



The IRC Rule is sponsored by



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# IRC

## PREAMBLE

Any changes herein have no authority until 1 January 2007.

IRC is a rating rule providing racing for 2 separate classes of boats, IRC-A and IRC-C. Part 3, IRC-C is ISAF Advertising Code Category C. Part 4, IRC-A is ISAF Advertising Code Category A. Organising Authorities should specify in Notice of Race either Part 3 or Part 4. If neither is specified, then by default Part 4 shall apply.

## CONTENTS

<b>Part 1</b>	<b>RULE POLICY</b>	1 Introduction 2 Fundamental Policy 3 Important Notice 4 Spare
<b>Part 2</b>	<b>GENERAL INFORMATION</b>	5 Administration 6 Interpretations 7 Dispensations 8 Language and Rule Definitions 9 Rating Certificates 10 Spare 11 Changes to Class Rules 12 Units of Measurement 13 Sail Numbers 14 Manual Power
<b>Part 3</b>	<b>IRC-C</b>	15 Index of Abbreviations 16 Spare 17 Measurement and Compliance 18 Advertising 19 Rating review 20 Rating Protests 21 Hull and Overhang Factors 22 Empty Weight 23 Length on Waterplane (LWP) and Draft 24 Keel, Centreboard and Rudder 25 Engine and Propeller 26 Rig and Sails 27 Equipment and Loading 28 Seaworthiness and Safety 29 Dayboats
<b>Part 4</b>	<b>IRC-A</b>	30 Rules 31 Advertising
<b>Appendix 1</b>	<b>IRC MEASUREMENT DEFINITIONS</b>	
<b>Appendix 2</b>	<b>IRC CERTIFICATE</b>	NOT INCLUDED

## **Part 1 RULE POLICY**

### **1 INTRODUCTION**

- 1.1 IRC is the development of the Channel Handicap System (CHS). It continues and expands upon the essential ingredients of the CHS and follows the basic principles of strict administration, user-friendliness and ease of application for administrators, sailors and race organisers. It follows that the costs are reasonable.
- 1.2 The Rule is in two parts, IRC-A, IRC-C. IRC-A applies ISAF Advertising Code, Category A and IRC-C applies ISAF Advertising Code, Category C. IRC is a rating rule based upon owner-supplied information and will remain secret. The emphasis is on simplicity and concise rules.

### **2 FUNDAMENTAL POLICY**

- 2.1 IRC is a system of measurement which classifies a broad range of cruising and racing ballasted monohull keel boats for competition by providing ratings comprising single figure allowances based on time.
- 2.2 The IRC concept protects the existing IRC fleet.
- 2.3 IRC encourages design innovation consistent with stability, rounded performance, seaworthiness and safety.
- 2.4 IRC discourages unnecessary expense at all levels.
- 2.5 The spirit of IRC requires that owners and designers shall not seek means of artificially reducing the rating of a boat, e.g. increasing performance without a corresponding increase in rating.
- 2.6 Calculation of IRC ratings is secret and contains subjective elements. Subjective judgement where exercised is the sole responsibility of the Rating Authority (see Rule 5.1).
- 2.7 IRC ratings may rely on owner submitted data (but see rules 9.4 and 19) but a Rule Authority (see Rule 5.1) may require that boats be weighed and measured by an appointed measurer for certificates issued under their jurisdiction. Some or all of the dimensions of class production boats may be standardised.
- 2.8 IRC boats may be weighed.
- 2.9 Any exploitation of the inherent simplicity of the IRC Rule will be discouraged. The RORC Rating Office and UNCL therefore reserve the right to make adjustments or amendments to any part of IRC at any time in order to prevent undesirable or unforeseen lines of development.

### **3 IMPORTANT NOTICE**

- 3.1 The safety of a boat rated under IRC and its entire management including insurance shall be the sole responsibility of the owner/competitor who must ensure that the boat is fully found, thoroughly seaworthy, and operated by a crew sufficient in number and experience who are physically fit to face bad weather. The owner/competitor must be satisfied that:
  - 3.1.1 The hull, spars, rigging, sails and all gear are sound.
  - 3.1.2 All safety equipment is properly maintained, stowed and in date.
  - 3.1.3 The crew know where such equipment is kept and how it is to be used.

The ultimate decision on whether or not to race remains the sole and inescapable responsibility of the owner or the owner's representative.

**Part 1 RULE POLICY (continued)**

- 3.2 None of the establishment of these Rules, their use by race organisers, the issue of a rating certificate under these Rules, nor any inspection of the boat under these Rules shall constitute any representation or warranty by the Rating Authority as to the seaworthiness of any boat or the safety of any gear and shall not in any way limit the absolute responsibility of the owner/competitor referred to in Rule 3.1. This notice shall be brought to the attention of any person who sails on a boat in respect of which a rating certificate has been issued under these Rules.
- 3.3 Ratings issued under IRC are calculated in good faith from the data available. Neither the Rating Authority nor any other IRC Rule Authority (see Rule 5.1) shall have any liability whatsoever for any error in the application of these Rules or the determination of any factor which may affect the rating or the exercise of any judgement in the application of these Rules or the issue of a certificate or for changes in these Rules.
- 3.4 The establishment of an IRC Crew Number in respect of any boat does not constitute any representation or warranty as to the safety of the boat when sailing with this or any other number of crew (See Rule 3.1). When domestic law invokes any form of crew different from the IRC Crew Number, this limitation shall replace IRC Crew Number.

**4 SPARE**

## **Part 2 GENERAL INFORMATION**

### **5 ADMINISTRATION**

- 5.1 IRC is administered by Seahorse Rating Ltd (referred to in these Rules as the RORC Rating Office) and the UNCL Centre de Calcul (referred to as UNCL) only. The expression 'Rating Authority' is defined as the RORC Rating Office and the UNCL Centre de Calcul acting jointly. The expression 'Rule Authority' is defined as any other individual or body authorised by the Rating Authority to act for the Rating Authority on a local basis for the administration of IRC in a defined geographical area.
- 5.2 In order to ensure the integrity of the secret elements of the IRC Rule all details of the IRC Rule are the sole property of the RORC Rating Office and UNCL who shall appoint an IRC Technical Committee comprised solely of those persons who have knowledge of the secret elements of the Rule. This committee shall be solely responsible for any changes in the Rule algorithms.
- 5.3 IRC TCCs are the copyright of RORC Rating Office and UNCL jointly. Action may be taken against any third party using IRC derived handicaps, whether precise or amended, for the purpose of race handicapping any boat without a current IRC certificate. Stability and Safety Screening numerals are RORC Rating Office copyright.
- 5.4 The RORC Rating Office and UNCL shall also appoint an IRC Policy Steering Group to which Rule Authorities may report. The Policy Steering Group will advise the IRC Technical Committee in the interests of owners and will oversee the text of the IRC part of the Rule.
- 5.5 Additionally there shall exist an IRC Owners' Association comprising owners of boats holding current IRC certificates. The IRC Owners' Association shall have international representation which reflects the distribution of certificated boats, and shall be a forum for owners to discuss and if agreed to make recommendations or suggestions to the IRC Technical Committee and the IRC Policy Steering Group.

### **6. INTERPRETATIONS**

- 6.1 Requests for interpretation of the IRC Rule shall be made in writing through Rule Authorities to the Rating Authority who will consult and communicate any decision to Rule Authorities.

### **7 DISPENSATIONS**

- 7.1 The Rating Authority may grant dispensations to the IRC Rule on an individual boat basis at its entire discretion. Any such dispensations shall be noted on a boat's IRC certificate.

### **8 LANGUAGE AND RULE DEFINITIONS**

- 8.1 The languages of IRC shall be English and French. In the event of any discrepancy, the English text shall prevail. The meaning of any word shall be by reference to the Oxford English Dictionary in the context in which it appears. The words 'shall' and 'must' are mandatory, the words 'may' and 'can' are permissive. The word 'should' is advisory.
- 8.2 Any reference to the Racing Rules of Sailing (RRS) is defined as the current version of The Racing Rules of Sailing of the International Sailing Federation (ISAF). Reference to the Equipment Rules of Sailing refers to the current version of the ISAF Equipment Rules of Sailing (ERS). Reference to Special Regulations is defined as the current version of Special Regulations of the ISAF Offshore Racing Committee.
- 8.3 ERS Part I shall apply except where deleted or amended by IRC Rules.
- 8.4 ERS Part II, Definitions, Section G, Sail Definitions, shall apply except as stated by IRC Rules or Appendix 1.

## Part 2 GENERAL INFORMATION (continued)

- 8.4.1 ERS G.2.2, Leech, shall not apply. MAINSAIL, HEADSAIL and SPINNAKER Leech is defined as: The aft edge.
- 8.4.2 ERS G.2.3, Luff, shall not apply. MAINSAIL, HEADSAIL and SPINNAKER Luff is defined as: The fore edge.
- 8.4.3 ERS G.4.2 (c) Head Point, SPINNAKER shall not apply. SPINNAKER Head Point is defined as: The intersection of the leech and the luff, extended as necessary.
- 8.4.4 SPINNAKER Half Luff Point is defined as: The point on the luff equidistant from the tack and head points.
- 8.4.5 ERS G.7.1(b), Spinnaker Foot Length, shall not apply. SPINNAKER Foot Length is defined as: The distance between the clew point and the tack point.
- 8.4.6 ERS G.7.5(b), Spinnaker Half Width, shall not apply. SPINNAKER Half Width is defined as: The distance between the half leech point and the half luff point.
- 8.5 Sails shall be measured in accordance with ERS Part III, Measurement Rules, Section H5, Sail Measurement.
- 8.6 Any dispute arising out of the administration of the IRC Rules by the Rating Authority or a Rule Authority shall be referred to the IRC Policy Steering Group referred to in Rule 5.4 - which shall allow the applicant to be given a fair opportunity to make his case either in writing or in person (as the IRC Policy Steering Group may determine). The decision of the IRC Policy Steering Group shall be final.
- ## 9 RATING CERTIFICATES
- 9.1 All IRC ratings will be calculated by and rating certificates issued by the Rating Authority. Rule Authorities may be authorised to issue and print rating certificates under licence.
- 9.2 A boat shall not hold more than one valid IRC rating certificate at any time except as permitted by Rule 9.2.1.
- 9.2.1 A boat may additionally hold a separate short-handed certificate. This short-handed certificate shall be valid only for racing in classes, or divisions of classes, for no more than 2 crew, included in a Notice of Race. The short-handed certificate will be clearly identified and shall only vary from the primary certificate in respect of headsail dimensions, single furling headsail allowance, SPA, STL, spinnaker pole/bowsprit, moveable ballast and variable ballast.
- 9.2.2 Issue of any new rating certificate automatically invalidates the old one.
- 9.2.3 A copy of the current rating certificate(s) shall be kept on board the boat.
- 9.3 An IRC certificate is valid for racing under Part 3, IRC-C and Part 4 IRC-A.
- 9.4 Rating certificates will be issued in the form as shown in Appendix 2 with the heading of the Rule Authority and any sponsorship as appropriate. An owner may apply to the Rule Authority to have an IRC rating certificate 'Endorsed'. The Rule Authority will inform the boat of any measurement or other checks required prior to issuing a certificate carrying the notation ENDORSED (see also rule 17).
- 9.4.1 On IRC certificates for all boats rated for one or more downwind sails (see rule 26.6), a second, non spinnaker, TCC is printed.
- 9.4.2 The non spinnaker TCC shall be valid only for races for which the Notice of Race includes a non spinnaker division or class. Boats shall declare their intention to enter such a non spinnaker class using the second TCC a minimum of seven days before the race, or first race if a series of races, and shall not then be permitted to race using a spinnaker for the race or races.
- 9.5 The Rating Authority may at its sole discretion re-issue or may refuse to issue or to re-issue an IRC certificate if in its sole opinion Rule 2.5 may be infringed, or for any other reason. No reason need be stated.

## **Part 2 GENERAL INFORMATION (continued)**

- 9.6 Change of ownership and/or any changes in sail number, rated dimensions, or physical changes which might affect the performance of the boat will automatically invalidate the rating certificate. Attention is drawn to rule 17 and to RRS 78, Compliance with Class Rules; Certificates.
- 9.7 When the Rating Authority has reasonable evidence that a boat does not conform to its certificate, or that there has been a breach of these Rules, or that there has been an error in the determination of the rating, or that there has been a gross breach of the IRC Rules or of good manners or sportsmanship, the certificate may (at the absolute discretion of the Rating Authority) be withdrawn without compensation and the owner shall be informed in writing.
- 9.8 Certificates will normally be valid on payment of the appropriate fee for the current calendar year only, but at the discretion of the relevant Rule Authority, and with agreement from the Rating Authority, the year may run from 1 June to 31 May of the following year.
- 9.9 Each boat racing under IRC shall hold a current valid IRC certificate. Action may be taken against any third party using information derived from IRC for the purpose of handicapping or rating any boat without a current IRC certificate.
- 9.10 Irrespective of where a boat is registered, she shall apply for her IRC certificates to the appointed IRC Rule Authority in the country in which she predominantly races. Exceptionally, with the agreement of the Rating Authority, she may apply through another Rule Authority.
- 9.11 On request and payment of a fee, and in accordance with any administrative rules published by the Rating Authority, the Rating Authority may supply a copy of a boat's valid or immediately expired IRC certificate, including owner name, to any interested party.

## **10 SPARE**

## **11 CHANGES TO CLASS RULES**

- 11.1 Sailing Instructions may vary the requirements of IRC Rules 9.4.2, 13.1, 19.6, 19.7, 19.8, 26.1.5 (d) and (e), 26.8.4, 27.4. No other IRC Rules may be amended.

## **12 UNITS OF MEASUREMENT AND CORRECTED TIMES**

- 12.1 Measurements shall be taken in units of the metric system. Sail measurements shall be taken in metres to two decimal places. All other linear measurements shall be in metres to three decimal places. Weight shall be taken to the nearest kilogram except in the case of boat weight which shall be to the nearest 10 kilograms. Normal mathematical conventions shall apply and full calculated values will be carried forward to subsequent calculations. Final ratings shall be rounded to three decimal places.
- 12.2 The IRC rating is calculated as a Time Corrector (TCC) to three places of decimals. Corrected time for each boat is calculated by multiplying its elapsed time by its TCC. Corrected times shall be rounded to the nearest second with 0.5 seconds rounded upwards.

## **13 SAIL NUMBERS**

- 13.1 Each boat shall hold a sail number as prescribed by its member national authority. Sail numbers shall be displayed in accordance with RRS 77, Identification on Sails.

## **14 MANUAL POWER**

- 14.1 RRS 52, Manual Power, shall not apply. This Rule may be amended by notice of race.
- 14.2 Boats using stored power for the adjustment or operation of running rigging (eg backstays, runners, checkstays, sheets, guys, etc), but excluding the hoisting, reefing or furling of sails, shall declare this to the Rating Authority.

## Part 3 IRC-C

### 15.0 INDEX OF ABBREVIATIONS

		Rule Reference
BO	Bow Overhang	23.1
CHS	Channel Handicap System	1.1
D	Dayboat	29.1
E	Mainsail Foot Length on Boom	26.5
ERS	The current version of the ISAF Equipment Rules Of Sailing	8.2
EY	Mizzen Sail Foot Length on Boom	Diagram X
FL	Forestay Length	Diagram X
h	Height of Flying Bow above Waterplane	Diagram X
HHB	Largest Headsail Top Width	26.7
HHW	Half Width of largest area Headsail	Diagram X
HSA	Headsail Area	26.7
ISAF	The International Sailing Federation	8.2
J	Base of Foretriangle	26.3
LL	Luff Length of largest area Headsail	Diagram X
LLmax	Longest Headsail Luff Length	26.7.1
LLY	Mizzen Staysail Luff Length	Diagram X
LOA	Length Overall	23.1
LP	Luff Perpendicular of largest area Headsail	26.3
LPY	Mizzen Staysail Luff Perpendicular Maximum Length	Diagram X
LWP	Length on Waterplane	23.0
MHW	Mainsail 1/2 Width	26.5
MTW	Mainsail 3/4 Width	26.5
MUW	Mainsail Upper (7/8) Width	26.5
P	Mainsail Hoist on Mast	Diagram X
PY	Mizzen Sail Hoist on Mast	Diagram X
RF	Rig Factor	26.2
RORC	The Royal Ocean Racing Club	3.3
RRS	The Racing Rules of Sailing	8.2
SF	Spinnaker Foot Length	26.6
SHW	Spinnaker Half Width	26.6
SLE	Spinnaker Leech Length	26.6
SLU	Spinnaker Luff Length	26.6
SO	Stern Overhang	23.1
SPA	Maximum permitted spinnaker area	26.6.4
SSS	Stability and Safety Screen	28.2
STL	Spinnaker Tack Length	26.3
TCC	IRC Time Corrector	16.2
UNCL	L'Union National Pour La Course Au Large	3.3
x	Overhang of Flying Bow	Diagram X
y	Height of Transom above Waterplane	Diagram X

**Part 3 IRC-C (continued)**

**16.0 SPARE**

**17.0 MEASUREMENT AND COMPLIANCE**

- 17.1 Measurement data shall be obtained by direct measurement or derived from another rating certificate, whenever possible.
- 17.2 Sails shall be measured according to the current Equipment Rules of Sailing.
- 17.3 The accuracy of measurements supplied shall be the owner's responsibility. An IRC measurement service is available on application to the Rating Authority or a boat's Rule Authority.
- 17.4 It is a breach of the Rules of IRC for any owner or individual to intentionally supply false information. Attention is drawn to Rule 9.7 and to RRS 69, Allegations of Gross Misconduct.
- 17.5 The Rating Authority will use the supplied data as a basis for rating but reserves the right to overrule specific data or to standardise the dimensions of a class of production boats.
- 17.6 The Rating Authority or a boat's Rule Authority may require a boat to be submitted for measurement at any time without giving reasons. Measurement will be undertaken by authorised measurers of the Rating Authority. A new certificate will be issued by the Rating Authority based on the new measurement data.
- 17.7 In the particular case of a boat issued with a one-design certificate, as noted on the certificate, the rating requires compliance with one-design class rules which take precedence over IRC Rules.

**18.0 ADVERTISING**

- 18.1 With the approval of their Member National Authority, competitors shall comply with the ISAF Advertising Code, Category C.

**19.0 RATING REVIEW**

- 19.1 Review of a boat's rating may be requested at any time by the owner who should submit a completed review application form, available from the Rating Authority, together with the appropriate fee to the Rating Authority.
- 19.2 Anyone who has a valid interest in a boat's certificate may also request rating review from the Rating Authority, by submitting a completed application form together with the appropriate fee to the Rating Authority. The owner of the boat subject to review will be requested to file a reply as soon as possible.
- 19.3 The Rating Authority may also review the rating at any time.
- 19.4 Review shall be based on all the available evidence. Where necessary, rated data shall be re-measured by an authorised measurer. The decision of the Rating Authority on any review shall be final.
- 19.5 For series produced boats, the rated data may have been standardised by the Rating Authority. Standard data shall not be subject to third party review or protest. A rating review may be requested by the manufacturer or the class association of a series produced boat. Modifications to standard data shall be declared by the owner.
- 19.6 Where the TCC is reviewed and found to be not more than 0.005 greater than before, the contested rating shall be valid up to the date that the request for review was lodged with the Rating Authority.

### Part 3 IRC-C (continued)

- 19.7 Where the TCC is reviewed and found to be more than 0.005 greater than before, the contested certificate is invalid from the date of issue.
- 19.8 In either case where the TCC is reviewed, the certificate becomes invalid if any re-measurement which increases the boat's rating differs from the measurement shown on the certificate by more than 1% of: P, E, STL, LOA, LWP, Beam, Draft, FL, LLmax, J, MHW, MTW, (see Rule 15.0, Index of Abbreviations and Appendix 1, Measurement Definitions); by more than 2% of SPA or HSA; by more than 5% of y, x or h; or by 5% or 200 kg, whichever is the less, in respect of Weights; or if specific detail is clearly in error.
- 19.9 Following review and re-measurement, a new certificate may be issued which may be back-dated to the date that any erroneous data was supplied.
- 19.10 The owner of a boat requesting review of his own boat's rating is liable for all measurement and rating costs. In all other cases, unless as a result of review a boat's certificate is invalidated under Rules 19.7 or 19.8, the person requesting the review shall pay measurement and rating costs unless the Rating Authority orders otherwise.

### 20.0 RATING PROTESTS

- 20.1 As permitted by the RRS, a rating protest may be submitted to a protest committee. A protest committee may refer the matter to the Rating Authority with the appropriate fee.
- 20.2 In the event of protest, the boat's rated data may be re-measured by an authorised measurer.
- 20.3 A boat whose certificate is invalidated as a result of an error or omission by an IRC Rule Authority or by the IRC Rating Authority, of which the boat could not reasonably have been aware, may be penalised at the discretion of the protest committee. Additionally, a protest committee may order that races scored using the invalidated certificate shall be re-scored using the corrected TCC.
- 20.4 Subject to the RRS, when a boat is penalised by a protest committee as a result of her certificate being invalidated under Rules 19.7 or 19.8, her owner shall be liable for measurement and rating costs unless the protest committee orders otherwise. In all other cases, the protestor shall be liable for measurement and rating costs.
- 20.5 When as a result of an action in a race or series, or the withdrawal of a certificate by the Rating Authority, a boat's rating is reviewed and its TCC increases by more than 0.010, the boat's Member National Authority shall investigate the circumstances and report its findings to the Rating Authority.

### 21.0 SPARE

### 22.0 EMPTY WEIGHT

- 22.1 Empty Weight is the weight of the boat in the following dry condition:
- 22.1.1 Fully rigged with all spars (including spinnaker pole(s) and jockey pole (if any)), standing rigging, backstay, runners and checkstays, halyards, main and mizzen sheets, and vang(s).
  - 22.1.2 Main engine installed, or outboard engine aboard in stowed position.
  - 22.1.3 Batteries and fitted berth cushions on board in their normal positions if carried while racing. These items will be noted on the boat's certificate.
  - 22.1.4 All permanent fixtures and fittings and items of accommodation whether detachable or not, including washboards, bunk and floorboards and saloon table (if fitted for racing) on board in their normal positions.
  - 22.1.5 Standard fit out if rated to class standard data.
- 22.2 The following items shall **not** be on board for weighing:
- 22.2.1 Sails, headsail and spinnaker sheets and guys, spare standing and running rigging.

### **Part 3 IRC-C (continued)**

- 22.2.2 Fuel, water and the contents of any other tanks. Gas bottles shall be removed.
- 22.2.3 Food, cooking and catering utensils.
- 22.2.4 Anchors, chains, warps, mooring lines and fenders.
- 22.2.5 Clothing, bedding and personal effects.
- 22.2.6 All removable safety equipment.
- 22.2.7 Tools and spare parts.
- 22.2.8 Loose gear.
- 22.2.9 Crew.

22.3 When for practical reasons it is not possible to remove all items and equipment (e.g. fuel), it is acceptable to deduct the weight of these from the gross weight. The rating authority reserves the right to refuse such data when inadequate detail is supplied.

22.4 The Rating Authority will calculate the empty weight of an un-weighed boat based on information contained on another rating certificate, designer data or from any other source.

22.5 In the absence of other information, empty weight may be calculated by deduction of the items detailed by Rule 22.2 from a boat's sailing displacement.

### **23.0 LENGTH ON WATERPLANE (LWP) AND DRAFT**

23.1 The measurement points for various configurations of boats are shown on the diagrams for hull shapes and are defined in Appendix 1. LWP is calculated by the subtraction of bow (BO) and stern (SO) overhangs from length overall (LOA). The dimension 'y' shall also be supplied and dimensions 'h' and 'x' if appropriate. In the case of doubt, LOA and LWP shall be maximised. All measurements shall be taken with the boat in the empty condition (see Rule 22.0).

23.2 Overhang Factor (OF) is an assessment by the Rating Authority of the bow and stern overhangs of the boat and their contribution to sailing length.

### **24.0 KEEL, CENTREBOARD AND RUDDER**

24.1 Full details of a boat's keel, rudder and other appendages shall be supplied to the Rating Authority at the time of rating application.

24.2 The Rating Authority reserves the right to add up to 50% of the span of a wing keel to a boat's draft.

24.3 Drop keels, centreboards, canards and other movable appendages shall be declared. Unless fixed down while racing, drop keels will be rated as movable appendages.

24.4 Twin rudders are permitted.

24.5 In the construction of hull appendages, no material with specific gravity greater than 11.3 is permitted.

24.6 Boats including material in their hull appendages with specific gravity greater than 11.3, and with Age Date of 2005 or earlier, and holding a valid IRC certificate on 31<sup>st</sup> December 2005 are exempt from rule 24.5. Apart from routine maintenance, any such boat changing the quantity of material of specific gravity greater than 11.3 shall comply with Rule 24.5 and will not subsequently be eligible for exemption from compliance with IRC Rule 24.5.

### **25.0 ENGINE AND PROPELLER**

25.1 Boats will be rated with either:

- 25.1.1 No engine.
- 25.1.2 Outboard engine (i.e. an engine where the propeller may be removed from the water while racing).
- 25.1.3 Inboard engine, including strut drive and stern-drive configurations. Propeller type shall be declared at the time of rating application.

### **Part 3 IRC-C (continued)**

25.2 Inboard engines shall be capable of producing a minimum speed of  $1.8 \cdot LWP^{0.5}$  knots. Outboard engines shall be securely fastened in their normal stowage positions for racing.

## **26.0 RIG AND SAILS**

### **26.1 General**

- 26.1.1 Single and twin masted rigs only may be rated under IRC.
- 26.1.2 'Cat' rig is defined as a rig where no sails are set forward of the mast(s) when sailing to windward.
- 26.1.3 'Gaff' rig includes square, spritsail and other similar rig configurations.
- 26.1.4 Mizzen staysails shall be declared.
- 26.1.5 There is no limitation on the number or type of sails carried while racing under IRC except:
  - (a) the limitation on spinnaker numbers (see Rule 26.6.2).
  - (b) the limitation on sails containing exotic materials (see Rule 26.4).
  - (c) the limitation on headsail numbers for boats rated with a single furling headsail. Except in the cases of significant damage or storm and heavy weather sails, boats claiming a rating allowance for using a single roller furling headsail shall use the same headsail for all races in any series of races. (See rule 26.8.1)
  - (d) except in the case of significant damage, during a regatta run on consecutive days, including any lay days, the sails carried shall remain the same.
  - (e) a spare mainsail may be carried but may not be used as a racing replacement, either during a race or during a regatta run on consecutive days, including any lay days.
  - (f) sails shall be set in close proximity to the boat.
- 26.1.6 Adjustment or detachment of forestay and/or shrouds including diagonal and jumper shrouds while racing is not permitted except:
  - a) in the case of a boat without runners, checkstays or adjustable backstay when the forestay may be adjusted but not detached.
  - b) in the case of Dayboats explicitly permitted by their own class rules to adjust or detach the forestay and shrouds while racing.

### **26.2 Rig Factor**

- 26.2.1 Rig factor (RF) is an assessment by the Rating Authority of the rig and sail features of the boat and their character and efficiency when compared to a basic cruising configuration with substantial spars and basic rig controls.
- 26.2.2 RF above unity may be applied for: fractional, racing and lightweight rigs, high aspect ratio and efficient plan forms, wing and double luff sails, specialised sail stiffening, large headboards/cranes, permanently bent or highly controllable spars, hi-tech rigging, exotic rig materials, advanced winch and deck gear arrangements, flush/efficient deck design, and any other feature which increases sailing efficiency that is not already rated through the rated dimensions.
- 26.2.3 RF below unity may be applied to less efficient rigs and sail plans, cruising furling sails, motor sailers with large deck houses, cruisers with weight/windage aloft or with basic deck gear only, or any other feature which reduces sailing efficiency that is not already rated through the rated dimensions.
- 26.2.4 Full rig details shall be supplied at the time of rating application. The Rating Authority reserves the right to apply a high rig factor until full detail is supplied.

### **26.3 Sheeting of Sails, Sail Definitions, Bowsprits and Spinnaker Poles**

- 26.3.1 No headsail or spinnaker may be sheeted from more than one point on the sail.
- 26.3.2 All sails shall be set and sheeted in accordance with RRS 50, Setting and Sheeting Sails, with the following additions.

### Part 3 IRC-C (continued)

- 26.3.3 RRS 50.3(a) is amended to the extent that a spinnaker but not a headsail, unless declared and rated, may be tacked to a bowsprit.
- 26.3.4 RRS 50.4 shall not apply.  
A spinnaker is defined as a sail set forward of the foremost mast with half width (measured as a spinnaker) greater than 75% of foot. Any other sail tacked down forward of the foremost mast is a headsail.
- 26.3.5 RRS 50.3 (c) is deleted and replaced by:  
A headsail may be sheeted or attached at its clew or tack to a spinnaker pole or whisker pole, provided:
- that a spinnaker is not set,
  - that the HSA and LLmax dimensions do not exceed those shown on her certificate,
  - that the pole length measured as spinnaker tack length (STL) does not exceed the rated STL.
  - that for a boat rated under Rule 26.3.8 a) with no spinnaker pole, the whisker pole (measured as STL) shall not exceed J.
- A second headsail may be set simultaneously.
- 26.3.6 If a spinnaker can be tacked to a bowsprit in front of the forestay, the bowsprit will be considered to be a spinnaker pole and STL measured as the greater of the length of the longest spinnaker pole or to the extremity of the bowsprit.
- 26.3.7 In the case of a boat fitted with a bowsprit for the primary purpose of flying a headsail, J is measured horizontally from the front face of the mast at deck level to the headsail tack attachment point on the bowsprit.
- 26.3.8 Boats will be rated according to whether they use a spinnaker pole and/or a bowsprit according to the following configurations:
- No spinnaker pole (spinnaker tacked on deck) or a centre line bowsprit only.
  - An articulating bowsprit only.
  - A spinnaker pole or poles either with or without a bowsprit.
- 26.4 Sailcloth
- 26.4.1 Sailcloth containing exotic materials (at present none) will carry an additional rating tax.
- 26.4.2 Sailcloth containing exotic materials shall be declared on initial application for rating, revalidation, or when amending a boat's sail inventory.
- 26.4.3 Only specific sails containing exotic materials which have been declared and noted on a boat's certificate may be used while racing under IRC.
- 26.5 Mainsails
- 26.5.1 Where measurement bands are marked on the mast at the masthead and on the aft end of the boom, the head of the mainsail shall not be hoisted above the lower edge of the band at the masthead, and the clew of the sail shall not be pulled aft of the forward edge of the band on the boom.
- 26.5.2 Unless declared as greater under Rule 26.5.3 or lesser under Rule 26.5.4, mainsail seven eighth width (MUW), mainsail three-quarter width (MTW), and mainsail half width (MHW) will be assumed to be 0.22\*E, 0.38\*E and 0.65\*E respectively.
- 26.5.3 MUW measurements in excess of 0.22\*E, MTW measurements in excess of 0.38\*E, and MHW measurements in excess of 0.65\*E shall be declared.
- 26.5.4 MUW measurements less than 0.22\*E to a lower limit of 0.20\*E may be declared. MTW measurements less than 0.38\*E to a lower limit of 0.35\*E may be declared. MHW measurements less than 0.65\*E to a lower limit of 0.61\*E may be declared.
- 26.6 Spinnakers
- 26.6.1 Spinnakers are rated relative to a base area appropriate to a boat of the particular type and size. Any spinnaker will be rated equitably relative to this base size.
- 26.6.2 Boats carrying more than three spinnakers in total on board while racing will incur an increase in rating.
- 26.6.3 Spinnaker area shall be calculated from:  
$$SPA = ((SLU + SLE)/2) * ((SF + (4 * SHW))/5) * 0.83$$
  
The luff (SLU), leech (SLE), foot (SF) and half width (SHW) of the largest area spinnaker carried shall be declared. The calculated area of this spinnaker will be

### Part 3 IRC-C (continued)

shown on a boat's certificate as the maximum permitted spinnaker area.

26.6.4 STL is rated relative to a base length of  $0.456 \cdot SPA^{0.5}$ . Variations from base STL will result in variation in a boat's TCC appropriate to the change in length.

#### 26.7 Headsails

Headsail area (HSA) shall be calculated from:

$$HSA = LL \cdot ((0.25 \cdot LP) + (1.5 \cdot HHW)) \cdot 0.5$$

In the calculation of HSA:

- (a) HHW shall not be taken as less than 50% of LP.
- (b) If HHB is greater than the larger of 0.09m or  $0.008 \cdot LL$ , then 5 times the excess shall be added to LL in the calculation of HSA.

26.7.1 The following shall be declared:

- (a) The luff length (LL), luff perpendicular (LP), and half width (HHW) of the largest area headsail carried.
- (b) The longest luff length (LLmax) of any headsail carried.
- (c) The widest headsail top width (HHB) of any headsail carried.

26.7.2 HSA, LP, and HHW of the largest area headsail, LLmax and HHB will be shown on the boat's certificate. HSA, LLmax and HHB are the maximum permitted values.

#### 26.8 Furling Headsails

26.8.1 Boats may apply for a rating credit for using a single roller furling headsail. To be eligible:

- a) A boat shall be fitted with a complete headsail furling system including at least a drum, furling headfoil, and top swivel.
- b) Rated LP shall be greater than  $1.3 \cdot J$ .
- c) Only a single headsail shall be used while racing, except that additionally storm jibs as defined by Special Regulation 4.26 (see Appendix 1, IRC Measurement Definitions) may be used.

26.8.2 A boat may declare that she may alternatively use a heavy weather jib as defined by Special Regulation 4.26 (see Appendix 1, IRC Measurement Definitions). Provided that she complies with rule 26.7.1 a) and b), she will remain eligible for the rating credit but at a reduced rate.

26.8.3 Except in the cases of significant damage or storm and/or heavy weather jibs as appropriate, the same headsail shall be used for all races in any series of races.

26.8.4 Any other headsail may be carried aboard.

### 27.0 EQUIPMENT AND LOADING

27.1 The rated parameters assume that the boat is fitted out at least to the production specification and/or to the condition when last measured/inspected. Detachable items (such as but not limited to bunk cushions) permitted by Rule 22 to be aboard for measurement shall be carried in their normal positions while racing. If another rating certificate is being used as the basis for data then any changes since the issue of that certificate shall be notified to the Rating Authority.

#### 27.2 Hull Factor

27.2.1 Hull factor (HF) is an assessment by the Rating Authority of the features of the boat and their character and efficiency when compared to a basic cruising configuration.

27.2.2 Stripped out interiors, the use of light and hi-tech structures and/or materials, removal of furniture or other fitted equipment, etc. may lead to the application of higher than standard hull factor to compensate for potential increase in performance. Such features shall be declared to the Rating Authority.

#### 27.3 Movable And Variable Ballast

27.3.1 A boat may request permission from the Rating Authority to use movable and/or variable ballast for the purpose of increasing stability. The Rating Authority will generally only grant permission to boats specifically and originally designed to carry movable and/or variable ballast and may deny permission without giving any reason. RRS 51, Moving Ballast, and 52, Manual Power, are modified in respect of movable

### **Part 3 IRC-C (continued)**

and/or variable ballast systems to the extent required by this class Rule.

- 27.3.2 Any such system shall be declared on a boat's rating application, will be noted on the rating certificate, and will be reflected by the application of a power factor to the TCC.
- 27.3.3 There is no limit to the static heel angle with ballast tanks fully filled on one side of the boat or with movable ballast moved fully to one side. For boats with water ballast, the maximum weight of water that can be carried on each side of the boat shall be declared. For boats with moveable ballast, the maximum static heel angle in the Empty Weight condition (see Rule 22.0) with the ballast moved fully to one side shall be declared.
- 27.3.4 Stored power may be used for the operation of movable and/or variable ballast systems.

#### **27.4 Crew Number/Weight**

- 27.4.1 There is no limitation on crew numbers or weight under IRC except for one designs and in races requiring boats to hold an 'Endorsed' certificate (see Rule 9.4). Attention is drawn to Rule 3.4.
- 27.4.2 Boats rated as one-designs, as noted on the boat's certificate, shall conform with their one-design class rules unless freed from this requirement by notice of race or sailing instructions.
- 27.4.3 In races requiring boats to hold 'Endorsed' certificates, the crew number printed on each boat's certificates shall not be exceeded.
- 27.4.4 In all other cases, the crew number printed on each boat's certificate is for information only, has no effect on TCC, and has no relevance under these Rules unless invoked by notice of race and/or sailing instructions. Crew number may be amended by notice of race or sailing instructions.
- 27.4.5 Race committees may invoke crew limitations, by number or by weight, in the notice of race and/or sailing instructions.

#### **27.5 Crew Classification**

- 27.5.1 There are no rules on the classification of crew within IRC unless stated in a Notice of Race.

### **28.0 SEAWORTHINESS AND SAFETY**

- 28.1 The issue of a rating certificate does not imply that a boat is necessarily of satisfactory design, safe or seaworthy. See Rule 3.
- 28.2 Race committees may impose limits for race entry on safety grounds at their discretion. An SSS number, specific to the boat, will be printed on each boat's certificate for the guidance of owners and race organisers.

### **29.0 DAYBOATS**

- 29.1 A Dayboat is defined as a boat which cannot meet any of Categories 0 to 4 of the Offshore Special Regulations. The Rating Authority reserves the right to re-classify any boat without stating a reason.
- 29.2 A Dayboat will be designated by a 'D' printed on the certificate adjacent to the TCC.
- 29.3 A Dayboat shall be self righting at 60<sup>0</sup> of heel.
- 29.4 The following items shall be carried by a Dayboat when racing under IRC:
  - 29.4.1 A bilge pump and bucket.
  - 29.4.2 An engine or two paddles or a pair of oars.
  - 29.4.3 One anchor and suitable warp.
  - 29.4.4 A compass.
  - 29.4.5 One life jacket and whistle for each crew member.
  - 29.4.6 Two red hand flares.

## **Part 4 IRC-A**

### **30.0 Rules**

30.1 With the exception of Rule 18, Advertising, the IRC Rules Part 3 shall apply.

### **31.0 Advertising**

31.1 Competitors shall comply with the ISAF Advertising Code, Category A.

## APPENDIX 1

## IRC MEASUREMENT DEFINITIONS

**Measurement Note:** *ISAF Equipment Rules of Sailing (ERS) Part II, Definitions, Section G, Sail Definitions, shall apply to sail measurement except as stated by IRC Rules or this Appendix. Sails shall be measured in accordance with ERS Part III, Measurement Rules, Section H5, Sail Measurement.*

<b>Age Date</b>	The year in which the boat was first launched, or the year in which the boat was re-launched following hull modification, whichever is the later.
<b>Backstay</b>	An item of running rigging from the masthead to the stern of the boat which may be adjusted while racing.
<b>Beam</b>	The maximum horizontal dimension of the boat in any transverse section, excluding any rubbing strake or toerail.
<b>BO</b>	The horizontal distance from the forward point of LWP to the forward limit of LOA, in the condition of Empty Weight (see Rule 22.0).
<b>Checkstay</b>	An item of running rigging from the mast significantly below the forestay to the stern of the boat which may be adjusted, either directly or indirectly, while racing.
<b>Draft</b>	The maximum depth of the boat or any of its appendages below the waterplane, in the condition of Empty Weight (see Rule 22.0). In the case of any movable appendage, which is not fixed down while racing, the minimum depth is also required.
<b>E</b>	The foot of the mainsail measured along the top of the boom set on the centre line and at right angles to the mast, from the back of the mast to the inside of a permanent 25 mm band of contrasting colour beyond which the mainsail clew point shall not be set. If there is no band the measurement shall be taken to the aft end of the boom.
<b>EY</b>	The foot of the mizzen sail measured as for E.
<b>Empty Weight</b>	The weight of the boat to the nearest 10 kg, in the condition of Empty Weight, less the weight of any deductions to the nearest 1 kg (see Rule 22.3).
<b>FL</b>	The forestay length measured from where the forestay meets the deck, or from the jib outhaul in the case of a bowsprit, to the forestay attachment point on the front of the mast or to where the forestay intersects the front of the mast, projected if necessary.
<b>h</b>	The vertical distance from the waterplane to the lowest point on the stem at a tangent of 45° to the horizontal, in the condition of Empty Weight (see Rule 22.0).
<b>Heavy Weather Jib</b>	A headsail which complies with Special Regulations Paragraph 4.26: <b>A heavy-weather jib</b> of area not greater than 13.5% height of the foretriangle* squared and without reef points. *vertical height from sheerline abreast the mast to forestay attachment point on mast.
<b>HHB</b>	The widest headsail top width of any headsail carried measured as the distance between the head point and the aft head point.
<b>HHW</b>	The Headsail Half Width of the largest area headsail measured as the shortest distance between the half leech point and the luff, bridging any hollows in the leech of the sail.
<b>HSA</b>	The maximum permitted headsail area.
<b>Internal Ballast</b>	Lead or other material, not in the keel and bulb, which has no practical function in the boat other than to increase weight or to adjust fore and aft trim.
<b>J</b>	The base of the fore-triangle measured as the horizontal distance from the front of the mast at deck level to the point where the forestay meets the deck, projected if necessary.
<b>LL</b>	The luff length of the largest area headsail when stretched sufficiently to remove any

creases.

<b>LLmax</b>	The longest luff length of any headsail when stretched sufficiently to remove any creases.
<b>LLY</b>	The longest luff length of any mizzen staysail, measured as for LL.
<b>LOA</b>	The length overall of the hull excluding bowsprit and other rigging if any, stem fittings, stern fittings, pulpits, any overhanging rudder and rudder hangings.
<b>LP</b>	The luff perpendicular of the largest area headsail measured as the shortest distance from the clew point to the outside of the luff or luff tape. For a cutter rig with more than one forestay, LP is measured as the shortest distance from the aftmost clew point of any jib or headsail when set on the centre line of the boat, to the foremost forestay.
<b>LPY</b>	The longest luff perpendicular of any mizzen staysail, measured as for LP.
<b>LWP</b>	Length on waterplane in the condition of Empty Weight (see Rule 22.0).
<b>MHW</b>	The half width of the mainsail, measured as the shortest distance between the half leech point and the luff, bridging any hollows in the leech of the sail.
<b>MTW</b>	The three quarter width of the mainsail, measured as the shortest distance between the three quarter leech point and the luff, bridging any hollows in the leech of the sail.
<b>MUW</b>	The seven eighth width of the mainsail, measured as the shortest distance between the seven eighth leech point and the luff, bridging any hollows in the leech of the sail.
<b>Movable Ballast</b>	Lead or other material including water which has no practical function in the boat other than to increase weight and/or to influence stability and/or trim and which may be moved transversely but not varied in weight while a boat is racing.
<b>P</b>	The hoist of the mainsail measured on the mast, from the top of the boom when set at right angles to the mast, or the mainsail tack whichever is the lowest, and the bottom of a 25 mm band of contrasting colour at the top of the mast above which the mainsail shall not be hoisted. If there is no band the measurement shall be taken to the top bearing surface of the halyard shackle. In the case of a gaff rig, the upper measurement point is the head of the mainsail at the peak or the head of the topsail if carried.
<b>PY</b>	The hoist of the mizzen sail measured as for P.
<b>Runner</b>	An item of running rigging from the mast below the masthead in the vicinity of the forestay to the stern of the boat which may be adjusted while racing.
<b>Series Date</b>	The year in which the first boat of the class or production series was launched.
<b>SF</b>	The foot length of the largest area spinnaker carried, measured between the clew points.
<b>SHW</b>	The half width of the largest area spinnaker carried, measured between the half leech points.
<b>SLE</b>	The leech length of the largest area spinnaker carried, measured from the clew point to the head point.
<b>SLU</b>	The luff length of the largest area spinnaker carried, measured from the tack point to the head point.
<b>SO</b>	The horizontal distance from the aft point of LWP to the aft limit of LOA, in the condition of Empty Weight (see Rule 22.0).
<b>SPA</b>	The maximum permitted spinnaker area.
<b>STL (SPL)</b>	The length of the longest spinnaker pole, whisker pole or bowsprit measured on or near the centre line of the boat from the forward face of the mast tube to the extremity

of the spinnaker pole, whisker pole or bowsprit, or the horizontal length from the forward face of the mast tube at deck level to the spinnaker tack point on deck projected vertically as necessary, whichever is the greatest.

**Storm Jib** A headsail which complies with Special Regulations Paragraph 4.26: **A storm jib** of area not greater than 5% height of the foretriangle\* squared, and luff maximum length 65% height of the foretriangle. \*vertical height from sheerline abreast the mast to forestay attachment point on mast.

**Variable Ballast** Water carried for the sole purpose of influencing stability and/or trim and which may be varied in weight and/or moved while a boat is racing..

**Wingspan** The maximum horizontal width in any transverse section of any wing, wings or bulb attached to any appendage.

**x** The horizontal distance from the forward point of LWP to the lowest point on the stem at a tangent of  $45^{\circ}$  to the horizontal, in the condition of Empty Weight (see Rule 22.0).

**y** The vertical distance from the waterplane to the lowest point on the transom, in the condition of Empty Weight (see Rule 22.0).

**END**