PART 3 CHAPTER 6

LIFE SAVING APPLIANCES AND ARRANGEMENTS

JANUARY 1998

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CHANGES IN THE RULES

General.


This chapter is valid until superseded by a revised chapter. Supplements will not be issued except for an updated list of corrections presented in the introduction booklet. The introduction booklet is normally revised in January and July each year.

Revised chapters will be forwarded to all subscribers to the Rules. Buyers of reprints are advised to check the updated list of Rule chapters printed in Pt.0 Ch.1 Sec.1 to ensure that the chapter is current.

Main changes

Chapter III of SOLAS 1983 amendments was included in the Rules in 1992 as Pt.3 Ch.6 Life-Saving Appliances and Arrangements. The chapter has been revised and completely re-written in order to harmonise it with IMO Resolution MSC.47(66), adopted 4 June 1996 and coming into force 1 July 1998. The resolution applies for ships whose keel are laid or at a similar stage of construction on or after 1 July 1998.

The regulations of the new chapter III that are of an operational nature are contained in Pt.7 Ch.3 and Pt.7 Ch.4.

Resolution MSC.48(66), the International Life-Saving (LSA) Code, has not been included in the rules, but references to the Code are given in pertinent places in this chapter.
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SECTION 1
GENERAL REQUIREMENTS

A. Classification

A 100 Application

101 The rules in this chapter apply to vessels above 500 gross tonnage.

Relevant additional requirements for passenger ships are given in Pt.5 Ch.2 Sec.2.

102 The requirements in this chapter are in compliance with the International Convention for the Safety of Life at Sea (SOLAS) Chapter III with the latest amendments as per 1.1.1998.

103 Unless expressly provided otherwise, this chapter shall apply to ships the keels of which are laid or which are at a similar stage of construction on or after 1 July 1998.

(SOLAS Reg. III/1.1)

104 For ships constructed before 1 July 1998, the Administration shall:

.1 ensure that, subject to the provisions of paragraph .2, the requirements which are applicable under chapter III of the International Convention for the Safety of Life at Sea, 1974, in force prior to 1 July 1998 to new or existing ships as prescribed by that chapter are complied with; and

.2 ensure that when life-saving appliances or arrangements on such ships are replaced or such ships undergo repairs, alterations or modifications of a major character which involve replacement of, or any addition to, their existing life-saving appliances or arrangements, such life-saving appliances or arrangements, in so far as is reasonable and practicable, comply with the requirements of this chapter. However, if a survival craft other than an inflatable liferaft is replaced without replacing its launching appliance, or vice versa, the survival craft or launching appliance may be of the same type as that replaced.

(SOLAS Reg. III/1.4)

105 SOLAS texts are all printed in italics. References to SOLAS Regulations are given.

106 Where any regulation refers to the satisfaction of the Administration, DNV’s interpretations are given in connection with the item in question. IMO-interpretations are included with reference.

107 If any parts of the rules are subject to discussion or mis-understanding, the SOLAS text shall prevail.

B. Exemptions

B 100 Regulation 2

1 The Administration may, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of any specific requirements of this chapter unreasonable or unnecessary, exempt from those requirements individual ships or classes of ships which, in the course of their voyage, do not proceed more than 20 miles from the nearest land.

(SOLAS Reg. III/2.1)

2 In the case of passenger ships which are employed in special trades for the carriage of large numbers of special trade passengers, such as the pilgrim trade, the Administration, if satisfied that it is impracticable to enforce compliance with the requirements of this chapter, may exempt such ships from those requirements, provided that such ships comply fully with the provisions of:

.1 the rules annexed to the Special Trade Passenger Ships Agreement, 1971; and


(SOLAS Reg. III/2.2)

C. Definitions

C 100 Regulation 3

For the purpose of this chapter, unless expressly provided otherwise:

1 Anti-exposure suit is a protective suit designed for use by rescue boat crews and marine evacuation system parties.

2 Certificated person is a person who holds a certificate of proficiency in survival craft issued under the authority of, or recognized as valid by, the Administration in accordance with the requirements of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, in force; or a person who holds a certificate issued or recognized by the Administration of a State not a Party to that Convention for the same purpose as the convention certificate.

3 Detection is the determination of the location of survivors or survival craft.

4 Embarkation ladder is the ladder provided at survival craft embarkation stations to permit safe access to survival craft after launching.

5 Float-free launching is that method of launching a survival craft whereby the craft is automatically released from a sinking ship and is ready for use.

6 Free-fall launching is that method of launching a survival craft whereby the craft with its complement of persons and equipment on board is released and allowed to fall into the sea without any restraining apparatus.

7 Immersion suit is a protective suit which reduces the body heatloss of a person wearing it in cold water.

8 Inflatable appliance is an appliance which depends upon non-rigid, gas-filled chambers for buoyancy and which is normally kept inflated until ready for use.

9 Inflated appliance is an appliance which depends upon non-rigid, gas-filled chambers for buoyancy and which is kept inflated and ready for use at all times.

10 International Life-Saving Appliance (LSA) Code (referred to as “the Code” in this chapter) means the International Life-Saving Appliance (LSA) Code adopted by the Maritime Safety Committee of the Organization by resolution MSC.48(66), as it may be amended by the Organization, provided that such amendments are adopted, brought into force and take effect in accordance with the provisions of article VIII of the present Convention concerning the amendment procedures applicable to the Annex other than chapter I.

11 Launching appliance or arrangement is a means of transferring a survival craft or rescue boat from its stowed position safely to the water.

12 Length is 96% of the total length on a waterline at 85% of the least moulded depth measured from the top of the keel, or the length from the fore-side of the stem to the axis of the rudder stock on that waterline, if that be greater. In ships designed with a rake of keel the waterline on which this is measured shall be parallel to the designed waterline.

13 Lightest sea-going condition is the loading condition with the ship on even keel, without cargo, with 10% stores and fuel remaining and in the case of a passenger ship with the full number of passengers and crew and their luggage.

14 Marine evacuation system is an appliance for the rapid transfer of persons from the embarkation deck of a ship to a floating survival craft.
15 Moulded depth

.1 The moulded depth is the vertical distance measured from the top of the keel to the top of the freeboard deck beam at side. In wood and composite ships the distance is measured from the lower edge of the keel rabbet. Where the form at the lower part of the midship section is of a hollow character, or where thick garboards are fitted, the distance is measured from the point where the line of the flat of the bottom continued inwards cuts the side of the keel.

.2 In ships having rounded gunwales, the moulded depth shall be measured to the point of intersection of the moulded lines of the deck and side shell plating, the lines extending as though the gunwale were of angular design.

.3 Where the freeboard deck is stepped and the raised part of the deck extends over the point at which the moulded depth is to be determined, the moulded depth shall be measured to a line of reference extending from the lower part of the deck along a line parallel with the raised part.

16 Novel life-saving appliance or arrangement is a life-saving appliance or arrangement which embodies new features not fully covered by the provisions of this chapter or the Code but which provides an equal or higher standard of safety.

17 Positive stability is the ability of a craft to return to its original position after the removal of a heeling moment.

18 Recovery time for a rescue boat is the time required to raise the boat to a position where persons on board can disembark to the deck of the ship. Recovery time includes the time required to make preparations for recovery on board the rescue boat such as passing and securing a painter, connecting the rescue boat to the launching appliance, and the time to raise the rescue boat. Recovery time does not include the time needed to lower the launching appliance into position to recover the rescue boat.

19 Rescue boat is a boat designed to rescue persons in distress and to marshal survival craft.

20 Retrieval is the safe recovery of survivors.

21 Ro-ro passenger ship means a passenger ship with ro-ro cargo spaces or special category spaces as defined in regulation II-2/3.

22 Short international voyage is an international voyage in the course of which a ship is not more than 200 miles from a port or place in which the passengers and crew could be placed in safety. Neither the distance between the last port of call in the country in which the voyage begins and the final port of destination nor the return voyage shall exceed 600 miles. The final port of destination is the last port of call in the scheduled voyage at which the ship commences its return voyage to the country in which the voyage began.

23 Survival craft is a craft capable of sustaining the lives of persons in distress from the time of abandoning the ship.

24 Thermal protective aid is a bag or suit made of waterproof material with low thermal conductance.

(SOLAS Reg. III/3)

D. Documentation

D 100 Plans and particulars

101 The following plans are to be submitted for approval:

— Fire and Safety Plan, showing the position and quantity of all life-saving and fire-fighting appliances on board.
— drawings according to Form no. CEC 401a (Safety Equipment Drawings):
  — davits and winches
  — lifeboats and rescue boats
  — liferafts
  — lifeboat and liferaft arrangement
— lifesaving appliances and documentation (location and number of items).

Guidance note:
Reference is also given to the Recommendation on Testing of Life-Saving Appliances adopted by IMO by resolution A.689(17), and the Code of Practice for the Evaluation, Testing and Acceptance of Prototype Novel Life-Saving Appliances and Arrangements adopted by IMO by resolution A.520(13).

102 For instrumentation and automation, including computer based control and monitoring, see Pt.4 Ch.9 Sec.1.

E. Evaluation, Testing and Approval of Lifesaving Appliances

E 100 Regulation 4

1 Except as provided in paragraphs 5 and 6, life-saving appliances and arrangements required by this chapter shall be approved by the Administration.

2 Before giving approval to life-saving appliances and arrangements, the Administration shall ensure that such lifesaving appliances and arrangements:

.1 are tested, to confirm that they comply with the requirements of this chapter and the Code, in accordance with the recommendations of the Organization*; or

.2 have successfully undergone, to the satisfaction of the Administration, tests which are substantially equivalent to those specified in those recommendations.

3 Before giving approval to novel life-saving appliances or arrangements, the Administration shall ensure that such appliances or arrangements:

.1 provide safety standards at least equivalent to the requirements of this chapter and the Code and have been evaluated and tested in accordance with the recommendations of the Organization; ** or

.2 have successfully undergone, to the satisfaction of the Administration, evaluation and tests which are substantially equivalent to those recommendations.

4 Procedures adopted by the Administration for approval shall also include the conditions whereby approval would continue or would be withdrawn.

5 Before accepting life-saving appliances and arrangements that have not been previously approved by the Administration, the Administration shall be satisfied that life-saving appliances and arrangements comply with the requirements of this chapter and the Code.

6 Life-saving appliances required by this chapter for which detailed specifications are not included in the Code shall be to the satisfaction of the Administration.

(SOLAS Reg. III/4)

* Refer to the Recommendation on Testing of Life-Saving Appliances adopted by the Organization by resolution A.689(17), as it may be amended.

** Refer to the Code of Practice for the Evaluation, Testing and Acceptance or Prototype Novel Life-Saving Appliances and Arrangements adopted by the Organization by resolution A.520(13).

F. Production Tests

F 100 Regulation 5

The Administration shall require life-saving appliances to be subjected to such production tests as are necessary to ensure that the life-saving appliances are manufactured to the same standard as the approved prototype.

(SOLAS Reg. III/5)
SECTION 2
PASSENGER SHIPS AND CARGO SHIPS

A. Communications

A 100  Regulation 6
1 Paragraph 2 applies to all passenger ships and to all cargo ships of 300 gross tonnage and upwards.
2 Radio life-saving appliances
2.1 Two-way VHF radiotelephone apparatus and radar transponders are to be provided according to Pt.4 Ch.12 Sec.1 B 1300.
3 Distress flares
Not less than 12 rocket parachute flares, complying with the requirements of section 3.1 of the Code, shall be stowed on or near the navigation bridge.
4 On-board communications and alarm systems
4.1 Means of communication between emergency control stations, muster and embarkation stations shall be provided according to Pt.4 Ch.12 Sec.2 B104.
4.2 A general alarm system supplemented by a public address system or other suitable means of communication shall be provided according to Pt.4 Ch.12 Sec.2 B200.

(SOLAS Reg. III/6)

B. Personal Life-Saving Appliances

B 100  Regulation 7
1 Lifebuoys
1.1 Lifebuoys complying with the requirements of paragraph 2.1.1 of the Code shall be:

.1 so distributed as to be readily available on both sides of the ship and as far as practicable on all open decks extending to the ship’s side; at least one shall be placed in the vicinity of the stern; and
.2 so stowed as to be capable of being rapidly cast loose, and not permanently secured in any way.
1.2 At least one lifebuoy on each side of the ship shall be fitted with a buoyant lifeline complying with the requirements of paragraph 2.1.4 of the Code equal in length to not less than twice the height at which it is stowed above the waterline in the lightest seagoing condition, or 30 m, whichever is the greater.
1.3 Not less than one half of the total number of lifebuoys shall be provided with lifebuoy self-igniting lights complying with the requirements of paragraph 2.1.2 of the Code; not less than two of these shall also be provided with lifebuoy self-activating smoke signals complying with the requirements of paragraph 2.1.3 of the Code and be capable of quick release from the navigation bridge: lifebuoys with lights and those with lights and smoke signals shall be equally distributed on both sides of the ship and shall not be the lifebuoys provided with lifelines in compliance with the requirements of paragraph 1.2.
1.4 Each lifebuoy shall be marked in block capitals of the Roman alphabet with the name and port of registry of the ship on which it is carried.
2 Lifejackets
2.1 A lifejacket complying with the requirements of paragraph 2.2.1 or 2.2.2 of the Code shall be provided for each person on board the ship and, in addition:

.1 a number of lifejackets suitable for children equal to at least 10% of the number of passengers on board shall be provided or such greater number as may be required to provide a lifejacket for each child; and
.2 a sufficient number of lifejackets shall be carried for persons on watch and for use at remotely located survival craft stations. The lifejackets carried for persons on watch should be stowed on the bridge, in the engine control room and at any other manned watch station.
2.2 Lifejackets shall be so placed as to be readily accessible and their position shall be plainly indicated. Where, due to the particular arrangements of the ship, the lifejackets provided in compliance with the requirements of paragraph 2.1 may become inaccessible, alternative provisions shall be made to the satisfaction of the Administration which may include an increase in the number of lifejackets to be carried.

The Society will consider alternative provisions in each case.
2.3 The lifejackets used in totally enclosed lifeboats, except free-fall lifeboats, shall not impede entry into the lifeboat or seating, including operation of the seat belts in the lifeboat.
2.4 Lifejackets selected for free-fall lifeboats, and the manner in which they are carried or worn, shall not interfere with entry into the lifeboat, occupant safety or operation of the lifeboat.
3 Immersion suits and anti-exposure suits
An immersion suit, complying with the requirements of section 2.3 of the Code or an anti-exposure suit complying with section 2.4 of the Code, of an appropriate size, shall be provided for every person assigned to crew the rescue boat or assigned to the marine evacuation system party. If the ship is constantly engaged in warm climates where, in the opinion of the Administration thermal protection is unnecessary, this protective clothing need not be carried.

(SOLAS Reg. III/7)

C. Muster List and Emergency Instructions

C 100  Regulation 8
1 This regulation applies to all ships.
2 Clear instructions to be followed in the event of an emergency shall be provided for every person on board. In the case of passenger ships these instructions shall be drawn up in the language or languages required by the ship’s flag State and in the English language.
3 Muster lists and emergency instructions complying with the requirements of regulation 37 (Sec.4 D100) shall be exhibited in conspicuous places throughout the ship including the navigation bridge, engine-room and crew accommodation spaces.
4 Illustrations and instructions in appropriate languages shall be posted in passenger cabins and be conspicuously displayed at muster stations and other passenger spaces to inform passengers of:

.1 their muster station;
.2 the essential actions they must take in an emergency; and
.3 the method of donning lifejackets.

(SOLAS Reg. III/8)

D. Operating Instructions

D 100  Regulation 9
1 This regulation applies to all ships.
2 Posters or signs shall be provided on or in the vicinity of survival craft and their launching controls and shall:
.1 illustrate the purpose of controls and the procedures for operating the appliance and give relevant instructions or warnings;

.2 be easily seen under emergency lighting conditions; and

.3 use symbols in accordance with the recommendations of the Organization *.

* Refer to the Symbols Related to Life-Saving Appliances and Arrangements, adopted by the Organization by resolution A.760(18).

(SOLAS Ch. III / 9)

E. Survival Craft Muster and Embarkation Arrangements

E 100 Regulation 11

1 Lifeboats and liferafts for which approved launching appliances are required shall be stowed as close to accommodation and service spaces as possible.

2 Muster stations shall be provided close to the embarkation stations. Each muster station shall have sufficient clear deck space to accommodate all persons assigned to muster at that station, but at least 0.35 m² per person.

3 Muster and embarkation stations shall be readily accessible from accommodation and work areas.

4 Muster and embarkation stations shall be adequately illuminated by lighting supplied from the emergency source of electrical power required by regulation II-1/42 (Pt.5 Ch.2 Sec.2.D) or II-1/43 (Pt.4 Ch.8 Sec.3.C), as appropriate.

5 Alleyways, stairways and exits giving access to the muster and embarkation stations shall be lighted. Such lighting shall be capable of being supplied by the emergency source of electrical power required by regulation II-1/42 or II-1/43 (Pt.5 Ch.2 Sec.2.D or Pt.4 Ch.8 Sec.3.C, respectively), as appropriate. In addition to and as part of the markings required under regulation II-2/28.1.10 (Pt.5 Ch.2 Sec.2.D) or II-1/43 (Pt.5 Ch.2 Sec.2.E901), routes to muster stations shall be indicated with the muster station symbol, intended for that purpose, in accordance with the recommendations of the Organization*.

6 Davit-launched and free-fall launched survival craft muster and embarkation stations shall be so arranged as to enable stretcher cases to be placed in survival craft.

7 An embarkation ladder complying with the requirements of paragraph 6.1.6 of the Code extending, in a single length, from the deck to the waterline in the lightest seagoing condition under unfavourable conditions of trim of up to 10° and a list of up to 20° either way shall be provided at each embarkation station or at every two adjacent embarkation stations for survival craft launched down the side of the ship. However, the Administration may permit such ladders to be replaced by approved devices to afford access to the survival craft when waterborne, provided that there shall be at least one embarkation ladder on each side of the ship. Other means of embarkation enabling descent to the water in a controlled manner may be permitted for the liferafts required by regulation 31.1.4 (Sec.3 A100) or II-1/43 (Pt.4 Ch.8 Sec.3.C).

8 Where necessary, means shall be provided for bringing the davit-launched survival craft against the ship’s side and holding them alongside so that persons can be safely embarked.

* Refer to the Symbols Related to Life-Saving Appliances and Arrangements and Guidelines for the Evaluation, Testing and Application of Low-Location Lighting on Passenger Ships, adopted by the Organization by resolutions A.760(18) and A.752(18) respectively.

(SOLAS Reg. III/11)

F. Launching Stations

F 100 Regulation 12

Launching stations shall be in such positions as to ensure safe launching having particular regard to clearance from the propeller and steeply overhanging portions of the hull and so that, as far as possible, survival craft, except survival craft specially designed for free-fall launching, can be launched down the straight side of the ship. If positioned forward, they shall be located afloat the collision bulkhead in a sheltered position and, in this respect, the Administration shall give special consideration to the strength of the launching appliance.

(SOLAS Reg. III/12)

The strength of launching appliance is to be based on relevant loads as given in Pt.3 Ch.1 Sec.4.

G. Stowage of Survival Craft

G 100 Regulation 13

1 Each survival craft shall be stowed:

.1 so that neither the survival craft nor its stowage arrangements will interfere with the operation of any other survival craft or rescue boat at any other launching station;

.2 as near the water surface as is safe and practicable and, in the case of a survival craft other than a liferaft intended for throw over board launching, in such a position that the survival craft in the embarkation position is not less than 2 m above the waterline with the ship in the fully loaded condition under unfavourable conditions of trim of up to 10° and listed up to 20° either way, or to the angle at which the ship’s weather deck edge becomes submerged, whichever is less;

.3 in a state of continuous readiness so that two crew members can carry out preparations for embarkation and launching in less than 5 min;

.4 fully equipped as required by this chapter and the Code; and

.5 as far as practicable, in a secure and sheltered position and protected from damage by fire and explosion. In particular, survival craft on tankers, other than the liferafts required by regulation 31.1.4 (Sec.3 A100), shall not be stowed on or above a cargo tank, slop tank, or other tank containing explosive or hazardous cargoes.

2 Lifeboats for lowering down the ship’s side shall be stowed as far forward of the propeller as practicable. On cargo ships of 80 m in length and upwards but less than 120 m in length, each lifeboat shall be so stowed that the after end of the lifeboat is not less than 1.5 times the length of the lifeboat forward of the propeller. Where appropriate, the ship shall be so arranged that lifeboats, in their stowed positions, are protected from damage by heavy seas.

3 Lifeboats shall be stowed attached to launching appliances.

4.1 Every liferaft shall be stowed with its painter permanently attached to the ship.

4.2 Each liferaft or group of liferafts shall be stowed with a float-free arrangement complying with the requirements of paragraph 4.1.6 of the Code so that each floats free and, if inflatable, inflates automatically when the ship sinks.

4.3 Liferafts shall be so stowed as to permit manual release of one raft or container at a time from their securing arrangements.

4.4 Paragraphs 4.1 and 4.2 do not apply to liferafts required by regulation 31.1.4 (Sec.3 A100).

5 Davit-launched liferafts shall be stowed within reach of the lifting hooks, unless some means of transfer is provided which is not rendered inoperable within the limits of trim and list prescribed in paragraph 1.2 or by ship motion or power failure.
H. Stowage of Rescue Boats

H 100 Regulation 14

Rescue boats shall be stowed:
1. in a state of continued readiness for launching in not more than 5 min;
2. in a position suitable for launching and recovery;
3. so that neither the rescue boat nor its stowage arrangements will interfere with the operation of any survival craft at any other launching station; and
4. if it is also a lifeboat, in compliance with the requirements of regulation 13 (G100).

(SOLAS Reg. III/14)

I. Stowage of Marine Evacuation Systems

I 100 Regulation 15

1. The ship’s side shall not have any openings between the embarkation station of the marine evacuation system and the waterline in the lightest seagoing condition and means shall be provided to protect the system from any projections.
2. Marine evacuation systems shall be in such positions as to ensure safe launching having particular regard to clearance from the propeller and steeply overhanging positions of the hull and so that, as far as practicable, the system can be launched down the straight side of the ship.
3. Each marine evacuation system shall be stowed so that neither the passage nor platform nor its stowage or operational arrangements will interfere with the operation of any other life-saving appliance at any other launching station.
4. Where appropriate, the ship shall be so arranged that the marine evacuation systems in their stowed positions are protected from damage by heavy seas.

(SOLAS Reg. III/15)

J. Survival Craft Launching and Recovery Arrangements

J 100 Regulation 16

1. Unless expressly provided otherwise, launching and embarkation appliances complying with the requirements of section 6.1 of the Code shall be provided for all survival craft except those which are:
   .1 boarded from a position on deck less than 4.5 m above the waterline in the lightest seagoing condition and which have a mass of not more than 185 kg; or
   .2 boarded from a position on deck less than 4.5 m above the waterline in the lightest seagoing condition and which are stowed for launching directly from the stowed position under unfavourable conditions of trim of up to 10° and list of up to 20° either way; or
   .3 carried in excess of the survival craft for 200% of the total number of persons on board the ship and which have a mass of not more than 185 kg; or
   .4 carried in excess of the survival craft for 200% of the total number of persons on board the ship, are stowed for launching directly from the stowed position under unfavourable conditions of trim of up to 10° and list of up to 20° either way, or
   .5 provided for use in conjunction with a marine evacuation system, complying with the requirements of section 6.2 of the Code and stowed for launching directly from the stowed position under unfavourable conditions of trim of up to 10° and list of up to 20° either way.
2. Each lifeboat shall be provided with an appliance which is capable of launching and recovering the lifeboat. In addition there shall be provision for hanging-off the lifeboat to free the release gear for maintenance.
3. Launching and recovery arrangements shall be such that the appliance operator on the ship is able to observe the survival craft at all times during launching and for lifeboats during recovery.
4. Only one type of release mechanism shall be used for similar survival craft carried on board the ship.
5. Preparation and handling of survival craft at any one launching station shall not interfere with the prompt preparation and handling of any other survival craft or rescue boat at any other station.
6. Falls, where used, shall be long enough for the survival craft to reach the water with the ship in its lightest seagoing condition, under unfavourable conditions of trim of up to 10° and list of up to 20° either way.
7. During preparation and launching, the survival craft, its launching appliance, and the area of water into which it is to be launched shall be adequately illuminated by lighting supplied from the emergency source of electrical power required by regulation II-1/42 or II-1/43 (Pt.5 Ch.2 Sec.2 D or Pt.4 Ch.8 Sec.3 C, respectively), as appropriate.
8. Means shall be available to prevent any discharge of water on to survival craft during abandonment.
9. If there is a danger of the survival craft being damaged by the ship’s stabilizer wings, means shall be available, powered by an emergency source of energy, to bring the stabilizer wings inboard; indicators operated by an emergency source of energy shall be available on the navigating bridge to show the position of the stabilizer wings.
10. If partially enclosed lifeboats complying with the requirements of section 4.5 of the Code are carried, a davit span shall be provided, fitted with not less than two lifelines of sufficient length to reach the water with the ship in its lightest seagoing condition, under unfavourable conditions of trim of up to 10° and list of up to 20° either way.

(SOLAS Reg. III/16)

K. Rescue Boat Embarkation, Launching and Recovery Arrangement

K 100 Regulation 17

1. The rescue boat embarkation and launching arrangements shall be such that the rescue boat can be boarded and launched in the shortest possible time.
2. If the rescue boat is one of the ship’s survival craft, the embarkation arrangements and launching station shall comply with the requirements of regulations 11 (E100) and 12 (F100).
3. Launching arrangements shall comply with the requirements of regulation 16 (I100). However, all rescue boats shall be capable of being launched, where necessary utilizing painters, with the ship making headway at speeds up to 5 knots in calm water.
4. Recovery time of the rescue boat shall be not more than 5 min in moderate sea conditions when loaded with its full complement of persons and equipment. If the rescue boat is also a lifeboat, this recovery time shall be possible when loaded with its lifeboat equipment and the approved rescue boat complement of at least six persons.
5. Rescue boat embarkation and recovery arrangements shall allow for safe and efficient handling of a stretcher case. Foul
weather recovery strops shall be provided for safety if heavy fall blocks constitute a danger.

(SOLAS Reg. III/17)

L. Line-Throwing Appliances

L 100 Regulation 18
A line-throwing appliance complying with the requirements of section 7.1 of the Code shall be provided.

(SOLAS Reg. III/18)
SECTION 3
CARGO SHIPS (ADDITIONAL REQUIREMENTS)

A. Survival Craft and Rescue Boats

A 100 Regulation 31

1 Survival craft

1.1 Cargo ships shall carry:

-1 one or more totally enclosed lifeboats complying with the requirements of section 4.6 of the Code of such aggregate capacity on each side of the ship as will accommodate the total number of persons on board; and

-2 in addition, one or more inflatable or rigid liferafts, complying with the requirements of section 4.2 or 4.3 of the Code, stowed in a position providing for easy side-to-side transfer at a single open deck level, and of such aggregate capacity as will accommodate the total number of persons on board. If the liferaft or liferafts are not stowed in a position providing for easy side-to-side transfer at a single open deck level, the total capacity available on each side shall be sufficient to accommodate the total number of persons on board.

1.2 In lieu of meeting the requirements of paragraph 1.1, cargo ships may carry:

-1 one or more free-fall lifeboats, complying with the requirements of section 4.7 of the Code, capable of being free-fall launched over the stern of the ship of such aggregate capacity as will accommodate the total number of persons on board; and

-2 in addition, one or more inflatable or rigid liferafts complying with the requirements of section 4.2 or 4.3 of the Code, on each side of the ship, of such aggregate capacity as will accommodate the total number of persons on board. The liferafts on at least one side of the ship shall be served by launching appliances.

1.3 In lieu of meeting the requirements of paragraph 1.1 or 1.2, cargo ships of less than 85 m in length other than oil tankers, chemical tankers and gas carriers, may comply with the following:

-1 they shall carry on each side of the ship, one or more inflatable or rigid liferafts complying with the requirements of section 4.2 or 4.3 of the Code and of such aggregate capacity as will accommodate the total number of persons on board;

-2 unless the liferafts required by paragraph 1.3.1 are stowed in a position providing for easy side-to-side transfer at a single open deck level, additional liferafts shall be provided so that the total capacity available on each side will accommodate 150% of the total number of persons on board;

-3 if the rescue boat required by paragraph 2 is also a totally enclosed lifeboat complying with the requirements of section 4.6 of the Code, it may be included in the aggregate capacity required by paragraph 1.3.1, provided that the total capacity available on either side of the ship is at least 150% of the total number of persons on board;

-4 in the event of any one survival craft being lost or rendered unserviceable, there shall be sufficient survival craft available for use on each side, including any which are stowed in a position providing for easy side-to-side transfer at a single open deck level, to accommodate the total number of persons on board.

1.4 Cargo ships where the horizontal distance from the extreme end of the stem or stem of the ship to the nearest end of the closest survival craft is more than 100 m shall carry, in addition to the liferafts required by paragraphs 1.1.2 and 1.2.2, a liferaft stowed as far forward or aft, or one as far forward and another as far aft, as is reasonable and practicable. Such liferaft or liferafts may be securely fastened so as to permit manual release and need not be of the type which can be launched from an approved launching device.

1.5 With the exception of the survival craft referred to in regulation 16.1.1 (Sec.2 3100), all survival craft required to provide for abandonment by the total number of persons on board shall be capable of being launched with their full complement of persons and equipment within a period of 10 min from the time the abandonment signal is given.

1.6 Chemical tankers and gas carriers carrying cargoes emitting toxic vapours or gases shall carry, in lieu of totally enclosed lifeboats complying with the requirements of section 4.6 of the Code, lifeboats with a self-contained air support system complying with the requirements of section 4.8 of the Code.

1.7 Oil tankers, chemical tankers and gas carriers carrying cargoes having a flashpoint not exceeding 60°C (closed cup test) shall carry, in lieu of totally enclosed lifeboats complying with the requirements of section 4.6 of the Code, fire-protected lifeboats complying with the requirements of section 4.9 of the Code.

2 Rescue boats

Cargo ships shall carry at least one rescue boat complying with the requirements of section 5.1 of the Code. A lifeboat may be accepted as a rescue boat, provided that it also complies with the requirements for a rescue boat.

In order to approve a totally enclosed lifeboat as a rescue boat, the totally enclosed lifeboat must have features which enables it to meet all of the requirements of a rescue boat including the retrieval requirements specified in regulations 17.4 (Sec.2 K100) and 6.1.1.9 of the LSA Code.

(MSC/Circ.508)

3 In addition to their lifeboats, all cargo ships constructed before 1 July 1986 shall carry:

-1 one or more liferafts capable of being launched on either side of the ship and of such aggregate capacity as will accommodate the total number of persons on board. The liferaft or liferafts shall be equipped with a lashing or an equivalent means of securing the liferaft which will automatically release it from a sinking ship; and

-2 where the horizontal distance from the extreme end of the stem or stem of the ship to the nearest end of the closest survival craft is more than 100 m, in addition to the liferafts required by paragraph 3.1, a liferaft stowed as far forward or aft, or one as far forward and another as far aft, as is reasonable and practicable. Notwithstanding the requirement of paragraph 3.1, such liferaft or liferafts may be securely fastened so as to permit manual release.


(SOLAS Reg. III/31)

B. Personal Life-Saving Appliances

B 100 Regulation 32

1 Lifebuoys

1.1 Cargo ships shall carry not less than the number of lifebuoys complying with the requirements of regulation 7.1 (Sec.2...
1.2 Self-igniting lights for lifebuoys on tankers required by regulation 7.1.3 (Sec.2 B100) shall be of an electric battery type.

2 Lifejacket lights
2.1 This paragraph applies to all cargo ships.
2.2 On cargo ships, each lifejacket shall be fitted with a lifejacket light complying with the requirements of paragraph 2.2.3 of the Code.

2.3 Lights fitted on lifejackets on board cargo ships prior to 1 July 1998 and not complying fully with paragraph 2.2.3 of the Code may be accepted by the Administration until the lifejacket light would normally be replaced or until the first periodical survey after 1 July 2001, whichever is the earliest.

3 Immersion suits and thermal protective aids
3.1 This paragraph applies to all cargo ships.
3.2 Cargo ships shall carry for each lifeboat on the ship at least three immersion suits complying with the requirements of section 2.3 of the Code or, if the Administration considers it necessary and practicable, one immersion suit complying with the requirements of section 2.3 of the Code for every person on board the ship; however, the ship shall carry in addition to the thermal protective aids required by paragraphs 4.1.5.1.24, 4.4.8.31 and 5.1.2.2.13 of the Code, thermal protective aids complying with the requirements of section 2.5 of the Code for persons on board not provided with immersion suits. These immersion suits and thermal protective aids need not be required if the ship:

.1 has totally enclosed lifeboats on each side of the ship of such aggregate capacity as will accommodate the total number of persons on board; or

.2 has totally enclosed lifeboats capable of being launched by free-fall over the stern of the ship of such aggregate capacity as will accommodate the total number of persons on board which are boarded and launched directly from the stowed position, together with liferafts on each side of the ship of such aggregate capacity as will accommodate the total number of persons on board; or

.3 is constantly engaged on voyages in warm climates where, in the opinion of the Administration, immersion suits are unnecessary.

3.3 Cargo ships complying with the requirements of regulation 31.1.3 (A100) shall carry immersion suits complying with the requirements of section 2.3 of the Code for every person on board unless the ship:

.1 has davit-launched liferafts; or

.2 has liferafts served by equivalent approved appliances capable of being used on both sides of the ship and which do not require entry into the water to board the liferaft; or

.3 is constantly engaged on voyages in warm climates where, in the opinion of the Administration, immersion suits are unnecessary.

3.4 The immersion suits required by this regulation may be used to comply with the requirements of regulation 7.3 (Sec.2 B100).

3.5 The totally enclosed lifeboats referred to in paragraphs 3.2.1 and 3.2.2 carried on cargo ships constructed before 1 July 1986 need not comply with the requirements of section 4.6 of the Code.

(SOLAS Reg. III/32)

C. Survival Craft Embarkation and Launching Arrangements

C 100 Regulation 33

1 Cargo ship survival craft embarkation arrangements shall be so designed that lifeboats can be boarded and launched directly from the stowed position and davit-launched liferafts can be boarded and launched from a position immediately adjacent to the stowed position or from a position to which the liferaft is transferred prior to launching in compliance with the requirements of regulation 13.5 (Sec.2 G100).

2 On cargo ships of 20,000 gross tonnage and upwards, lifeboats shall be capable of being launched, where necessary utilizing painters, with the ship making headway at speeds up to 5 knots in calm water.

(SOLAS Reg. III/33)
SECTION 4
MISCELLANEOUS

A. Survival Craft and Rescue Boats

A 100 Regulation 34
All life-saving appliances and arrangements shall comply with
the applicable requirements of the Code.
(SOLAS Reg. III/34)

B. Training Manual and On-Board Training Aids

B 100 Regulation 35
1 This regulation applies to all ships.
2 A training manual complying with the requirements of para-
graph 3 shall be provided in each crew mess room and recrea-
tion room or in each crew cabin.
3 The training manual, which may comprise several volumes,
shall contain instructions and information, in easily understood
terms illustrated wherever possible, on the life-saving applian-
ces provided in the ship and on the best methods of survival. Any
part of such information may be provided in the form of audio-
visual aids in lieu of the manual. The following shall be ex-
plained in detail:
   .1 donning of lifejackets, immersion suits and anti-exposure
      suits, as appropriate;
   .2 muster at the assigned stations;
   .3 boarding, launching, and clearing the survival craft and
      rescue boats, including, where applicable, use of marine
      evacuation systems;
   .4 method of launching from within the survival craft;
   .5 release from launching appliances;
   .6 methods and use of devices for protection in launching
      areas, where appropriate;
   .7 illumination in launching areas;
   .8 use of all survival equipment;
   .9 use of all detection equipment;
   .10 with the assistance of illustrations, the use of radio life-
      saving appliances;
   .11 use of drogues;
   .12 use of engine and accessories;
   .13 recovery of survival craft and rescue boats including
      stowage and securing;
   .14 hazards of exposure and the need for warm clothing;
   .15 best use of the survival craft facilities in order to survive;
   .16 methods of retrieval, including the use of helicopter res-
      cue gear (slings, baskets, stretchers), breeches-buoy and
      shore life-saving apparatus and ship’s line-throwing appara-
      ratus;
   .17 all other functions contained in the muster list and
      emergency instructions; and
   .18 instructions for emergency repair of the life-saving ap-
      pliances.
4 Every ship fitted with a marine evacuation system shall be
provided with on-board training aids in the use of the system.
(SOLAS Reg. III/35)

C. Instructions for On-Board Maintenance

C 100 Regulation 36
Instructions for on-board maintenance of life-saving appliances
shall be easily understood, illustrated wherever possible, and, as
appropriate, shall include the following for each appliance:
   .1 a checklist for use when carrying out the inspections re-
      quired by regulation 20.7 (Pt.7 Ch.3 Sec.2 D100);
   .2 maintenance and repair instructions;
   .3 schedule of periodic maintenance;
   .4 diagram of lubrication points with the recommended lub-
      ricants;
   .5 list of replaceable parts;
   .6 list of sources of spare parts; and
   .7 log for records of inspections and maintenance.
(SOLAS Reg. III/36)
The Society may accept, in lieu of the instructions required
above, a shipboard planned maintenance program which in-
cludes the requirements above.

D. Muster List and Emergency Instructions

D 100 Regulation 37
1 The muster list shall specify details of the general emergency
alarm and public address system prescribed by section 7.2 of
the Code and also action to be taken by crew and passengers
when this alarm is sounded. The muster list shall also specify
how the order to abandon ship will be given.
2 Each passenger ship shall have procedures in place for lo-
cating and rescuing passengers trapped in their staterooms.
3 The muster list shall show the duties assigned to the different
members of the crew including:
   .1 closing of the watertight doors, fire doors, valves, scup-
      pers, sidescuttles, skylights, portholes and other similar
      openings in the ship;
   .2 equipping of the survival craft and other life-saving appli-
      ances;
   .3 preparation and launching of survival craft;
   .4 general preparations of other life-saving appliances;
   .5 muster of passengers;
   .6 use of communication equipment;
   .7 manning of fire parties assigned to deal with fires; and
   .8 special duties assigned in respect to the use of fire-fight-
      ing equipment and installations.
4 The muster list shall specify which officers are assigned to
ensure that life-saving and fire appliances are maintained in
good condition and are ready for immediate use.
5 The muster list shall specify substitutes for key persons who
may become disabled, taking into account that different emer-
gencies may call for different actions. 6 The muster list shall
show the duties assigned to members of the crew in relation to
passengers in case of emergency. These duties shall include:
   .1 warning the passengers;
   .2 seeing that they are suitably clad and have donned
      their lifejackets correctly;
   .3 assembling passengers at muster stations;
   .4 keeping order in the passageways and on the stairways
      and generally controlling the movements of the passen-
      gers; and
5 ensuring that a supply of blankets is taken to the survival craft.

7 The muster list shall be prepared before the ship proceeds to sea. After the muster list has been prepared, if any change takes place in the crew which necessitates an alteration in the muster list, the master shall either revise the list or prepare a new list.

8 The format of the muster list used on passenger ships shall be approved.

(SOLAS Reg. III/37)