

SCHEDULE 1

Regulations 2(3), 5 and 6

LIFEBOATS

PART I

GENERAL (INCLUDING EQUIPMENT)

Definitions

1

1.1. In this Schedule the following definition applies:

(1.1.1) “Length of lifeboat” means the length of the lifeboat in metres from the inside of the shell at the top of the stem to the corresponding point at the top of the stern post; in the case of a lifeboat with a square stern the length is measured to the inside of the top of the transom.

General

2

2.1 All lifeboats prescribed in this Part shall:

- (2.1.1) be constructed with proper workmanship and materials;
- (2.1.2) not be damaged in stowage throughout the air temperature range -30°C to $+65^{\circ}\text{C}$;
- (2.1.3) be capable of operating throughout a seawater temperature range of -1°C to $+30^{\circ}\text{C}$;
- (2.1.4) be rot-proof, corrosion-resistant, and not be unduly affected by seawater, oil or fungal attack;
- (2.1.5) be resistant to deterioration from exposure to sunlight;
- (2.1.6) be of a highly visible colour on all parts where this will assist detection;
- (2.1.7) be fitted with retro-reflective material where it will assist in detection and the dimensions and location of the material shall be to the satisfaction of the Secretary of State;
- (2.1.8) be capable of satisfactory operation in a sea environment.

Construction

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3.1 All lifeboats shall be properly constructed and shall be of such form and proportions that they have ample stability in a seaway and sufficient freeboard when loaded with their full complement of persons and equipment. All lifeboats shall have rigid hulls and shall be capable of maintaining positive stability when in an upright position in calm water and loaded with their full complement of persons and equipment and holed in any one location below the waterline, assuming no loss of buoyancy material and no other damage.

3.2 All lifeboats shall be of sufficient strength to:

- (3.2.1) enable them to be safely lowered into the water when loaded with their full complement of persons and equipment; and
- (3.2.2) be capable of being launched and towed when the ship is making headway at a speed of 5 knots in calm water.

3.3 Hulls and rigid covers shall be fire-retardant or non-combustible.

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3.4 Seating shall be provided on thwarts, benches or fixed chairs fitted as low as practicable in the lifeboat and constructed so as to be capable of supporting the number of persons each weighing 100 kg for which spaces are provided in compliance with the requirements of paragraph 3.9.

3.5 Each lifeboat shall be of sufficient strength to withstand a load, without residual deflection on removal of that load:

(3.5.1) in the case of boats with metal hulls, 1.25 times the total mass of the lifeboat when loaded with its full complement of persons and equipment; or

(3.5.2) in the case of other boats, twice the total mass of the lifeboat when loaded with its full complement of persons and equipment.

3.6 Each lifeboat shall be of sufficient strength to withstand, when loaded with its full complement of persons and equipment and with, where applicable, skates or fenders in position, a lateral impact against the ship's side at an impact velocity of at least 3.5 metres per second and also a drop into the water from a height of at least 3 metres.

3.7 The vertical distance between the floor surface and the interior of the enclosure or canopy over 50% of the floor area shall be:

(3.7.1) not less than 1.3 metres for a lifeboat permitted to accommodate 9 persons or less;

(3.7.2) not less than 1.7 metres for a lifeboat permitted to accommodate 24 persons or more;

(3.7.3) not less than the distance as determined by linear interpolation between 1.3 metres and 1.7 metres for a lifeboat permitted to accommodate between 9 and 24 persons.

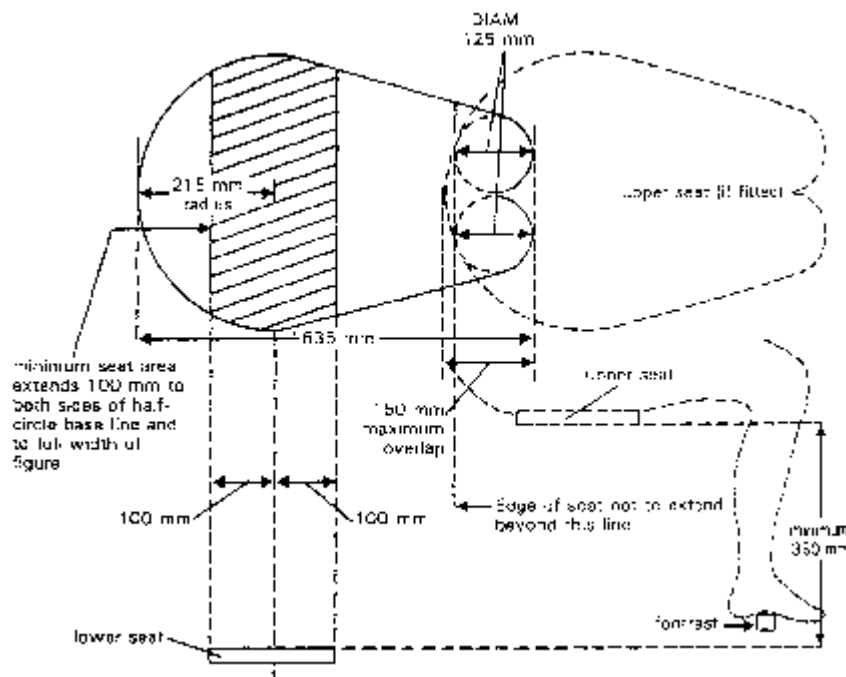
3.8 No lifeboat shall be deemed fit to accommodate more than 150 persons.

3.9. The number of persons which a lifeboat shall be permitted to accommodate shall be equal to the lesser of:

(3.9.1) the number of persons having an average mass of 75 kg., all wearing lifejackets, that can be seated in a normal position without interfering with the means of propulsion or the operation of any of the lifeboat's equipment; or

(3.9.2) the number of spaces that can be provided on the seating arrangements in accordance with Figure 1. The shapes may be overlapped as shown, provided footrests are fitted and there is sufficient room for legs, and the vertical separation between the upper and lower seat is not less than 350 mm.
Figure 1

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3.10 Each seating position shall be clearly indicated in the lifeboat.

3.11 Every lifeboat shall be so arranged that it can be rapidly boarded by its full complement of persons. Rapid disembarkment shall also be possible.

3.12 Lifeboats shall have a boarding ladder that can be used on either side of the lifeboat to enable persons in the water to board the lifeboat. The lowest step of the ladder shall be not less than 0.4 metres below the lifeboat's light waterline, and shall be weighted if of buoyant material.

3.13 The lifeboat shall be so arranged that helpless people can be brought on board either from the sea or on stretchers.

3.14 All surfaces on which persons might walk shall have a non-skid finish.

3.15 All lifeboats shall have inherent buoyancy or shall be fitted with inherently buoyant material which shall not be adversely affected by seawater, oil or oil products, sufficient to float the lifeboat with all its equipment on board when flooded and open to the sea. Additional inherently buoyant material, equal to 280 Newtons of buoyant force per person shall be provided for the number of persons the lifeboat is permitted to accommodate. Buoyant material, unless in addition to that required above, shall not be installed externally to the hull of the lifeboat.

3.16 Every lifeboat, when loaded with 50% of the number of persons the lifeboat is permitted to accommodate seated in their normal positions to one side of the centreline, shall have a freeboard, measured from the waterline to the lowest opening through which the lifeboat may become flooded, of at least 1.5% of the lifeboat's length or 100 mm., whichever is the greater.

Lifeboat Propulsion

4

4.1 Every lifeboat shall be powered by a compression ignition engine. No engine shall be used for any lifeboat if its fuel has a flashpoint of 43°C or less (closed cup test) and the engine shall:

(4.1.1) be provided with either a manual starting system, or a power starting system with two independent rechargeable energy sources. Any necessary starting aids shall also be provided. The

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engine starting systems and starting aids shall start the engine at an ambient temperature of -15°C within 2 minutes of commencing the start procedure unless, in the opinion of the Secretary of State having regard to the particular voyages in which the ship carrying the lifeboat is constantly engaged, a different temperature is appropriate. The starting systems shall not be impeded by the engine casing, thwarts or other obstructions;

(4.1.2) be capable of operating for not less than 5 minutes after starting from cold with the lifeboat out of the water;

(4.1.3) be capable of operating when the lifeboat is flooded up to the centreline of the crankshaft;

(4.1.4) be capable of operating when the lifeboat is listed 10° either way or trimmed 10° either way.

4.2 Unless the propeller is arranged so as to avoid its rotation constituting a danger to people in the water adjacent to it, the drive arrangement between the prime mover and the propeller shall be such that the propeller can be brought to rest without stopping the prime mover. Provision shall be made for ahead and astern propulsion of the craft.

4.3 The exhaust pipe shall be so arranged as to prevent water from entering the engine in normal operation, and insulated as necessary.

4.4 All lifeboats shall be designed with due regard to the safety of persons in the water and to that possibility of damage to the propulsion system by floating debris.

4.5 The speed of a lifeboat when proceeding ahead in calm water, when loaded with its full complement of persons and equipment and with all engine-powered auxiliary equipment in operation, shall be at least 6 knots and at least 2 knots when towing a 25-person liferaft loaded with its full complement of persons and equipment or its equivalent. Sufficient fuel, suitable for use throughout the temperature range expected in the area in which the ship operates, shall be provided to run the fully loaded lifeboat at 6 knots for a period of not less than 24 hours.

4.6 The lifeboat engine, transmission and engine accessories shall be enclosed in a fire-retardant casing or other suitable arrangements providing similar protection. Such arrangements shall also protect persons from coming into accidental contact with hot or moving parts and protect the engine from exposure to weather and sea. Adequate means shall be provided to reduce the engine noise. Starter batteries shall be provided with casings which form a watertight enclosure around the bottom and sides of the batteries. The battery casings shall have a tight fitting top which provides for necessary gas venting.

4.7 The lifeboat engine and accessories shall be designed to limit electromagnetic emissions so that engine operation does not interfere with the operation of radio life-saving applications used in the lifeboat.

4.8 Means shall be provided for recharging engine-starting batteries. Means shall be provided for recharging lifeboat batteries from the ship's power supply. The electric power supply connection from the ship to any lifeboat shall be at a voltage of no exceeding 55 volts direct current or 55 volts root mean square alternating current and shall be capable of being disconnected automatically at the lifeboat embarkation station.

4.9 Water-resistant instructions for starting and operating the engine shall be provided and mounted in a conspicuous place near the engine starting controls.

Lifeboat Fittings

5

5.1 All lifeboats shall be provided with at least one drain valve fitted near the lowest point in the hull, which shall automatically open to drain water from the hull when the lifeboat is not waterborne

and shall automatically close to prevent entry of water when the lifeboat is waterborne. Each drain valve shall be provided with a cap or plug to close the valve, which shall be attached to the lifeboat by a lanyard, a chain, or other suitable means. Drain valves shall be readily accessible from inside the lifeboat and their position shall be clearly indicated.

5.2 All lifeboats shall be provided with a rudder and tiller or other suitable means of steering. When a wheel or other remote steering mechanism is also provided the alternative means shall be capable of steering the boat in the case of failure of the steering mechanism. Any rudder shall be permanently attached to the boat and any tiller shall be permanently installed on or linked to the rudder stock. However, if the boat has a remote steering mechanism the tiller may be removable and securely stowed near the rudder stock. The steering arrangements shall be so arranged so not to be damaged by operation of the release mechanism or the propeller.

5.3 Except in the vicinity of the rudder and propeller, a buoyant lifeline shall be becketed around the outside of the lifeboat.

5.4 Lifeboats which are not self-righting when capsized shall have suitable handholds on the underside of the hull to enable persons to cling to the lifeboat. The handholds shall be fastened to the lifeboat in such a way that, when subjected to an impact sufficient to cause them to break away from the lifeboat, they break away without damaging the lifeboat.

5.5 All lifeboats shall be fitted with sufficient watertight lockers or compartments to provide for the storage of the small items of equipment, water and provisions required by paragraph 7. Means shall be provided for the storage of collected rainwater.

5.6 Every lifeboat to be launched by a fall or falls shall be fitted with a release mechanism complying with Part III of this Schedule, except those that are launched by a single suspension which may have an approved release mechanism which is operable when the lifeboat is waterborne.

5.7 Every lifeboat shall be fitted with a release device to enable the forward painter to be released when under tension.

5.8 Lifeboats intended for launching down the side of a ship shall have skates and fenders as necessary to facilitate launching and prevent damage to the lifeboat.

5.9 A manually controlled lamp complying with the requirements of Part V of this Schedule shall be fitted to the top of the cover or enclosure.

5.10 A lamp of source of light complying with the requirements of Part V of this Schedule shall be fitted inside the lifeboat; however, oil lamps shall not be permitted for this purpose.

5.11 Unless expressly provided otherwise, every lifeboat shall be provided with effective means of bailing or be automatically self-bailing.

5.12 Every lifeboat shall be so arranged that an adequate view forward, aft and to both sides is provided from the control steering position for safe launching and manoeuvring.

Lifeboat Markings

6

6.1 The dimensions of the lifeboat, the number of persons which it is permitted to accommodate, the makers serial number, name or trade mark and the date of manufacture shall be marked on the lifeboat in clear permanent characters.

6.2 The name and port of registry of the ship to which the lifeboat belongs shall be marked on each side of the boat's bow in block capitals of the Roman alphabet.

6.3 Means of identifying the ship to which the lifeboat belongs and the number of the boat shall be marked in such a way that they are visible from above.

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Lifeboat Equipment

7

7.1 All items of lifeboat equipment, whether required by this paragraph or elsewhere in this Schedule, with the exception of boat-hooks which shall be kept available for fending off purposes, shall be secured within the lifeboat by lashings, storage in lockers or compartments, storage in brackets or similar mounting arrangements or other suitable means. The equipment shall be secured in such a manner as not to interfere with any abandonment procedures. All items of lifeboat equipment shall be as small and of as little mass as possible and shall be packed in a suitable and compact form. Except where otherwise stated, the normal equipment of every lifeboat shall consist of:

(7.1.1) sufficient buoyant oars to make headway in calm seas; thole pins, crutches or equivalent arrangements shall be provided for each oar provided; thole pins or crutches shall be attached to the boat by lanyards or chains;

(7.1.2) two boat-hooks;

(7.1.3) a buoyant bailer and two buckets;

(7.1.4) a sea-anchor complying with the requirements of Part I of Schedule 7;

(7.1.5) two efficient painters of length equal to not less than twice the distance from the stowage position of the lifeboat to the waterline in the lightest seagoing condition or 15 metres whichever is the greater; one painter attached to the release device required by paragraph 5.7 shall be placed at the forward end of the lifeboat and the other shall be stored at or near the bow of the lifeboat ready for use;

(7.1.6) two hatches, one at each end of the lifeboat;

(7.1.7) watertight receptacles complying with the requirements of Part III of Schedule 7 containing a total of 3 litres of fresh water for each person the lifeboat is permitted to accommodate;

(7.1.8) three rustproof graduated drinking vessels, one suitably graduated in millilitres;

(7.1.9) six hand flares;

(7.1.10) one waterproof electric torch suitable for Morse signalling together with one spare set of batteries and one spare bulb in a waterproof container;

(7.1.11) one whistle or equivalent sound signal;

(7.1.12) a first-aid outfit complying with the requirements of Part II of Schedule 7;

(7.1.13) six doses of anti-seasickness medicine and one seasickness bag for each person;

(7.1.14) a jack-knife to be kept attached to the boat by a lanyard;

(7.1.15) three tin openers;

(7.1.16) two buoyant rescue quoits, attached to not less than 30 metres of buoyant line;

(7.1.17) a manual pump complying with the requirements of Part IV of Schedule 1;

(7.1.18) sufficient tools for minor adjustments to the engine and its accessories;

(7.1.19) two portable fire-extinguishers suitable for extinguishing oil fires; and

(7.1.20) in the case of ships engaged on voyages of class V the equipment specified in paragraphs 7.1.4, 7.1.7 to 7.1.10 inclusive and 7.1.12 to 7.1.17 inclusive need not be carried.

Instructions and Information

8

8.1 Instructions and information required for inclusion in the training manual specified in Part I of Schedule 11 and in the instructions for on-board maintenance specified in Part II of Schedule 11

shall be in the form suitable for inclusion in such training manual and instructions for on-board maintenance. Instructions and information shall be in English in a clear and concise form and shall include the following:

- (8.1.1) general description of the lifeboat and its equipment;
 - (8.1.2) installation arrangements,
 - (8.1.3) operational instructions including use of associated survival equipment;
 - (8.1.4) survival instructions;
 - (8.1.5) emergency repair instructions;
 - (8.1.6) deployment, boarding and launching instructions;
 - (8.1.7) method of launching from within the boat;
 - (8.1.8) release from launching appliance;
 - (8.1.9) on board maintenance requirements;
 - (8.1.10) servicing requirements;
 - (8.1.11) use of engine and accessories; and
 - (8.1.12) recovery of boat including stowage and securing.
- Regulations 2(3), 5 and 6

PART II

PARTIALLY ENCLOSED LIFEBOATS

1. All partially enclosed lifeboats shall comply with the requirements of Part I of this Schedule, and in addition shall comply with the requirements of this Part as follows:

2. Every partially enclosed lifeboat shall be provided with effective means of bailing or be automatically self-bailing.

Enclosure

3

3.1 Permanently attached rigid covers shall be provided extending over not less than 20% of the length of the lifeboat from the stem and not less than 20% of the length of the lifeboat from the aftermost part of the lifeboat.

3.2 The rigid covers shall form two shelters. The interior height of the shelters shall be sufficient to permit persons easy access to their seats in the bow and stern of the lifeboat.

3.3 The rigid covers shall be so arranged that they include windows or translucent panels to admit sufficient daylight to the inside of the lifeboat with the openings or canopies closed so as to make artificial light unnecessary.

3.4 The rigid covers shall have railings to provide a secure handhold for persons moving about the exterior of the lifeboat.

3.5. Open parts of the lifeboat shall be fitted with a permanently attached foldable canopy so arranged that:

(3.5.1) it can be easily erected by not more than two persons;

(3.5.2) it is insulated to protect the occupants against cold by means of not less than two layers of material separated by an air gap or other equally efficient means; means shall be provided to prevent accumulation of water in the air gap.

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3.6 The enclosure formed by the rigid covers and canopy shall be so arranged:

(3.6.1) as to allow launching and recovery operations to be performed without any occupant having to leave the enclosure;

(3.6.2) that it has entrances at both ends and on each side, provided with efficient adjusting closing arrangements which can easily and quickly opened and closed from inside or outside so as to permit ventilation but exclude seawater, wind and cold; means shall be provided for holding the entrances securely in the open and in the closed position;

(3.6.3) that with the canopy erected and all entrances closed, sufficient air is admitted for the occupants at all times;

(3.6.4) that it has means for collecting rainwater;

(3.6.5) that the exterior of the rigid covers and canopy and the interior of the part of the lifeboat covered by the canopy is of a highly visible colour. The interior of the shelters shall be of a colour which does not cause discomfort to the occupants;

(3.6.6) that it is possible to row the lifeboat.
Schedule 1, Part 1

PART III

LIFEBOAT DISENGAGING GEARS

1. Except in the case of a single point suspension the lifeboat disengaging gear shall be so arranged that all hooks are released simultaneously on the operation of the control mechanism.

2. The means of effecting release shall be placed near the coxswain's position.

3. The gear shall have two release capabilities:

3.1 a normal release capability which will release the lifeboat only when it is waterborne or when there is no load on the hook(s);

3.2 an on-load release capability which will release the lifeboat with a load on the hook(s). This release shall be so arranged as to release the lifeboat under any condition of loading from no-load with the lifeboat waterborne to a load of 1.1 times the total mass of the lifeboat when loaded with its full complement of persons and equipment. This release shall be adequately protected against accidental or premature use.

4. The means of connection between the hook(s), safety device and the operating lever or release unit shall:

4.1 be arranged and led so as to ensure the efficient operation of the gear,

4.2 wherever necessary be properly cased in for the safety or efficient action of the gear or for the protection of persons from injury; and

4.3 where cased in, means shall be provided for lubricating this equipment.

5. The release control(s) are to be clearly marked in colour that contrasts with its surroundings, and a suitably worded instruction plate indicating the method of safe operation of the gear shall be provided.

6. Such parts of the gear as would otherwise be likely to be set fast by rust or corrosion shall be made of non-corrodible metal.

7. The mechanism shall be designed with a factor of safety of 6 based on the ultimate strength of the materials used, assessing that the mass of the lifeboat is equally distributed.

Schedule 1, Part 1

PART IV

MANUAL PUMPS

1. Every lifeboat manual pump shall comply with the following requirements:

1.1 the capacity when operated at not more than 60 double strokes per minute at 1.2 metres suction head, shall be not less than:

(1.1.1) 30 litres per minutes in lifeboats of 7 metres in length or over; or

(1.1.2) 20 litres per minute in lifeboats of less than 7 metres length;

1.2 in its normal dry state (excluding internal grease or other assistance) the pump shall be readily self-priming when operated at a suction head of not less than 1.2 metres;

1.3 all parts of the pump shall be of material unaffected by the effects of sea water;

1.4 the interior of the pump, including valves, shall be readily accessible for emergency cleaning and the cover for access shall be capable of being easily removed without the use of a spanner or other special tool; and

1.5 the pump branches shall be suitable for use with rubber hose connections of at least 30 mm bore. The metal part of the operating handle shall be suitably sheathed by material other than wood to ensure that the hands of the operator are protected when the pump is used in extreme cold. The spindle gland shall be of the spring loaded seal ring type.

Schedule 1, Part 1

PART V

LIFEBOAT LIGHTS

1. General

1.1 Internal and External Lights

(1.1.1) The lights shall be provided with a manually operated switch.

(1.1.2) Each light shall be connected independently to its own power source unless it is operated from the lifeboat's battery system.

Construction

2. Internal and External Lights

(2.1.1) The complete light unit shall be constructed with proper workmanship and materials.

(2.1.2) It shall be capable of withstanding the drop test for a lifeboat.

(2.1.3) It shall be capable of withstanding a drop of 2 metres onto a rigidly mounted steel plate or concrete surface.

(2.1.4) it shall be rot proof, corrosion resistant, and not be unduly affected by sea-water, oil or fungal growth.

(2.1.5) It shall not deteriorate due to damp or humidity when stowed in or on a lifeboat.

(2.1.6) The power source shall be proofed against leakage of any chemicals which could damage or cause deterioration of the lifeboat.

(2.1.7) The connection between light and power shall be suitably protected.

(2.1.8) The lamp, lamp holder and lens shall be so constructed to prevent the ingress of water.

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(2.1.9) .If the external light is a flashing light, it shall not be fitted with a lens or curved reflector to concentrate the beam.

Performance

3

3.1 Internal and External Lights

(3.1.1) The lights shall have an operational endurance of not less than 12 hours.

(3.1.2) They shall not be damaged in stowage throughout the air temperature range -30°C to $+65^{\circ}\text{C}$.

(3.1.3) They shall operate in a satisfactory manner throughout a seawater temperature of -1°C to $+30^{\circ}\text{C}$.

3.2 Internal Light

(3.2.1) The light shall be of sufficient luminous intensity to enable survival and equipment instructions to be read.

3.3 External Light

(3.3.1) The light shall be visible on a dark night with a clear atmosphere at a distance of at least 2 miles.

(3.3.2) It shall be visible through 360 degrees in a horizontal direction and over as great a segment of the upper hemisphere as is practical when attached to a lifeboat.

(3.3.3) In the case of a flashing light it shall flash at a rate of not less than 50 flashes per minute for the first 2 hours of operation.

Markings

4. Internal and External Lights

4.1 The power source if independent of the lifeboat's battery system shall be marked externally with:

(4.1.1) the manufacturer's name or trade mark;

(4.1.2) the type and batch number;

(4.1.3) date of manufacture and expiry;

(4.1.4) the words "DOT (UK) APPROVED".

4.2 If the power source is a chemical pressurised cell it shall be clearly marked with a suitable warning notice.