



**Forth Yacht Clubs Association
Safety Regulations for Yachts**

**Construction & Equipment Standards
for**

**Forth Inshore Group Races,
Open Events & Regattas**

Issue 3 24th February 2009

FYCA Yacht Safety Regulations

Introduction:

The FYCA and its constituent clubs have a 'duty of care' to ensure that appropriate standards of yacht construction and equipment are established for the guidance of sailors and the clubs that organise yacht racing events on the Firth of Forth. The Forth Estuary is relatively sheltered but conditions can change quickly and, particularly in the outer Forth, the distance to harbours of refuge can be considerable and access may not be possible in all tidal conditions. The FYCA also has a responsibility to Forth Ports plc, HM Coastguard and the RNLI, to ensure that competitors are aware of the standards and equipment levels necessary to be self-sufficient, capable of clearing the restricted shipping channels and able to communicate in the event of emergency.

These Safety Regulations are based on the Offshore Racing Council (ORC) category requirements appropriate for racing on the Forth and the FYCA acknowledges their kind permission to reproduce them. The regulations also bring the FYCA into line with the approach taken by both the Clyde Yacht Clubs Association (CYCA) and the North East Cruiser Racing Association (NECRA).

Equipment & Construction Categories:

Two categories are defined for use in FYCA open events.

Category 4 (ORC Cat 4 modified for the estuary) is the set of mandated requirements adopted for longer distance, daytime events such as the Forth Inshore Group (FIG) races where competitors may be out of sight of each other or the race organisers. For Cat 4 rated events, yachts must comply with both Cat 4 and Cat 4R requirements listed below.

Category 4R is the reduced set of mandated requirements adopted for inshore, limited area events such as regattas in which, for instance, open day boats normally compete. The requirements for category 4R listed below are marked with an asterix *R.

Although not included in these regulations, clubs are recommended to specify ORC Cat 3 for overnight races, particularly those going outside the Forth Estuary.

Yacht Configuration Compliance:

Class yachts that are rated by FYCA Handicap Committee as having an engine or specific equipment as part of their normal trim, must carry the equipment for any handicap race.

Exemptions:

The FYCA recognises that the class rules of some one-design yachts or construction features of some designs, particularly older ones, may not comply fully with ORC requirements. Modification may conflict with one-design class rules or may be impossible or too expensive to implement. In adopting these regulations to improve safety, it is not the intention of the FYCA to unnecessarily bar non-compliant yachts from all events. Individual owners, class representatives or FYCA clubs may apply for an exemption from specific regulations using the form in appendix B. Applications should be sent, preferably by E-mail, to the FYCA Honorary Secretary at the address below for review by the FYCA Safety Committee. Exemptions for specific cases, including any conditional restrictions, may be granted and will be published in appendix A to these regulations. Owners should allow a minimum of one month for this process.

FYCA Yacht Safety Regulations

Responsibility of Yacht Owner/Representative:

The safety of a yacht and her entire management including insurance shall be the sole responsibility of the owner or owner's representative racing the yacht. This person must ensure that the yacht and her crew are adequate to face the conditions that may arise in the course of a race. Neither the establishment of these Safety Regulations nor the inspection of any yacht, in any way limit or reduce the absolute responsibility of the owner or owner's representative for their crew, the yacht and the management thereof. The Forth Yacht Clubs Association, its member clubs, employees or representatives shall not be responsible for any loss, damage, death or personal injury howsoever caused to the owner or owner's representative, the skipper or crew, as a result of taking part in races. Moreover, every owner or owner's representative warrants the suitability of their yacht for racing.

FYCA Honorary Secretary (Feb 2009):

Mr Graham Crawford,
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FYCA Safety Committee:

The FYCA Safety Committee is responsible for reviewing the content of these regulations and adjudicating requests for exemptions from specific requirements. Safety Committee members shall be appointed on an annual basis by invitation of the FYCA Executive. Current members in Feb 2009 are:

Mr Guthrie Stewart (RYA Yacht-master Instructor)
Mr Oli Ludlow (RYA Code of Practice Inspector)
Mr Cairns Birrell (Chairman - FYCA Executive)

Review and updating of Safety Regulations:

These Safety Regulations shall be reviewed annually in Nov-Dec by the FYCA Safety Committee and the FYCA Safety Officer. Updates to these Regulations shall be authorised for publication by the FYCA Executive and presented to club delegates for ratification at the Spring Delegates meeting.

Effective Date for Safety Regulations:

These Safety Regulations were originally prepared by an FYCA sub-committee and adopted at the FYCA Spring Delegates meeting on 22nd April 2004. Delegates agreed that the regulations shall be effective as follows:

April 2004: Equipment Requirements - mandatory
Construction Requirements - advisory

April 2005: Equipment & Construction Requirements - mandatory

Section 1 Fundamental and Definitions

1.01 Purpose and Use

It is the purpose of these regulations to establish uniform minimum equipment standards.

1.02 Responsibility

The safety of the yacht and the crew is the sole and inescapable responsibility of the owner or owner's representative who must do his best to ensure the yacht is fully found, thoroughly seaworthy and manned by an experienced crew who have undergone appropriate training and are physically fit to face bad weather. He must be satisfied as to the soundness of hull, spars, rigging, sails and all gear. He must ensure that all safety equipment is properly maintained and stowed and that the crew know where it is kept and how it is to be used. Neither the establishment of these special regulations, their use by race organisers, nor the inspection of a yacht under these regulations in any way limits or reduces the complete and unlimited responsibility of the owner or the owner's representative.

1.03 Decision to race

The owner or owner's representative is solely responsible for deciding whether or not to start or to continue racing (See RRS Fundamental Rule 4).

Section 2 Application and General Requirements

2.01 FYCA Categories

FYCA Category 4:

The set of mandated requirements adopted for longer distance, daytime events such as the Forth Inshore Group (FIG) races where competitors may be out of sight of each other or the race organisers. For Cat 4 rated events, yachts must comply with both Cat 4 and Cat 4R requirements listed below.

FYCA Category 4R:

The reduced set of mandated requirements adopted for inshore, limited area events such as regattas in which, for instance, open day boats normally compete. The requirements for category 4R listed below are marked with an asterix *R.

2.02 *R Inspection: A yacht may be inspected at the discretion of the organising Race Committee. This may be indicated by the Race Committee hoisting a signal specified in the Sailing Instructions for the event.

2.03 *R General Requirements

All equipment required by special regulations shall:

Function properly

Be regularly checked, cleaned and serviced

When not in use be stowed in conditions in which deterioration is minimised

Be readily accessible

Be of a type, size and capacity suitable and adequate for the intended use and size of the yacht.

Heavy Items:

Ballast, ballast tanks and associated equipment shall be permanently installed

Heavy moveable items including e.g. batteries, stoves, gas bottles, tanks, toolboxes and anchors & chain shall be securely fastened.

Navigation Lights:

Navigation lights (see 3.18) shall be shown as required by the International Regulations for Preventing Collision at Sea. All yachts shall exhibit sidelights and a stern light at required times.

Section 3 Structural Features, Stability, Fixed Equipment

3.01 *R 1. Strength of build, ballast and rig

Yachts shall be strongly built, watertight and particularly with regard to hulls, decks and cabin trunks, capable of withstanding solid water and knockdowns. They must be properly rigged and ballasted, be fully seaworthy and must meet the standards set forth herein. 'Properly rigged' means inter alia that shrouds shall never be disconnected while at sea.

2. Watertight integrity of hull

A hull, including deck, coach roof, windows, hatches and all other parts, shall form an integral, essentially watertight unit and any openings in it shall be capable of being immediately secured to maintain this integrity. Centre board and dagger boards trunks and the like shall not open into the interior of the hull except via a watertight inspection/maintenance hatch of which the opening shall be entirely above the waterline of the yacht floating level in normal trim.

3.02 *R Stability – Monohulls

A yacht shall be designed and built to resist capsize

3.03 Emergency exits – Monohulls

LOA	Earliest Age	Detail
8.5m and over	1/95 and after	Yachts shall have two escape exits. One exit shall be forward of the foremast, except where structural features prevent its installation.

3.04*R Hatches and Companionways

No hatch forward of the maximum beam station shall open inwards, excepting ports having an area of less than 0.071m².

(a) A hatch shall be:

so arranged as to be above the water when the hull is heeled 90 degrees permanently attached capable of being firmly shut immediately and remaining firmly shut in a 180 degree capsize (inversion)

(b) A companionway hatch extending below the sheer line shall:

not be permitted in a yacht with a cockpit opening aft to the sea be capable of being blocked off up to the level of the sheer line, provided that the companionway hatch shall continue to give access to the interior with the blocking devices, e.g. washboards in place.

(c) A companionway hatch shall:

be fitted with a strong securing arrangement which shall be operable from above and below including when the yacht is inverted.

have a blocking device (e.g. washboard) capable of being retained in position with the hatch open or shut whether or not in position in the hatchway, and be secured to the yacht (e.g. by lanyard) for the duration of the race to prevent it being lost overboard.

permit exit in the event of inversion.

FYCA Yacht Safety Regulations

3.05 Cockpits

- (a) Cockpits shall be structurally strong, self-draining quickly by gravity at all angles of heel and permanently incorporated as an integral part of the hull.
- (b) Cockpits must be essentially watertight, that is, all openings to the hull must be capable of being strongly and rigidly secured.
- (c) Bilge pumps shall not be connected to cockpit drains.

3.06 Cockpit Drains

Yachts under 8.5m	2 x 25mm diameter or equivalent
Yachts over 8.5m	4 x 20mm diameter or equivalent

3.07 Sea cocks or valves

These shall be permanently installed on all through hull openings below LWL except for integral deck scuppers, transducers and the like, however a means of closing such openings such as wood plugs shall be provided.

3.08 Sheet Winches

These shall be mounted in such a way that an operator is not required to be substantially below deck.

3.09 Mast Step

The heel of a keel-stepped mast shall be securely fastened to the mast step or adjoining structure.

3.10 Lifelines, pulpits and stanchions

3.10*R NB: Yachts that are fitted with lifelines shall comply with Para 3.10 for all events

Note: Lifelines, etc. in accordance with Para 3.10 are a requirement for Cat 4 events but not for Cat 4R. However, yachts already fitted with lifelines shall comply with Para 3.10 for both Cat 4 and Cat 4R events.

Lifelines shall be taut.

(a) Lifelines the following shall be provided:

supported on stanchions, effectively continuous around the working deck.

Lifelines may be substituted by horizontal rails in pulpits. Lifelines shall be permanently supported at intervals of not more than 2.20m and shall not pass outboard of supporting stanchions.

A bow pulpit forward of the headstay. However on yachts under 8.5m the bow pulpit may be aft of the headstay provided the forward upper rail is within 405mm of the headstay.

A stern pulpit, or lifelines arranged as an adequate substitute

Upper rails of pulpits at no less height above the working deck than the upper lifelines.

Permitted variations:

Provided the complete lifeline enclosure is supported by stanchions and pulpit bases effectively within the working deck lifeline terminals and support struts may be fixed to a hull aft of the working deck.

Lifelines need not be fixed to a bow pulpit if they terminate at, or pass through, adequately braced stanchions set inside and overlapping the bow pulpit, provided that the gap between the upper lifeline and the bow pulpit does not exceed 150mm.

Upper rails in bow pulpits may be open-able but shall be secured shut whilst racing.

FYCA Yacht Safety Regulations

(b) Number of lifelines, vertical spacing:

< 8.5m	before 1/92	Taut single lifeline at a height of no less than 450mm above the working deck. No vertical opening shall exceed 560mm.
<8.5m	after 1/92	As above except when an intermediate lifeline is fitted. No vertical opening shall exceed 380mm.
<8.5m	before 1/93	Taut double lifeline with upper lifeline at a height of no less than 600mm above the working deck. No vertical opening shall exceed 560mm.
>8.5m	after 1/93	as above except that no vertical opening shall exceed 380mm.
all	all	On yachts with intermediate lifelines the intermediate line shall be not less than 230mm above the working deck.

(c) Lifeline materials

Lifelines shall be stranded stainless steel wire of minimum diameter as per table below. Grade 316 stainless wire is recommended.

A taut lanyard of synthetic rope may be used to secure lifelines provided the gap it closes does not exceed 100mm.

All wire, fittings, anchorage points, fixtures and lanyards shall comprise a lifeline enclosure system which has at all points at least the breaking strength of the required lifeline wire.

(d) Lifeline materials

<8.5m	3mm diameter
8.5m – 13m	4mm diameter
>13m	5mm diameter

(e) Stanchions and pulpits

Within the first 50mm from the deck, stanchions shall not be displaced horizontally from the point at which they emerge from the deck or base by more than 10mm. Stanchions shall not be angled at more than 10 deg from vertical at any point above 50mm from the deck.

Pulpits and stanchions shall be permanently installed. Where there are sockets or studs these shall be through bolted, bonded or welded. The pulpit(s) and or stanchions fitted to these shall be mechanically retained without the help of the lifelines. Without sockets or studs, pulpits and/or stanchions shall be through bolted bonded or welded.

The bases of pulpits and stanchions shall not be further inboard from the edge of the working deck than 5% of the maximum beam or 150mm whichever is greater.

Stanchion bases shall not be situated outboard of the working deck. For the purposes of this rule a stanchion or pulpit base shall be taken to include a sleeve or socket into which a stanchion or pulpit tube is fitted but shall exclude a baseplate which carries fittings into the deck or hull.

(f) Stanchions and pulpit materials

Stanchions, pulpits and lifelines shall not be made of carbon fibre.

FYCA Yacht Safety Regulations

3.11 Toilet

Toilet permanently installed or fitted bucket.

3.12 Bunks

Bunks, permanently installed.

3.13 Galley facilities

3.14 Hand holds

Adequate handholds shall be fitted below deck so that crew members may move about safely at sea.

3.15*R Bilge pumps and buckets

(a) General

No bilge pump may discharge into the cockpit unless that cockpit is open to the sea.

Bilge pumps shall not be connected to cockpit drains.

Bilge pumps and strum boxes shall be readily accessible for maintenance and for clearing out debris.

Unless permanently installed each bilge pump handle shall be provided with a lanyard or catch or similar device to prevent accidental loss.

(b) The following shall be provided:

For yachts <8.5m, one bilge pump is required.

For yachts >8.5m, two bilge pumps are required, one of which should be permanently fitted and operable from the cockpit.

Two stout buckets each with a lanyard and of 9 litre minimum capacity.

3.16*R Compass

Marine magnetic compass independent of any power supply, permanently installed and correctly adjusted with deviation card.

3.17 Halyards

No mast shall have less than two halyards each capable of hoisting a sail.

3.18 Navigation lights – See also 2.03

Shall be mounted so they are not masked by the sails or heeling of the yacht.

All lights shall be mounted above deck level.

<12m 10w minimum

>12m 25w minimum

3.19 Engine

A propulsion engine shall be provided with adequate protection from heavy weather and a fuel supply.

3.20*R Marine radio and navigational position-fixing device

GPS is not mandatory but is strongly advised.

VHF marine transceiver, either hand held or permanently installed.

Radio receiver capable of receiving weather forecasts.

3.20 Marine radio

VHF marine transceiver permanently installed and capable of 25W output.

Section 4 Portable Equipment & Supplies for the Yacht

4.01*R Sail numbers

Every boat shall carry on her mainsail a sail number allotted either by her National Authority, Class Association or builder, and be recorded in the FYCA Handicap List.

4.02 Softwood plugs

Tapered plugs, of appropriate size, shall be attached or stowed adjacent to the appropriate fitting for every through hull fitting.

4.03 Fire extinguishers

At least two extinguishers, gas or powder, readily accessible in suitable and different parts of the yacht.

4.04*R Anchor

One anchor, suitably sized for the vessel and readily accessible, with at least 10m of chain and 30m of suitable warp attached.

4.05 Flashlight

Watertight flash light with spare batteries and bulb

4.06*R First aid kit and manual

Suitable first aid manual.

Suitable first aid kit, the contents of which reflect the likely conditions and duration of the passage and the number of persons aboard.

4.07 Foghorn

4.08 Radar reflector

4.09*R Navigational charts and Tidal Prediction Tables

4.10 Echo sounder

4.11*R Tools and spare parts

Including effective means to quickly disconnect or sever the standing rigging from the hull.

4.12*R Yacht's name on miscellaneous buoyant equipment

4.13 Marine grade retro reflective tape

Shall be fitted to lifebuoys and lifejackets.

4.14*R Lifebuoys

Lifebuoys must be carried.

Lifebuoys must have drogues attached. At least one lifebuoy must have an automatic light attached.

4.15 Pyrotechnic signals

Stored in waterproof container

3 red hand held flares

3 white hand held flares

2 orange smoke

4.15*R 2 red hand held flares

2 orange smoke

4.16*R Heaving line

Floating heaving line of 15-25m that is readily accessible.

FYCA Yacht Safety Regulations

4.17 Storm sails

It is strongly recommended that owners consult their sail maker to decide the most effective storm sails – they are not intended as part of the racing wardrobe.

Sails should be highly visible with minimum of storm jib of not greater than 13.5% height of the fore triangle squared and without reefs. If furling headsails are fitted, storm jib must have a separate proven method of hoisting

Mainsail reefing to reduce luff by at least 40%.

Section 5 Personal Equipment

5.01*R Life jacket

Each crew member shall have a correctly fitted lifejacket with:

Crotch straps

Whistle

Marine grade retro-reflective material

FYCA Yacht Safety Regulations

Appendix A: List of Exemption Request Decisions

Ref. No. Date	Yacht Type	Non-compliance	Exemption Request Decision
2005/01 10 th Mar 05	Hunter 707 class	3.10 Lifeline height 3.11 Toilet 3.12 Bunks 3.13 Galley 3.14 Handholds 4.03 Fire extinguishers 4.17 Storm sails	Approved for Cat 4 races with following restriction: Class not suitable for offshore & FIG races east of Fairway Buoy.
2005/02 10 th Mar 05	E-boat 'Evita' Sail No. E152	3.01R Item 2: Waterproof integrity of hull Keel-box open to hull interior	Approved for Cat 4 races provided sealing gasket is in place between keel cap and hull opening and the keel is bolted down correctly.
2005/03 10 th Mar 05	Norfolk Gypsy 'Hebe'	3.05 Self-draining cockpit 3.06 Cockpit drains 3.10 Lifelines etc. 4.01R Sail numbers	Restricted to Cat 4R races due to lack of lifelines, etc. and non-self bailing cockpit. No exemption. Sail numbers are a RRS requirement.
2005/04 1 st May 05	Hunter Medina 20 class	3.06 Cockpit drains	Approved for Cat 4 races. Drainage considered adequate for cockpit size.
2005/05 1 st May 05	Hunter Juno 560 class	3.01R Item 2: Waterproof integrity of hull Keel-box open to hull interior 3.06 Cockpit drains	Restricted to Cat 4R races due to non-sealed keel-box. Drainage considered adequate for cockpit size.
2005/06 1 st May 05	Flying Fifteen class	3.10 Lifelines etc.	Restricted to Cat 4R races. Design considered as out of scope of Cat 4 regulations.
2005/07 1 st May 05	Hunter 701 'Bounty Hunter' Sail No. 39	3.06 Cockpit drains Single cockpit drain	Approved for Cat 4 races. Drainage considered adequate for cockpit size.
2005/08 1 st May 05	Pandora 700 class	3.06 Cockpit drains Single cockpit drain 3.10 Lifelines <450 mm high	Approved for Cat 4 races. Drainage considered adequate for cockpit size. Lifelines and stanchions are acceptable.
2005/09 1 st May 05	Herrschoff Islander	3.06 Cockpit drains into bilge 3.10 No lifelines or pulpit	Restricted to Cat 4R races due to lack of lifelines, etc. and non-self bailing cockpit.
2005/10 1 st May 05	First 27.7 'Dram' GBR 8556T	3.01R Item 2: Waterproof integrity of hull. Keel-box cover secured by three catches	Approved for Cat 4 races. Keel-box considered to be adequately sealed.
2005/11 1 st June 05	Hunter Duette 'Duopoly' Sail No. D24	3.15(a) Bilge pump discharge into cockpit with outboard well incorporating drains	Approved for Cat 4 races. Drainage considered adequate for cockpit size.
2006/01 1 st May 06	E-boat class	3.01R Item 2: Waterproof integrity of hull. E-boat 1995 class rule 4.1 specifies keel to be locked down and seal fitted.	Approved for Cat 4 races provided boat complies with 1995 class rule 4.1 on keel sealing and locking.

FYCA Yacht Safety Regulations

2006/02 1 st Aug 06	International Dragon class	3.06 Cockpit drains into bilge 3.10 No lifelines or pulpit	Restricted to Cat 4R races due to lack of lifelines, etc. and non-self bailing cockpit.
2006/03 16 th Aug 06	Hunter 701 class	3.06 Cockpit drains Single cockpit drain	Approved for Cat 4 races. Drainage considered adequate for cockpit size.
2006/04 17 th Aug 06	X-302 'Kiss' GBR 7495T	3.10(a) Pulpit has a short gap ahead of forestay, typical of Scandinavian yacht designs.	Approved for Cat 4 races. Safety not compromised by pulpit design.

FYCA Yacht Safety Regulations

Appendix B: Exemption Application Form

Yacht Name:		Owner:	
Yacht Type:		Address:	
Sail Number:			
Year Built:		Telephone:	
Builder:		E-mail:	
		Club:	
		Date:	

Rule No.	Non-compliance description & request for exemption argument.

Owners must send this form to the FYCA Honorary Secretary, preferably by E-mail, and should allow a minimum of one month for a decision.

Rule No.	FYCA Safety Committee Review & Conclusions.

FYCA Safety Committee Review – Overall Decision.			
Date received:		First review:	
Owner informed:		Final decision:	
		Exemption appendix updated:	