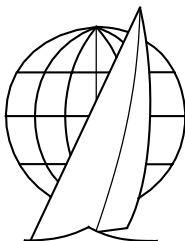


OFFSHORE RACING CONGRESS

World Leader in Rating Technology



INTERNATIONAL MEASUREMENT SYSTEM

IMS REGULATIONS

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ORC Publications & Services

The Offshore Racing Congress produces bound publications, meeting minutes, releases, notices, and various other official documents totaling upwards of half a million words and, in addition, computer software comprising tens of thousands of coded program statements. Most of this material is directly available to the offshore community; owners, administrators, designers and industry. The publications and services below are currently available and others are under development.

International Measurement System (IMS):

The fundamental IMS Rule Book for the IMS international handicapping system, required to be aboard while racing IMS. It covers all measurement and administrative details, owner's responsibilities and many formulations. Approx. 94 pages.

IMS Regulations:

A companion to the IMS Rule Book spelling out accommodation regulations for the Racing Division and Cruiser/Racer Division respectively, along with sail inventory and construction materials requirements. Unlike the IMS Rule Book, the provisions of the IMS Regs are applied by National Authorities and event organisers. Approx. 38 pages.

IMS Guide (Race Committees and others):

A general background on IMS concepts and scoring details, including examples and illustrations. Specifically drafted for Race Committees, it has also been a popular introduction to IMS. A completely new edition is planned for early Spring 2005. Approx. 24 pages.

Formulations of the IMS:

Illustrated explanation of the major formulae of the IMS Velocity Prediction Program. Approx. 40 pages.

Race Management Scoring Software Package:

A DOS/Windows PC scoring program for race committees. Provides for a full spectrum of IMS scoring choices from the simplest to the most sophisticated, including Performance Curve Scoring and also for scoring of non-IMS classes. Entry list/Scratch Sheets, Results Sheets, series scoring, etc. are all features of RMS. User instructions are included. The software is a free download from www.orc.org.

ORC Club Rule

The ***ORC Club*** Rule book covers details of the ORC's popular simplified handicapping system, including administration, scoring and minimum measurement details. An example certificate and Club Application Form are included. Available at www.ORG.org. Approx. 30 pages.

ORC Publications & Services -- continued

International Level Class Rules

These specify the "class" rules for ORC offshore classes, covering limitations and the "rating" limits or rating bands which define the class level. The Level Class Rules are now incorporated in the publication, "World Championship Rules for Offshore Classes" (see below).

International Offshore Rule (IOR):

Complete statement of the IOR, the predominant international handicapping rule of the 1970s & 80s. Now a historical document as the IOR has been replaced by the IMS -- it is out of print.

World Championship Rules for Offshore Classes ("Green Book"):

Although also a reference for other events, the Green Book sets forth primarily administrative rules for running world championships of offshore classes. The Green Book now includes also the Level Class Rules. Approx. 30 pages.

Special Regulations Governing Offshore Racing:

The "Special Regs" are broadly used throughout the offshore community regardless of the handicapping systems in use. The booklet sets forth widely accepted minimum requirements for build, outfit and emergency equipment relating primarily to matters of seaworthiness and preparedness. Approx. 32 pages.

ORC Year Book:

Lists ORC Congress and Committee Members, National Authorities, Rating Offices, Chief Measurers, schedules and events. Constitutional details and a brief ORC history are included. Approx. 65 pages.

Designer IMS VPP:

The IMS computer program, as with most publications, is updated annually immediately following the November Annual General Meeting. With respect to time allowance calculations, the program produces results identical to the Rating Office software and stands as a complete statement of the Velocity Prediction formulations which form the basis of the IMS time allowances.

The Designers VPP also outputs a complete spectrum of hydro- and aerodynamic data, both as defined by the Rule and as conventionally calculated. Any designer may process design data through the VPP to analyse rating effects and the software is therefore regarded as essential to anyone contemplating an "IMS design" project.

ORC Publications & Services -- continued

Bulletin Service:

The Bulletin Service is intended for designers, sailmakers, event organisers and others who have a need to keep abreast of the latest Rule developments -- includes IMS updates, copies of the IMS Regulations, ORC Year Book, Annual General Meeting Minutes, all International Technical Committee (ITC) Minutes and periodic information bulletins. Subscriptions expire 31st October and include all material for the full subscription year.

Individual Membership:

Individual membership helps to support the work of the ORC. Members receive the ORC Year Book, Minutes of the Annual General Meeting, Press Releases and, in recognition of their support, enjoy discounts on publications and services. New members receive the ORC tie.

Prices and Ordering Information

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| IMS Regulations | £5 | £7 | £2 |
| IMS Guide | £5 | £7 | £2 |
| Race Management Scoring Software | free download at www.ORC.org | | |
| Int'l Level Class Rules | Included in Championship Rules below | | |
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IMS REGULATIONS

PART 1 -- GENERAL

101. The IMS regulations apply to races designated “IMS” unless specifically exempted by the sailing instructions. For any event requiring nomination of entries by National Authorities, the Metric Edition of the IMS Regulations shall govern compliance.

These regulations cover yachts with an Accommodation Length of 7.0 m and greater.

102. Purpose. The purpose of these regulations is to control cost, promote safety and crew comfort, and to standardize the accommodation and outfit of IMS yachts within their respective Divisions.

Regulations seem always to be controversial. They are justified by their controlling influences on performance which cannot be reflected in the handicap formula and by the desire to have yachts of generally similar character racing together. In the regulations set forth here the influence of these factors will be evident.

Fleets of dual-purpose yachts sailing under rules other than IMS are invited to apply any of these regulations as they may commend themselves to their constituencies.

103. IMS Divisions -- Cruiser/Racer Division and Racing Division.

The ORC agreed November 1992 that a definition of two divisions for IMS racing would be generally desirable. Any division of fleets, whether only for scoring purposes or to actually separate fleets on the race course, is at the discretion of National Authorities or local event organizers.

1. Definition of Divisions. Where fleets are divided the assignment of yachts to divisions shall be on the basis of compliance with the IMS Accommodation Regulations as follows:

- **Racing Division** -- Compliance with IMS Regulations Part 3, Racing Division Accommodation Regulations.
- **Cruiser/Racer Division** -- Compliance with IMS Regulations Part 4, Cruiser/Racer Accommodation Regulations.

Note that these divisional definitions do not preclude a yacht which qualifies for the Cruiser/Racer Division from participation in the Racing Division as a matter of choice.

Any Notice of Race or Sailing Instructions in which a divisional distinction is specified should state the titles “Racing Division” and/or “Cruiser/Racer Division”. Such a statement shall mean that the above definitions apply, unless otherwise amended by the Notice or Sailing Instructions.

Where divisions are not specified, then with regard to accommodations, yachts in the event need comply with only the Racing Division Accommodation Regulations of Part 3.

Event organizers may wish to provide an additional handicapping allowance for Cruiser/Racer yachts when directly competing against Racing yachts (i.e., mixed division racing). If such an allowance is desired, the recommended method is to increase (slow down) the values of the Time Allowances of each Cruiser/Racer Division yacht by the Dynamic Allowance (DA) percentage shown on the yacht’s Certificate in the Limits and Regulations section. Unless otherwise specified in the Notice of Race or Sailing Instructions, the divisional allowance shall apply.

2. **Recommended Divisional Grandfathering.** The ORC recommends “grandfathering” of yachts in applying the respective divisional Accommodation Regulations as follows:

Racing Division: Yachts of Age Date or Series Date (whichever is earlier) prior to 1/94 shall be deemed to comply with the Racing Division Accommodation Regulations provided they comply with the Rules for the World Championships of the Level Rating Classes (ORC “Green Book”), Part 13, Yacht Characteristics, as would apply according to a yacht’s IOR rating (applying the Two Ton requirements to yachts rating above that level). See Appendix 2 for Green Book details.

This provision is not intended to permit degrading of existing accommodations. No yacht which has previously complied with the IMS Accommodation Regulations without grandfathering shall be qualified under this grandfathering provision and no yacht shall be so qualified on which the accommodations existing prior to 1/94 have been degraded.

Cruiser/Racer Division: Yachts of Age Date or Series Date (whichever is earlier) prior to 7/89 shall be deemed to comply with the Cruiser/Racer Accommodation Regulations provided they comply with the former IMS Basic Accommodation Requirements (as detailed in Part 4 herein). As with Racing Division grandfathering, the degrading of accommodations existing prior to 1/94 is not intended and not permitted.

While grandfathering is at the discretion of race organizers, to avoid possible misunderstandings, the ORC recommended grandfathering methods above shall apply unless specified otherwise in the Notice of Race or Sailing Instructions.

PART 2 -- LIMITS AND EXCLUSIONS

201. Stability Index. A yacht’s eligibility for entry in IMS races of Offshore Special Regulations Categories 0, 1 or 2 may be limited by the Notice of Race or Sailing Instructions on the basis of her Stability Index.

The Stability Index minima in the table below are recommended. Because the Offshore Race Categories are stated in general terms, the special circumstances of any particular race may make deviations from these recommendations appropriate.

| <u>Offshore Race Category</u> | <u>Minimum Stability Index</u> |
|-------------------------------|--------------------------------|
| 0 | 120 |
| 1 | 115 |
| 2 | 110 |

202. Minimum Displacement. The purpose of this regulation is to exclude extremely light yachts from competition in events where it is felt their particular characteristics in combination with course and wind conditions would make equitable handicapping difficult.

A yacht shall be excluded from racing if its IMS Sailing Trim Displacement (with “default” crew weight) is less than:

$$(((LSM0/.3048)^{2.5}*(MB/.3048)^{0.5})^{0.333} + 7.81)*0.543)^3/2.204 \text{ Kg}$$

203. Permitted Materials. The Permitted Materials regulations have been revised in format and are set forth in the table, APPENDIX 1A.

204. Crew Weight Limit. The owner shall be responsible for insuring that the weight of the crew, weighed in light street clothes, on board the yacht for any race does not exceed the Maximum Crew Weight printed on the Rating Certificate and any excess shall automatically suspend validity of the Certificate. Except where a yacht’s Certificate or the composition of a yacht’s crew has since changed, where a yacht has been found to comply with her Crew Weight Limit for an event, she shall be deemed to comply throughout the event. However, crew “weigh-in” before an event shall apply only if specified in the Notice of Race. If not so specified, the Crew Weight Limit shall not be exceeded throughout the event and compliance may be checked at any time.

205. Sail Inventory.

1. A yacht while racing shall not carry on board more sails of each type than the numbers set out below:

| IMS “GPH”: | <u>Above 720.0</u> | <u>720.0 – 578.0</u> | <u>577.9 – 496.0</u> | <u>Below 496.0</u> |
|-----------------|--------------------|----------------------|----------------------|--------------------|
| Large jibs | 2 | 3 | 4 | 5 |
| Small jibs | 2 | 2 | 3 | 4 |
| Light staysails | 1 | 1 | 1 | 1 |
| Spinnakers | 3 | 3 | 4 | 4 |
| Mainsails | 1 | 1 | 1 | 1 |
| Storm Trysails | 1 | 1 | 1 | 1 |
| Storm Jibs | 1 | 1 | 1 | 1 |
| Heavy - | 1 | 1 | 1 | 1 |
| Weather Jibs | | | | |

- Large jibs are those having an LPG greater than 1.1*J.
- Small jibs are those having an LPG less than or equal to 1.1*J. Sails in this category, except inner forestaysails, must be set on stays permanently attached to the mast and tacked on the centerline of the yacht. Inner forestaysails must also be tacked on the centerline of the yacht, but need not be set on a stay.
- Where the largest jib for which a yacht is rated is a Small Jib, the total number of jibs allowed shall be the respective Small Jib maximum plus two.
- Light staysails are those having an LPG less than or equal to 1.1*J which shall only be set flying.
- The specifications of storm and heavy weather sails are those of the Offshore Special Regulations Governing Offshore Racing, section 4.26.4.

- Except that only one mizzen is permitted, there is no limit on the number of sails that are set on or from the after mast of two masted yachts.
- 2. For long distance races the race organizer may modify these limitations to permit carrying additional sails of the kinds and numbers appropriate to the character of the race.
- 3. Bloopers are prohibited. When a spinnaker is set, no jib shall be tacked in such a way as to cause or permit the luff or forward edge of that sail to lie outside of the spinnaker or spinnaker sheet and, when a spinnaker is set, no sail shall be sheeted to the main boom except the spinnaker itself.

206. Halyard Locks. Except for any existing halyard lock installed prior to 10/92, the means of operating devices for securing halyards under tension (e.g., halyard locks) shall not be located higher than 2.438m above the local deck.

Part 3 -- RACING DIVISION ACCOMMODATION REGULATIONS

301. Purpose. The purpose of these requirements is to insure that all yachts racing under IMS meet minimum standards of accommodation in order to provide for comfort of crews and stowage of gear, maintain long term value of the yachts and to prevent unrated performance advantage from stripping hulls for racing.

302. Compliance. Except where “grandfathering” as in 103.2 may apply, a yacht shall not race under IMS unless she complies with all the requirements of Part 3.

1. Acknowledging that it is difficult to cover every condition and innovation, designers, builders and owners carry the responsibility for complying with the intent and spirit of the Accommodation Regulations.
2. A standard Accommodation Compliance Form may be provided for certifying compliance. Where compliance has been documented to the satisfaction of the National Rating Office, the yacht’s IMS rating certificate shall bear a notation to that effect.
3. A yacht’s compliance with the Accommodation Regulations may be challenged by a competitor, a race organizing authority or other yachting authority with IMS oversight in the area of competition. In the event of such a challenge, the authority shall render a decision in accordance with the fundamental requirements, the detailed requirements and the expressed intent of the Accommodation Regulations. Nominal compliance with words and numbers but not with substance shall not be recognized as acceptable compliance.

303. Fundamental Requirements and Definitions.

1. All systems relating to living, eating, sleeping, and stowage specified in these regulations shall be arranged in a manner suitable for use at sea and shall operate so as to provide the service function normally associated with the system. Items shall be presented as they are intended to be used. For example, any item intended for use as a berth shall be in place and its function declared at the time of inspection.
2. Designations such as table, berth, sink, stove, and so forth are intended to define the full utility of conventional equipment and whatever weight is customarily associated with it.
3. Designations such as locker, bin and drawer, specify rigid construction and full practicality for convenient and safe segregated stowage usable and accessible under offshore conditions. The contents of all compartments shall be fully secured by doors or other suitable devices.
4. "Permanently Installed" means the items are built in and may not be removed from their permanently installed position for or during racing.
5. In reference to any requirements for berths or settees, "hard bottom type" means built in, rigid and paneled construction which supports a hard-bottomed berth or settee when in its horizontal position.

304. Accommodation Length is intended as a simplified representation of the size of the yacht and provides a reference for quantifying various accommodation requirements set forth below. Accommodation Length appears on the IMS certificate.

Accommodation Length (AL) shall be taken as the lesser of length overall (LOA) or 3.25 times the maximum beam (MB) of the yacht. Any fractional excess in AL beyond a tenth of a metre shall be ignored.

For example: LOA = 10.153m
 Max Beam = 3.261m: $3.25 \times 3.261 = 10.59825$
 Accommodation Length = 10.1m

305. Headroom & Interior Volume.

The requirements for Headroom and Interior Volume respectively are mutually exclusive and one or the other, but not both, shall be applied to a yacht according to Age Date or Series Date.

Where a yacht to which the Headroom requirement applies does not meet the Headroom Minimum, but would qualify under Interior Volume, the Interior Volume method shall be applied.

Headroom. For yachts of Age Date or Series Date (whichever is earlier) prior to 1/94, Headroom shall be measured from the cabin sole to the overhead. Qualifying headroom shall be not less than the Minimum given in the Table of

Accommodations and shall extend fore and aft over a length of $0.2*AL$ (calculated to the nearest centimetre).

Interior Volume. For yachts of Age Date or Series Date (whichever is earlier) of 1/94 or later, compliance with the provisions for Interior Volume is required.

The purpose of this requirement is to define an interior volume which is appropriate to the size of the yacht and which allows the arrangement of interior accommodations suitable for cruising, whether or not the interior is actually fully fitted for that function (see diagram).

1. **Lower Reference Datum.** A level datum, parallel to the waterplane in measurement trim, shall be established at a height of $0.001*AL^{1.9m}$ above the inside of the hull surface, projected if necessary, at the deepest interior fairbody section which, for this purpose, shall not be found outside the 90% IH overhead area (see 305.4 below).

Note that this level is independent of the actual height of the cabin sole.

2. **Interior Height (IH)** is calculated as (metres):

For an AL of 12.0m or greater:

$$IH = 1.5758 + 0.1656 * (AL - 8.5)^{0.5}$$

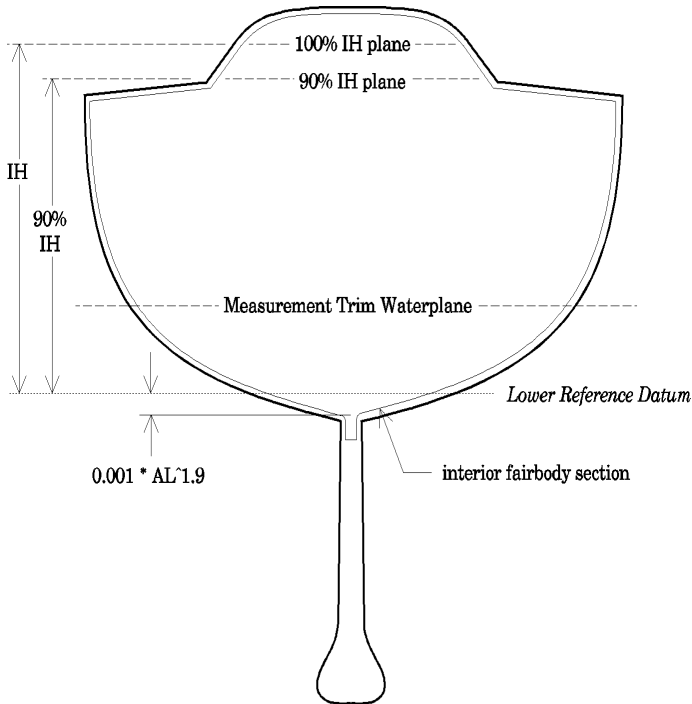
For an AL less than 12.0m:

$$IH = 0.1731 * AL - 0.1971$$

The IH obtained from the above formula shall not be taken as more than 2.0 metres. IH shall be rounded to the nearest hundredth of a metre. Provided a yacht's Interior Height has never been reduced, for yachts of Age or Series Date (whichever is earlier) prior to 11/00, the value for IH may be taken as the greater of $0.98*IH$ or $IH - 3cm$.

3. **Overhead Area at Full Interior Height:** At a height IH above the level established in 305.1 there shall exist under the overhead a plane of length not less than $0.15*AL$ and area not less than $0.006*AL^2$, ignoring deck beams and deck stringers. The aft extent of this area at the centerline shall lie not forward of a point located $0.55*LOA$ aft of the stem. For yachts of Age Date or Series Date (whichever is earlier) prior to 4/97, the aft extent of this area shall lie not forward of a point on the yacht's centerline located $0.55*LOA$ aft of the stem.

4. **Overhead Area at 90% Interior Height:** At a height $0.9 \cdot IH$ above the level established in 305.1 there shall exist under the overhead a plane of length not less than $0.25 \cdot AL$ and minimum area $0.026 \cdot AL^2$. For a length of $0.2 \cdot AL$, found parallel to the centerline of the yacht, the outboard width of this plane shall be not less than $0.105 \cdot AL$. Deck beams and deck stringers may be ignored.



306. Cabin Sole. Cabin soles shall extend fore and aft over a length which provides convenient access to lockers, berths, galley, head, navigation area and other components making up the yacht's interior. Cabin soles may be discontinuous in height and interrupted in way of ring frames or other structural members.

1. The sole shall extend transversely to the inner skin of the hull or vertical faces of berth fronts, lockers or partitions.
2. The cabin sole shall be a structure independent of the inner skin of the hull. It may be of any permitted material provided it exhibits similar strength and stiffness characteristics to that of solid wood cabin soles when installed in accordance with good yacht practice.

As noted for the accommodation elements below, see the Accommodation Table Minimum for the quantitative requirement (number, volume, etc.).

307. Berths:

- (a) Berths which qualify shall be of substantial construction in keeping with the requirements for an offshore yacht and shall be fitted with mattresses as set forth in this section. For yachts of AL at least 8.5m but less than 17.0m, at least two of the qualifying berths shall be of the hard bottom type. For yachts of AL 17.0m or greater, at least four of the qualifying berths shall be of the hard bottom type.
- (b) For yachts with an AL of 8.5m or greater each berth shall be at least 1.9m in length measured to the inside of any structure of the berth, bulkheads or partitions encompassing the berth. The minimum width measured in a similar manner to length at the top surface of the mattress shall be 0.6m measured at 1/4 of the berth length. For yachts with an AL of less than 8.5m the minimum length shall be 1.83m and minimum width shall be 0.55m.
For all yachts the minimum width of a double berth measured as above shall be twice that required for a single berth.
The foot and head ends of berths may taper as required by the hull shape.
- (c) With all berths in the horizontal position the minimum clearance above any mattress at the centerline over half of the length of the berth shall not be less than 0.5m.
- (d) Mattresses of a size covering the entire surface shall be fitted to all berths; they shall be of a thickness not less than 0.03m for soft bottom berths. For hard bottom berths the minimum thickness shall be 0.1m for yachts with an AL of 8.5m or greater and 0.075m for yachts with an AL of less than 8.5m. Minimum mattress density shall be 8kg/ m³.
- (e) For all yachts of Age or Series Date (whichever is earlier) of 1/1/96 or later, the minimum height of the bottom of any hard berth (excluding the mattress) shall be 0.30m above the cabin sole. For yachts with AL of less than 8.5m the minimum height shall be 0.2m.

For minimum number of berths, see Table Minimum.

308. Personal Gear Stowage: To qualify, stowage for personal gear (clothing, toiletries and miscellaneous articles) shall be provided in the form of built in rigid lockers with doors, bins with hatches, and drawers. Bilge areas located below the cabin sole and hanging locker volume (see 312 below) shall not be included when measuring space for this stowage requirement. Space under berths shall not be counted except space in the form of fitted drawers which may comprise not more than 30% of the qualifying total volume.

For minimum volume, see Table Minimum.

309. Galley.

1. **Stoves:** All Stoves must be gimbaled or fitted with high retaining rails to permit their safe operation underway. For yachts having AL less than 8.5m, the stove shall have at least one burner. For AL 8.5m but less than 11m, two burners. For AL 11m, but not greater than 15m, three burners. For AL over 15m, four burners.

An oven with its own burner or a microwave counts as one burner. To count as a burner, a microwave shall have a sufficient source of power at all times including extended passages at sea.

2. **Sinks:** For yachts of AL of 8.5m or greater, a sink shall be permanently installed and fitted with a drainage system which permits use underway and of size in keeping with the accommodations of the yacht.
3. **Galley Gear Stowage:** Seaworthy stowage shall be provided, segregated for a normal complement of cooking utensils, cutlery, glasses, dishes, etc.
4. **Food Stowage:** To qualify, stowage for food shall be provided in rigid lockers, bins, or other suitable compartments. Spaces below the cabin sole shall not be considered as meeting the requirements.

For minimum volume, see Table Minimum.

310. Head Compartment. For yachts of AL of 8.5m and greater the head compartment shall be constructed in such a manner as to be totally separated from the main cabin by rigid partitions and a rigid door when in use. There shall be sufficient space and clearances within the head compartment with the door shut to permit crew to sit, stand, and turn around.

1. **Toilet:** Approved type permanently installed and operable in compliance with local regulations pertaining to Marine Sanitation Devices and their use.

For yachts with an AL of 11m and greater the toilet shall be of a type plumbed for the intake of seawater.

2. **Wash Basin:** For yachts with an AL of 11m and greater a wash basin shall be permanently installed. It may be fixed, folding or sliding and shall be fitted with a drainage system which permits use underway.

3. **Separate Discharge:** Sinks and wash basins shall be fitted with separate discharge and not discharge through the toilet system. All seacocks shall be maintained as operational while racing.

311. Navigation Table. A flat area suitable for chart work shall be required.

1. For yachts of AL 8.5m or greater and commensurate with the size of the yacht, the navigation table or area shall be built with storage for charts, navigational instruments, books, etc.
2. For yachts of AL less than 8.5m counter tops, cabin tables or portable chart boards are acceptable. Where portable chart boards are used, provisions for stowage and securing when in use must be provided.

312. Hanging Locker. Hanging Locker(s) shall be provided of sufficient dimension to permit hanging garments vertically and of capacity to accommodate one garment for each required berth, but of not less than 0.06 m³. total volume.

313. Fresh Water Capacity: For yachts with an AL of 8.5m and greater, to qualify, fresh water pumps shall be installed at the sink and wash basin and fresh water shall be contained in permanently installed tankage either of rigid construction or of the bladder type.

For minimum capacity, see Table Minimum.

314. Fuel Capacity: To qualify, yachts with inboard engines shall be directly supplied from permanently installed fuel tankage.

For minimum capacity, see Table Minimum.

Part 4 -- CRUISER/RACER DIVISION ACCOMMODATION REGULATIONS

401. Purpose. *The minimum requirements set forth in these regulations are intended to guarantee as far as possible that yachts participating in the IMS Cruiser/Racer Division follow the basic philosophy of that yacht type which include:*

- *The purpose of the yacht shall be in the first instance cruising.*
- *Accommodation layout and outfit shall be at least comparable to the standards of series production models which would find a broad market as cruising yachts.*
- *Sacrifice of layout and accommodation to features which are primarily suited to the racing character of a yacht shall be suppressed.*
- *The yacht without modification is fully suitable and actually used for cruising.*

402. Compliance. Except as may be “grandfathered” (see 103.2), a yacht shall not qualify for racing in the Cruiser/Racer Division unless she complies with all the requirements of Part 4. Subject to the grandfathering provisions of 103.2, yachts of Age Date or Series Date (whichever is earlier) prior to 7/89 shall be deemed to comply with the Cruiser/Racer Regulations provided they meet the requirements of all sections of Part 4 except those given in *italics* (which apply only to yachts not grandfathered). That is, grandfathered yachts shall comply with the former Basic Requirements.

1. Acknowledging that it is difficult to cover every condition and innovation, designers, builders and owners carry the responsibility for complying with the intent and spirit of the Accommodation Regulations.
2. A standard Accommodation Compliance Form may be provided for certifying compliance. Where compliance has been documented to the satisfaction of the National Rating Office, the yacht’s IMS rating certificate shall bear a notation to that effect.
3. A yacht’s compliance with the Accommodation Regulations may be challenged by a competitor, a race organizing authority or other yachting authority with IMS oversight in the area of competition. In the event of such a challenge, the authority shall render a decision in accordance with the fundamental requirements, the detailed requirements and the expressed intent of the Accommodation Requirements. Nominal compliance with words and numbers but not with substance shall not be recognized as acceptable compliance.

403. Fundamental Requirements and Definitions.

1. All systems relating to living, eating, sleeping, and stowage specified in these regulations shall be arranged in a manner suitable for cruising use and shall operate so as to provide the service function normally associated with the system. Items shall be presented as they are intended to be used. For example, any item intended for use as a berth shall be in place and its function declared at the time of inspection.
2. Designations such as table, berth, sink, stove, refrigerator, and so forth are intended to define the full utility of conventional equipment and whatever weight is customarily associated with it.
3. Designations such as locker, bin and drawer, specify rigid construction and full practicality for convenient and safe segregated stowage usable and accessible under offshore conditions. The contents of all compartments shall be fully secured by doors or other suitable devices.
4. “Permanently Installed” means the items are built in and may not be removed from their permanently installed position for or during racing.

5. In reference to any requirements for berths or settees, “hard bottom type” means built in, rigid and paneled construction which supports a hard-bottomed berth or settee when in its horizontal position.

404. Accommodation Length is intended as a simplified representation of the size of the yacht and provides a reference for quantifying various accommodation requirements set forth below. Accommodation Length appears on the IMS certificate.

1. Accommodation Length (AL): for yachts with an Age Date or Series Date (whichever is earlier) of 1/Feb/2005 or later, AL shall be taken as the lesser of length overall (LOA) or 1.8 times the square root of LOA times the maximum beam (MB) of the yacht. Any fractional excess in AL beyond a tenth of a metre shall be ignored.

For example: LOA = 10.153m and Max Beam = 3.261
 $1.8*(10.153*3.261)^{0.5} = 10.3573$
 Accommodation Length = 10.1m

For yachts of Age or Series Date (whichever is earlier) prior to 1/Feb/2005, AL = the lesser of LOA or $3.25*MB$.

2. In addition to specific requirements detailed throughout Part 4, note that some elements of accommodation involving volumes, capacities and so forth are subject to a “soft limit” scoring system explained in 419 and 420 in conjunction with the Table of Accommodations provided at the back of this booklet. The relevant capacities, etc. are given in the table according to the yacht’s AL.

405. Headroom & Interior Volume.

The requirements for Headroom and Interior Volume respectively are mutually exclusive and one or the other, but not both, shall be applied to a yacht according to Age Date or Series Date. Where Headroom is the applicable requirement, the yacht’s Actual qualifying Headroom shall be incorporated in the Accommodation Scoring (see 419) and where Interior Volume is the requirement, for accommodation scoring purposes, the Actual Value shall be set equal to the Standard Value given in the Table of Accommodations.

Where a yacht to which the Headroom requirement applies does not meet the Headroom Minimum, but would qualify under Interior Volume, the Interior Volume method shall be applied.

Headroom. For yachts of Age Date or Series Date (whichever is earlier) prior to 1/94, Headroom shall be measured from the cabin sole to the overhead. Headroom qualifying for Accommodation Scoring (see 419, 420 & Table) shall extend fore and aft over a length of $0.2*AL$ (calculated to the nearest centimetre).

Interior Volume. For yachts of Age Date or Series Date (whichever is earlier) of 1/1/94 or later, compliance with the provisions for interior volume shall be required.

The purpose of this requirement is to define an interior volume which is appropriate to the size of the yacht and which allows the arrangement of interior accommodations suitable for cruising, whether or not the interior is actually fully fitted for that function (see diagram).

1. Lower Reference Datum. A level datum, parallel to the water-plane in measurement trim, shall be established at a height of $0.001 * AL^1.9m$ above the inside of the hull surface, projected if necessary, at the deepest interior fairbody section which, for this purpose, shall not be found outside the 90% IH overhead area (see 405.4 below).

Note that this level is independent of the actual height of the cabin sole.

2. Interior Height (IH) is calculated as (metres):

For AL 8.5m or greater:

$$IH = 1.5758 + 0.1656 * (AL - 8.5)^{0.5}$$

For AL below 8.5m:

$$IH = 1.5758 - 0.2220 * (8.5 - AL)^{0.5}$$

The IH obtained from the above formula shall not be taken as more than 2.0 metres. IH shall be rounded to the nearest hundredth of a metre).

3. Overhead Area at Full Interior Height:

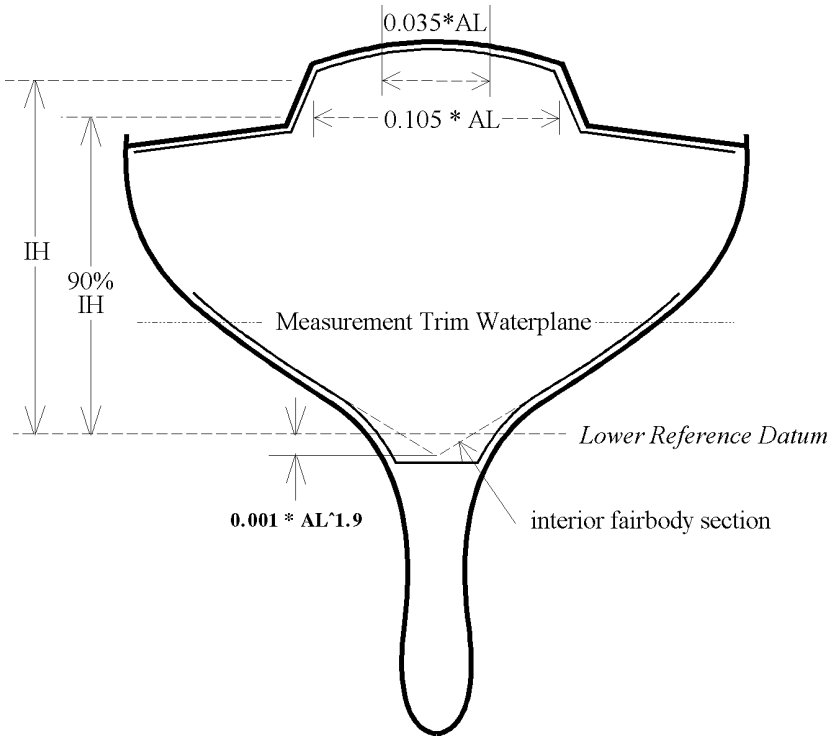
At a height IH above the level established in 405.1 a rectangle of length $0.2 * AL$ and width $0.035 * AL$ shall exist under the over-head. Deck beams and deck stringers may be ignored.

4. Overhead Area at 90% Interior Height:

At a height $0.9 * IH$ above the level established in 405.1 a rectangle of length $0.3 * AL$ and width $0.105 * AL$ shall exist under the overhead. Deck beams and deck stringers may be ignored.

5. Scoring Interior Volume:

Provided the yacht complies with the Interior Volume requirements, in the Accommodation Scoring scheme (419 & 420) the Standard Value for Headroom from the Table of Accommodations shall be entered as the yacht's Actual value for Headroom.



406. Cabin Sole. Cabin soles shall extend fore and aft over a length which provides convenient access to lockers, berths, galley, head, navigation area and other components making up the yacht's interior. Cabin soles may be discontinuous in height and interrupted in way of ring frames or other structural members.

1. The sole shall extend transversely to the inner skin of the hull or vertical faces of berth fronts, lockers or partitions.
2. The cabin sole shall be a structure independent of the inner skin of the hull. It may be of any permitted material provided it exhibits similar strength and stiffness characteristics to that of solid wood cabin soles when installed in accordance with good yacht practice.

407. Bulkhead, Partition & Panel Construction. *Regulations for Bulkhead, Partition & Panel Construction are incorporated in the table APPENDIX 1A.*

408. Accommodation Areas. *The interior of the yacht shall include the following areas (compartments as required): living area, sleeping area(s), galley area, and as required by yacht size, head compartment and navigation area.*

Living areas and sleeping areas shall be separated by means of rigid bulkheads or partitions according to the minimums in the following table. Walk-through openings in these required bulkheads or partitions shall not be wider than 0.70m. For yachts above 14m AL these openings shall have doors of rigid construction.

| <i>AL:</i> | <u><i><8.5m</i></u> | <u><i>8.5-14.0m</i></u> | <u><i>14.1-18.0m</i></u> | <u><i>>18.0m</i></u> |
|-------------------------|------------------------|-------------------------|--------------------------|-------------------------|
| <i>Living area</i> | <i>1</i> | <i>1</i> | <i>1</i> | <i>1</i> |
| <i>Sleeping area(s)</i> | <i>1</i> | <i>1</i> | <i>2</i> | <i>3</i> |
| <i>No. of bulkheads</i> | <i>0</i> | <i>1</i> | <i>2</i> | <i>3</i> |

Except in the case of a cat rig, at least either a sleeping area or a living area must be located forward of the forward mast. For yachts below 8.5m AL, at least 50% of this sleeping or living area shall be forward of the mast.

409. Living Area. *A living area (cabin) shall consist of space containing a table and settees. At least 80% of the living area length must be located within the 90% Interior Height area.*

1. Table: *The table shall be located within the 90% Interior Height Area.*

For yachts with an AL of 8.5m or greater, to qualify the table surface area for Accommodation Scoring (see 419, 420 & Table), the cabin table shall be of substantial construction and arranged with convenient seating shall be permanently installed. The table may be fixed to the cabin sole or hinged from a bulkhead to facilitate stowage.

2. Settees. *Settees are required sufficient to allow a number of crew equivalent to the standard number of Berths to sit around the table. Provided it meets the berth requirements, a settee may also be counted as a berth (but see 410.1(a)).*

To qualify as a settee the units must be in compliance with at least the following minimum requirements:

- Hard bottom type.*
- Minimum total length of settees measured at the midline: 0.60m * Standard number of berths, but need not total more than 4.80m*
- Minimum sitting depth, with cushions in place, 0.40m over 80% of the minimum length. The ends of the settee may be tapered only as required by the hull shape.*
- Backrest minimum height 0.30m above seat cushion.*

- *Top of cushions above cabin sole a minimum of 0.30m below 8.5m AL and a minimum of 0.40m for AL 8.5m and greater.*
- *Seating height over top of cushions a minimum of 0.80m below 8.5m AL and a minimum of 0.90m for AL 8.5m and greater.*

410. Sleeping Area. *A sleeping area (cabin) shall consist of a space containing berths and adequate facilities for personal gear stowage. A 90% Interior Height is required over a minimum width of 0.3m and a minimum length of 0.035*AL.*

1. Berths:

- (a) Berths which qualify to be counted for Accommodation Scoring (see 419, 420 & Table) shall be of substantial construction in keeping with the requirements for a cruising yacht and shall be fitted with mattresses as set forth in this section. At least half of the berths shall be of the hard bottom type. *Where a settee is declared as a berth, at least half of the remaining required berths shall be of the hard-bottom type.*
- (b) For yachts with an AL of 8.5m or greater each berth shall be at least 1.9m in length measured to the inside of any structure of the berth, bulkheads or partitions encompassing the berth. The minimum width measured in a similar manner to length at the top surface of the mattress shall be 0.6m measured at 1/4 of the berth length. For yachts with an AL of less than 8.5m the minimum length shall be 1.83m and minimum width shall be 0.55m.
For all yachts the minimum width of a double berth measured as above shall be twice that required for a single berth.
The foot and head ends of berths may taper as required by the hull shape.
- (c) With all berths in the horizontal position the minimum clearance above any mattress at the centerline over half of the length of the berth shall not be less than 0.5m.
- (d) Mattresses of a size covering the entire surface shall be fitted to all berths; they shall be of a thickness not less than 0.03m for soft bottom berths. For hard bottom berths the minimum thickness shall be 0.1m for yachts with an AL of 8.5m or greater and 0.075m for yachts with an AL of less than 8.5m. Minimum mattress density shall be 8kg/ m³.
- (e) For all yachts of Age or Series Date (whichever is earlier) of 1/1/2000 or later, the minimum height of the bottom of any hard berth (excluding the mattress) shall be 0.30m above the cabin sole. For yachts with an AL of less than 8.5m the minimum height shall be 0.2m.

- 2. Personal Gear Stowage:** To qualify stowage volume for Accommodation Scoring (see 419, 420 & Table), stowage for personal gear (clothing,

toiletries and miscellaneous articles) shall be provided in the form of built in rigid lockers with doors, bins with hatches, and drawers. Bilge areas located below the cabin sole and hanging locker volume (see 414 above) shall not be included when measuring space for this stowage requirement. Space under berths and/or settees shall not be counted except space in the form of fitted drawers which may comprise not more than 30% of the qualifying volume.

For yachts of Age Date or Series Date (whichever is earlier) of 1/1/94 and later, the total volume of personal gear stowage shall be not less than the Maximum value given in the Table of Accommodations.

411. Galley Area:

A galley area is not permitted in a space counted as a Sleeping Area. Convenient standing space for operation of the galley must be within the Full Interior Height area to allow working in an upright position.

- 1. Stoves:** All Stoves must be gimbaled or fitted with high retaining rails to permit their safe operation underway. For yachts having AL less than 8.5m, the stove shall have at least one burner. For AL 8.5m but less than 11m, two burners. For AL at least 11m, but not greater than 15m, three burners. For AL over 15m, four burners.
An oven with its own burner or a microwave counts as one burner. To count as a burner, a microwave shall have a sufficient source of power at all times including extended passages at sea.
- 2. Sinks:** For yachts of AL of 8.5m or greater, a sink shall be permanently installed and fitted with a drainage system which permits use underway and of size in keeping with the accommodations of the yacht.
- 3. Galley Gear Stowage:** Seaworthy stowage shall be provided, segregated for a normal complement of cooking utensils, cutlery, glasses, dishes, etc.
- 4. Food Stowage:** In addition to the above, to qualify stowage volume for Accommodation Scoring (see 419, 420 & Table), stowage for food (other than refrigerated) shall be provided in rigid lockers, bins, or other suitable compartments. Spaces below the cabin sole shall not be considered as meeting the requirements.
- 5. Refrigerated Food Stowage:** Except where locally or nationally specified otherwise, for yachts with AL of 8.5m or greater, 40% of the

Minimum Food Stowage requirement (see Table) shall be in the form of built in, properly insulated ice boxes or refrigerators. Portable ice boxes of any type will not meet the requirements.

412. Head Compartment. *The crew space provided for full use of all the head compartment facilities shall be located within the 90% Interior Height area.* For yachts of AL 8.5m and greater, a dedicated head compartment shall be constructed using rigid partitions and a rigid door in such a manner as to totally enclose the compartment when in use. There shall be sufficient space and clearances within the enclosed head compartment with the door shut to permit crew to sit, stand, and turn around.

1. **Toilet:** Approved type permanently installed and operable in compliance with local regulations pertaining to Marine Sanitation Devices and their use. For yachts with an AL of 11m and greater the toilet shall be of a type plumbed for the intake of seawater.
2. **Wash Basin:** For yachts with an AL of 11m and greater a wash basin shall be permanently installed. It may be fixed, folding or sliding and shall be fitted with a drainage system which permits use underway.

413. Navigation Area. For yachts of 11m AL and greater the navigation area shall form a separated unit and shall include a chart table, a seat and storage for navigation equipment, charts and books, etc.

For yachts of AL of at least 8.5m but less than 11.0m, the navigation area shall be built with a surface for chart work, storage for charts, navigational instruments, books, etc.

For yachts of AL less than 8.5m, counter tops, cabin tables or portable chart boards are acceptable. Where portable chart boards are used, provisions for stowage and securing when in use must be provided.

For yachts of AL 10.0m and greater, the chart table shall be not less than 0.5 m². in area.

414. Hanging Locker. Hanging Locker(s) shall be provided of sufficient dimension to permit hanging garments vertically and of capacity to accommodate at least one garment for each qualifying berth (see 410). For yachts grandfathered as in 103.2, the locker(s) shall be of not less than 0.06 m³. total volume. *For other yachts total volume shall be not less than 0.04 m³. * Standard number of berths given in the Table of Accommodations.*

415. Main Hatch/Companionway. *The main hatch/companionway shall be located within the 90% Interior Height area, giving access to the interior from a cockpit or deck. It shall be fitted with steps or stairway(s) inclined appropriately for convenient access and the maximum vertical step interval, both inside and outside the hatch, shall not be greater than 0.35m.*

416 A. Cockpit -- For yachts of Age or Series Date (whichever is earlier) of 1/98 or later, or with cockpit modified after 1/99:

1. *The total of the maximum lengths, found below the working deck, of all cockpits shall not exceed the greater of $0.3*AL$ or $0.3*LOA$.*

Cockpit areas open underneath bridgedecks shall be included in the cockpit length. Closed bridgedecks and seats may be excluded from cockpit length provided they are nowhere lower than the local sheerline. For the purpose of measuring cockpit length the aft end of a cockpit shall not be taken aft of the aftermost end of the working deck. Where the cockpit is open aft to the sea, the aftermost end shall not be taken forward of a transverse vertical plane projected through the aftermost location of the upper lifeline.

2. *Excluding provision for winch access and wheel clearance, at least the forward 75% of the length of the cockpit shall be surrounded with seatbacks or coamings of minimum height above the mean height of the seats of 0.20m and of minimum height above the local sheerline according to the following table:*

| | | | |
|----------------|------------------|---------------------------|-------------------|
| <i>AL:</i> | <i><11.0m</i> | <i><=11.0<18.0m</i> | <i>>=18.0m</i> |
| <i>Height:</i> | <i>0.10m</i> | <i>0.15m</i> | <i>0.20m</i> |

3. *The minimum length of cockpit seats, measured along the inboard edge for each side of the cockpit, including any transverse extension fulfilling all the seat requirements listed below, shall not be less than: $0.2*AL*Cockpit\ Length/(0.3*MAX(AL;LOA))$, and shall meet the requirements below:*

- *The seat height above the cockpit sole, taken as the mean height along the seat depth, shall be a minimum of 0.30m for AL below 8.5m and 0.35m for AL 8.5m and greater.*
- *Seat depth, measured perpendicular to the seat, shall be not less than 0.35m.*

- *Bridge decks which comply with the seat height and depth requirements may be counted.*
- *The width of the cockpit sole, ignoring any which lies outboard of the inboard edge of seats, shall not be less than 0.6m where $AL > 8.5m$.*

Eighty percent of the required seating shall be found within a forward percentage of the measured cockpit length. This percentage shall be equal to the lesser of:

$$100 * (1.75 - (\text{Cockpit Length}) / (0.3 * \text{MAX}(AL; LOA))) \text{ or } 100.0\%$$

4. *For the purpose of calculating compliance with 407.2 and .3, folding seats shall not be counted.*
5. *Watertight gear stowage lockers with access from the cockpit shall be arranged with a minimum total volume of $0.2 + (0.025 * (AL - 8.5)) \text{ m}^3$. The volume of lockers for bottled gas and liferafts shall not count in complying with this requirement.*

416 B. Cockpit -- For yachts of Age or Series Date (whichever is earlier) prior to 1/98:

1. *The total of the maximum lengths, found below the working deck, of all cockpits shall not exceed the greater of $0.3 * AL$ or $0.3 * LOA$.*

Areas open underneath bridgedecks shall be included in the cockpit length. For the purpose of measuring cockpit length the aft end of a cockpit shall not be taken aft of the aftermost end of the working deck.

2. *Excluding provision for winch access and wheel clearance, at least the forward 75% of the length of the cockpit shall be surrounded with seatbacks or coamings of minimum height above the mean height of the seats of 0.20m.*
3. *The minimum seating area of cockpit seats shall be 0.20 m^2 . * Standard number of berths and shall meet the requirements below:*

- *The seat height above the cockpit sole, taken as the mean height along the seat depth, shall be a minimum of 0.30m for AL below 8.5m and 0.35m for AL 8.5m and greater.*
 - *Seat depth shall be not less than 0.30m.*
 - *For yachts of Age or Series Date (whichever is the earlier) of 1/1/96 or later, the minimum required seating shall be found within the forward 75% of the length of the cockpit(s).*
4. *For the purpose of calculating compliance with 416.2 and .3, folding seats shall not be counted.*
5. *Watertight gear stowage lockers with access from the cockpit shall be arranged with a minimum total volume of $0.2+(0.025*(AL-8.5)) m^3$. The volume of lockers for bottled gas and liferafts shall not count in complying with this requirement.*

417. Fresh Water Capacity: For yachts with an AL of 8.5m and greater, to qualify tank capacity for Accommodation Scoring (see 419, 420 & Table), fresh water pumps shall be installed at the sink and wash basin and fresh water shall be contained in permanently installed tankage either of rigid construction or of the bladder type.

418. Fuel Capacity: To qualify tank capacity for Accommodation Scoring (see 419, 420 & Table), yachts with inboard engines shall be directly supplied from permanently installed fuel tankage.

419. Scoring Variable Elements of Accommodation.

The requirements for certain elements of accommodation, outfit and construction vary by Accommodation Length and are scored under a “soft limits” system providing flexibility in meeting requirements. Under this system, some latitude is allowed in capacities, numbers, areas and volumes, but the deficiencies, sufficiencies and excesses are scored and the total of these must equal at least 100 points of Accommodation Rating.

The elements scored and the relative weight given to each in the scoring scheme are:

| | Weighting Factor | |
|--------------------------------------|----------------------------|-----------------------|
| | <i>AL: 8.5m or greater</i> | <i>less than 8.5m</i> |
| Berths (number) | 30 | 30 |
| Fresh Water Capacity (litres) | 12 | N/A |
| Fuel Capacity (litres) | 8 | 8 |
| Food Stowage (cubic metres) | 15 | 10 |
| Personal Gear Stowage (cubic metres) | 10 | 10 |
| Table Area (square metres) | 5 | N/A |
| Headroom (metres) | 20 | 20 |

For each element above, the Accommodation Table at the back of this book specifies the requirement according to Accommodation Length.

In the Accommodation Table, three values are given for each accommodation element; a Standard value, a Maximum value and a Minimum value. A yacht which was, for its size (AL), designed and outfitted with the Standard number of bunks, Standard fuel capacity and so forth would score exactly 100 as its Accommodation Rating (the minimum for compliance). Elements in excess of Standard will increase the Accommodation Rating and those below Standard will decrease it.

An excess beyond the given Maximum for any element is not counted and deficiency below Minimum on any element of accommodation disqualifies the yacht from racing in the Cruiser/Racer Division.

420. Calculation of Accommodation Rating. A yacht with an Accommodation Rating less than 100.0 shall be excluded from racing in the Cruiser/Racer Division.

1. Accommodation Rating.

- For AL 8.5m or greater,
Accommodation Rating = the sum of the Accommodation Scores.
- For AL below 8.5m,
Accommodation Rating = the sum of the Accommodation Scores + 22.

2. Accommodation Score for any element is calculated as follows:

$$\text{Accommodation Score} = (\text{Actual} / \text{Standard}) * \text{Weighting Factor}$$

Where:

- “Actual” is the number of qualifying berths, volume of qualifying personal gear stowage and so forth actually found on the yacht.
- “Standard” is the Standard value for the particular element as given according to Accommodation Length in the Accommodation Table.
- “Weighting Factor” is the Weighting Factor given in the table in Section 419 for each element.

NOTE:

- The value for “Actual” shall not be taken as greater than the Maximum value for the Accommodation Length as given in the Accommodation Table.
- If “Actual” is less than the Minimum value given for the AL, the yacht does not qualify.

3. Example: AL = 10.1m

| ACCOMMODATION ELEMENT | ACTUAL VALUE | STANDARD VALUE | WEIGHTING FACTOR | ACCOMMODATION SCORE |
|-----------------------|----------------------|----------------|------------------|---------------------|
| Berths | 4 | / 4 | x 30 | = 30.00 |
| Fresh Water Capacity | 75 | / 78 | x 12 | = 11.54 |
| Fuel Capacity | 55 | / 54 | x 8 | = 8.15 |
| Food Stowage | 0.26 | / 0.24 | x 15 | = 16.25 |
| Personal Gear Stowage | 0.15 | / 0.16 | x 10 | = 9.38 |
| Table Area | 0.52 | / 0.44 | x 5 | = 5.91 |
| Headroom | 1.76 | / 1.79 | x 20 | = <u>19.66</u> |
| | AccommodationRating: | | | 100.89 |

Appendix 1A -- PERMITTED MATERIALS & CONSTRUCTION -- page 1 of 4

| <p><i>Any questions regarding the application of Regulation 203 shall be referred to the ORC Chief Measurer</i></p> <p>For all yachts, regardless of Age Date, from calendar date 1/1/90 the following limitations apply to the addition and replacement of components. Except for the repair with like material of damage to hull, deck or appendages, the limitations apply also to modifications.</p> | | | |
|--|---|---------------------|---|
| ITEM (Dates of Application - Age Date/Measured Date) | Permitted Materials | IMS Rule reference | Other requirements and remarks: |
| <ul style="list-style-type: none"> • Hull and deck structure and appendages (07/90) • Internals and interior joiner work (05/91) | <p>Wood, natural fibers and un-reinforced plastic. Plastic reinforced with fiber of any of the following materials: glass, aramid, polyester, polyamide, polyethylene and natural fiber. Iron, steel, lead, copper and their alloys; bronze, brass, monel and aluminum of the 5000 and 6000 series.</p> | IMS 724.1 and 726.5 | <ul style="list-style-type: none"> • Restrictions related to FRP construction: <i>Curing temperature and pressure limits apply. Externally applied heat shall not be greater than 80°C. Externally applied pressure shall not be greater than the ambient atmospheric pressure of the vacuum bag method.</i> • Exterior hatches may be of the same material as the deck. Chain plates may be of the same material as the surrounding deck, but must be included in any required plan approval. • For yachts for which the National Authority is satisfied by documentary evidence that hull construction commenced prior to calendar date 1/1/90, the limitations shall not apply to hull, deck and appendages, provided Age Date is also prior to July 1990. • For yachts subject to Racing Division “grand fathering” as provided in 1 03.2, the limitations of 203 shall not apply to structure and outfit as it existed on the yacht as of 30 September 1993. |
| | <p>Core material only of wood or plastic foam of nominal density not less than 70 kg/m³</p> | IMS 724.1 and 726.5 | <p>Cores of wood, plastic foam or other forms of non-metallic honeycomb irrespective of compliance with a minimum density requirement are permitted for internals and interior joiner work</p> |

Appendix 1A -- PERMITTED MATERIALS & CONSTRUCTION -- page 2 of 4

| ITEM (Dates of Application - Age Date/ <i>Measured Date</i>) | Permitted Materials | IMS Rule reference | Other requirements and remarks: |
|---|---|---------------------|--|
| | High Strength Carbon (HSC) *(see Appendix 1B below for definition) | IMS 724.1 and 726.5 | Note that limited amounts of High Strength Carbon edge capping of bona fide hull structural frames, girders and stringers, and as localized reinforcement on bulkhead faces in way of chain plate attachments, will not affect the hull construction category provided it is used below decks between 0.3LOA and 0.7LOA aft of the stem. |
| | Aramid paper honeycomb core material of minimum nominal density 48kg/ m ³ in the hull and deck structure. ONLY PERMITTED IN: <ul style="list-style-type: none"> • RACING DIVISION and • CRUISER/RACER DIVISION YACHTS WHERE LOA > 17.00m. | IMS 724.1 and 726.5 | The maximum allowable cure temperature in association with honeycomb construction is 100°C. Externally applied pressure shall not be greater than the ambient atmospheric pressure of the vacuum bag method. |
| Rudders/rudder stocks (07/90) | All permitted materials except HSC | IMS 724.2 | <i>Restrictions related to FRP construction do not apply.</i> Core materials of any density can be used. |
| Steering systems, incl. steering quadrants, pedestals, wheels and tillers (05/93) | HSC | IMS 724.2, 726.8 | |
| | All permitted materials including HSC | | |
| | Hull Skin Construction Limits shall apply *(see Appendix 1B below). Owners are reminded of their responsibility under IMS 302.4 | | |

Appendix 1A -- PERMITTED MATERIALS & CONSTRUCTION -- page 3 of 4

| ITEM (Dates of Application - Age Date/Measured Date) | Permitted Materials | IMS Rule reference | Other requirements and remarks: |
|---|---|--------------------------|---|
| Sail battens (01/92), deck and spar fittings, chain plates (07/90) | All permitted materials including HSC. Core materials of any density can be used. | IMS 203.4 | Chain plates may be of the same material as the surrounding deck, but must be included in any required plan approval. |
| Winch drums, spindles and gears (07/90) | Yachts of LOA>20.00m, all permitted materials including HSC. Smaller yachts, HSC permitted in drums only. | | On yachts of LOA>20.00m, for deck fittings and for spar fittings (e.g spreader tip cups; tangs) titanium is also permitted |
| Mainsail headboards (01/92), sail hardware (04/93) | All permitted materials excluding HSC | | * With regard to yachts of LOA>20.00m, it is the intent of this Regulation to permit HSC material in winches and related systems (pedestals, linkages, etc.) only where these are <i>bona fide</i> series-produced units. |
| Walls of booms, spinnaker poles and reaching struts (07/90) | All permitted materials including HSC | | <i>Restrictions related to FRP construction do not apply</i> |
| Masts (and integral moldings, such as tangs), spreaders and jumper struts (07/90) | Wood, aluminum alloys, steel alloys or fiberglass reinforced plastic | IMS 203.4 and 805.9 | Any addition of material to the base mast section shall consist of the same primary structural material as the mast itself. Restrictions related to FRP construction apply. |
| | Carbon fiber, glass fiber (when weighed as in IMS725) | IMS 203.4, 725 and 805.9 | Where the weight of a fiber reinforced plastic (FRP) mast has been measured under IMS 725 and recorded on the Rating Certificate (MWT), <i>restrictions related to FRP construction do not apply</i> to the molded mast and spreaders, except that masts shall not be of sandwich construction. Mast construction is considered as “sandwich” where in any point of the structure there is a core of lighter materials between the fiber layers, the thickness of which exceeds the total thickness of the fiber reinforced laminate walls or the density of which is less than 300 kg/m ³ . Any addition of material to the base mast section shall consist of the same primary structural material as the mast of itself. |

Appendix 1A -- PERMITTED MATERIALS & CONSTRUCTION -- page 4 of 4

| ITEM (Dates of Application - Age Date/ <i>Measured Date</i>) | Permitted Materials | IMS Rule reference | Other requirements and remarks: | | | |
|---|---|--|---------------------------------|-----------------------|----------------------|---------------------|
| Standing rigging which by the IMS Rule is not allowed to be adjusted while racing | Steel wire and steel rod, except on yachts of LOA>20.00m the synthetic fiber PBO (or structurally equivalent synthetic fiber) is permitted. | | | | | |
| Cruiser/Racer Division Only (except yachts of aramid paper honeycomb and/or carbon construction and those grandfathered under IMS Reg. 103.2) | | | | | | |
| Bulkhead, Partition & Panel Construction | All permitted materials except HSC.. | <u>Accommodation Length:</u> | <u><8.5m</u> | <u>8.5-11.0m</u> | <u>11.1-15.0m</u> | <u>>15.0m</u> |
| | | <u>Minimum panel weight (including bondings)</u> | 5.5kg/m ² | 7.25kg/m ² | 8.5kg/m ² | 10kg/m ² |
| | | <u>Approx. comparable plywood thickness:</u> | 7mm | 10mm | 12mm | 14mm |
| Specifications may be reduced by 30% for partitions which do not support the hull and/or deck structure (e.g., settee bottoms) and by 50% for vertical cabinetry panels and the like (e.g., galley cabinetry, doors) which do not support the hull structure. | | | | | | |

APPENDIX 1B -- Hull Skin Construction Limits

Resistance of Hulls to Local Impact. To limit damage from local impact, no yacht of fibre reinforced plastic sandwich hull construction with an Age Date of July 1994 or later shall race under IMS if the outer hull skin contains a reinforcement weight less than that given below:

- E-Glass Reinforcement
with Epoxy, Polyester or Vinylester Resin $W_s = 105.0 * L + 138.0 \text{ g/m}^2$
- S- or R-Glass Reinforcement
with Epoxy or Vinylester Resin $W_s = 90.2 * L + 125.0 \text{ g/m}^2$
- Kevlar Reinforced
with Epoxy or Vinylester Resin $W_s = 59.0 * L + 80.2 \text{ g/m}^2$
- High Strength Carbon Fiber Reinforcement
with Epoxy or Vinylester Resin $W_s = 73.8 * L + 100.0 \text{ g/m}^2$

W_s = minimum required weight of reinforcement in g/m^2 .

$L = 0.5 * (\text{LOA} + \text{LSM0})$

L shall not be taken as less than 9.15m.

Notes:

- High Strength Carbon Fibre is defined as having a maximum fiber modulus of 250GPa (36,250,000 psi) and minimum tensile strain at failure of 1.4%.
- For hybrid laminates, weight is to be determined on percentage volume of each different reinforcing material in terms of total reinforcing volume.
- Core material density shall not be less than 70 kg/m^3 , except in the case of honeycomb core material where permitted and defined in IMS Regulation 203.1(d).
- Polyethylene, polyester and natural fibres shall not count toward fibre reinforcement weight.

Also, the number of plies in the outer hull skin is to be no less than indicated below for all types of reinforcement.

- 2 plies $L < 9.15\text{m}$
- 3 plies $9.15\text{m} \leq L < 15.20\text{m}$
- 4 plies $15.20\text{m} \leq L < 21.40\text{m}$
- 5 plies $21.40\text{m} \leq L < 24.40\text{m}$

A ply must have a minimum weight of 175 g/m^2 .

APPENDIX 2 -- “Green Book” Accommodations

For Racing Division yachts which are eligible for grandfathering but have never been measured under the IOR, IMS Regulations 103.2 may be applied according to the following table.

| | |
|------------------|-------------------|
| LOA<7.5m | Mini Ton |
| 7.5m<=LOA<8.5m | Quarter Ton |
| 8.5m<=LOA<10.0m | Half Ton |
| 10.0m<=LOA<11.5m | Three-Quarter Ton |
| 11.5m<=LOA | One Ton |

Extract from 1994 Rules for the World Championships of the Level Rating Classes (“Green Book”)

13. YACHT CHARACTERISTICS

13.1 Interior Dimensions

The interior dimensions of the level rating classes are required to meet certain criteria. The dimensions are defined below and the dimensional values of each class are given in the table in 13.2.

- a) For yachts with an Age or Series Date (whichever is the earlier) of 1/1986 or later:
- i) An area of cabin sole shall be defined as having the following characteristics:

It shall have a flat surface free of obstructions, which shall be continuous except that it may be divided once in any transverse station by an engine, engine box, keelson, shaft tunnel or centerboard trunk. For yachts with an Age or Series Date (whichever is the earlier) of 1/1990 or later - where, in any section, there exists qualifying headroom which is divided once by an obstruction as permitted above, the vertical height of the underside of the deck above a fair horizontal projection of the adjacent cabin sole through the obstruction shall not be less than the minimum qualifying headroom (H) for the class. The area occupied by the obstruction, however, shall not be included in the calculation of qualifying area for a) ii) below.

Throughout this area of cabin sole, headroom (H) as defined in b) below shall be greater or equal to the minimum qualifying headroom (MH) found from the table in 13.2.

In any transverse station there shall be a minimum continuous width of at least half MW.

- ii) To meet the interior dimensions requirement:

The area of cabin sole defined above shall have an area greater than or equal to the minimum area (MA) found from the table in 13.2.

It shall have a continuous length fore and aft greater than or equal to the minimum fore and aft length (MLC) found from the table in 13.2.

In at least one transverse station there shall be a width greater than or equal to the minimum width (MW) found from the table in 13.2. This may be divided once - see i) above.

- b) Headroom. Headroom (H) is defined as the vertical height from the cabin sole to the underside of the deck. (Deck beams and deck stringers may be excluded from the measurement). To qualify as headroom for the purposes of a) above, there must be no obstruction in the vertical from the deck to the cabin sole, for example, companionway steps or platform.

NOTE: For yachts of Age or Series Date (whichever is the earlier) of 1/91 or later, the qualifying headroom (H) must be found abaft the after face of the main mast.

NOTE: For yachts with an Age or Series Date (whichever is the earlier) of 12/1985 or earlier:

- a) The cabin sole is defined as surface free of obstruction designed to be suitable for the crew to stand upon. This cabin sole shall have an area (A) over which there is the required headroom (H) as defined in b) below. If any obstruction, e.g. an engine or engine box, shaft tunnel, keelson, floor frame or cockpit sole, within the qualifying area of the cabin sole reduces the required headroom, area of such obstruction will not count towards area (A) and the extra area must be found elsewhere.
- b) Headroom. Headroom (H) is defined as the vertical height from the cabin sole to the underside of the deck. (Deck beams and deck stringers may be excluded from the measurement). To qualify as headroom for the purposes of a) above, there must be no obstruction in the vertical from the deck to the cabin sole.
- c) The length of the cabin sole (LC) shall be defined as a continuous length fore and aft over which it is possible to lay a cord on the level of the cabin sole having the required headroom, except in the way of masts and bulkheads.
- d) The width (W) shall be the maximum width having the required headroom (H) measured across the cabin sole in any transverse section or the sum of two widths measured across the cabin sole at any transverse section but separated by an obstruction having less than the required headroom (H).

13.2 Minimum Qualifying Dimensions

| | Area A | | Length LC | | Width W | | Headroom H | |
|-------------------|----------------|-----------------|-----------|--------|---------|-------|------------|-------|
| | m ² | ft ² | m | ft | m | ft | m | ft |
| One and Two Ton | 1.5 | 16.140 | 1.8 | 5'11" | 0.45 | 1'5¾" | 1.83 | 6'0" |
| Three-quarter Ton | 1.3 | 13.988 | 1.8 | 5'11" | 0.40 | 1'3¾" | 1.75 | 5'9" |
| Half Ton | 0.5 | 5.380 | 1.2 | 3'11¼" | 0.35 | 1'1¾" | 1.70 | 5'7" |
| Quarter Ton | 0.4 | 4.304 | 1.2 | 3'11¼" | 0.35 | 1'1¾" | 1.30 | 4'3" |
| Mini Ton | 0.4 | 4.304 | 1.2 | 3'11¼" | 0.35 | 1'1¾" | 1.24 | 4'1¼" |

For Mini-Tonners, sitting area shall total a minimum of 0.5 sq. metres (5.38 sq. ft.) with a minimum height of 0.75 metres (2'5") above the seat.

13.3 Fresh Water Capacity Minimum capacities shall be:

| | |
|--------------------|------------|
| Two Ton | 150 litres |
| One Ton | 150 litres |
| Three- Quarter Ton | 75 litres |
| Half Ton | 50 litres |
| Quarter Ton | 35 litres |
| Mini Ton | 20 litres |

13.4 Bunks Permanent bunks with mattresses shall be not less than:

| | |
|-------------------|---|
| Two Ton | 8 |
| One Ton | 6 |
| Three-Quarter Ton | 4 |
| Half Ton | 3 |
| Quarter Ton | 2 |
| Mini Ton | 2 |

The above bunks and mattresses shall be of minimum thickness of 50mm and where the mattresses are built into the bunk the same thickness shall be maintained. The bunks and mattresses shall be of not less than the following dimensions:

1.9 metres long, 0.55 metres wide at one end, 0.35 metres wide at the other end.

13.5 Chart Table

All yachts shall be provided with a flat area suitable for chart work.

13.6 All yachts shall be fitted with a securely installed or gimballed stove, which shall comply with the following:

Mini Tonners and Quarter Tonners - a minimum of 1 burner

Half Tonners and above - a minimum of 2 burners

13.7 Inboard engine installation shall meet standards accepted in the country of registry and shall be such that the engine, when running, can be securely covered, and that the exhaust and fuel supply systems are securely installed and adequately protected from the effects of heavy weather. (Also ORC Special Regulation 3.23).

13.8 Maximum Beam - Mini Tonners

For all Mini Tonners there shall be a maximum beam limit of 2.5 metres (8'2").