

CLASS MEASUREMENT RULES

1.0 OBJECT

These rules, Specifications and the Approved Plans are intended to ensure that Sigma 38 One-Design Class yachts are as nearly alike as possible as regards:

- i) Hull and deck shape and weight.
- ii) Shape and weight of keel and rudder.
- iii) Shape and area of sail plan.
- iv) Size and weight of spars and rigging.
- v) Weight and distribution of accommodation layout.
- vi) Specification and weight of engine, stern gear, batteries and other machinery.

vii) Any other matter which may influence the speed or affect the weight of the yacht. The yacht and her equipment shall comply with the current Class Rules as interpreted by the Class Association. No alternatives are allowed except as specified in these Rules. If in doubt as to whether a particular system or alteration is permitted, clarification should be obtained before becoming committed to any expense.

2.0 PROTECTION OF THE ONE-DESIGN

2.1 The administering authority for the Class shall be the Sigma 38 OOD Class Association, which may co-operate with such National or International Authority as will best promote the management and popularity of the Class.

2.2 Copyrights of the Sigma 38 design shall remain the property of the Designer David Thomas unless otherwise specifically assigned.

2.3 This rule is now deleted.

2.4 Hull, deck and rudder construction shall be of reinforced plastics in accordance with the lines, construction and general arrangement plans and specifications.

2.5 Production moulds for hull, deck and rudder shall be made from GRP plugs only obtainable from the Master Moulds. The casting pattern for the fin keel shall be taken from the master plug.

2.6 Hull and deck and internal stiffener layup shall be strictly to the specification designed to ensure similarity in shape, strength and weight distribution.

2.7 The internal stiffening module shall be permanently joined with the hull in the building mould. · The sheer-line and profile shall be as shown on the lines plan and all girths, depths and dimensions that affect the hull shape shall be as defined by IMS standard hull no K16400.

2.8 In order to qualify for one design status the yachts shall be put in measurement trim as defined below.

FFM (Freeboard Forward Measurement) shall be not more than 1.305m and FAM (Freeboard Aft Measurement) shall be not less than 0.965m and not more than 0.980m. These measurements are taken from points where a 45 degree tangent touches the sheer-line to the surface of the water. Measurements shall be taken on both sides of the yacht and averaged to produce the freeboard measurements. FFM is measured 592mm aft from the stem. FAM is measured where the transom meets the sheer-line. Measurement trim is achieved as follows:

- a) The yacht shall float upright and free of mooring or anchor effects. No person shall be on board.
- b) The yacht must be rigged ready for sailing with sheets and guys stowed aft of the mast. No sails shall be on board.
- c) All mattresses, cushions and bedding shall be stowed on their normal bunks and all navigational and cooking appliances shall be in their normal stowage. Batteries, anchors and chain shall be secured in position as described in 15.
- d) No clothing, food or stores shall be on board.
- e) Fresh water tanks shall be empty.
- f) Life raft shall not be on board.
- g) Fuel tank shall be full.

2.9 The Approved Class Spar makers shall be Selden (Formally Kemp Masts Ltd.)

2.10 Sails for Class racing shall only be manufactured by sailmakers approved by the Association, and to the design and specification approved by the Class Committee.

2.11 If it is considered that there has been any attempt to depart from the One Design or these Rules in any particular, or from the spirit of these Rules, in order to gain performance advantage, the Committee of the Class Association has the right to invalidate the yacht's Class Certificate from the time the attempt was made until such time as any deviations have been rectified.

2.12 A Builders Plaque shall be fixed in an approved position stating i) Hull number, ii) Yard number, iii) Keel weight and iv) Datum weight. The Approved Positions for the Builders' Plaque are a) at the Navigation desk, close to the bulkhead or b) On the Companionway Bulkhead or c) On the Main Bulkhead.

3.0 MEASUREMENT AND CERTIFICATES

3.1 The RORC Rating Office shall be the owners National Authority. Class Measurers shall be appointed by The RORC Rating Office.

3.2 Spare

3.3 Sails, when inspected and found to conform to these Rules shall be marked with the measurers stamp; only those so marked shall be used.

3.4 i) All yachts competing in Class or Handicap racing as a Sigma 38 OOD shall hold a current, valid Class Certificate. On application by the owner and after receipt of the due fees and satisfactory reports from the measurer(s), the National Measurement Authority will issue a Valid Class Certificate for the IRC and Rating currently applicable to the Sigma 38 Class, stating that the yacht complies with these Rules.

- ii) Such certificates shall remain valid until the 31st December in the year of issue of the certificate or change of ownership, whichever first occurs. ·

- iii) Certificates may be revalidated for a further year (or until change of ownership) on receipt by the Class Secretary from the owner of a certificate that all sails and spars are duly marked and that no alterations have been made to the yacht.

- iv) The Class Association may require a yacht to be checked during any One Design event

- v) On change of ownership a yacht may be inspected by a Class Committee Member before issue of a new certificate to the new owner.

3.5 The fees payable in connection with measurement and certification shall be agreed from time to time by the Committee of the Association with the National Measurement Authority.

4.0 HULL AND DECK (INCLUDING COCKPIT)

4.1 The hull and deck construction shall be in accordance with the Approved Plan and Specification

4.2 The Datum Weight of the yacht, as defined in 4.3 shall be 6580 +/-130kg. This shall be recorded on the Builder's Plaque as in para 2.12. Corrector weights shall be added if necessary, half forward of the main bulkhead and half aft of the engine, and shall not be removed during the life of the boat.

4.3 Datum Weight shall be the weight of the yacht as it leaves the Builder's works including all fitted and loose equipment and 5 galls. of fuel but excluding spars, sails and with water tanks empty.

4.4 The removal of moulding marks and blemishes from the hull is permitted provided that the hull is not in any way altered so as to depart from the standard shape. The hull may be covered with protective coatings and shall be anti-fouled. Repairs shall return the affected area to the standard shape. Extensive repairs to the yacht shall be reported to the Class Association which may require the yacht to be remeasured.

5.0 KEEL CASTING

5.1 The fin keel shall be of cast iron and lead, manufactured according to the Master Plug and Mould and conforming to the Class Template, bolted in position as shown in the Lines Plan.

5.2 The weight of the combined fin keel castings shall be 2640 +/- 40kg. This keel weight shall be recorded on the builder's plaque.

5.3 The keel shall not be ground except to remove minor casting blemishes and in particular no part of the trailing edge may be less than 10mm measured perpendicular to the fore / aft centreline. Filler may be used to fair the keel so long as the keel profile is not altered from standard. The keel may be covered with preservative coatings and shall be anti-fouled.

6.0 RUDDER

6.1 The rudder blade shall be of GRP made from moulds taken from the Master Plug.

6.2 The rudder stock shall be made from solid stainless steel rod not less than 63mm (2 1/2 in.) diameter.

6.3 The removal of moulding marks and blemishes from the rudder is permitted provided that the rudder profile or section is not in any way altered so as to depart from the standard shape.

6.4 The rudder may be covered with preservative coatings and shall be anti-fouled.

7.0 MAST

7.1 The mast shall be of 90% aluminium alloy extrusion with integral luff groove.

7.2 The basic sectional weight of the mast shall be not less than 5.73kg/metre.

7.3 Section dimensions of the mast shall be 127/137mm athwart ships and 179/199mm fore and aft including the luff groove. The top mast shall be tapered over not more than 2700mm from the masthead and the minimum section dimensions of the masthead shall be 120mm x 90mm

7.4 The straight line distance between the forestay pin and the centre of the mast ring shall be 4067 +/- 10mm.

7.5 Bands of contrasting colour shall be painted on the mast as follows:

i) With its upper edge not more than 3010mm or less than 2900mm above the underside of the "T" Base on which the mast step is fastened.

ii) With its lower edge not more than 14478mm above the upper edge of the band defined in (i).

7.6 No alterations to the mast are permitted except for navigation lights, wind vanes, pre feeders, jamming cleat for up haul and similar additions. No alterations to Halyard exits are permitted nor any alteration which might change the moment of inertia of the spar. An additional sheave box for a longer spinnaker pole topping lift may be fitted on the front of the mast. The upper edge of the sheave box fitting may not be more than 13925mm from the underside of the T Base.

8.0 MAST RIGGING

8.1 Combined chain plate fittings shall be attached port and starboard. The upper shrouds

shall be attached by a rigging screw to the forward pins. The intermediate shrouds shall be attached by a rigging screw to the aft pins and the lower shrouds by a rigging screw to the inner pins. The forestay shall be attached by a rigging screw to the forestay chain plate.

8.2 All standing rigging shall be of 1 x 19 stainless steel wire rope. The wire strands shall be of round section, each strand being of the same diameter. The caps and lower shrouds shall be not less than 10mm diameter, the forestay not less than 9mm diameter and the intermediate shrouds not less than 8mm diameter.

8.3 The forestay shall be attached to the mast so that the centreline of the wire would intersect the fore-side of the mast at a point not more than 14900mm above the underside of the "T" base in 7.5(i). The maximum forestay length shall not exceed 13865mm.

8.4 One topmast backstay of not less than 8mm shall be attached to the masthead and to a hydraulic tensioning system at the transom with 200mm maximum adjustment. No additional system or device is permitted for adjusting the topmast backstay.

8.5 The spreaders shall be of fixed type angle aft 25 degrees to the athwart ships plane of the mast and attached at points 10673/10713mm and 6423/6493mm above the underside of the "T" base in 7.5(i).

8.6 The spinnaker shall not be hoisted higher than the forestay intersection point as defined in 8.3. Only two spinnaker halyards shall be fitted.

8.7 One jib halyard is permitted and shall intersect the mast below the forestay intersection point as defined in 8.3.

8.8 Two Running Backstays of not less than 7mm 1 x 19 SSWR. (or Spectra /Dyneema rope of equivalent strength) with single sheave block, or thimble, attached providing a 2:1 purchase may be fitted. These backstays shall be anchored to the eye bolts fitted in the toe rails. The running backstay tails may only be taken to the aft pair of Lewmar 40c winches for tensioning.

8.9 All halyards may be either of flexible steel wire of minimum diameter 6mm for the main halyard and 5mm for others, with polyester tails of minimum diameter 12mm or Spectra/Dyneema rope of minimum diameter 10mm for the main halyard and 8mm for the others. The outer cover, which shall be polyester, may be removed for a maximum length of 2m at each end of the halyard.

9.0 MAIN BOOM

9.1 The main boom shall be of 90% aluminium alloy constant section extrusion incorporating an integral mainsail foot groove.

9.2 Sectional dimensions shall be max. 205mm in depth including luff groove and max. 130mm in width. Sectional weight shall be not less than 4.4kg/metre.

9.3 A band of contrasting colour shall be painted on the boom with its forward edge not more than 5182mm from the after face of the mast extrusion.

9.4 Tapered booms and lightening holes are prohibited.

9.5 The main boom shall be equipped for triple slab reefing and outhaul.

9.6 Roller reefing systems are not permitted.

9.7 A Selden (formerly Kemp) rod kicker shall be fitted. This shall be either the standard version or the gas lift upgrade.

10.0 SPINNAKER BOOM

10.1 No part of the spinnaker boom including fittings shall be capable of extending more than 3980mm at right angles from the centreline of the mast when the spinnaker boom is attached to the mast.

10.2 The point of attachment of the spinnaker pole to the mast shall be not more than 4600mm above the underside of the "T" base in 7.5(i).

10.3 Only one aluminium alloy spinnaker boom shall be used. Reaching struts are prohibited.

10.4 Spare.

11.0 SAILS

11.1 The sails shall be constructed and measured in accordance with the current ISAF Equipment Rules of Sailing.

11.2 The number of sails that shall be carried is one each of the following: Mainsail, Headsails (135% Genoa, No. 2 Genoa, working jib), light spinnaker, heavy spinnaker. A storm jib, trisail and other additional storm sails may be carried.

11.3 If an owner wishes to cruise after the finish of an offshore race, he may carry extra fore and aft sails for this purpose provided that they are not used during the race.

11.4 A minimum weight is not defined for fore and aft sails, but owners are advised that too light a cloth may prove a false economy and might be dangerous. It is recommended that the mainsail is sufficiently engineered to be able to be reefed and carried in gale force winds offshore.

MAINSAIL

Max

LUFF 14.48m

FOOT 5.18m

UPPER WIDTH 1.14m

HALF WIDTH 3.21m

THREE QUARTER WIDTH 1.85m

Three reefs shall be fitted at 1.37m, 3.35m and 5.91m from centre of tack cringle.

HEADSAILS

The maximum recommended wind speed shall be clearly marked on the clew of the 135% Genoa, and shall not be less than 25 knots apparent. The No. 2 Genoa may have a maximum of three leech battens, none of which shall exceed 900mm in length.

	135% Genoa		No 2 Genoa		Working Jib	
	Max	Min	Max	Min	Max	Min
LUFF	13.25m	13.15m	13.15m	13.05m	11.40m	11.30m
LEECH	12.40m	12.30m	12.02m	11.92m	9.80m	9.70m

LP	5.34m	5.24m	4.00m	3.90m	3.18m	3.08m
HHW			2.64m			
HTW			1.33m			
HUW			0.66m			

SPINNAKERS

Maximum	Lightweight	Heavyweight
LUFF	13.20m	13.20m
Max WIDTH	7.13m	7.13m
HALF WIDTH	7.13m	7.13m
FOOT WIDTH	7.13m	7.13m

11.5 Spinnakers shall be made of Nylon and have a minimum cloth weight of Light 35 gr/ m² Heavy 65 gr/ m². The heavy spinnaker shall have a maximum upper girth measurement of 4.05 metres at a point 3 metres from the head. Owners are advised to consider carefully before ordering a minimum weight light spinnaker. A light spinnaker heavier than 45 gr/ m² is more typical in the fleet.

11.6 The mainsail shall have four battens. The upper batten may be full length, the two middle battens shall not exceed 1760mm and the lower batten 1290mm.

11.7 The mainsail headboard width shall not exceed 200mm and the batten Leech Penalty distance shall not be less than 200mm.

11.8 The mainsail may be fitted with luff and leech Cunningham holes and may have a 'soft foot' with lighter cloth, or a loose foot.

11.9 The mainsail may only be set within the dimensions governed by the bands specified in 7.5 and 9.3.

11.10 Loose footed mainsails are permitted.

11.11 The 135% genoa and/or the main may have a window or windows not exceeding a combined total of 0.2sq.m.

11.12 The Standard Forestay shall be used with the Kemp Furlex systems or Tuff Luff. The forestay shall bear the forestay loads.

11.13 Storm jibs and trisails must comply with the provisions of the current ISAF Special Regulations

11.14 Spare

11.15 The Sigma symbol in red with two stripes shall be affixed to both sides of the mainsail above the National Registration number.

11.16 Sail specification may be updated when and if this is considered beneficial to the Class.

12.0 DECK GEAR

12.1 Yachts shall carry two halyard winches (Lewmar 40C); two primary sheet winches (Lewmar 52C or 50C) on the cockpit winch turrets; two secondary sheet runner winches (Lewmar 40C); and one reefing winch (Lewmar 30C) on the mast and sited below the main boom. Self-tailing versions are permitted. Where reefing lines are led aft to the cockpit, the reefing winch may be removed from the mast: detachable blocks may be fitted at the bottom of the mast for this purpose. Additional cleats or jammers may be fitted for reefing lines and the cockpit winches may be used. Powered winches are not permitted.

12.2 Genoa sheeting tracks shall be permanently fixed to the side decks, port and starboard, adjacent to the coachroof and forward on top of the coachroof. These tracks shall remain as fitted by the Builders. Six genoa sheet fairleads may be fitted (three per side). Headsails and spinnakers may be sheeted to the aluminium toe rails. A device may be fitted to permit fore and aft adjustment of the side deck genoa sheet fairleads while under load. For this purpose, turning blocks and one set of jamming cleats may be fitted to each side of the deck/coachroof and alternative genoa sheet fairleads may be fitted.

12.3 Bow and stern pulpits and eight stanchions with double lifelines, shall be fitted in compliance with ISAF Special Regulations currently in force.

12.4 A mainsheet track of maximum length 1320mm between stops shall be fitted to the plinth on the cockpit seats.

12.5 Hydraulic, electric or pneumatic actuators are prohibited except as provided for the topmost backstay and the rod kicker. An alternative mainsheet system may be fitted, and this may include provision for coarse and fine tuning. Where an alternative system is fitted, which does not require the use of mainsheet winch, this may be removed.

12.6 All turning blocks, jammers and cleats shall remain as originally fitted by the Builder, or as the current building specification, except as provided in these Rules. Any option listed by Sigma Yachts or Northshore Yachts Ltd. as standard may be carried. This includes the fitting or removal of Furlex roller reefing equipment, including the necessary blocks and cleats.

12.7 Where self-tailing winches are used, the corresponding jamming cleats may be removed.

12.8 A double-ended kicker may be fitted and one set of jamming cleats may be fitted to each side of the deck for this purpose.

12.9 Detachable blocks, including snatchblocks, and also handybillies may be fitted to the toe-rail and to the bottom of the mast; these may be used for barber hauling, fixing a preventer or leading lines aft from the mast, and in the event of gear failure.

12.10 There is no restriction to the manufacturer of footblocks at the mast, snatchblocks, shackled on blocks or handybillies.

12.11 Sheets, guys, reefing lines and other control lines may be made of any material.

13.0 INTERIOR ACCOMMODATION

13.1 The builder shall at all times maintain close tolerances on position, size and weight of materials used in interior bulkheads, joinery work, cabin sole and lining in an endeavour to produce yachts of the closest weight and strength tolerances within these Rules. The Class Association shall keep informed of any proposed change in the specification that might affect the weight or weight distribution of the yacht.

13.2 All yachts shall have complete interior structure in way of forecabin, aft cabins, saloon, galley as originally fitted, chart table, 1 WC toilet compartment. No lightening holes shall be cut or drilled. Two gas bottles of minimum total capacity not less than 5Kg shall be carried in the dedicated gas bottle compartment in the aft cockpit locker

13.3 All yachts shall carry a full set of berth mattresses of minimum thickness 100mm on the appropriate berths.

13.4 All yachts shall have complete head, topside and coachroof lining and trim mouldings as fitted by the Builders.

13.5 Two fresh water storage tanks of total capacity not exceeding 332 litres (approx. 60 galls) shall be installed beneath the after ends of the main saloon berths.

14.0 ENGINE AND STERN GEAR

14.1 If a replacement engine is required the committee must be approached re the model of engine and the weight and placement of correctors, so that it is as near as possible to the original engine.

14.2 A folding propeller and stern gear shall be fitted as approved by the committee.

14.3 Spare

14.4 A fuel tank of minimum capacity 91 litres (approx. 20 galls) shall be fitted.

15.0 OTHER EQUIPMENT

15.1 A minimum of one 15kg (33lb) anchor, one 9kg (20lb) anchor and 7300mm of 8mm chain shall be carried. One anchor and the chain shall be carried in the forward anchor well. The other anchor shall be carried forward of the forward bulkhead.

15.2 Navigation, emergency, safety and general equipment shall be carried on board the yacht to the specification of the Sailing Instructions and the applicable Category of ISAF Special Regulations governing minimum equipment currently in force.

15.3 Two batteries each weighing a minimum of 27kg shall be carried in the battery compartment aft of the main saloon bulkhead.

15.4 There is no restriction on radio or electronic aids but automatic, mechanical and wind vane devices for steering must not be used when racing unless specifically permitted in the Notice of Race or Sailing Instruction.

15.5 Minor modifications to enhance the safety and comfort of the yacht are permitted; subject to approval of the Class Committee.

15.6 A manual or electrically powered winch or capstan may be fitted on to the foredeck. This may not be used during racing.

16.0 ONE DESIGN RACING

16.1 As a condition for the granting of a One Design Rating, the Officers and Committee have given an undertaking that all yachts of the Class shall adopt it and that any yacht claiming an individual rating shall be excluded from racing as a One Design in the Class. It shall be mandatory for the Committee to exclude from all Sigma Class racing any yachts claiming an individual rating.

16.2 Where equipment is specified in these rules or was originally fitted by the builder, alternate models and brands with equivalent specifications may be fitted with the written approval of the Committee. Owners are advised to contact the Committee before incurring any expense.

17.0 Spare.

18.0 CREW LIMITATIONS

18.1 The maximum Crew Number shall be nine for Class and IRC racing. The notice of race, the Sailing Instructions or the Class Association may change this limit.

19.0 CREW QUALIFICATIONS

19.1 When racing under a Class Certificate the skipper, whether owner or not, and any helmsperson must be members of the Class Association. The Sigma 38 OOD Class Association Committee may make special arrangements for Service, Sailing School and Chartered boats.

19.2 Spare

