US Safety Equipment Requirements

Note: Organizing Authorities may add or delete items based on the conditions of their specific races.

Effective Date: 1/1/2015, revision 2015.0.

Section Name	#	Requirement	US Coastal
Definition	1.0.2	Races not far removed from shorelines, where rescue is likely to be quickly available	x
Overall	1.1	The Minimum 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, the Racing Rules of Sailing (RRS), the rules of Class Associations and all applicable rating rules.	x
Overall: Responsibility	1.2	The safety of a boat and her crew is the sole and inescapable responsibility of the "person in charge", as per RRS 46, who shall ensure that the boat is seaworthy and manned by an experienced crew with sufficient ability and experience to face bad weather. S/he shall be satisfied as to the soundness of hull, spars, rigging, sails and all gear. S/he shall ensure that all safety equipment is at all times properly maintained and safely stowed and that the crew knows where it is kept and how it is to be used.	x
Overall: Inspections	1.3	A boat may be inspected at any time by an inspector or measurer of the Organizing Authority. If she does not comply with these regulations her entry may be rejected, or will be liable to disqualification, or such other penalty as may be prescribed by the race protest committee.	x
Overall: Equipment and Knowledge	1.4	All equipment required shall function properly, be regularly checked, cleaned and serviced, and be of a type, size and capacity suitable for the intended use and size of the boat and the size of the crew, who will have practiced with the use of equipment. This equipment shall be readily accessible while underway and, when not in use, stored in such a way that deterioration is minimized.	x
Overall: Secure Storage	1.5	A boat's heavy items such as batteries, stoves, toolboxes, anchors, chain and internal ballast shall be secured.	x
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
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
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
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
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
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 (645mm2) of effective drain per eight square feet (0.743m2) of cockpit sole will meet this requirement.	x

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	~~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.~~ ***NCORC change***	~~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 integral deck scuppers, speed transducers, depth finder transducers and the like; however a means of closing such openings shall be provided.	x
~~Hull and Structure: Stability~~	~~2.2.2~~	~~The boat must have a stability index greater than or equal to 103 or meet the requirements of ISO 12217-2B.~~ ***NCORC change***	~~x~~
~~Hull and Structure: Stability~~	~~2.2.3~~	~~A boat with moveable or variable ballast (water or canting keel) shall comply with the requirements of Appendix K.~~ ***NCORC change***	~~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 2.4.2 to 2.4.8.	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 shall have rounded openings to reduce chafe.	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
Hull and Structure: Lifelines	2.4.4	Lifelines may be either uncoated stainless steel wire or high molecular weight polyethylene (HMPE) line with spliced terminations or terminals specifically intended for the purpose. 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 for requirements). When HMPE is used, the load-bearing portion (core) shall meet or exceed minimum diameter 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
Hull and Structure: Lifelines	2.4.6	Boats under 30 feet (9.14m) 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 1/8" (3mm).	x
Hull and Structure: Lifelines	2.4.7	Boats 30 feet and over (9.14m) shall have at least two lifelines with 24" (762mm) minimum height above deck, and a maximum vertical gap of 15" (381mm). The minimum diameter will be 5/32" (4mm) for boats to 43' (13.1m) and 3/16" (5mm) for boats over 43' (13.1m).	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 that is 1-2" (25-51mm) above the deck will satisfy this requirement for boats without toerails.	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

Section Name	#	Requirement	US Coastal
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) 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
Hull and Structure: Mechanical Propulsion	2.7.2	A boat shall have a mechanical propulsion system that is quickly available 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 4 hours.	x
~~Hull and Structure: Mechanical Propulsion~~	~~2.7.3~~	~~The boat's engine and generator installation (if so equipped) must conform to ABYC, ISO and/or U.S. Coast Guard standards.~~ ***NCORC change***	~~x~~
Safety Equipment: Personal	3.1.1	Each crewmember shall have a life jacket that provides at least 33.7lbs (150N) of buoyancy, intended to be worn over the shoulders (no belt pack), meeting either U.S. Coast Guard 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. Leg or crotch straps will be required starting 01/01/2014. Alternatively, each crewmember shall have a U.S. Coast Guard approved Type I 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
Safety Equipment: Personal	3.1.4	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.	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
Safety Equipment: Deck Safety	3.2.3	*Multihulls must have jacklines or attachment points that are accessible when the vessel is inverted.*	x
Safety Equipment: Navigation Lights	3.3.1	A boat racing between sunset and sunrise shall carry navigation lights that meet U. S. Coast Guard requirements mounted so that they will not be obscured by the sails nor be located below deck level.	x
Safety Equipment: Fire Extinguishers	3.4	A boat shall carry fire extinguisher(s) that meets U.S. Coast Guard requirements, when applicable.	x
Safety Equipment: Sound Producing Equipment	3.5	A boat shall carry a sound-making device that meets U.S. Coast Guard requirements, when applicable.	x
Safety Equipment: Visual Distress Signals	3.6.1	A boat shall carry SOLAS orange smoke flares not older than the expiration date.	1
Safety Equipment: Visual Distress Signals	3.6.2	A boat shall carry SOLAS red parachute flares not older than the expiration date.	2

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Safety Equipment: Visual Distress Signals	3.6.3	A boat shall carry SOLAS red hand flares not older than the expiration date.	2
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
Safety Equipment: Man Overboard	3.7.1	A boat shall carry a Lifesling or equivalent man overboard rescue device equipped with a self igniting light stored on deck and ready for immediate use.	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
Safety Equipment: Man Overboard	3.7.3	A boat shall have a throwing sock-type heaving line of 50' (15m) or greater of floating polypropylene line readily accessible to the cockpit.	x
Safety Equipment: Man Overboard	*3.7.4*	*A boat shall carry a Coast Guard approved Type IV "throwable device". If the device carried under 3.7.1 or 3.7.2 satisfies this requirement, then no additional device is needed.*	*x*
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. After 01/01/2015 all radios 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
Safety Equipment: Emergency Communications	3.8.2	A boat shall have a watertight handheld VHF radio or a handheld VHF radio with waterproof cover. After 01/01/2015, this radio shall have DSC/GPS capability.	x
Safety Equipment: Emergency Communications	3.14	A boat shall carry a GPS receiver.	x
Safety Equipment: Emergency Communications	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
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: Navigation	3.18	A boat shall have a permanently installed depth sounder that can measure to depths of at least 200 ft. (61m).	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
Safety Equipment: Navigation	3.20	A boat shall have non-electronic charts that are appropriate for the race area.	x

Section Name	#	Requirement	US Coastal
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
Gear: Anchoring	3.23	A boat shall carry one anchor, meeting the anchor manufacturer's recommendations based on the yacht's size, with a suitable combination of chain and line.	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
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
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
Gear: Radar Reflectors	3.26	A boat shall carry an 11.5" (292mm) diameter or greater octahedral radar reflector or one of equivalent performance.	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
Gear: Emergency Steering	3.29.2	Wheel steered boats shall have an emergency tiller, capable of being fitted to the rudder stock.	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
Sails: Mainsail Reefing	3.33.1	A boat shall have a mainsail reefing capable of reducing the luff length by at least 10%:	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
Rigging: Boom Support	3.36	*A boat over 30' LOA shall have a means to prevent the boom from dropping if support from the mainsail or halyard fails.*	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, 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
Skills: Safety at Sea Training	4.3.2	At least 30% of those aboard the boat, but not fewer than two members of the crew, unless racing single ***or double**** handed, including the person in charge, shall have attended a half-day, one-day, or two-day US Sailing Safety at Sea Seminar within the last 5 years, or other courses as accepted by US Sailing (required after 01/01/2015). ***NCORC change***	x