

SCHEDULE 4

LIFERAFTS

Regulations 2(3), 5, 6, 7(3), 7(4), 8 and 9

PART II

OPEN REVERSIBLE LIFERAFTS

General

1.

1.1. All liferafts shall:

(1.1.1) be constructed with proper workmanship and materials;

(1.1.2) not be damaged in stowage throughout the air temperature range of -18°C to $+65^{\circ}\text{C}$;

(1.1.3) be capable of operating throughout an air temperature range of -18°C to $+65^{\circ}\text{C}$, and a sea water temperature range of -1°C to $+30^{\circ}\text{C}$;

(1.1.4) be rot-proof, corrosion-resistant, and not be unduly affected by sea-water, oil or fungal attack; and

(1.1.5) be stable and maintain their shape when inflated and fully laden.

Construction

2.

2.1. The liferaft shall be so constructed that when it is dropped into the water in its container from a height of 10 metres, the liferaft and its equipment will operate satisfactorily. If the liferaft is to be stowed at a height of more than 10 metres above the waterline in the lightest seagoing condition, it shall be of a type which has been satisfactorily drop-tested from at least that height.

2.2. The floating liferaft shall be capable of withstanding repeated jumps on to it from a height of at least 4.5 metres.

2.3. The liferaft and its fittings shall be so constructed as to enable it to be towed at a speed of 3 knots in calm water when loaded with its full complement of persons and equipment, with the sea anchor deployed.

2.4. The liferaft when fully inflated shall be capable of being boarded from the water whichever way up it inflates.

2.5. The main buoyancy chamber shall be divided into:

(2.5.1) not less than two separate compartments, each inflated through a non-return inflation valve on each compartment; and

(2.5.2) the buoyancy chambers shall be so arranged that in the event of one of the compartments, being damaged or failing to inflate, the intact compartment, shall be able to support, with positive freeboard over the liferaft's entire periphery, the number of persons which the liferaft is permitted to accommodate, each having a mass of 75 kg, and seated in their normal positions.

2.6. The floor of the liferaft shall be waterproof.

2.7. The liferaft shall be inflated with a non-toxic gas by an inflation system complying with the requirements of Part VIII of Schedule 4. Inflation shall be completed within the period of 1 minute at an ambient temperature of between 18°C and 20°C and within a period of 3 minutes at an ambient

temperature of -18°C . After inflation the liferaft shall maintain its form when loaded with its full complement of persons and equipment.

2.8. Each inflatable compartment shall be capable of withstanding a pressure equal to at least 3 times the working pressure and shall be prevented from reaching a pressure exceeding twice the working pressure either by means of relief valves or by a limited gas supply. Means shall be provided for fitting the topping-up pump or bellows.

2.9. The buoyancy tubes are to be of a highly visible colour or at least 25 percent of these tubes to be of a highly visible colour. In respect of the latter it will be acceptable for the water pockets required by paragraph 3.5 to be manufactured in a highly visible colour.

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

(2.10.1) the greatest whole number obtained by dividing by 0.075 the volume, measured in cubic metres of the main buoyancy tubes (which for this purpose shall not include the thwarts if fitted) when inflated; or

(2.10.2) the greatest whole number obtained by dividing by 0.304 the inner horizontal cross-sectional area of the liferaft measured in square metres (which for this purpose may include the thwart or thwarts, if fitted) measured to the innermost edge of the buoyancy tubes; or

(2.10.3) the number of persons having an average mass of 75 kg, all wearing lifejackets, that can be seated inboard of the buoyancy tubes without interfering with the operation of any of the liferaft's equipment.

2.11. No liferaft shall be approved with a carrying capacity of less than 4 or greater than 65 persons calculated or determined in accordance with the requirements of paragraph 2.10.

Liferaft Fittings

3.

3.1. Lifelines shall be securely becketed around the inside and outside of the liferaft.

3.2. The liferaft shall be fitted with an efficient painter of a length suitable for automatic inflation on reaching the water. For liferafts accommodating more than 30 persons an additional bowsing-in line is to be fitted.

3.3. The breaking strength of the painter system including its means of attachment to the liferaft except the weak link required by Part VI of Schedule 4 shall be:

(3.3.1) 7.5 kilonewtons for liferafts accommodating up to 8 persons,

(3.3.2) 10.0 kilonewtons for liferafts accommodating 9 to 30 persons, and

(3.3.3) 15.0 kilonewtons for liferafts accommodating more than 30 persons.

3.4. The liferaft shall be fitted with at least the following number of inflated ramps to assist boarding from the sea whichever way up the raft inflates:

(3.4.1) one boarding ramp for liferafts accommodating up to 30 persons; or

(3.4.2) two boarding ramps for liferafts accommodating more than 30 persons.

3.5. The liferaft shall be fitted with water pockets complying with the following requirements:

(3.5.1) The cross-sectional area of the pockets shall be in the shape of an isosceles triangle with the base of the triangle attached to the underside of the liferaft;

(3.5.2) The design shall be such that the pockets fill to approximately 60% of capacity within 15–25 seconds of deployment;

(3.5.3) The pockets shall normally have aggregate capacity of between 125 litres and 150 litres for inflatable liferafts up to and including the 10 person size;

(3.5.4) The pockets to be fitted on liferafts certified to carry more than 10 persons shall have as far as practicable an aggregate capacity of $(12 \times N)$ litres, where $N =$ Number of persons carried;

(3.5.5) The pockets shall be attached on all their sides to each of the upper and lower surfaces of the buoyancy tubes; and

(3.5.6) The pockets shall be distributed symmetrically round the circumference of the liferaft with sufficient separation between each pocket to enable air to escape readily.

3.6. At least one manually controlled lamp complying with the requirements of Part VII of Schedule 4 shall be fitted on the upper and lower surfaces of the buoyancy tubes.

3.7. Suitable automatic drain arrangements are to be provided on each side of the floor of the liferaft in the following manner:

- (i) one for liferafts accommodating up to 30 persons; or
- (ii) two for liferafts accommodating more than 30 persons.

3.8. The equipment of every liferaft shall consist of:

(3.8.1) one buoyant rescue quoit, attached to not less than 30 metres of buoyant line with a breaking strain of at least 1.0 kN;

(3.8.2) two safety knives of the non-folding type having a buoyant handle and stowed in a pocket on the upper buoyancy tube adjacent to the painter and secured to the liferaft by a light line of sufficient length to enable the painter to be readily cut;

(3.8.3) one buoyant bailer;

(3.8.4) two sponges;

(3.8.5) one sea-anchor complying with the requirements of Part I of Schedule 7, and permanently attached to the liferaft in such a way as to be readily deployable when the liferaft inflates;

(3.8.6) two buoyant paddles;

(3.8.7) one first-aid outfit complying with the requirements of Part II of Schedule 7, in a waterproof case capable of being closed tightly after use;

(3.8.8) one whistle or equivalent sound signal;

(3.8.9) two hand flares;

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

(3.8.11) one repair outfit for repairing punctures in buoyancy compartments; and

(3.8.12) one topping-up pump or bellows.

3.9. Liferafts equipped in accordance with paragraph 3.8 be marked in block capitals "DOT (UK)E PACK".

3.10. Where appropriate the equipment shall be stowed in a container which, if it is not an integral part of, or permanently attached to the liferaft, shall be stowed and secured to the liferaft and be capable of floating in water for at least 30 minutes without damage to its contents. The line which secures the equipment container to the liferaft shall have a breaking strain of 2 kN or a breaking strain of 3:1 based on the mass of the complete equipment pack, whichever is the greater.

Containers for open reversible inflatable liferafts

4.

- 4.1.** The liferaft shall be packed in a container that is:
- (4.1.1) so constructed as to withstand conditions encountered at sea;
 - (4.1.2) of sufficient inherent buoyancy, when packed with the liferaft and its equipment, to pull the painter from within and to operate the inflation mechanism should the ship sink; and
 - (4.1.3) as far as practicable watertight, except for drain holes in the container bottom.
- 4.2.** The container shall be marked with:
- (4.2.1) maker's name or trade mark;
 - (4.2.2) serial number;
 - (4.2.3) DOT(UK) APPROVED, and the number of persons it is permitted to carry;
 - (4.2.4) Non-SOLAS REVERSIBLE;
 - (4.2.5) type of emergency pack enclosed;
 - (4.2.6) date when last serviced;
 - (4.2.7) length of painter;
 - (4.2.8) maximum permitted height of stowage above waterline (depending on drop-test height); and
 - (4.2.9) launching instructions.

Markings on open reversible inflatable liferafts

5.

- 5.1.** The liferaft shall be marked with:
- (5.1.1) maker's name or trade mark;
 - (5.1.2) serial number;
 - (5.1.3) date of manufacture (month and year);
 - (5.1.4) .DOT(UK) APPROVED;
 - (5.1.5) name and place of service station where it was last serviced; and
 - (5.1.6) number of persons it is permitted to accommodate on the top of each buoyancy tube in characters not less than 100 mm in height and of a colour contrasting with that of the tube.

Instructions and Information

6.

- 6.1.** Instructions and information required for inclusion in the training manual specified in paragraph 7 of Part I of Schedule 4; and in the instructions for onboard maintenance specified in Part II of Schedule 11 shall be in a form suitable for inclusion in such training manual and instructions for onboard maintenance. Instructions and information shall be in English in a clear and concise form and shall include as appropriate the following:
- (6.1.1) general description of the liferaft and its equipment;
 - (6.1.2) installation arrangements;
 - (6.1.3) operational instructions including use of associated survival equipment;
 - (6.1.4) launching, deployment and boarding instructions; and
 - (6.1.5) servicing requirements.