

## SCHEDULE 2

### RESCUE BOATS

#### PART I

#### RIGID RESCUE BOATS

##### General

###### 1

**1.1** A rigid rescue boat may be accepted as a lifeboat provided it also complies with the relevant requirements of Schedule 1.

**1.2** All rigid rescue boats prescribed in this Part shall:

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

##### Construction

###### 2

**2.1** All boats 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 boats 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.

**2.2** All boats shall be of sufficient strength to:

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

**2.3** Seating shall be provided on thwarts, benches or fixed chairs fitted as low as practicable in the boat 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 2.5.2.

**2.4** Each boat 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.

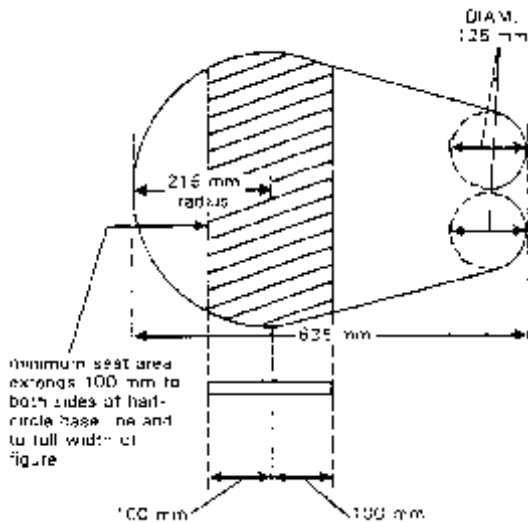
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**2.5** The number of persons which a boat shall be permitted to accommodate shall be equal to the lesser of:

(2.5.1) the number of persons having an average mass of 75 kg, all wearing lifejackets, that can be seated in a normal position plus one person lying down without interfering with the means of propulsion or the operation of any of the boat's equipment; or

(2.5.2) the number of spaces that can be provided on the seating arrangements in accordance with Figure 2, plus one person lying down.

Figure 2



**2.6** Each seating position shall be clearly indicated in the boat.

**2.7** All boats shall have a boarding ladder that can be used on either side of the boat to enable persons in the water to board the boat. The lowest step of the ladder shall be weighted if of buoyant material and shall float at a level not less than 0.4 metres below the boat's light waterline.

**2.8** The boat shall be so arranged that helpless people can be brought on board either from the sea or on stretchers.

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

**2.10** All boats shall have inherent buoyancy or shall be fitted with inherently buoyant material which shall not be adversely affected by seawater, oil or oil products. Such buoyancy shall be sufficient to float the boat 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 boat is permitted to accommodate. Buoyant material, unless in addition to that required above, shall not be installed external to the hull of the boat.

**2.11** Every boat, when loaded with 50% of the number of persons the boat 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 boat may become flooded, of at least 1.5% of the boat's length or 100 mm., whichever is the greater.

**2.12** All boats shall:

(2.12.1) be not less than 3.8 metres and not more than 8.5 metres in length;

(2.12.2) be capable of carrying at least five seated persons and a person lying down.

**2.13** Unless the boat has adequate sheer, it shall be provided with a bow cover extending for not less than 15% of its length.

**2.14** All boats shall be capable of manoeuvring at speeds of at least 6 knots and maintaining a speed of 6 knots for a period of at least 4 hours.

**2.15** All boats shall have sufficient mobility and manoeuvrability in a seaway to enable persons to be retrieved from the water, marshal liferafts and tow the largest liferaft carried on the ship when loaded with its full complement of persons and equipment or its equivalent at a speed of at least 2 knots.

**2.16** The boat shall be fitted with an inboard or outboard engine complying with the relevant parts of paragraph 3.

**2.17** Arrangements for towing shall be permanently fitted in rescue boats and shall be sufficiently strong to marshal or tow liferafts as required by paragraph 2.15.

**2.18** All boats shall be fitted with weathertight stowage for small items of equipment.

**2.19** Hulls and rigid covers if fitted shall be fire-retardant or non-combustible.

**2.20** Each boat shall be of sufficient strength to withstand a load, without residual deflection on removal of that load;

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

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

**2.21** All boats shall be fitted with a protective stowage cover and shall be kept covered at all times when the boat is not in use. The cover shall be arranged for quick removal in an emergency.

## **Rigid Rescue Boat Propulsion**

### **3**

#### **3.1 Inboard engine**

(3.1.1) Where a boat is powered by an inboard engine it shall be of the compression ignition type. No engine shall be used for any boat if its fuel has a flashpoint of 43°C or less (Closed Cup Test) and the engine shall:

(3.1.1.1) 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 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 boat is constantly engaged, a different temperature is appropriate; the starting systems shall not be impeded by the engine casing, thwarts or other obstructions;

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

(3.1.1.3) be capable of operating when the boat is flooded up to the centreline of the crank shaft.

#### **3.2 Outboard engine**

(3.2.1) A petrol-driven outboard engine with an approved fuel system may be fitted to a boat provided the tank is specially protected against fire and explosion.

(3.2.2) A petrol engine shall be provided with either a manual starting system, or a power starting system. Any necessary starting aids shall also be provided. The 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

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in which the ship carrying the boat is constantly engaged, a different temperature is appropriate. The starting systems shall not be impeded by the engine casing, thwarts or other obstructions.

**3.3** Unless the propeller is so 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.

**3.4** The exhaust pipe shall be so arranged as to prevent water from entering the engine in normal operation.

**3.5** All boats shall be designed with due regard to the safety of persons in the water and to the possibility of damage to the propulsion system by floating debris.

**3.6** The boat 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.

**3.7** The boat engine and accessories shall be designed to limit electromagnetic emissions so that engine operation does not interfere with the operation of radio life saving appliances used in the boat.

**3.8** Means shall be provided for recharging all engine-starting, searchlight and, when fitted, radio batteries. Radio batteries shall not be used to provide power for engine starting. The electric power supply from the ship to any rigid rescue boat shall be at a voltage of not exceeding 55 volts direct current or 55 volts root mean square alternating current and shall be capable of being disconnected automatically at the rigid rescue boat embarkation station.

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

## **Boat Fittings**

### **4**

**4.1** All boats 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 boat is not waterborne and shall automatically close to prevent entry of water when the boat is waterborne. Each drain valve shall be provided with a cap or plug to close the valve, which shall be attached to the boat by a lanyard, chain, or other suitable means. Drain valves shall be readily accessible and capable of being closed from inside the boat and their position shall be clearly indicated.

**4.2** All boats 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. Except where the rudder and tiller forms part of the outboard engine the rudder shall be permanently attached to the boat and the 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 as not to be damaged by operation of the release mechanism or the propeller.

**4.3** Except in the vicinity of the rudder; propeller or outboard engine, a buoyant lifeline shall be becketed around the outside of the boat.

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

**4.5** Every boat to be launched by a fall or falls shall be fitted with a release mechanism complying with Part IV of this Schedule, except those which are launched by a single suspension which may have an approved release mechanism which is operable when the boat is water borne.

**4.6** Every boat shall be fitted with a release device to enable the forward painter to be released when under tension.

**4.7** Boats intended for launching down the side of the ship shall have skates and fenders as necessary to facilitate launching and prevent damage to the boat.

**4.8** Unless expressly provided otherwise, every boat shall be provided with effective means of bailing or be automatically self-bailing.

## **Markings**

### **5**

**5.1** The dimensions of the boat, the number of persons which it is permitted to accommodate, the maker's serial number, name or trade mark and the date of manufacture shall be marked on the boat in clear permanent characters.

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

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

## **Boat Equipment**

### **6**

**6.1** All items of rescue boat equipment, with the exception of the boat-hook which shall be kept available for fending off purposes, shall be secured within the boat 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 launching or recovery procedures. All items of boat equipment shall be as small and of as little mass as possible and shall be packed in suitable compact form.

**6.2** The equipment of every boat shall consist of:

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

(6.2.2) a buoyant bailer;

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

(6.2.4) a painter of sufficient length and strength, attached to the release device complying with the requirements of paragraph 4.6 and placed at the forward end of the boat;

(6.2.5) one buoyant line, not less than 50 metres in length, of sufficient strength to tow a liferaft as required by paragraph 2.15;

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

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- (6.2.7) one whistle or equivalent sound signal;
- (6.2.8) a first-aid outfit complying with the requirements of Part II of Schedule 7 in a waterproof case capable of being closed tightly after use;
- (6.2.9) two buoyant rescue quoits, attached to not less than 30 metres of buoyant line with a breaking strain of at least 1.0 kN;
- (6.2.10) a boat hook;
- (6.2.11) a bucket;
- (6.2.12) a knife or hatchet; and
- (6.2.13) a portable fire extinguisher.

## **Instructions and Information**

### **6**

**7.1** 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 a 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:

- (7.1.1) general description of the boat and its equipment;
- (7.1.2) installation arrangements;
- (7.1.3) operational instructions including use of associated survival equipment;
- (7.1.4) survival instructions;
- (7.1.5) emergency repair instructions;
- (7.1.6) deployment, boarding and launching instructions;
- (7.1.7) method of launching from within the boat;
- (7.1.8) release from launching appliance;
- (7.1.9) on board maintenance requirements;
- (7.1.10) on servicing requirements;
- (7.1.11) use of engine and accessories; and
- (7.1.12) recovery of boat including stowage and securing

## **Access into boats**

### **8**

**8.1** Every rigid rescue boat shall be so arranged that it can be rapidly boarded by its rescue complement of persons. Rapid disembarkation shall also be possible.