

505 CLASS RULES - B - THE MEASUREMENT RULES

Updated 1st March 2004

1.0 General

1.1 The 505 ('the boat' is a one-design dinghy of 5.05 metres L.O.A. designed by John Westell and is an international dinghy class recognised by the International Sailing Federation ("ISAF").

1.2 The administering authority is the International 505 Class Yacht Racing Association ("the International Association") subject to its Constitution and subject to the rules of the ISAF.

1.3 These Rules and the other documents of the Class are published in French and English but, should there be a difference between them, the English version shall prevail.

1.4 All boats shall be built, measured and registered in accordance with these Rules. Should any conflict arise between the written Rules and the Measurement Diagrams which form part of the Rules then the written Rules shall prevail.

1.5 Any boat having a Measurement Certificate or any sail bearing a Measurement Stamp dated prior to the date of these Rules may be measured in accordance with the Rules prevailing at the date when the boat or sail was first measured unless these Rules state to the contrary or unless the boat or sail has been altered, modified or renewed after the date of any relevant change to these Rules. Any equipment which is altered, modified or renewed shall conform to the current Rules.

1.6 Neither the designer nor the International Association nor the ISAF nor any National Association accepts any legal responsibility in respect of those Rules or the designer's drawings or any claims arising from them.

2.0 Fees

2.1 Upon the application for a sail number and registration of a new boat the following fees shall be payable

2.1.1 The designer's royalty which is such sum as the International Association shall decide from time to time upon recommendations of the IEC not being less than ten pounds sterling.

2.1.2 The registration fee which is such sum as the International Association shall decide from time to time upon the recommendation of the IEC.

3.0 Registration

3.1 Sail numbers are issued by the International Secretary upon receipt of payment of the designer's royalty and the registration fee.

3.2 An owner or his agent wishing to register a boat shall apply to the International Secretary for the issue of a sail number and a Measurement Form. The application shall be accompanied by payment of the designer's royalty and registration fee.

3.3 The registration of a boat as an International 505 Dinghy is completed upon satisfactory completion and return of the Measurement Form (through a National Association) and the issue of a Measurement Certificate by the International Secretary

3.4 No boat may race unless it has a valid Measurement Certificate and its owner and helmsman are members of the International Association.

4.0 Measurement

4.1 Boats and their equipment shall be measured only by measurers appointed by the IEC in consultation with the International Rules Committee ("IRC") or appointed by a National Association or appointed by a National Yachting Authority.

4.2 No owner may measure his own boat, sails or equipment, nor may a builder or sailmaker measure his own products.

4.3 Measurement shall be carried out using only the Documents supplied by the International Association, namely these Rules and the Measurement Form (including Instructions to Measurers) and the Official Templates.

4.4 In addition to the particulars required by the Measurement Form, the Measurer shall report on the Form anything which he considers to be a departure from the intended nature and design of the boat or to be against the general interest of the Class. In these circumstances the Measurement shall be sent to the IEC through the International Secretary. The IEC shall refer the matter to the IRC to decide whether or not a Measurement Certificate should be granted. The IRC is empowered to grant dispensation in exceptional cases. Such dispensation shall be recorded on the Measurement Form and the Measurement Certificate.

4.5 It shall be the owner's responsibility to ensure that the boat complies with these Rules at all times.

4.6 Re-measurement may be ordered by the International Association, the IRC or a National Association at any time.

4.7 New spars and sails shall be measured before use. Sails shall be signed and dated and where possible stamped by the measurer

5.0 The Hull

5.1 Materials and methods of construction are not restricted except as provided by these Rules. The designer's drawings show a method of constructing in moulded plywood.

5.2 Hull Shape

5.2.1 The hull shape shall conform to the designer's drawings and the offsets annexed within the tolerances specified by the Measurement Diagrams and these Rules.

5.2.2 Hull moulds shall be checked by reference to plugs, moulds and production hulls before general use and after any modifications. Any builder constructing a new mould shall inform the International Office that it conforms to these Rules. The International Association may check moulds at any time.

5.2.3 Station 11 is defined as the plane at right angles to the base line shown in the measurement diagram and passing through the aftermost point of the hull, excluding rudder fittings. The after measurement point of the hull is the point on the centreline of the boat where the outer surface of the keel band would, if projected intersect Station 11, neglecting any actual rounding of the keel band. Other measurement stations are planes parallel to Station 11 at the specified distance from it.

5.2.4 No part of the after edge of the hull shall be more than 7.5mm from Station 11. No part of the after end of the seat-tank shall be more than 20mm forward of the after edge of the hull. The design of the transom is free in other respects.

5.3 Keel Band

5.3.1 Along the centreline from stem to transom a fl at keel-band shall project not less than 3mm and not more than 4.5mm from the surface of the hull and may be rounded to a radius of not more than 3mm. However at the sides of the centreboard slot the section may be 'half-round' instead of flat.

Keel band widths shall be within the following limits:

	Max (mm)	Min (mm)
Transom	75	30
Station 9	75	65
Station 6	75	65
Station 3	35	25

Forward of Station 3 the keel band may be faired into the hull.

5.4 Foredeck

5.4.1 The after edge of the foredeck (which need not be straight between the centreline and the gunwale) shall lie within the tolerances set out in the Measurement Diagram. The after edge of the foredeck at any point along its length shall be at or above the "top of gunwale". The "top of gunwale" is defined as being a point 20mm inside the extreme edge of the hull regardless of construction.

5.4.2 Forward of the most forward position of the after edge of the foredeck the only apertures permitted are:

- * Spinnaker chute
- * A combined area of not more than 5000 mm² for rigging and controls
- * One or two areas not exceeding 120,000 mm² each, no part of which shall be further than 3486mm from Station 11, or within 100mm of the centreline, or within 250mm of the top of gunwale'

5.5 Forward Watertight Compartments and Seat-Tanks

5.5-1 The forward compartment and the seat-tanks shall be separate watertight compartments.

5.5.2 The watertight bulkhead and seat-tanks shall conform to the drawings within the tolerances specified in the Measurement Diagram.

5.5.3 The forward compartment may include one spinnaker chute only, the volume of which shall not exceed 20% of the total volume of the forward compartment. The construction of the spinnaker chute shall not impair the watertight integrity of the forward compartment.

5.5.4 The watertight diagonal bulkheads at the forward ends of the seat-tanks shall lie at or forward of the after edge of the foredeck.

5.6 Centreboard Case and Thwarts

5.6.1 The internal dimensions of the centreboard case shall conform to the tolerances specified in the Measurement Diagram. No temporary or movable insert in the centreboard case is permitted.

5.6.2 A thwart shall connect the top of the centreboard case to the inner faces of the seat-tanks. It shall not be more than 153mm wide, may be curved or straight, and its after edge shall lie between 1375mm and 2591mm from Station 11.

5.6.3 Additional stiffening or reinforcing members may be fitted across the hull within 3581mm of Station 11. These members shall not be constructed in such a manner as to form a second cockpit floor or an additional buoyancy chamber.

5.7 Not in use

5.8 Weight

5.8.1 Boats shall be weighed in dry conditions for measurement and certification after an uninterrupted period of two weeks not having touched water.

5.8.2 The sailing weight in dry condition shall not be less than 127.4kg. The sailing weight is the weight of the hull including metal corrector weights, the spars, standing and running rigging, centreboard, rudder and tiller, but excluding the sails and

battens. Fittings and components of exaggerated weight and artificially heavy areas construction are not permitted: examples include use of lead or other heavy metals, except for corrector weights permitted under Rule B-5.8.3.

5.8.3 If the sailing weight is less than 127.4kg, the difference, without limit, shall be made up by metal corrector weights fixed against the centreboard case or spine and visible when viewed from a standing position next to the boat, half between 1100mm and 1500mm and half between 2900mm and 3500mm from Station 11, such ballast to be retained for the life of the boat or until the boat is reweighed in accordance with Rule B - 5.8.5.

5.8.4 Each metal corrector weight shall be hard stamped in a visible place with its weight in kilograms to the nearest 0.1 kilograms and a serial number to identify the piece of ballast and the total number of pieces used in the boat

5.8.5 Boats may be reweighed at any time by a Class Measurer providing that immediately prior to reweighing, the boat has not touched water for a period of at least two weeks, The sailing weight and the number and weight of ballast pieces shall be recorded on the certificate by the Measurer. The metal ballast referred to in Rule B - 5.8.3 may only be removed or reduced at a reweighing commissioned by the owner under this paragraph and such reweighings may only take place at intervals greater than 12 months.

5.9 Sail Number

5.9.1 The sail number of the boat shall be clearly carved or impressed on the transom, spine, or aft end of the centreboard case in numbers of 15mm minimum height.

5.9.2 The ISAF levy plaque bearing the registered sail number shall be fixed on the transom, spine or aft end of the centreboard case.

6.0 Centreboard, Rudder and Tiller

6.1 One rudder and one centreboard only may be used at anyone time. At all times when sailing, both sides of the centreboard and rudder shall have similar profiles. Leeboards, daggerboards, hydrofoils, trim tabs, fences and similar devices are prohibited.

6.2 The centreboard shall fit within the centreboard case not extending below the bottom of the hull when fully raised. The trailing edge may project above the centreboard case top when in the raised or partly raised position. No part of the leading edge which is more than 300mm from the tip and is capable of protruding below the hull shall be capable of being raised more than 200mm above the bottom of the hull.

6.3 The rudder shall be hung at the transom and no part of the rudder assembly shall pass through the skin of the hull. The tiller may be shipped through a port in the transom or over the top.

7.0 Spars

7.1 General

7.1.1 The object of these Rules is to maintain the sail plan of the Class to substantially the same design, whilst giving owners freedom to arrange the rigging as they wish.

7.1.2 A boat may not have facilities for setting more than one mainsail, one headsail and one spinnaker. No changes of sail are permitted during a race.

7.1.3 Except for fittings, spars shall be constructed solely either from aluminum alloy containing not less than 90% by weight of aluminium or from wood. Construction is otherwise unrestricted.

7.2 Mast

7.2.1 The mast may be stepped on the deck or into the hull. With the mast perpendicular to the base line, the after side at deck level shall not be less than 3048mm and not more than 3202mm forward of Station 11. The mast may be fixed or rotating. Excluding fittings, no dimension at right angles to the length may exceed 102mm.

7.2.2 When standing free with no sail set, the after edge of the mast from the top to a point 1000mm above the deck shall be straight. The leading edge shall be a straight line or a fair continuous convex curve. Permanently bent masts are prohibited. A set, due to distortion, of up to 30mm between bands identified at B-7.2.3.2 and B-7.2.3.3 shall be permitted.

7.2.3 Bands of contrasting colour not less than 10mm wide shall be placed round the mast at the following three positions measured with the mast standing perpendicular to the baseline.

1. upper edge level with the top of the deck. - Tolerance +/-1 mm (deck band)
2. upper edge 381mm above the deck band. - Minimum dimension
3. lower edge 6858mm above the deck band. - Maximum dimension

Extreme height of any spar - 7011mm above the deck band -Maximum dimension

7.2.4 The distance from the upper edge of the deck band to the lower edge of the spinnaker halyard, when at 90° to the mast and extended as necessary, shall be not more than 5955 mm nor less than 5054 mm. No rigidly fixed point for attachment of the block, sheave or fairlead shall be more than 35 mm from the surface of the mast.

7.2.5 The highest point of entry onto the block, sheave or fairlead for the headsail halyard shall not be more than 4750mm and not less than 4648mm above deck band. A prolongation of the luff of the headsail when set shall cut the fore-side of the mast between these limits.

7.2.6 These measurements apply to masts whether fitted with mastjacks or otherwise. At all times when sailing, an extension of the upper surface of the deck shall intersect the mast at the upper edge of the deck band.

7.3 Boom

7.3.1 The upper edge of the boom shall be straight when no sail is set. With the exception of fittings, no dimension of the boom measured at right angles to its length may exceed 102 mm. A set, due to distortion, of up to 25mm over the length of the boom shall be permitted.

7.3.2 With the boom attached to the mast in the normal way and lying fore and aft at right angles to the mast, the point where a prolongation of the line down the after-edge of the mast cuts the top of the boom shall be found, the "Intersection Point". A band of contrasting colour not less than 10mm wide shall be placed round the boom with its inner edge not more than 2858mm from the Intersection Point.

7.3.3 The overall length of boom from the Intersection Point (B-7.3.2) to outer end of boom shall not exceed 3308mm.

7.3.4 A prolongation of the top of the boom shall cut the mast at or above the band identified at B-7.2.3.2.

7.4 Spinnaker Pole

7.4.1 The overall length of the spinnaker pole shall not exceed 2516mm including pole fittings. When in use it shall be attached to a mast fitting protruding not more than 50mm from the surface of the mast.

8.0 Sails

8.1 General

8.1.1 Sails shall be made and measured in accordance with the ISAF Equipment Rules of Sailing and comply with their requirements. In the event of conflict with these Class Rules, the Class Rules shall prevail.

8.1.2 Sails need not be made from woven fibre cloth material but shall otherwise comply with the requirements of the ISAF as to materials.

8.1.3 Stretching after measurement resulting in the maximum dimensions being exceeded is not permitted and continued conformity with Class Rules is the responsibility of the owner

8.1.4 No sail shall have a hole or aperture other than the normal reefing and attachment points.

8.1.5 Sail reinforcement is not restricted.

8.2 Mainsail

8.2.1 The mainsail shall conform with the Class Rules and the measurement diagrams, except that a sail smaller in any dimension is allowed. No part of this sail shall be set above the lower edge of the band on the mast identified at B-7.2.3.3.

8.2.2 The luff and the foot shall be secured to the mast and boom respectively over at least 80 per cent of their lengths.

8.2.3 The following dimensions, including boltropes where fitted, shall not be exceeded:

- Top width 127mm
- Width at upper leech point 325mm from head point 270mm
- Three-quarter width 1120mm
- Half width 1950mm
- Leech length 6960mm

8.2.4 The mainsail shall have not more than four battens in the leech. At the leech, the centre of the top batten pocket shall be between 1450mm and 1550mm from the head point, and the centre of the bottom batten pocket shall be between 1250mm and 1490mm from the clew point. No batten pocket shall be located less than 1000mm from any other batten pocket. No batten or pocket shall exceed 1180mm in length

8.2.5 The Class insignia to be displayed on the mainsail shall be in accordance with the shape and tolerances shown in the Measurement Diagram.

8.3 Headsail

8.3.1 The headsail shall conform to the official rules and diagrams, except that a sail smaller in any dimension except batten position is allowed.

8.3.2 The leech shall not extend beyond a straight line from the aft head point to the clew point.

8.3.3 The following dimensions shall not be exceeded:

- Luff length 4510mm
- Foot length 2287mm
- Leech length 4000mm
- Top width 40mm

8.3.4 Not more than three battens may be used in the leech of any headsail. The outer ends of the battens shall be located within 102mm of marks dividing the leech into four (if three battens) or the appropriate number of equal parts. Not more than one batten, part of which shall be within 50mm of the centre, is permitted in the foot. No batten or batten pocket may exceed 305mm in length and 51mm in width.

8.3.5 No part of the foot shall lie outside a measurement taken in the following way:

- Lay out the headsail on a flat surface.

- Fold the tack onto the clew and smooth the headsail to find the "intersection point" where the luff is intersected by the fold from the centre of the foot.

- The measurement is the distance taken from the "intersection point" to the tack and the clew. No part of the foot shall lie at a greater radius from the "intersection point" with all wrinkles removed from the sail on the line of measurement.

8.3.6 Sleeve luffs may be made to enclose the forestay but the width of such a sleeve shall not exceed 76mm.

8.3.7 An extension of the headsail luff when set shall cut the centreline of the deck between the stemhead and a point 400mm abaft the stemhead.

8.3.8 There shall be a transparent panel in the lower part of the headsail of a minimum size of 0.15m² to ensure visibility to leeward for the crew.

8.4 Spinnaker

8.4.1 The spinnaker shall be a symmetrical three-cornered sail in accordance with the Class Rules and Measurements Diagrams except that a sail smaller in any dimension is allowed.

8.4.2 The following dimensions shall not be exceeded:

- Leech length 6000mm
- Foot median (head point to mid foot point) 7096mm
- Foot length 4500mm
- Half width 4500mm

8.4.3 The ISAF Racing Rules of Sailing ("IRS") Appendix H paragraph 1.3(d) is replaced by the following Class Rule in accordance with Appendix H5 of the IRS:

"The number shall be displayed symmetrically on the front side of the spinnaker. It shall be displayed wholly below an arc whose center is the head point and whose radius is 40% the mean length of the two leaches and wholly above an arc whose radius is 60% of that dimension."

9.0 Materials

9.1 Except where prescribed by these rules, either directly or by inference, there are no restrictions on the use of any materials in construction.

9.2 The use of particular materials may be prohibited or limited:

9.2.1 On the proposal of at least two National Associations and passed by a two-thirds majority of those attending the international Annual General Meeting and entitled to vote on changes on these rules as prescribed by the International Constitution.

and

9.2.2 If such proposal is approved by the International Rules Committee and the ISAF.

9.3 Such prohibition or limitation will continue either

9.3.1 for such period from the 1st January next following as maybe prescribed being not less than 1 year nor more than 3 years when it shall lapse unless renewed by the procedure in Rule B-9.21

or

9.3.2 until a permanent change is made to these Rules in accordance with the International Constitution either to incorporate such a prohibition or limitation or to make another provision which is inconsistent with it.

9.4 The prohibition or limitation may be expressed to apply to all spars, sails, fittings and equipment belonging to a boat when the prohibition or limitation comes into force. Such prohibition or limitation shall not apply to hulls completed before it comes into force.

10.0 Buoyancy

10.1 Owing to the large amount of tank space, it is not practicable to test each boat by complete Immersion of the watertight compartments. The measurer shall inspect the compartments carefully and satisfy himself that they are tight.

10.2 The owner shall maintain the integrity of the watertight compartments in an efficient condition and the Measurement Certificate will automatically become invalid should he fail to do so.

11.0 Equipment

11.1 Devices which indicate remotely or transmit or correlate data about wind direction, wind speed, boat speed or location shall be prohibited.

11.2 No anchor and chain or rope is required.

12.0 Crew and Weight of Clothing and Equipment

12.1 The crew shall consist of two people.

12.2 Only one person may be suspended outboard from spars or rigging. No device attached to the hull and projecting outboard beyond the line of the gunwale may be used.

12.3 (IRS 43.1) A competitor's clothing and equipment shall not weigh more than 10 kilograms, excluding a hiking or trapeze harness and clothing (including footwear) worn only below the knee. In all other respects, the provisions of RRS 43 shall apply.

13.0 Propulsion

13.1 In accordance with RRS 86.1(c), RRS 42.3(b) is not applicable and the following Class Rule is substituted:

"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 guy controlling any sail in order to accelerate a boat down the face of the wave or in response to a gust of wind, but not more than three repeated pulls and releases of the sail may be made for each wave or gust of wind."

14.0 Advertising

14.1 The advertising category to be applied to the International 505 Class shall be Category C. The Association has decided not to restrict advertising within Category C (Regulation 20.4.5).

15.0 Temporary Rules

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