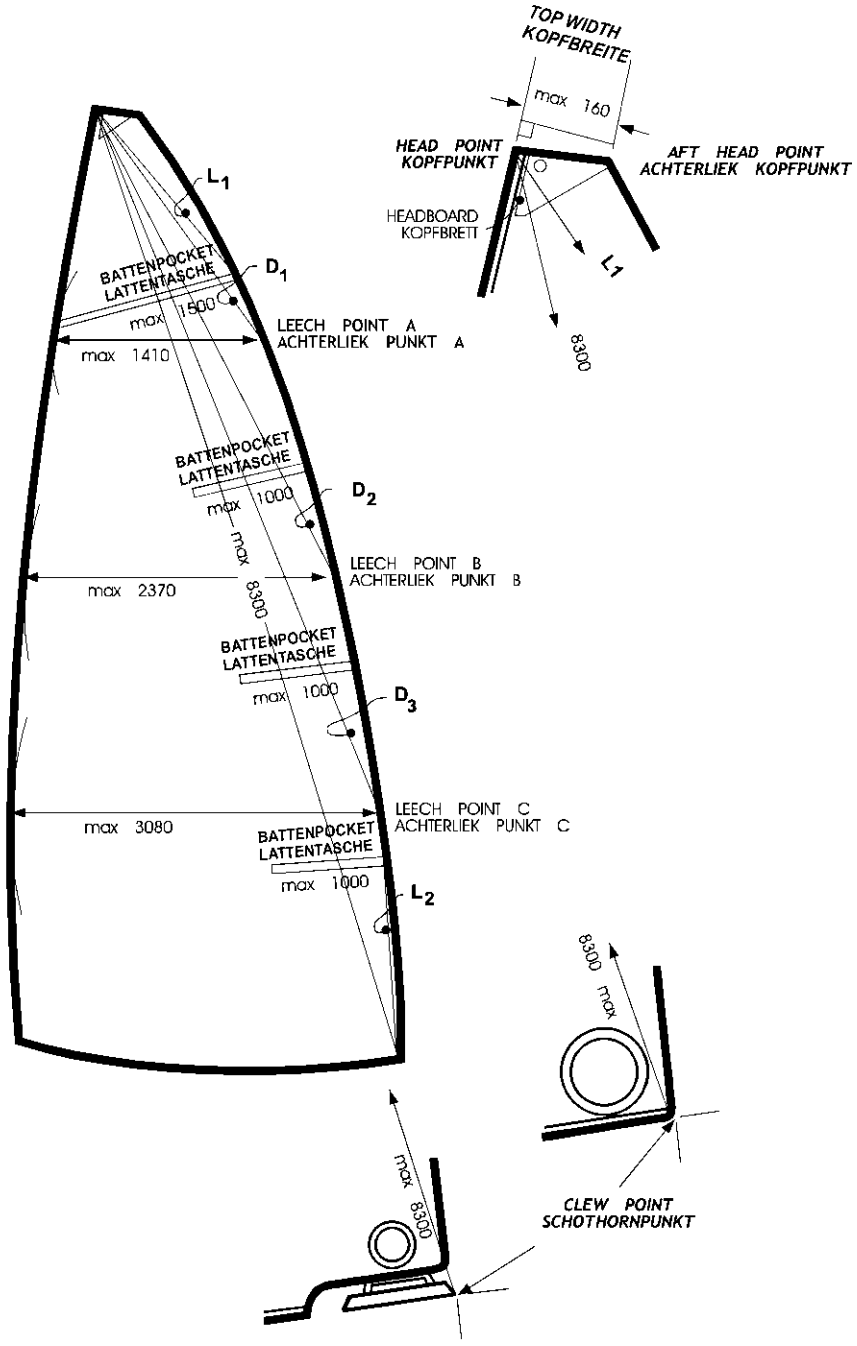
G.5.3 DIMENSIONS

	minimum	maximum
Leech lengths		6000 mm
Clew point to **mid foot point**		2000 mm
Foot Median		6500 mm
Head point to **leech point A**	3000 mm	3000 mm
Head point to **foot median point B**	3000 mm	3000 mm
Width, **leech point A** to **foot median point B**	1900 mm	2000 mm
Primary reinforcement		400 mm

G.6.1. MAIN SAIL DIAGRAM

ALL DIMENSIONS ARE IN MILLIMETRES - ALLE ANGABEN IN MILLIMETERN

(SAILS DIAGRAMS ARE FOR INFORMATION ONLY AND DO NOT FORM PART OF THE RULES)

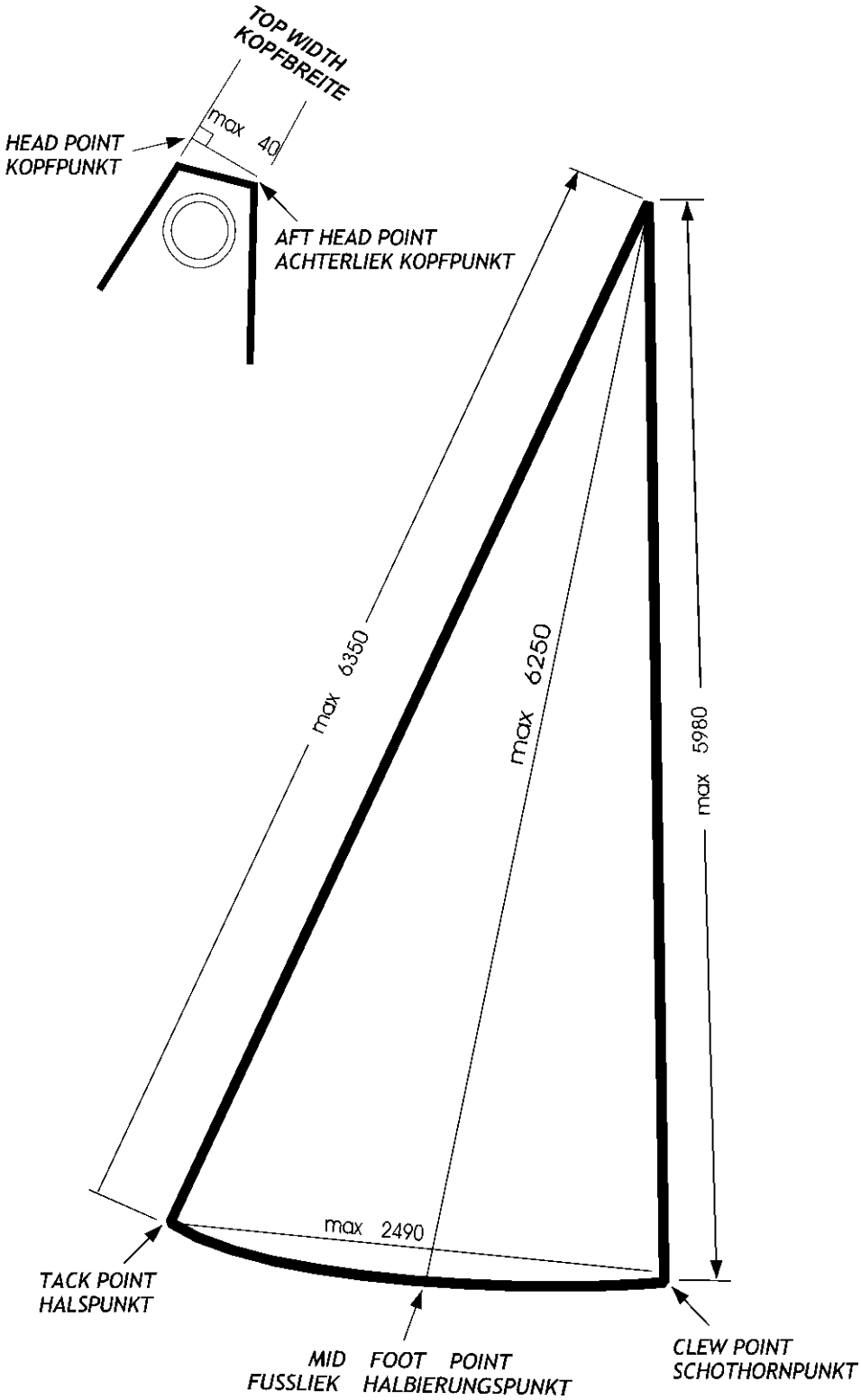


D1 - HEAD POINT TO LEECH POINT A = 2100	**KOPFPUNKT BIS ACHTERLIEK PUNKT A = 2100**
D2 - HEAD POINT TO LEECH POINT B = 4200	**KOPFPUNKT BIS ACHTERLIEK PUNKT B = 4200**
D3 - HEAD POINT TO LEECH POINT C = 6300	**KOPFPUNKT BIS ACHTERLIEK PUNKT c = 6300**
L1 = MINIMUM 1650	
L2 = MINIMUM 1650	

G.6.2. HEADSAIL (JIB) DIAGRAM

ALL DIMENSIONS ARE IN MILLIMETRES - ALLE ANGABEN IN MILLIMETERN

(SAILS DIAGRAMS ARE FOR INFORMATION ONLY AND DO NOT FORM PART OF THE RULES)



G.6.3. SPINNAKER DIAGRAM

ALL DIMENSIONS ARE IN MILLIMETRES - ALLE ANGABEN IN MILLIMETERN

(SAILS DIAGRAMS ARE FOR INFORMATION ONLY AND DO NOT FORM PART OF THE RULES)