

Instructions for using this spreadsheet.

1	This spreadsheet is intended to be used by Organizing Authorities (OA) to assist in defining what gear is required for races of various types.
2	There are five categories of races, based on their duration, distance offshore, and access to rescue services: Ocean, Offshore, Coastal, Inshore and Nearshore.
3	OAs may, at their discretion, add or subtract items from a category based on the unique characteristics of each race they are running.
4	Additional items that could be included when the conditions warrant are given a beige tint in columns D, E, F, G and H. This is not intended to be a complete list, but rather a list of incremental items from other races.
5	Columns I and J can be helpful if the SER spreadsheet is to be used as a pre- or post-race inspection form.
6	The Excel Function Custom Views (View->Custom Views) can be used to see All Categories; Ocean, Offshore, Coastal, Inshore and Nearshore requirements.
7	Alternatively, the five categories can be filtered using the Excel Autofilter function. Click the triangle in the SE corner of "Ocean", "Offshore", "Coastal", "Inshore" or "Nearshore" and either choose to clear the filter or select "Select All" and then deselect "(Blanks)".

Safety Equipment Requirements

Note: Organizing Authorities may want to consider adding items in beige tint based on the conditions of their specific races.

For use by Inspectors

Effective Date: 03/01/2016

Section Name	#	Requirement	Ocean	Offshore	Coastal	Inshore	Nearshore	Vessel Compliance Y/N		Inspector Comments
								Y	N	
Definition	1.0.1	Races of long distance and well offshore, where boats must be completely self sufficient for extended periods of time, capable of withstanding heavy storms and prepared to meet serious emergencies without the expectation of outside assistance	x							
Definition	1.0.2	Races of extended duration along or not far removed from shorelines or in large unprotected bays or lakes, where a high degree of self-sufficiency is required of the boats		x						
Definition	1.0.3	Races across open water, most of which is relatively protected or close to shorelines			x					
Definition	1.0.4	Short races, close to shore in relatively warm or protected waters normally held in daylight				x				
Definition	1.0.5	Short races, close to shore in relatively warm and protected waters where adequate shelter and/or effective rescue is available all along the course, held in daylight only.					x			
Overall	1.1	The Safety Equipment Requirements establish uniform minimum equipment and training standards for a variety of boats racing in differing conditions. These regulations do not replace, but rather supplement, the requirements of the US Coast Guard or other national authority for boating regulations, the Racing Rules of Sailing (RRS), the rules of Class Associations and all applicable rating rules.	x	x	x	x	x			
Overall: Responsibility	1.2	Under RRS 4 the responsibility for a boat's decision to participate in a race or continue racing is hers alone. The safety of a boat and her crew is the sole and inescapable responsibility of the Person in Charge who shall do his best to ensure that the boat is fully found, thoroughly seaworthy and manned by an experienced and appropriately trained crew who are physically fit to face bad weather. The person in charge shall also assign a person to take over his responsibilities in the event of his incapacitation.	x	x	x	x	x			
Overall: Inspections	1.3	A boat may be inspected at any time by an equipment inspector or measurer appointed for the event. If she does not comply with these regulations, her entry may be rejected or she will be subject to a protest filed by the RC. A Violation of the Safety Equipment Regulations may result in a penalty other than disqualification.	x	x	x	x	x			
Overall: Equipment and Knowledge	1.4	All equipment required by these SERs shall: a) function properly b) be regularly checked, cleaned and serviced c) when not in use be stowed in conditions in which deterioration is minimised d) be readily accessible e) be of a type, size and capacity suitable and adequate for the intended use and size of the boat.	x	x	x	x	x			
Overall: Secure Storage	1.5	Heavy items shall be permanently installed or securely fastened	x	x	x	x	x			

Section Name	#	Requirement	Ocean	Offshore	Coastal	Inshore	Nearshore	Y	N	
Overall: Strength of Build	1.6	A boat shall be strongly built, watertight and, particularly with regard to hulls, decks and cabin trunks, capable of withstanding solid water and knockdowns. A boat shall be properly rigged and ballasted, be fully seaworthy and shall meet the standards set forth herein. A boat's shrouds and at least one forestay shall remain attached at all times.	x	x	x	x				
Overall: Watertight Integrity	1.7	A boat's hull, including, deck, coach roof, windows, hatches and all other parts, shall form an integral watertight unit and any openings in it shall be capable of being immediately secured to maintain this integrity.	x	x	x	x	x			
Overall: Scantlings	1.8	Hull Construction Standards - Scantlings with plan review approval - (See Appendix M)	x							
Hull and Structure: Hull Openings	2.1.1	A boat's companionway(s) shall be capable of being blocked off to main deck level. The method of blocking should be solid, watertight and rigidly secured, if not permanent.	x	x	x	x				
Hull and Structure: Hull Openings	2.1.2	A boat's hatch boards, whether or not in position in the hatchway, shall be secured to the boat (e.g. by a lanyard) for the duration of the race to prevent their being lost overboard.	x	x	x					
Hull and Structure: Cockpit	2.1.3	A boat's entire cockpit shall be solid, watertight, strongly fastened and/or sealed. Weather-tight seat hatches are acceptable only if capable of being secured when closed.	x	x	x	x				
Hull and Structure: Cockpit	2.1.4	A boat's cockpit drains shall be capable of draining six inches of water in 5 minutes. One square inch (645mm ²) of effective drain per eight square feet (0.743m ²) of cockpit sole will meet this requirement.	x	x	x	x				
Hull and Structure: Cockpit	2.1.5.1	A boat's maximum cockpit volume for cockpits not open to the sea, including any compartments capable of flooding, to lowest points of coaming over which water can adequately escape, shall not exceed 0.06 x LOA x Max. Beam x Freeboard aft. The cockpit sole shall be at least 0.02 x L above LWL.	x	x						
	2.1.5.2	A boat's maximum cockpit volume for cockpits not open to the sea, including any compartments capable of flooding, to lowest points of coaming over which water can adequately escape, shall not exceed 0.08 x LOA x Max. Beam x Freeboard aft. The cockpit sole shall be at least 0.02 x L above LWL.			x	x				
Hull and Structure: Through Hulls	2.1.6	A boat's through-hull openings below the waterline shall be equipped with sea cocks or valves, except for speed transducers, depth finder transducers and the like; however a means of closing such openings shall be provided.	x	x	x	x				
Hull and Structure: Stability	2.2.1	The boat shall comply with at least one of the following: demonstrate compliance with ISO 12217-2 design category A or higher, either by EC Recreational Craft Directive certification (having obtained the CE mark) or the designer's declaration a minimum STIX value of 32 and AVS not less than 130 - 0.002*m (Where "m" is the mass of the boat in the minimum operating condition as defined by ISO 12217-2.); the stability index/AVS in ORC Rating System of not less than 115; or IRC SSS Base value of not less than 35	x							

Section Name	#	Requirement	Ocean	Offshore	Coastal	Inshore	Nearshore	Y	N
Hull and Structure: Stability	2.2.2	The boat shall comply with at least one of the following: demonstrate compliance with ISO 12217-2 design category A or higher, either by EC Recreational Craft Directive certification (having obtained the CE mark) or the designer's declaration a minimum STIX value of 32 and AVS not less than $130 - 0.002 * m$ (Where "m" is the mass of the boat in the minimum operating condition as defined by ISO 12217-2.); the stability index/AVS in ORC Rating System of not less than 110; or IRC SSS Base value of not less than 28		x					
Hull and Structure: Stability	2.2.3	The boat shall comply with at least one of the following: demonstrate compliance with ISO 12217-2 design category A or higher, either by EC Recreational Craft Directive certification (having obtained the CE mark) or the designer's declaration a minimum STIX value of 32 and AVS not less than $130 - 0.005 * m$ (Where "m" is the mass of the boat in the minimum operating condition as defined by ISO 12217-2.); the stability index/AVS in ORC Rating System of not less than 103; or IRC SSS Base value of not less than 15			x	x			
Hull and Structure: Stability	2.2.4	A boat with moveable or variable ballast (water or canting keel) shall comply with the requirements of Appendix K of the Offshore Special Regulations(OSR). http://www.sailing.org/tools/documents/OSR2012AppK09122011-[11760].pdf	x	x	x	x	x		
Hull and Structure: Accommodations	2.3.1	A boat shall be equipped with a head or a fitted bucket.	x	x	x				
Hull and Structure: Accommodations	2.3.2	A boat shall have bunks sufficient to accommodate the off-watch crew.	x	x	x				
Hull and Structure: Accommodations	2.3.3	A boat shall have a stove with a fuel shutoff.	x	x	x				
Hull and Structure: Accommodations	2.3.4	A boat shall have an installed water tank and delivery system.	x						
Hull and Structure: Accommodations	2.3.5	A boat shall have adequate hand holds below decks.	x	x	x				
Hull and Structure: Lifelines	2.4.1	A boat's deck, including the headstay, shall be surrounded by a suitably strong enclosure, typically consisting of lifelines and pulpits, meeting the requirements in rules 2.4.2 to 2.4.8.	x	x	x	x			
Hull and Structure: Lifelines	2.4.2	A boat's stanchion and pulpit bases shall be within the working deck. Stanchions used with HMPE lifelines shall have rounded openings to reduce chafe.	x	x	x	x			
Hull and Structure: Lifelines	2.4.3	Bow pulpits may be open, but the opening between the vertical portion of stanchion/pulpit and any part of the boat shall not exceed 14.2" (360mm).	x	x	x	x			
Hull and Structure: Lifelines	2.4.4.1	Lifelines SHALL be either uncoated stainless steel wire. A multipart-lashing segment not to exceed 4" per end termination for the purpose of attaching lifelines to pulpits is allowed. Lifelines shall be taut (see appendix- Lifelines for requirements).	x	x	x				

Section Name	#	Requirement	Ocean	Offshore	Coastal	Inshore	Nearshore	Y	N
Hull and Structure: Lifelines	2.4.4.2	Lifelines SHALL be either uncoated stainless steel wire or high molecular weight polyethylene (HMPE) line with spliced terminations or terminals specifically intended for the purpose(see appendix-Lifelines for requirements). A multipart-lashing segment not to exceed 4" per end termination for the purpose of attaching lifelines to pulpits is allowed. Lifelines shall be taut (see appendix-Lifelines for requirements).				x			
Hull and Structure: Lifelines	2.4.5	The maximum spacing between the bases of lifeline supports (e.g. stanchions and pulpits) shall be 87" (2.2m).	x	x	x	x			
Hull and Structure: Lifelines	2.4.6	Boats under 28 feet (8.5m) shall have at least one lifeline with 18" (457mm) minimum height above deck, and a maximum vertical gap of 18" (457mm). Taller heights will require a second lifeline. The minimum diameter shall be as per Appendix- Lifelines	x	x	x	x			
Hull and Structure: Lifelines	2.4.7	Boats 28 feet and over (8.50m) shall have at least two lifelines with 24" (762mm) minimum height above deck, and a maximum vertical gap of 15" (381mm). The minimum diameter shall be as per Appendix- Lifelines	x	x	x	x			
Hull and Structure: Lifelines	2.4.8	Toe rails shall be fitted around the foredeck from the base of the mast with a minimum height of 3/4" (18mm) for boats under 30' (9.14m) and 1" (25mm) for boats over 30'. An additional installed lifeline between 1-2" (25-51mm) above the deck will satisfy this requirement for boats without toerails.	x	x	x	x			
Hull and Structure: Lifelines	2.4.9	Trimarans are exempted from the lifeline requirement where there is a trampoline outboard of the main hull, except that a lifeline must run from the top of a bow pulpit to the forward crossbeam at the outboard edge of the bow net or foredeck. Catamarans with trampoline nets between the hulls are exempted from the lifeline requirement. All catamarans are exempted from the need for pulpits and lifelines across the bow.	x	x	x	x			
Hull and Structure: Dewatering pumps	2.5.1	A boat shall have a permanently installed manual bilge pump of at least a 10 gallons per minute (GPM) (37.8 liter per minute) capacity and which is operable from on deck with the cabin closed with the discharge not dependent on an open hatch. Unless permanently attached to the pump, the bilge pump handle shall be securely attached to the boat in its vicinity via a lanyard or catch. A bilge pump discharge shall not be connected to a cockpit drain. The bilge pump shall not discharge into a cockpit unless that cockpit opens aft to the sea.	x	x	x				
Hull and Structure: Dewatering pumps	2.5.2	A boat shall have a second permanently installed manual bilge pump of at least 10 GPM (37.8 liter per minute) capacity, operable from below deck, meeting the same criteria as above.	x	x					
Hull and Structure: Dewatering pumps	2.5.3	A boat shall have a manual bilge pump of at least a 10 GPM (37.8 liter per minute) capacity.				x	x		
Hull and Structure: Mast and Rigging	2.6	The heel of a keel-stepped mast shall be securely fastened to the mast step or adjoining structure.	x	x	x				
Hull and Structure: Mechanical Propulsion	2.7.1	A boat shall have a mechanical propulsion system that is ready for immediate use and capable of driving the boat at a minimum speed in knots equivalent to the square root of LWL in feet (1.81 times the square root of the waterline in meters) for at least 10 hours.	x	x					

Section Name	#	Requirement	Ocean	Offshore	Coastal	Inshore	Nearshore	Y	N
Hull and Structure: Mechanical Propulsion	2.7.2	A boat shall have a mechanical propulsion system that is ready for immediate use and capable of driving the boat at a minimum speed in knots equivalent to the square root of LWL in feet (1.8 times the square root of the waterline in meters) for at least 4 hours.			x	x	x		
Hull and Structure: Mechanical Propulsion	2.7.3	The boat's engine and generator installation (if so equipped) must conform to ABYC, ISO or the standards of the national safety authority where the boat is registered.	x	x	x	x	x		
Safety Equipment: Personal	3.1.1	Each crewmember shall have a life jacket that provides at least 33.7lbs (150N) of buoyancy, to be worn over the shoulders (no belt pack), meeting either Coast Guard/National Safety Authority of the OA or ISO specifications. Life jackets shall be equipped with crotch or leg straps, a whistle, a waterproof light, be fitted with marine-grade retro-reflective material, and be clearly marked with the boat's or wearer's name, and be compatible with the wearer's safety harness. If the life jacket is inflatable, it shall be regularly checked for air retention. Alternatively, each crewmember shall have a U.S. Coast Guard approved inherently buoyant off-shore life jacket /National Safety Authority of the OA approved inherently buoyant off-shore life jacket equipped with crotch or leg straps, a whistle, a waterproof light, retro-reflective material, marked with the boat or owner's name, which is compatible with a safety harness.	x	x	x				
Safety Equipment: Personal	3.1.2	Each crewmember shall have a life jacket that provides at least 15lbs (66.7N) of buoyancy, to be worn over the shoulders (no belt pack), meeting either Coast Guard/National Safety Authority of the OA or ISO specifications. Life jackets shall be clearly marked with the boat's or wearer's name. If the life jacket is inflatable, it shall be regularly checked for air retention. Alternatively, each crewmember shall have a U.S. Coast Guard approved inherently buoyant life jacket /National Safety Authority of the OA approved inherently buoyant life jacket marked with the boat or owner's name.				x			
Safety Equipment: Personal	3.1.3	Each crewmember shall have alternatively; a Coast Guard approved Type III or Type V life jacket /National Safety Authority of the OA approved equivalent that is intended for small boat sailing or other active boating for each crewmember or a life jacket as described above in 3.1.2.					x		
Safety Equipment: Personal	3.1.4	Any personal flotation worn by crewmembers must comply with the category under which that yacht is racing	x	x	x	x	x		
Safety Equipment: Personal	3.1.5	Each crewmember shall have a safety harness and compatible safety tether not more than 7 feet (2.13m) long with a minimum tensile strength of 4500 lb. (20kN). The tether shall have a snap hook at its far end and a means to quickly disconnect the tether at the chest end while under load.	x	x	x				
Safety Equipment: Deck Safety	3.2.1	A boat shall carry jacklines with a breaking strength of at least 4500 lb. (20kN) which allow the crew to reach all points on deck, connected to similarly strong attachment points, in place while racing.	x	x	x				
Safety Equipment: Deck Safety	3.2.2	A boat shall have adequate clipping points or jacklines that allow the crew to clip on before coming on deck and to unclip after going below.	x	x					
Safety Equipment: Deck Safety	3.2.3	Multihulls must have jacklines or attachment points that are accessible when the vessel is inverted.	x	x	x				

Section Name	#	Requirement	Ocean	Offshore	Coastal	Inshore	Nearshore	Y	N	
Safety Equipment: Navigation Lights	3.3.1	A boat racing between sunset and sunrise shall carry navigation lights that meet Coast Guard/National Safety Authority of the OA requirements mounted so that they will not be obscured by the sails nor be located below deck level.	x	x	x	x	x			
Safety Equipment: Navigation Lights	3.3.2	A boat shall have a second set of navigation lights that comply with Coast Guard/National Safety Authority of the OA requirements and which can be connected to a different power source than the primary lights.	x	x						
Safety Equipment: Fire Extinguishers	3.4	A boat shall carry fire extinguisher(s) that meets Coast Guard/National Safety Authority of the OA requirements, when applicable.	x	x	x	x	x			
Safety Equipment: Sound Producing Equipment	3.5	A boat shall carry a sound-making device that meets Coast Guard/National Safety Authority of the OA requirements, when applicable.	x	x	x	x	x			
Safety Equipment: Visual Distress Signals	3.6.1	A boat shall carry SOLAS orange smoke flares not older than the expiration date.	2	2	2					
Safety Equipment: Visual Distress Signals	3.6.2	Intentionally left blank								
Safety Equipment: Visual Distress Signals	3.6.3	A boat shall carry SOLAS red hand flares not older than the expiration date.	4	4						
Safety Equipment: Visual Distress Signals	3.6.4	A boat shall carry Coast Guard/National Safety Authority of the OA approved flares meeting day-night requirements, not older than the expiration date.				x	x			
Safety Equipment: Visual Distress Signals	3.6.5	Boat flares stored inside of life rafts may not be used to satisfy the flare requirement.	x	x	x					
Safety Equipment: Man Overboard	3.7.1	A boat shall carry a recovery sling which includes: a) buoyant line of length no less than the shorter of 4 times LH or 36m (120') b) buoyancy section (horseshoe) with no less than 90 N (20#) buoyancy c) minimum strength capable to hoist a crewmember aboard	x	x	x					
Safety Equipment: Man Overboard	3.7.2	A boat shall have a man overboard pole and flag, with a lifebuoy, a self-igniting light, a whistle, and a drogue attached. A self-inflating MOB module, Dan Buoy or similar device will satisfy this requirement. Self-inflating apparatus shall be tested and serviced in accordance with the manufacturer's specifications. These items shall be stored on deck, ready for immediate use, and affixed in a manner that allows for a "quick release".	x	x	x					
Safety Equipment: Man Overboard	3.7.3	A boat shall have a heaving line, no less than 6 mm (1/4") diameter, 15 - 25 m (50 - 75') long, readily accessible to cockpit	x	x	x	x	x			
Safety Equipment: Man Overboard	3.7.4	A boat shall carry a Coast Guard/National Safety Authority of the OA approved "throwable device". If the device carried under 3.7.1 satisfies this requirement, then no additional device is required.	x	x	x	x	x			

Section Name	#	Requirement	Ocean	Offshore	Coastal	Inshore	Nearshore	Y	N	
Safety Equipment: Emergency Communications	3.8.1	A boat shall have a permanently installed 25-watt VHF radio connected to a masthead antenna by a co-axial feeder cable with no more than a 40% power loss. Radios manufactured after 01/01/2015 shall have DSC capability, have an antenna of at least 15" (381mm) in length, be connected to or have an internal GPS, and have the assigned MMSI number (unique to the boat) programed into the VHF.	x	x	x					
Safety Equipment: Emergency Communications	3.8.2	A boat shall have the listed number of watertight handheld VHF radios or handheld VHF radios with waterproof cover. Radios manufactured after 01/01/2015, shall have DSC/GPS capability. Note: for Nearshore and Inshore, a boat which complies with Rule 3.8.1 and has a remote station on deck shall be considered compliant with 3.8.2	2	1	1	1	1			
Safety Equipment: Emergency Communications	3.8.3	A boat shall have an emergency VHF antenna. The emergency antenna shall be equipped with sufficient coax to reach the deck, and have a minimum antenna length of 15" (381mm).	x	x	x					
Safety Equipment: Emergency Communications	3.9	All boats shall have an AIS Transponder, sharing a masthead VHF antenna via a low loss AIS antenna splitter. An acceptable alternative is a dedicated AIS antenna that is a minimum of 0.9 meters long, mounted with its base at least 3 meters above the water, and fed with coax that has a maximum 40% power loss.	x							
Safety Equipment: Emergency Communications	3.10	A boat shall carry a cellular phone in a waterproof container.								
Safety Equipment: Emergency Communications	3.11	A boat shall carry a satellite telephone in a waterproof container.								
Safety Equipment: Emergency Communications	3.12	A boat shall carry man overboard alarms for each crewmember based on AIS or other method.								
Safety Equipment: Emergency Communications	3.13	A boat shall have a method of receiving weather information in addition to the fixed mount and hand held VHF radios.	x	x						
Safety Equipment: Navigation	3.14	A boat shall carry a GPS receiver.	x	x	x					
Safety Equipment: Navigation/MOB	3.15	A boat shall carry an electronic means to record the position of a man overboard within ten seconds. This may be the same instrument listed in 3.14.	x	x	x					
Safety Equipment: Emergency Communications	3.16.1	A boat shall carry a 406MHz EPIRB that is properly registered to the boat. This device shall either have an internal GPS (self-locating) or be connected to a continuously functioning external GPS. After 01/01/2016, this device shall be equipped with an internal GPS.	x							
Safety Equipment: Emergency Communications	3.16.2	A boat shall carry either a 406MHz EPIRB which is properly registered to the boat, or a floating 406MHz Personal Locator Beacon, registered to the owner with a notation in the registration that it is aboard the boat. After 01/01/2016, this device shall be equipped with an internal GPS.		x						
Safety Equipment: Emergency	3.17	A boat shall have a knotmeter or distance-measuring instrument.	x	x	x					
Safety Equipment: Emergency	3.18	A boat shall have a permanently installed depth sounder.	x	x	x	x				
Safety Equipment: Navigation	3.19.1	A boat shall have a permanently mounted magnetic compass independent of the boat's electrical system suitable for steering at sea.	x	x	x	x	x			

Section Name	#	Requirement	Ocean	Offshore	Coastal	Inshore	Nearshore	Y	N
Safety Equipment: Navigation	3.19.2	A boat shall have a second magnetic compass suitable for steering at sea which may be handheld.	x	x	x				
Safety Equipment: Navigation	3.20	A boat shall have non-electronic charts that are appropriate for the race area.	x	x	x	x			
Safety Equipment: Damage Control	3.21	A boat shall have the ability to display sail numbers and letters of the size carried on the mainsail by an alternative means when none of the numbered sails is set.	x	x					
Safety Equipment: Damage Control	3.22	A boat shall carry soft plugs of an appropriate material, tapered and of the appropriate size, attached or stowed adjacent to every through-hull opening.	x	x	x	x	x		
Gear: Anchoring	3.23.1	A boat shall carry two commercially made anchors, meeting the anchor manufacturer's recommendations based on the yacht's size, with a suitable combination of chain and line, ready for immediate use, except that for a boat less than 8.5 m (28') LH there shall be 1 suitable anchor with rode.	x	x					
Gear: Anchoring	3.23.2	A boat shall carry one commercially made anchor, meeting the anchor manufacturer's recommendations based on the yacht's size, with a suitable combination of chain and line, ready for immediate use.			x	x	x		
Gear: Lights	3.24.1	A boat shall carry a watertight, high-powered searchlight, suitable for searching for a person overboard at night or for collision avoidance.	x	x	x				
Gear: Lights	3.24.2	A boat shall carry a watertight flashlight for each crewmember with spare batteries in addition to the above.	x	x					
Gear: Lights	3.24.3	A boat shall carry at least two watertight flashlights with spare batteries in addition to the requirement of 3.24.1.			x	x	x		
Gear: Medical Kits	3.25	A boat shall carry a first aid kit and first aid manual suitable for the likely conditions of the passage and the number of crew aboard.	x	x	x	x	x		
Gear: Radar Reflectors	3.26	A boat shall carry an octahedral passive radar reflector with circular sector plates of minimum diameter 30 cm (12") or a reflector with a documented minimum Radar Cross Section (RCS) of area of 2 m2	x	x	x	x			
Gear: Dewatering	3.27	A boat shall carry a sturdy bucket(s) of at least two gallons (8 liters) capacity with lanyards attached.	2	2	2	1	1		
Gear: Safety Diagram	3.28	A boat shall post a durable, waterproof diagram or chart locating the principal items of safety equipment and through hulls in the main accommodation area where it can be easily seen.	x	x	x				
Gear: Emergency Steering	3.29.1	A boat shall have an emergency tiller, capable of being fitted to the rudder stock. Boats with twin rudders and twin tillers connected directly to the rudders are exempt from this requirement	x	x					
Gear: Emergency Steering	3.29.2	Wheel steered boats shall have an emergency tiller, capable of being fitted to the rudder stock.			x	x			
Gear: Spare Parts	3.30.1	Tools and spare parts, suitable for the duration and nature of the passage	x	x	x	x			
Gear: Spare Parts	3.30.1	An effective means to quickly disconnect or sever the standing rigging from the boat	x	x	x	x			
Gear: Identification	3.31	All lifesaving equipment shall bear retro-reflective material and be marked with the yacht's or wearer's name. The exception would be for new equipment or rented equipment (e.g. life rafts) that would require the unpacking of sealed equipment in order to meet this requirement. The boat name shall be stenciled on during the first servicing of any new equipment.	x	x	x	x			

Section Name	#	Requirement	Ocean	Offshore	Coastal	Inshore	Nearshore	Y	N	
Gear: Cockpit Knife	3.32	A strong, sharp knife, sheathed and securely restrained shall be provided readily accessible from the deck or a cockpit.	x	x	x	x				
Sails: Mainsail Reefing	3.33.1	The maximum area of storm sails shall be lesser of the areas below or as specified by the boat designer or sailmaker	x	x	x	x				
Sails: Trysail	3.33.2	a) A heavy-weather jib (or heavy-weather sail in a boat with no forestay) with: i. area of 13.5% height of the foretriangle (IG) squared ii. readily available means, independent of a luff groove, to attach to the stay	x	x	x					
Sails: Headsails	3.33.3	mainsail reefing to reduce the luff by 12.5% or a heavy-weather jib (or heavy-weather sail in a boat with no forestay)				x				
Sails: Headsails	3.33.4	A storm jib with: i. area of 5% height of the foretriangle (IG) squared ii. maximum luff length 65% of IG iii. permanently attached means, independent of a luff groove, to attach to the stay	x	x						
	3.33.5	A storm trysail (or rotating wing mast if suitable) with: i. area of 17.5% mainsail hoist (P) x mainsail foot length (E) ii. no headboard iii. no battens iv. sail number and letters on both sides, as large as practicable v. in the case of a boat with an in-mast furling mainsail, the storm trysail shall be capable of being set while the mainsail is furled	x	x						
	3.33.6	Either a storm trysail as defined in 3.33.5 or mainsail reefing to reduce the luff by at least 40%			x					
Rigging: Halyards	3.35	A boat shall not be rigged with any halyard that requires a person to go aloft in order to lower a sail.	x	x	x	x				
Rigging: Boom Support	3.36	A boat over 30' LOA (9.14m) shall have a means to prevent the boom from dropping if support from the mainsail or halyard fails.	x	x	x					
Supplies: Water	3.37	A boat shall carry 1 gallon (3.785 liters) per crewmember of emergency drinking water in sealed containers in addition to any other water carried aboard the boat and it shall be aboard after finishing.	x							
Supplies: Rations	3.38	A boat shall carry adequate food, energy bars, and snacks to maintain crew stamina as described in the Notice of Race.								
Gear: Life Rafts	3.39	A boat shall carry adequate inflatable life raft(s) designed for saving life at sea with designed capacity for containing entire crew. The raft shall be SOLAS, ISAF, ISO 9650, or ORC approved. The raft shall be stored in such a way that it is capable of being launched within 15 seconds. The life raft shall hold a current certificate of inspection. Boats built after 01/06/ 2001 shall have the life raft stowed in a deck mounted rigid container or stowed in watertight or self draining purpose built, rigid compartment(s) opening adjacent to the cockpit of the working deck.	x							

Section Name	#	Requirement	Ocean	Offshore	Coastal	Inshore	Nearshore	Y	N	
Gear: Life Rafts	3.40	A boat shall have for each life raft, a grab bag with a lanyard and clip. The grab bag shall have inherent flotation and be of a bright fluorescent color containing at least an EPIRB, and a watertight handheld VHF radio. The VHF Radio and EPIRB need not be in addition to the prior requirements.	x							
Skills: Emergency Steering	4.1.1	A boat's crew shall be aware of multiple methods of steering the boat with the rudder disabled, and shall have chosen and practiced one method of steering the boat with the rudder disabled and be prepared to demonstrate said method of steering both upwind and downwind.	x	x						
Skills: Emergency Steering	4.1.2	Crews must be aware of methods of steering the yacht with the rudder disabled.			x					
Skills: Man Overboard	4.2	Annually, at least two-thirds of the boat's racing crew shall practice man-overboard procedures appropriate for the boat's size and speed. The practice shall consist of marking and returning to a position on the water, and demonstrating a method of hoisting a crewmember back on deck, or other consistent means of reboarding the crewmember.	x	x	x	x	x			
Skills: Safety Training	4.3.1	At least 30% of those aboard the boat, but not fewer than two members of the crew, unless racing single-handed, including the person in charge, shall have attended a one-day or two-day Safety at Sea Seminar within the last 5 years, or other courses as accepted by their National Authority.	x	x						
Skills: Safety Training	4.3.2	At least 30% of those aboard the boat, but not fewer than two members of the crew, unless racing single handed, including the person in charge, shall have attended a half-day, one-day, or two-day Safety at Sea Seminar within the last 5 years, or other courses as accepted by their national authority(required after 01/01/2015).			x					

Appendix M

Hull Construction Standards (Scantlings)

1.8.1

- a) A yacht of less than 24m (78.74 feet) in hull length with the earliest of Age or Series Date on or after 1 January 2010 shall have:
- been designed, built and maintained in accordance with the requirements of ISO 12215 Category A .
 - on board a certificate of building plan review from a Notified Body recognized by ISAF.
 - on board a declaration signed and dated by the builder to confirm the yacht is built in accordance with the plans reviewed by the Notified Body.

A list of Notified Bodies recognized by ISAF can be found at http://www.sailing.org/classesandequipment/offshore/plan_review.php.

- b) A yacht of 24m (78.74 feet) or greater in hull length with the earliest of Age or Series Date on or after 1 January 2010 shall have:
- been designed, built and maintained in accordance with the requirements of a Classification Society recognized by ISAF.
 - on board a certificate of building plan review from a Classification Society recognized by ISAF.
 - on board a declaration signed and dated by the builder to confirm the yacht is built in accordance with the plans reviewed by the Classification Society.

A list of Classification Societies recognized by ISAF can be found at http://www.sailing.org/classesandequipment/offshore/plan_review.php.

1.8.2

- a) A yacht of less than 24m (78.74 feet) in hull length, with the earliest of Age or Series Date on or after 1 January 2010, if subject to any significant repair or
- the repair or modification designed and built in accordance with ISO 12215 Category A.
 - on board a certificate of building plan review for the repair or modification from a Notified Body recognized by ISAF.
 - on board a declaration signed and dated by the builder to confirm that the repair or modification is in accordance with the requirements of ISO 12215 Category A.
- b) A yacht of 24m (78.74 feet) in hull length and over, with the earliest of Age or Series Date on or after 1 January 2010, if subject to any significant repair or modification to
- the repair or modification designed and built in accordance with the requirements of a Classification Society recognized by ISAF.
 - on board a certificate of building plan review for the repair or modification from a Classification Society recognized by ISAF.
 - on board a declaration signed and dated by the builder to confirm that the repair or modification is in accordance with the plans reviewed by the Classification Society.

1.8.3

A monohull with the earliest of Age or Series Date before 1 January 2010 shall comply with ISAF OSR 3.03.1 and 3.03.2 and above or with 3.03.4.

1.8.4

- a) A monohull with the earliest of Age or Series Date before the 1 January 2010 not complying with ISAF OSR 3.03.1, 3.03.2 and 3.03.3 shall have been
- the ABS Guide for Building and Classing Offshore Yachts in which case the yacht shall have on board either a certificate of plan approval issued by ABS, or written
 - ISO 12215 Category A, with written statements signed by the designer and builder which confirm that they have respectively designed and built the yacht in accordance with the ISO standard, except that a race organizer or class rules may accept,
 - except that a race organizer, when that described above is not available, may permit a yacht to compete if there is successful past race or passage making history for the yacht.

Appendix K

Stability, Moveable and Variable Ballast

Notwithstanding the maximum length limit of 24m in the standard, this Appendix invokes International Standard ISO 12217-2, Small craft – Stability and buoyancy assessment and categorization – Part 2: Sailing boats of hull length greater than or equal to 6m. The functions FKR (Knockdown Recovery Factor) and FIR (Inversion Recovery Factor) are defined in ISO 12217-2, except as modified by this Appendix.

This Appendix applies to Monohull Yachts only. Unless specifically stated, a requirement applies to Special Regulations Categories 0, 1, 2, 3 and 4 and SER Categories Ocean, Offshore, Coastal, and Inshore. This Appendix does not apply to boats racing under OSR Category 5 or SER Category Nearshore .

1 Stability

1.1 Boat Condition

In the calculation of stability data:

- (a) Deck and other enclosed volume above the sheerline and cockpit volume shall be taken into account.
- (b) Mass shall be taken as Minimum Operating Mass as defined by ISO 12217-2, paragraph 3.5.3.

1.2 General Standards

In the assessment of ISO category for yachts fitted with moveable and/or variable ballast, ISO 12217-2, paragraph 6.1.4 b) shall not apply. Boats shall comply with paragraphs 6.2.3, 6.3.1 and 6.4. Calculations shall be for the ballast condition that results in the most adverse result when considering each individual stability requirement. ISO 12217-2 Annex C, paragraph C.3.3, first sentence, the word "may" is replaced with "shall". ISO 12217-2 Annex C, paragraph C.3.4 shall not be used in the calculation of righting lever.

1.3 Knockdown Recovery

Boats with moveable/variable ballast shall comply with the following minimum values of Knockdown Recovery Factor (FKR) calculated in accordance with ISO 12217-2 paragraph 6.4.4 with the modification that the reference to ISO 8666 paragraph 5.5.2 changed to incorporate actual mainsail area and centre of effort. The lesser of FKR90 and FKR-90 shall be used:

SR Category	Ocean	Coastal	Nearshore
FKR	0.9	0.8	0.7

Boats with age date prior to 11/04 may seek dispensation from this section 1.3 by application to ISAF.

A list of stability indexes can be found at:

<http://www.ussailing.org/racing/offshore-big-boats/orr/orr-scratch-sheets/2014-windward-leeward-5050-scratch-sheet-age-date-abs-and-stability-index/>

Lifeline deflection shall not exceed the following:

When a deflecting force of 50 N (5.1 kg or 11.2 lb.) is applied to a lifeline midway between supports of a lifeline, the lifeline shall not deflect more than 100mm. This measurement shall be taken at the widest span between supports that are aft of the mast. For purposes of measuring sag, any elastic tensioning mechanism shall be released prior to measurement.

Lifeline Minimum Diameters, Required Materials, Specifications (NOTE: refer to each category for the specific allowed materials for that category)

(a) Lifelines shall be of :

- Stranded stainless steel wire or
- High Modulus Polyethylene (HMPE) (Dyneema/Spectra or equivalent) rope

(b) The minimum diameter is specified in table below.

(c) Stainless steel lifelines shall be uncoated and used without close-fitting sleeving, however temporary sleeving may be fitted provided it can be regularly removed for inspection.

(d) When stainless wire is used, Grade 316 is recommended

(e) When HMPE (Dyneema/Spectra) is used, it shall be spliced in accordance with the manufacturer's recommended procedures.

(f) A lanyard of synthetic rope may be used to secure lifelines provided the gap it closes does not exceed 100mm (4in). This lanyard shall be replaced annually at a minimum.

(g) All wire, rope, 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.

minimum required diameter

LOA	wire	Single braid Dyneema rope	Braid on braid Dyneema cored rope
Under 8.5m(28ft)	3mm (1/8")	4mm (5/32")	4mm (5/32")
8.5m-13m	4mm (5/32")	5mm (3/16")	5mm (3/16")
Over 13m (43ft)	5mm (3/16")	5mm (3/16")	5mm (3/16")