

Australian Transport Council

National Standard
for
Commercial Vessels

PART C
DESIGN AND CONSTRUCTION

SECTION 7
EQUIPMENT

SUBSECTION 7A
SAFETY EQUIPMENT

Edition 1

First published: October 2004, (PDF on line)

Endorsed by the Australian Transport Council — 12 May 2004

Amendment 1: January 2006

Amendment 2: July 2008

Edition 2

First published: September 2008, (PDF on line)

Endorsed by the Australian Transport Council — 7 November 2008

Draft for public comment issued — 1 July 2002

© Commonwealth of Australia

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without written permission of the Chief Executive Officer, NMSC.

Published by The National Marine Safety Committee, Level 5, Young St Sydney 2000. All inquiries to be addressed to the Chief Executive Officer, NMSC Secretariat.

ISBN 0 642 73657 X

FOREWORD

This Subsection of the National Standard for Commercial Vessels (NSCV) was developed following a review of the Uniform Shipping Laws (USL) Code to replace Section 10: Life Saving Appliances and part of Section 13: Miscellaneous Equipment of the USL Code.

In reviewing the USL Code and preparing this Subsection, consideration was given to a number of factors including:

- a) The National Marine Safety Strategy.
- b) Current designs, practices and materials.
- c) Coronial reports and incident investigations.
- d) Relevant national and international standards.
- e) Provisions no longer used.
- f) Current survey practise, both formal and informal.
- g) Discretionary requirements that rely on authority approval.
- h) Current technical standards format and style.

This Subsection of the National Standard for Commercial Vessels shall be read in conjunction with Part B—General Requirements of the NSCV. It should also be read in conjunction with Part A—Safety Obligations of the NSCV.

This Subsection of the NSCV was prepared by the NMSC Secretariat in consultation with a reference group comprising representatives from the various State, Territory and Commonwealth marine authorities, with a workshop being held in May 2000. In addition specialist advice was sought on a number of issues. Standards Australia reviewed and provided advice on the testing regimes provided in the Annexes, and independent medical advice was sought on the medical requirements.

The draft subsection was released for public comment on 1 July 2002, along with a draft Regulatory Impact Statement (RIS). A reference group comprising industry and government representatives reviewed the public comment on 25 and 26 February 2003 and made recommendations to the NMSC.

NMSC approved the first edition of this subsection on 6 August 2003, with the Office of Regulation Review reporting that the final RIS was satisfactory on the 21 October 2003. ATC endorsed this document by Inter-sessional vote on 12 May 2004.

The first edition was later subject to two technical amendments. Amendment 1 was endorsed by ATC and published in January 2006. Amendment 2 was published on an interim basis on 2 July 2008 pending endorsement by ATC and subsequently endorsed by the ATC on 7 November 2008.

The two amendments were consolidated into this edition (the second edition), without further technical change, and the second edition was published on 5 September 2008. The nature of the changes were such that a further public review and RIS process was not deemed necessary

CONTENTS

CHAPTER 1	PRELIMINARY	9
1.1	Scope.....	9
1.2	Application.....	9
1.3	Objective	9
1.4	Referenced documents	9
1.5	Definitions	10
1.6	Abbreviations	11
CHAPTER 2	SAFETY EQUIPMENT DESIGN AND CONSTRUCTION.....	12
2.1	Scope.....	12
2.2	Objective	12
	Required outcomes.....	12
2.3	Type and quantity.....	12
2.4	Performance.....	12
2.5	Availability	12
2.6	Reliability.....	12
2.7	Operating instructions	12
2.8	Search and rescue	12
2.9	Identification	12
	Deemed-to-satisfy solutions.....	13
2.10	Compliance	13
2.11	Type and quantity of safety equipment.....	13
2.12	Standards for safety equipment.....	13
CHAPTER 3	INSTALLATION OF SAFETY EQUIPMENT	15
3.1	Scope.....	15
3.2	Objective	15
	Required outcomes.....	15
3.3	Performance.....	15
3.4	Availability	15
3.5	Reliability.....	15
3.6	Operating instructions	15

3.7	Search and rescue	15
3.8	Identification	15
	Deemed-to-satisfy solutions.....	15
3.9	Compliance	15
3.10	General requirements.....	16
3.11	Lifeboats and rescue boats	17
3.12	Liferafts	18
3.13	Dinghies	20
3.14	Buoyant appliances.....	20
3.15	Lifebuoys.....	21
3.16	Lifejackets	21
3.17	Pyrotechnic and smoke signals	22
CHAPTER 4	TYPE AND QUANTITY OF SAFETY EQUIPMENT	23
4.1	Scope.....	23
4.2	Objective	23
	Required outcomes.....	23
4.3	Type and quantity.....	23
4.4	Evacuation	23
4.5	Means of retrieval for persons overboard	23
4.6	Means to communicate distress and location	23
4.7	On-board communications and alarm systems.....	23
4.8	Emergency electrical equipment.....	23
4.9	First aid	24
4.10	Means to sustain and prolong life of evacuees	24
4.11	Means to protect rescue crews.....	24
	Deemed-to-satisfy solutions.....	24
4.12	Compliance	24
	Equivalent solutions.....	24
4.13	ASSESSMENT methods	24
4.14	Open reversible liferafts.....	25
CHAPTER 5	SERVICING OF SAFETY EQUIPMENT	32
5.1	Scope.....	32
5.2	Objective	32

	Required outcomes.....	32
	5.3 Maintenance of function	32
	5.4 Reliability.....	32
	5.5 Quality.....	32
	Deemed-to-satisfy solutions.....	32
	5.6 Compliance	32
	5.7 Assessment methods	32
	5.8 Inflatable Coastal and open reversible liferafts	33
	5.9 Marine evacuation systems	33
	5.10 Inflatable lifejackets	33
	5.11 Inflatable non-SOLAS rescue boats	33
	5.12 Hydrostatic release units	34
	5.13 Launching appliances.....	34
	5.14 EPIRBs and radar transponders.....	34
	5.15 Pyrotechnic and smoke signals – period of validity	34
ANNEX A	REQUIREMENTS FOR SOLAS EQUIPMENT	35
	A1 Scope.....	35
	A2 General	35
ANNEX B	REQUIREMENTS FOR NON-SOLAS RESCUE BOATS.....	36
	B1 Scope.....	36
	B2 Design and construction	36
	B3 Fittings	36
	B4 Equipment.....	37
	B5 Marking of rescue boats	37
ANNEX C	REQUIREMENTS FOR DINGHIES.....	38
	C1 Scope.....	38
	C2 Design and construction	38
	C3 Fittings	38
	C4 Equipment.....	38
	C5 Marking	39
ANNEX D	REQUIREMENTS FOR INFLATABLE COASTAL LIFERAFTS	40
	D1 Scope.....	40
	D2 Design and construction	40

	D3	Modifications to the ISAF's Special Regulations Appendix A Part 2 Minimum Specifications for Yachtsmen's Inflatable Liferafts.....	40
	D4	Fittings	40
	D5	Equipment and rations	41
	D6	Stowage and launching	43
	D7	Marking	43
	D8	Servicing	43
ANNEX E		REQUIREMENTS FOR OPEN REVERSIBLE LIFERAFTS.....	44
	E1	Scope.....	44
	E2	Design and construction	44
	E3	Fittings	44
ANNEX F		REQUIREMENTS FOR BUOYANT APPLIANCES.....	46
	F1	Scope.....	46
	F2	Design and construction	46
	F3	Launching	47
	F4	Marking	48
ANNEX G		REQUIREMENTS FOR COASTAL LIFEJACKETS	49
	G1	Scope.....	49
	G2	Design and construction	49
	G3	Marking	49
ANNEX H		REQUIREMENTS FOR MEDICAL SUPPLIES	50
	H1	Scope.....	50
	H2	Objective	50
	H3	General	50
	H4	Carriage of dangerous goods	51
	H5	Expiry dates	51
	H6	Replacement of stocks	51
	H7	Labelling and packaging.....	51
	H8	Medical log book	52
	H9	First aid kit.....	52
	H10	Medical cabinet	53
	H11	First aid training.....	54

CHAPTER 1 PRELIMINARY

1.1 SCOPE

This Subsection of the NSCV specifies requirements for the design, manufacture, installation, stowage, marking and scale of safety equipment to be carried on vessels.

Chapters 2 through to 5 deal with design and manufacture, installation, type and quantity to be carried, and servicing respectively, while the Annexes provide further detail on the standards to be met for certain items of safety equipment.

This Subsection of the NSCV shall be read in conjunction with Part B—General Requirements of the NSCV.

1.2 APPLICATION

This Subsection applies to all commercial vessels, excluding Special Vessels as defined in Part F of this standard unless Part F specifies otherwise.

1.3 OBJECTIVE

The objective of this Subsection is to minimise the consequences of accidents by providing vessels with certain key items of safety equipment.

NOTES:

1. Hazards associated with design and construction failures of safety equipment include: failure to properly deploy, fit or operate, failure to perform safety function in immediate aftermath, failure to perform safety function over the likely period till rescue.
2. Consequences arising from these hazards include: inability to evacuate vessel in a timely manner, delay in or failure to rescue, personal injury and fatalities.

1.4 REFERENCED DOCUMENTS

The following documents are referred to in this Subsection.

Any document referenced in this Subsection should be considered to be the latest revision of the document including amendments.

AUSTRALIAN TRANSPORT COUNCIL

National Standard for Commercial Vessels

Part B—General Requirements

Part C—Design and Construction

Section 4: Fire Safety

Section 5: Engineering

Subsection 5B—Electrical

Section 6: Stability

STANDARDS AUSTRALIA

AS 1799.1—*Small Pleasure Boats Code – Part 1 General requirements for power boats*

AS 2092—*Pyrotechnic, marine distress flares and signals for pleasure craft*

AS 2677—*Inflatable boats*

AS 2700—*Colour standards for general purposes*

BRITISH STANDARDS

BS EN 396—*Lifejackets and personal buoyancy aids. Lifejacket 150*

INTERNATIONAL MARITIME ORGANIZATION

International Code of Safety for High-Speed Craft (also known as the HSC Code)

International Maritime Dangerous Goods Code

IMO Resolution MSC.81(70) Revised Recommendation on Testing of Life-Saving Appliances

IMO Resolution A.760(18) Symbols related to life-saving appliances and arrangements

INTERNATIONAL SAILING FEDERATION

Special regulations, Appendix A, Part 2 - Minimum specifications for yachtsmen's inflatable liferafts

AUSTRALIAN MARITIME SAFETY AUTHORITY

Marine Orders Part 10—Medical First Aid on Ships

Marine Orders Part 25—Equipment—Life-saving

Marine Orders Part 27—Radio Equipment

EUROPEAN UNION

EU Marine Equipment Directive, Module B (MED-B)

HER MAJESTY'S STATIONERY OFFICE (HMSO)

Ship Captain's Medical Guide

1.5 DEFINITIONS

For the purpose of this Subsection of the NSCV—

- a) the definitions provided in Part B of the NSCV and those in this Clause shall apply unless otherwise indicated; and
- b) where there is any conflict in the terms defined between this Clause and Part B, the definitions in this Clause shall apply.

buoyant appliance—

a device designed to assist a person to float in water.

high-risk space—

as defined in NSCV Part C Section 4.

highly visible colour—

any one of the following colours, as defined in AS 2700:

- a) X 15 — Orange.
- b) R 11 — International Orange.
- c) R 12 — Scarlet.

level flotation—

a flotation system that will keep a boat carrying its maximum load from sinking when swamped, assuming the occupants remain within the boat and supported by the flotation system. The flotation system must be such that it will keep the swamped boat floating level, and prevent it from capsizing in calm water. Level flotation does not provide a self-righting capacity.

survival craft—

a craft capable of sustaining the lives of persons in distress from the time of abandoning the vessel. It includes a lifeboat, rescue boat, liferaft, buoyant appliance and dinghy.

1.6 ABBREVIATIONS**BS—**

British Standard

EPIRB—

Emergency position indicating radio beacon

EU—

European Union

HSC—

High speed craft code

ISAF—

International Sailing Federation

JAS-ANZ—

Joint Accreditation Scheme - Australia and New Zealand

MES—

Marine evacuation system

CHAPTER 2 SAFETY EQUIPMENT DESIGN AND CONSTRUCTION

2.1 SCOPE

This Chapter specifies the requirements for the design and construction, of safety equipment.

2.2 OBJECTIVE

The objective of this chapter is to ensure that safety equipment to be carried on board a vessel is suitable for the purpose for which it is to be used.

REQUIRED OUTCOMES

2.3 TYPE AND QUANTITY

A vessel must be provided with safety equipment of type and quantity appropriate to control to acceptable levels the risks associated with the operation of the vessel, taking into account its area of operation and the number of persons on board as well as other risk factors that might be relevant.

2.4 PERFORMANCE

Safety equipment must be designed, constructed and arranged to function so as to significantly enhance the probability of survival in the event of an incident.

2.5 AVAILABILITY

Safety equipment must be located so as to be readily available for its purpose in the event of an incident.

2.6 RELIABILITY

Safety equipment must be designed, constructed, arranged and maintained so as to function reliably at time of need.

2.7 OPERATING INSTRUCTIONS

Persons must have sufficient information and knowledge to effectively use all available safety equipment at time of need.

2.8 SEARCH AND RESCUE

Arrangements must be provided to facilitate search and rescue operations both during daylight and at night.

2.9 IDENTIFICATION

Measures must be provided to facilitate rapid identification of the parent vessel should an incident occur.

DEEMED-TO-SATISFY SOLUTIONS

2.10 COMPLIANCE

For the purpose of this National Standard, safety equipment shall be deemed to satisfy the Required Outcomes in Clauses 2.3 to 2.9, if it complies with Clauses 2.11 to 2.12 as applicable.

2.11 TYPE AND QUANTITY OF SAFETY EQUIPMENT

A vessel shall carry safety equipment of type and quantity appropriate to its category of service in accordance with Chapter 4 of this Subsection.

2.12 STANDARDS FOR SAFETY EQUIPMENT

2.12.1 Specification

The items of safety equipment specified in column 1 of Table 1 shall comply with the applicable Annex of this Subsection or the standard specified in column 2 of Table 1.

2.12.2 Assessment and verification

Safety equipment shall be assessed and verified as meeting the applicable specification by one or more of the following methods:

- a) Tested and specifically listed for the purpose by a recognised testing and listing organisation in Australia.
- b) Certified by a JAS-ANZ accredited product certification body.
- c) Type approved by a ship classification society recognised by the Australian Maritime Safety Authority (AMSA).
- d) Certified by an AMSA-recognised Notified Body in accordance with the EU Marine Equipment Directive, Module B (MED-B).

Testing and listing, certification or type approval in the foregoing manner shall be deemed to be proof of compliance with the relevant standard or Annex of this Subsection.

NOTE: A listing of safety equipment that has been verified as complying with the NSCV is available on the Register of Compliant Equipment published by the NMSC at www.nmsc.gov.au.

Table 1 — Construction, production and performance requirements for safety equipment

Item of equipment	Annex or standard to which item shall comply
Anti-exposure suit [SOLAS]	Annex A
Buoyant appliance	Annex F
Buoyant smoke signal [SOLAS]	Annex A
Dinghy	Annex C
EPIRB, 406 MHz [SOLAS]	Annex A
Flare—hand held	AS 2092, Annex A
Flare—rocket parachute [SOLAS]	Annex A
General emergency alarm system	Annex A
Launching appliance [SOLAS]	Annex A
Lifeboat [SOLAS]	Annex A
Lifebuoy [SOLAS]	Annex A
Lifejacket [SOLAS]	Annex A
Lifejacket [Coastal]	Annex G
Lifejacket light	Annex A
Liferaft (inflatable) [SOLAS]	Annex A
Liferaft (inflatable) [Coastal]	Annex D
Liferaft (open reversible)	Annex E
Line-throwing appliance [SOLAS]	Annex A
Marine evacuation system [SOLAS]	Annex A
Public address system	Annex A
Rescue boat [SOLAS]	Annex A
Rescue boat [Non-SOLAS]	Annex B
Self-activating smoke signal [SOLAS]	Annex A
Self-igniting light [SOLAS]	Annex A
Thermal protective aid [SOLAS]	Annex A

CHAPTER 3 INSTALLATION OF SAFETY EQUIPMENT

3.1 SCOPE

This chapter specifies requirements for the installation of safety equipment on board vessels including the arrangements for stowage, labelling and launching.

3.2 OBJECTIVE

The objective of this Chapter is to ensure that all safety equipment on a vessel is readily accessible, identified and maintained in optimum operating condition.

REQUIRED OUTCOMES

3.3 PERFORMANCE

Safety equipment must be installed and arranged to facilitate its operation and deployment in a safe and timely manner during emergency conditions, by day or by night.

3.4 AVAILABILITY

Safety equipment must be located, and storage space clearly marked, so as to be readily available for its purpose in the event of an incident.

3.5 RELIABILITY

Arrangements for deploying and boarding safety equipment must be designed, constructed and maintained so as to function reliably and safely during emergency conditions at all times.

3.6 OPERATING INSTRUCTIONS

Persons must have sufficient information and knowledge to effectively use all available safety equipment at time of need.

3.7 SEARCH AND RESCUE

Arrangements must be provided such that safety equipment facilitates search and rescue operations at all times.

3.8 IDENTIFICATION

Measures must be provided to facilitate rapid identification of the parent vessel and its safety equipment should an incident occur.

DEEMED-TO-SATISFY SOLUTIONS

3.9 COMPLIANCE

For the purpose of this National Standard, safety equipment shall be deemed to satisfy the Required Outcomes in Clauses 3.3 to 3.8 if it complies with Clauses 3.10 to 3.17 as applicable.

3.10 GENERAL REQUIREMENTS

3.10.1 Stowage of safety equipment

3.10.1.1 SOLAS life-saving appliances

SOLAS life-saving appliances on Class A vessels shall be stowed in accordance with the requirements specified in Marine Orders Part 25 for class A vessels over 500 gross tonnage.

NOTE: Table 1 identifies which items of safety equipment are SOLAS.

3.10.1.2 Stowage above high-risk spaces

Safety Equipment (including lifejackets) shall not be stowed directly above a machinery space or other high-risk space, unless the deck in that area is protected in accordance with NSCV Part C, Section 4: Fire Safety.

3.10.1.3 Marking of stowage locations

Unless the equipment is visible, stowage locations for safety equipment shall be marked, indicating the devices stowed in that location for that purpose. If more than one device is stowed in that location, the number of devices shall also be indicated.

NOTE: Symbols used should conform to IMO Resolution A.760(18) Symbols Related to Life-saving Appliances and Arrangements

3.10.2 Embarkation into survival craft

3.10.2.1 Means of embarkation

A means of embarkation into survival craft shall be provided at each embarkation point where the free board between the intended embarkation point and the waterline is more than 1.5 m.

Where fitted the means of embarkation shall be long enough to reach the survival craft when afloat at the vessel's lightest sea-going draft with an adverse trim of 10° and list of 15°.

3.10.2.2 Additional requirements for embarkation ladders

Where embarkation ladders are fitted, handholds, rails or stanchions shall be provided to ensure a safe passage from the deck to head of the ladder and vice-versa.

Embarkation ladders shall comply with Marine Orders Part 25, Appendix 5, or any other relevant national or international standards.

3.10.2.3 Marine evacuation systems

Where fitted, marine evacuation systems (MES) shall comply with the requirements specified in Marine Orders Part 25 for class A vessels over 500 gross tonnage.

3.10.2.4 Overboard discharges

Means shall be provided to prevent any overboard discharge on to a survival craft during abandonment.

3.11 LIFEBOATS AND RESCUE BOATS

3.11.1 Parent vessel identification

In addition to the requirements for marking contained in Marine Orders 25 and Annex B of this subsection as applicable, the lifeboat or rescue boat shall have the parent vessel's identification legibly and permanently marked on each side of the bow in figures not less than 75 mm in height in contrasting colours.

NOTE: Identification may include the registration number, name of vessel, home port or other form of identification required by an Authority on the parent vessel.

3.11.2 Stowage of lifeboats and rescue boats

Lifeboats and SOLAS rescue boats shall be stowed in accordance with the requirements specified in Marine Orders Part 25 for class A vessels over 500 gross tonnage.

Non-SOLAS rescue boats shall be stowed such that they—

- a) are ready for immediate deployment (Inflatable rescue boats shall be kept inflated at all times);
- b) are capable of being safely deployed within 5 minutes with a vessel trim of 10° and a list of 15° either way;
- c) do not impede the safe deployment of other survival craft;
- d) do not impede the marshalling of passengers to their assembly stations and their embarkation into other survival craft; and
- e) allow launching to take place down the side of the vessel

NOTE: This is specified to minimise the difficulty in launching, to minimise the possibility of persons in the survival craft being thrown from the survival craft and to minimise the possibility of the moving vessel striking the survival craft.

Non-SOLAS rescue boats shall not be stowed or launched from any of the following positions:

- i) Forward of the collision bulkhead.
- ii) Where damage from the elements may occur.
- iii) On or above cargo tanks on tankers; slop tanks; or other tanks containing explosive or hazardous cargoes.
- iv) Near the steeply overhanging portions of the hull aft.
- v) That would result in the rescue boat being in the vicinity of the vessels propeller or other propulsive device when lowered.

3.11.3 Launching and retrieval

Means of launching and recovering lifeboats and SOLAS rescue boats shall be in accordance with the requirements specified in Marine Orders Part 25 for class A vessels over 500 gross tonnage.

Where a non-SOLAS rescue boat is carried, the parent vessel shall be fitted with a safe means of launching and recovering the rescue boat. Such means shall be capable of launching and recovering the rescue boat when

loaded with two (2) persons (each assumed to be of 75 kg weight) and its full outfit of equipment.

Structural members and all blocks, falls, padeyes, links, fastenings and all other fittings used in connection with launching equipment shall be designed with a factor of safety on the basis of maximum working load assigned and the ultimate strength of the material used for construction. A minimum factor of safety of 4.5 shall be applied to all structural members, and a minimum factor of safety of 6 shall be applied to falls, suspension chains, links and blocks.

3.11.4 Illumination

Means shall be provided to ensure that lifeboats, rescue boats, their associated launching devices, and the area of water into which they will be deployed, shall be sufficiently illuminated during assembly, embarkation, launching and retrieval in accordance with NSCV Part C, Subsection 5B, Chapter 5: Emergency Electrical Installations.

3.11.5 Operating instructions

Posters or signs shall be provided on, or in the vicinity of lifeboats, rescue boats, their launching controls and shall—

- a) illustrate the purpose of controls and the procedures for operating the appliance and give relevant instructions or warnings; and
- b) be easily seen under emergency lighting conditions.

NOTE: Symbols used should conform to IMO Resolution A.760(18) Symbols Related to Life-saving Appliances and Arrangements.

3.12 LIFERAFTS

3.12.1 Parent vessel identification

In addition to the requirements for marking contained in Annex A, Annex D, and Annex E of this subsection, a liferaft shall be legibly and permanently marked with the parent vessel's identification in figures not less than 75 mm in height in contrasting colours.

3.12.2 Stowage of liferafts

Liferafts shall be stowed in accordance with the following:

- a) Each individual liferaft shall be in a state of continuous readiness so that 2 crew members can carry out launching within 5 minutes. All liferafts shall be safely launched within 30 minutes. This requirement applies when the vessel has up to 10° trim and 15° list either way.
- b) Liferafts shall be stowed—
 - i) with painters secured to the vessel by means of a hydrostatic release;
 - ii) so that each liferaft floats free and, where applicable, inflates automatically when the vessel sinks;

- iii) in positions such that they float free if the vessel capsizes or sinks;
 - NOTE: Refer to manufacturer's recommendations on installation and location.
 - iv) so as not to impede the safe deployment of other survival craft;
 - v) so as not to impede the marshalling of passengers to their assembly stations and their embarkation on other survival craft; and
 - vi) to facilitate launching down the side of the vessel.
- c) Liferafts intended for throw-overboard launching shall be stowed so as to be readily transferable for launching on either side of the vessel.
 - d) On vessels where it is necessary, due to reduced freeboard; restricted deck space; vulnerability to heavy weather damage; or otherwise, to stow a liferaft inboard from the vessel's side, stowage shall be such that one person, with a minimum of physical effort, can effect launching.

Liferafts launched from fixed launching devices shall not be stowed or launched from any of the following positions:

- i) Forward of the collision bulkhead.
- ii) A position where damage from the elements may occur.
- iii) On or above cargo tanks on tankers; slop tanks; or other tanks containing explosive or hazardous cargoes.
- iv) Near the steeply overhanging portions of the hull aft.
- v) A position that would result in the liferaft being in the vicinity of the vessels propeller or other propulsive device when lowered.

3.12.3 Illumination

Means shall be provided to ensure that the stowage positions of liferafts, the launching devices (where fixed launching devices are used), and the areas of water into which the liferafts will be deployed shall be sufficiently illuminated during assembly, embarkation, launching; and retrieval in accordance with NSCV Part C, Subsection 5B, Chapter 5: Emergency Electrical Installations.

3.12.4 Operating instructions

Posters, signs or operating instructions shall be provided on, or in the vicinity of liferafts and their launching controls and shall—

- a) illustrate the purpose of controls and the procedures for operating the appliance and give relevant instructions or warnings; and
- b) be easily seen under emergency lighting conditions.

NOTE: Symbols used should conform to IMO Resolution A.760(18) Symbols Related to Life-saving Appliances and Arrangements.

3.13 DINGHIES

3.13.1 Parent vessel identification

In addition to the requirements for marking contained in Annex C, the dinghy shall have the parent vessel's identification legibly and permanently marked on the dinghy's transom in figures not less than 75 mm in height in contrasting colours.

NOTE: Identification may include the registration number, name of vessel, home port or other form of identification required by an Authority on the parent vessel.

3.13.2 Stowage of dinghies

Dinghies shall be stowed so that they—

- a) can be safely deployed from a vessel with up to 10° trim and 15° list either way;
- b) do not impede deployment of other survival craft; and
- c) are ready for immediate deployment.

3.13.3 Launching

Where manual launching is not possible, a means of launching a dinghy with its full complement of equipment should be provided. Such means shall be capable of launching and recovering the dinghy when loaded with 2 persons (each assumed to be 75 kg weight) and its full outfit of equipment.

The dinghy shall be provided with fittings that are compatible with the method of launching.

3.13.4 Illumination

Means shall be provided to ensure that the stowage positions of dinghies and the areas of water into which dinghies will be deployed shall be sufficiently illuminated during assembly, embarkation, launching and retrieval in accordance with Part C, Subsection 5B, Chapter 5: Emergency Electrical Installations.

3.14 BUOYANT APPLIANCES

3.14.1 Parent vessel identification

In addition to the requirements for marking contained in Annex F, the buoyant appliance shall be marked with the parent vessel's identification on both of the largest faces of the appliance in legible and permanently marked figures not less than 75 mm in height in contrasting colours.

NOTE: Identification may include the registration number, name of vessel, home port or other form of identification required by an Authority on the parent vessel.

3.14.2 Stowage of buoyant equipment

Buoyant appliances shall be stowed in positions so that they—

- a) can be safely deployed from a vessel with up to 10° trim and 15° list either way;

- b) do not impede deployment of other survival craft; and
- c) float free if the vessel capsizes or sinks.

3.14.3 Illumination

Means shall be provided to ensure that the stowage positions of buoyant appliances and the areas of water into which they will be deployed shall be sufficiently illuminated during assembly; embarkation; launching and retrieval in accordance with Part C, Subsection 5B, Chapter 5, Emergency: Electrical Installations.

3.15 LIFEBOUOYS

3.15.1 Parent vessel identification

The identification of the vessel upon which the lifebuoy is stowed shall be legibly and permanently marked in figures not less than 75 mm in height in contrasting colours.

NOTE: Identification may include the registration number, name of vessel, home port or other form of identification required by an Authority on the parent vessel.

3.15.2 Stowage of lifebuoys

A life buoy shall be stowed so that it—

- a) is not permanently secured;
- b) is readily accessible to crew or passengers; and
- c) can be easily deployed.

Where two (2) lifebuoys with self-igniting lights and smoke signals are required, they shall be stowed to allow for immediate access and rapid deployment from the operating position.

3.16 LIFEJACKETS

3.16.1 Parent vessel marking

In addition to the requirements for marking contained in Annex G, the lifejacket shall have the parent vessel's identification legibly and permanently marked on the jacket in figures not less than 12 mm in height in contrasting colours.

NOTE: Identification may include the registration number, name of vessel, home port or other form of identification required by an Authority on the parent vessel.

3.16.2 Stowage of lifejackets

Lifejackets shall be stowed in clearly marked, easily located, and readily accessible stowage areas. The stowage areas shall be dry and protected from weather and excessive heat.

3.17 PYROTECHNIC AND SMOKE SIGNALS

3.17.1 Stowage and marking

Pyrotechnic and smoke signals shall be stowed in a buoyant watertight container, fitted with a handle or lanyard. The container shall be clearly and permanently marked as to its contents, and be readily accessible to crew.

CHAPTER 4 TYPE AND QUANTITY OF SAFETY EQUIPMENT

4.1 SCOPE

This Chapter specifies the type and minimum quantity of safety equipment to be carried on board a vessel.

4.2 OBJECTIVE

The objective of this Chapter is to specify minimum standards for the type and quantity of safety equipment to be carried on a vessel appropriate for risks that are likely to be encountered.

REQUIRED OUTCOMES

4.3 TYPE AND QUANTITY

A vessel must be provided with safety equipment of type and quantity appropriate to control to acceptable levels the risks associated with the operation of the vessel, taking into account its area of operation and the number of persons on board as well as other risk factors that might be relevant.

4.4 EVACUATION

Arrangements must be provided to enable rapid evacuation of the vessel by all persons on the vessel at all times for the range of environmental conditions likely to be encountered.

4.5 MEANS OF RETRIEVAL FOR PERSONS OVERBOARD

Means must be provided to enable the survival and rapid rescue of persons overboard.

NOTE: See also Part E in relation to Man Overboard procedures.

4.6 MEANS TO COMMUNICATE DISTRESS AND LOCATION

More than one reliable means must be provided to communicate distress and location to other vessels, aircraft and the shore in order to initiate and facilitate rapid rescue.

4.7 ON-BOARD COMMUNICATIONS AND ALARM SYSTEMS

Arrangements must be provided for alerting persons on the vessel of imminent danger, summoning persons to assembly stations and initiating the actions included in the emergency plan.

NOTE: NSCV Part E contains requirements for emergency planning.

4.8 EMERGENCY ELECTRICAL EQUIPMENT

Electrical power essential for the safety of the vessel and persons on board must be maintained during emergency situations for a period sufficient for the emergency to be overcome or evacuation of the vessel.

4.9 FIRST AID

Sufficient and appropriate medical supplies must be maintained to treat likely individual injuries until professional medical treatment becomes available.

NOTE: Factors that should be taken into account include the proximity of shore-based health services, operation within areas served by helicopters and the medical training of persons on the vessel.

4.10 MEANS TO SUSTAIN AND PROLONG LIFE OF EVACUEES

Survival equipment must be arranged and equipped to protect the health and safety of evacuees in the event that rescue is delayed.

4.11 MEANS TO PROTECT RESCUE CREWS

Persons exposed to risks of hypothermia associated with the rescue of others must have those risks controlled to an acceptable level.

DEEMED-TO-SATISFY SOLUTIONS**4.12 COMPLIANCE**

For the purpose of this National Standard, Class 1A, 2A, and 3A vessels shall be deemed-to-satisfy the required outcomes in Clauses 4.3 to 4.11 if they comply with Marine Orders Part 25.

For all other vessels, safety equipment shall be deemed to satisfy the Required Outcomes in Clauses 4.3 to 4.11, if it complies with Tables 2, 3 and 4 as applicable.

NOTES:

1. The requirements for the type and quantity of EPIRBs, other than those for use with inflatable coastal liferafts, are specified in Part C Subsection 7B.
2. In addition to the equipment specified in this Subsection, Part E may require that an operator demonstrate, through emergency plans or ship safety management processes, that the type and performance of safety equipment carried on board is appropriate to the specific vessel operations.
3. Factors to consider when satisfying Part E may include, but are not limited to, type of vessel, geographical area of operation, prevailing weather conditions, ambient / sea temperatures, availability of rescue services, wildlife in the immediate vicinity, limitations of passengers, i.e. children, elderly and handicapped.

EQUIVALENT SOLUTIONS**4.13 ASSESSMENT METHODS**

Assessment methods for scales of safety equipment and equivalent solutions for safety equipment shall be verified in a manner appropriate to the risks that may arise should the safety system fail to operate.

NOTE: Assessment methods (see Part B of this Standard) applicable to systems of safety equipment tend to be rigorous to promote reliability of performance. Special diligence is needed to avoid the possibility of insufficient or inappropriate equipment being provided at time of need. In addition to the need for rigorous assessment options for equivalent solutions may be limited by enabling legislation.

4.14 OPEN REVERSIBLE LIFERAFTS**4.14.1 Alternative arrangements for restricted offshore operations**

Coastal liferafts may be replaced by open reversible inflatable liferafts for restricted offshore (Class C) operations where the safety of crew and passengers would not be adversely affected. A risk assessment should take into account the following factors:

- a) Vessel size.
- b) Number of liferafts provided.
- c) Other safety equipment available.
- d) Number of crew and passengers.
- e) Sea state and likely weather conditions.
- f) Proximity to and suitability of rescue facilities.
- g) Time of year.
- h) Whether the vessel will be at sea during hours of darkness.

NOTES:

- 1. Part B of this Standard contains guidance on the risk assessment process.
- 2. The substitution of open reversible inflatable liferafts for Coastal liferafts is a local equivalent solution (See Part B, Chapter 2).

4.14.2 Alternative arrangements for sheltered waters

Open reversible liferafts of equivalent aggregate capacity may replace dinghies and buoyant appliances for vessels operating in sheltered waters.

Dinghies shall not under any circumstance replace open reversible liferafts. Buoyant appliances shall not under any circumstance replace open reversible liferafts or dinghies.

Table 2 — Scales of safety equipment for Class 1 vessels

Liferafts and rescue boats	Annex	1B	1C	1D	1E
Inflatable Coastal liferaft(s) for 100% complement and a non-SOLAS Rescue Boat (R1)	D / B	≥25 m		NA	NA
Inflatable Coastal liferaft for 100% complement	D	<25 m		NA	NA

KEY:

(R1) – On vessels continuously engaged on voyages in operational areas with a monthly mean water temperature of 15°C or less, an anti-exposure suit of an appropriate size shall be provided for every person assigned to crew the rescue boat.

Buoyant appliances (general)	Annex	1B	1C	1D	1E
A dinghy plus sufficient buoyant appliances, lifebuoys (B4) or both for 100% complement.	C / F / A	NA	NA	≥25 m (B1)	NA
Sufficient buoyant appliances, lifebuoys (B4) or both for 100% complement.	F / A	NA	NA	<25 m (B1, B2, B5)	NA
Sufficient buoyant appliances, lifebuoys (B4), dinghies or combination for 40% complement.	F / A / C	NA	NA	NA	YES (B1, B3, B5)

KEY:

(B1) – Open reversible liferafts of equivalent aggregate capacity shall replace buoyant appliances on vessels intended for continuous operation in areas with a monthly mean water temperature of 15°C or less. A reduction in buoyant appliance capacity may be allowed following assessment in accordance with Clause 4.13.

(B2) – A dinghy may be included for rescue of persons overboard.

(B3) – Vessels that do not conform to damaged stability requirements and single compartment subdivision shall be limited to 49 passengers—buoyant appliances for 100% complement.

(B4) – Each lifebuoy is assumed to provide support for two (2) persons.

(B5) – Vessels less than 25 m in measured length shall have suitable equipment on board to sustain and effectively recover persons overboard, e.g. heaving line with rescue quoit, ladder, rescue sling, scramble net.

Lifebuoys	Annex	1B	1C	1D	1E
<u>12 x lifebuoys</u> : 4 with lights; 2 with lights and smoke signals; 2 with buoyant lines (L1)	A	≥60 m	NA	NA	NA
<u>8 x lifebuoys</u> : 2 with lights; 2 with lights and smoke signals; 2 with buoyant lines (L1)	A	≥45 <60 m	≥60 m	NA	NA
<u>6 x lifebuoys</u> : 1 with light; 2 with lights and smoke signals; 2 with buoyant lines (L1)	A	≥25 <45 m	≥45 <60 m	NA	NA
<u>4 x lifebuoys</u> : 2 with lights and smoke signals; 2 with buoyant lines (L1)	A	NA	≥25 <45 m	NA	NA
<u>8 x lifebuoys</u> : 1 with light; 1 with buoyant line (L1)	A	NA	NA	≥60 m (L2)	NA
<u>6 x lifebuoys</u> : 1 with light, 1 with buoyant line (L1)	A	NA	NA	≥45 <60 m (L2)	≥60 m (L2)
<u>4 x lifebuoys</u> : 1 with light, 1 with buoyant line (L1)	A	NA	NA	≥25 <45 m (L2)	≥45 <60 m (L2)
<u>2 x lifebuoys</u> : 1 with light, 1 with buoyant line (L1)	A	≥10 <25 m		≥10 <25 m (L2)	≥10 <45 m (L2)
<u>1x lifebuoy</u> with light (L1)	A	NA		<10 m (L2)	

KEY:

(L1) – Lights and smoke signals shall comply with Annex A.

(L2) – Additional to buoyancy requirements (General).

(Continued)

Table 2 cont.

Lifejackets	Annex	1B	1C	1D	1E
Adult SOLAS lifejacket with light (L1) for 100% complement, plus child size SOLAS lifejacket with light (L1) for the greater of: 10% of the total capacity of passengers, or the number of children of mass less than 32 kg.	A	YES	NA	NA	NA
Coastal with light (L1) for 100% complement	G	NA	YES	NA	NA
Coastal for 100% complement	G	NA	NA	YES	

KEY:

(L1) – Lights shall comply with Annex A.

Distress signals	Annex	1B	1C	1D	1E
Parachute distress rockets – [qty to be carried shown in ()]	A	YES (6)	YES (3)	YES (3)	NA
Red hand-held flares – [qty to be carried shown in ()]		YES (4)	YES (2)	YES (2)	YES (2)
Hand-held orange smoke signals – [qty to be carried shown in ()]		YES (2)	YES (1)	YES (1)	YES (1)

Line throwing appliance	Annex	1B	1C	1D	1E
4 x rockets and lines	A	≥45 m		NA	NA

On-board communications and alarm systems	Annex	1B	1C	1D	1E
General emergency alarm system	A	≥25 m			
Public address system (C1)	A	YES			

KEY:

(C1) – A public address system is required where the vessel has no other demonstrated effective means to address passengers in time of emergency.

Emergency lighting (hand-held)	Annex	1B	1C	1D	1E
Battery-operated torch [qty to be carried shown in ()]		YES (2)	NA		
Battery-operated torch for each crew member		NA	YES		

Medical Supplies	Annex	1B	1C	1D	1E
Medicines and Medical Stores	H	YES			

Key to Table 2:

For vessels of class 1A—Refer to AMSA, Marine Orders Part 25

1. 'YES' means that the specific requirement applies to all vessels in that class.
2. "NA" means not applicable.

Table 3 — Scales of safety equipment for Class 2 vessels

Liferafts and rescue boats	Annex	2B	2C	2D	2E
Inflatable Coastal liferaft for 100% complement and a non-SOLAS Rescue Boat (R1)	D / B	≥25 m		NA	NA
Inflatable Coastal liferaft for 100% complement	D	<25 m		NA	NA
Inflatable Coastal liferaft for 100% complement (R2)	D	NA	<15 m	NA	NA

KEY:

(R1) – On vessels continuously engaged on voyages in operational areas with a monthly mean water temperature of 15oC or less, an anti-exposure suit of an appropriate size shall be provided for every person assigned to crew the rescue boat.

(R2) – Not required if vessel is fitted with internal buoyancy in accordance with NSCV Part C Section 6.

Buoyant appliances (general)	Annex	2B	2C	2D	2E
A dinghy plus sufficient buoyant appliances, lifebuoys (B4) or both for 100% complement.	C / F / A	NA	NA	≥25 m (B1)	NA
Sufficient buoyant appliances, lifebuoys (B4) or both for 100% complement.	F / A	NA	NA	<25 m (B1, B2, B5)	NA
Sufficient buoyant appliances, lifebuoys (B4), dinghies or combination for 100% complement.	F / A / C	NA	NA	NA	≥15 m (B5)
Sufficient buoyant appliances, lifebuoys (B4), or both for 100% complement, <u>OR</u> sufficient internal buoyancy.	F / A	NA	NA	NA	<15 m (B5)
Sufficient buoyant appliances, lifebuoys (B4), or both, or dinghy for 100% complement (B6)	F / A / C	NA	NA	<15 m	NA

KEY:

(B1) – A reduction in buoyant appliance capacity may be allowed following assessment in accordance with Clause 4.13

(B2) – A dinghy may be included for rescue of persons overboard.

(B4) – Each lifebuoy is assumed to provide support for two (2) persons.

(B5) – Vessels less than 25 m in measured length shall have suitable equipment on board to sustain and effectively recover persons overboard, e.g. heaving line with rescue quoit, ladder, rescue sling, scramble net.

(B6) – Not required if vessel is fitted with internal buoyancy in accordance with NSCV Part C Section 6.

Lifebuoys	Annex	2B	2C	2D	2E
<u>8 x lifebuoys</u> : 2 with lights; 2 with lights and smoke signals; 2 with buoyant lines (L1)	A	≥60 m		NA	NA
<u>6 x lifebuoys</u> : 1 with light; 2 with lights and smoke signals; 2 with buoyant lines (L1)	A	≥45 <60 m		NA	NA
<u>4 x lifebuoys</u> : 2 with lights and smoke signals; 2 with buoyant lines (L1)	A	≥25 <45 m		NA	NA
<u>2 x lifebuoys</u> : 1 with light; 1 with buoyant line (L1)	A	≥15 <25 m		≥15 m (L3)	
<u>1 x lifebuoy</u> with light (L1)	A	<15 m	<15 m (L4)	<15 m (L3)	

KEY

(L1) – Lights and smoke signals shall comply with Annex A.

(L3) – Included in Buoyancy Requirements (General)

(L4) – Not required if vessel is less than 10 m. and carries 1 person only; or vessel is less than 6 m and fitted with internal buoyancy in accordance with Part C Section 6.

(Continued)

Table 3 cont.

Lifejackets	Annex	2B	2C	2D	2E
Adult SOLAS lifejacket with light (L1) for 100% complement, plus child size SOLAS lifejacket with light (L1) for the greater of: 10% of the total capacity of passengers, or the number of children of mass less than 32 kg.	A	YES	NA	NA	NA
Coastal with light for 100% complement (L1)	G	NA	YES	NA	NA
Coastal for 100% complement	G	NA	NA	YES	

KEY

(L1) – Lights shall comply with Annex A.

Distress signals	Annex	2B	2C	2D	2E
Parachute Distress Rockets – [qty to be carried shown in ()]	A	YES (6)	YES (3)	YES (3)	NA
Red Hand-held Flares – [qty to be carried shown in ()]		YES (4)	YES (2)	YES (2)	YES (2)
Hand-held Orange Smoke Signals – [qty to be carried shown in ()]		YES (2)	YES (1)	YES (1)	YES (1)

On-board communications and alarm systems	Annex	2B	2C	2D	2E
General emergency alarm system	A	≥25 m			
Emergency lighting (hand-held)	Annex	2B	2C	2D	2E
Battery-operated torch [qty to be carried shown in ()]		YES (2)	NA		
Battery-operated torch for each crewmember		NA	YES		
Medical supplies	Annex	2B	2C	2D	2E
Medicines and Medical Stores	H	YES			

Key to Table 3:

1. For vessels of class 2A—Refer to AMSA, Marine Orders Part 25 (Equipment-Life Saving). (Current Issue).
2. 'YES' means that the specific requirement applies to all vessels in that class.
3. "NA" means not applicable.

Table 4 — Scales of safety equipment for Class 3 vessels

Liferafts and rescue boats	Annex	3B	3C	3D	3E
Inflatable Coastal liferaft for 100% complement plus a non-SOLAS Rescue Boat (R1)	D / B	≥25 m		NA	NA
Inflatable Coastal liferaft for 100% complement	D	<25 m		NA	NA
Inflatable Coastal liferaft for 100% complement (R2)	D	NA	<15 m	NA	NA

KEY:

(R1) – On vessels continuously engaged on voyages in operational areas with a monthly mean water temperature of 15° C or less, an anti-exposure suit of an appropriate size shall be provided for every person assigned to crew the rescue boat.

(R2) - Not required if vessel is fitted with internal buoyancy in accordance with NSCV Part C Section 6.

Buoyant appliances (general)	Annex	3B	3C	3D	3E
A dinghy plus sufficient buoyant appliances, lifebuoys (B4) or both for 100% complement.	C / F / A	NA	NA	≥25 m (B1)	NA
Sufficient buoyant appliances, lifebuoys (B4) or both for 100% complement.	F / A	NA	NA	<25 m (B2, B5)	NA
Sufficient buoyant appliances, lifebuoys (B4), dinghies or combination for 100% complement.	F / A / C	NA	NA	NA	≥15 m (B5)
Sufficient buoyant appliances, lifebuoys (B4) or both for 100% complement, <u>OR</u> sufficient internal buoyancy.	F / A	NA	NA	NA	<15 m (B5)
Sufficient buoyant appliances, lifebuoys (B4), or both, or dinghy for 100% complement, (B6)	F / A / C	NA	NA	<15 m	NA

KEY:

(B1) – A reduction in buoyant appliance capacity may be allowed following assessment in accordance with Clause 4.13

(B2) – A dinghy may be included for rescue of persons overboard.

(B4) – Each lifebuoy is assumed to provide support for two (2) persons.

(B5) – Vessels less than 25 m in measured length shall have suitable equipment on board to sustain and effectively recover persons overboard, e.g. heaving line with rescue quito, ladder, rescue sling, scramble net.

(B6) - Not required if vessel is fitted with internal buoyancy in accordance with NSCV Part C Section 6.

Lifebuoys	Annex	3B	3C	3D	3E
<u>8 x lifebuoys</u> : 2 with lights; 2 with lights and smoke signals; 2 with buoyant lines (L1)	A	≥60 m		NA	NA
<u>6 x lifebuoys</u> : 1 with light; 2 with lights and smoke signals; 2 with buoyant lines (L1)	A	≥45 <60 m		NA	NA
<u>4 x lifebuoys</u> : 2 with lights and smoke signals; 2 with buoyant lines (L1)	A	≥25 <45 m		NA	NA
<u>2 x lifebuoys</u> : -1 with light, 1 with buoyant line (L1)	A	≥15 <25 m		≥15 (L3)	
<u>1 x lifebuoy</u> with light (L1)	A	<15 m	<15 m (L4)	<15 m (L3)	

KEY

(L1) – Lights and smoke signals shall comply with Annex A.

(L3) – Included in Buoyancy Requirements (General)

(L4) – Not required if vessel is less than 10 m. and carries 1 person only, or vessel is less than 6 m and fitted with internal buoyancy in accordance with Part C Section 6.

(Continued)

Table 4 cont.

Lifejackets	Annex	3B	3C	3D	3E
Adult SOLAS lifejacket with light (L1) for 100% complement, plus child size SOLAS lifejacket with light (L1) for the greater of: 10% of the total capacity of passengers, or the number of children of mass less than 32 kg.	A	YES	NA	NA	NA
Coastal with light for 100% complement (L1)	G	NA	YES	NA	NA
Coastal for 100% complement	G	NA	NA	YES	

KEY

(L1) – Lights shall comply with Annex A.

Distress signals	Annex	3B	3C	3D	3E
Parachute distress rockets - [quantity to be carried shown in ()]	A	YES (6)	YES (3)	YES (3)	NA
Red hand-held flares - [quantity to be carried shown in ()]		YES (4)	YES (2)	YES (2)	YES (2)
Hand-held orange smoke signals - [quantity to be carried shown in ()]		YES (2)	YES (1)	YES (1)	YES (1)

On-board communications and alarm systems	Annex	3B	3C	3D	3E
General emergency alarm system	A	≥25 m		NA	NA
Emergency lighting (hand-held)	Annex	3B	3C	3D	3E
Battery-operated torch [quantity to be carried shown in ()]		YES (2)	NA		
Battery-operated torch for each crewmember		NA	YES		
Medical Supplies	Annex	3B	3C	3D	3E
Medicines and Medical Stores	H	YES			

Key to Table 4:

1. *For vessels of class 3A*—Refer to AMSA, Marine Orders Part 25 (Equipment-Life Saving). (Current Issue).
2. 'YES' means that the specific requirement applies to all vessels in that class.
3. "NA" means not applicable.

CHAPTER 5 SERVICING OF SAFETY EQUIPMENT

5.1 SCOPE

This Chapter specifies requirements for the servicing of safety equipment.

5.2 OBJECTIVE

The objective of this Chapter is to specify minimum standards for the servicing of safety equipment so that the effectiveness of the safety systems can be maintained.

NOTES:

1. The servicing of safety equipment effectively renews the warrantee on the equipment until the next date of servicing. Servicing also provides the opportunity for the delegated periodic survey inspection of the equipment on behalf of the Authority.
2. Procurement of safety equipment requiring servicing should take into account the long-term availability of geographically practicable servicing stations approved by the manufacturer of the safety equipment.

REQUIRED OUTCOMES

5.3 MAINTENANCE OF FUNCTION

Arrangements must be provided to maintain the effectiveness of life-saving equipment and systems over the life of the vessel.

5.4 RELIABILITY

Arrangements must be provided to ensure that the reliability of items of lifesaving equipment does not reduce over time.

NOTE: Arrangements for the servicing of liferafts and other lifesaving equipment that renews the manufacturer's warrantee are evidence of compliance with this required outcome.

5.5 QUALITY

Persons or organisations engaged in the servicing of safety equipment must be organised to promote appropriate levels of quality in servicing outcomes that are capable of being verified.

DEEMED-TO-SATISFY SOLUTIONS

5.6 COMPLIANCE

For the purpose of this National Standard, safety equipment shall be deemed-to-satisfy the Required Outcomes in Clauses 5.3 to 5.5, if it complies with Clauses 5.7 to 5.15.

5.7 ASSESSMENT METHODS

Assessment methods for servicing of safety equipment shall be verified in a manner appropriate to the risks that would arise should the safety system fail to perform at time of need.

NOTE: Assessment methods (see Part B of this Standard) applicable to servicing of safety equipment tend to be rigorous to promote reliability of performance. Special diligence is needed to avoid the possibility of equipment failing to perform at time of need. In addition to the need for rigorous assessment, options for equivalent solutions may be limited by enabling legislation.

5.8 INFLATABLE COASTAL AND OPEN REVERSIBLE LIFERAFTS

Inflatable Coastal and open reversible liferafts shall be serviced at intervals of 12 months, or such longer intervals as recommended by the manufacturer and approved at the time the product is assessed and verified in accordance with Clause 2.12.2.

Servicing shall be carried out by a person or organisation that—

- a) is approved and accredited to do so by the manufacturer of the liferaft being serviced;
- b) possesses the current servicing manuals (including amendments) as provided by the liferaft manufacturer, and all updates to such manuals and other safety bulletins within one month of their publication;
- c) has access to genuine spare parts; materials and tools for each type and make of liferaft serviced;
- d) undertakes all necessary training as determined by the manufacturer to maintain expertise; and
- e) maintains a quality management system.

NOTE: A comprehensive service history of the liferaft detailed in a logbook would satisfy the quality management system requirement above.

5.9 MARINE EVACUATION SYSTEMS

Every marine evacuation system (MES) shall be serviced—

- a) at intervals of 12 months, or such longer intervals as recommended by the manufacturer and approved at the time the product is assessed and verified in accordance with Clause 2.12.2; and
- b) at a servicing station approved and accredited to do so by the manufacturer of the marine evacuation system.

5.10 INFLATABLE LIFEJACKETS

Every inflatable lifejacket shall be serviced—

- a) at intervals of 12 months, or such longer intervals as recommended by the manufacturer and approved at the time the product is assessed and verified in accordance with Clause 2.12.2; and
- b) at a servicing station approved and accredited to do so by the manufacturer of the inflatable lifejackets.

5.11 INFLATABLE NON-SOLAS RESCUE BOATS

All repairs and maintenance of inflatable rescue boats shall be carried out in accordance with the manufacturer's instructions. While emergency repairs may be carried out on board the vessel, permanent repairs shall be

effected at a servicing station approved and accredited to do so by the manufacturer of the inflatable rescue boats.

5.12 HYDROSTATIC RELEASE UNITS

A hydrostatic release unit shall be inspected at intervals of 12 months or such longer intervals as recommended by the manufacturer and approved at the time the product is assessed and verified in accordance with Clause 2.12.2.

The inspection shall be conducted in situ to ensure that the unit has not activated and that attachments remain secure.

A hydrostatic release unit shall be replaced at the end of its specified life span in accordance with the manufacturer's instructions.

5.13 LAUNCHING APPLIANCES

Launching appliances shall be—

- a) serviced at recommended intervals in accordance with the manufacturer's instructions;
- b) subjected to a thorough examination at intervals not exceeding 5 years; and
- c) upon completion of the examinations in Clause 5.13 b) be subject to a dynamic test of the winch brake with a proof load of not less than 1.1 times the maximum working load limit at the maximum lowering speed.

5.14 EPIRBs AND RADAR TRANSPONDERS

Radar transponders shall, at intervals of 12 months or such longer intervals as recommended by the manufacturer and approved at the time the product is assessed and verified in accordance with Clause 2.12.2, be inspected, tested and, if necessary, have its source of energy replaced.

EPIRBs contained in inflatable liferafts shall be inspected, tested and serviced whenever the liferaft is serviced.

5.15 PYROTECHNIC AND SMOKE SIGNALS – PERIOD OF VALIDITY

Pyrotechnic and smoke signals shall be valid for a minimum of 3 years from the date of manufacture, or such longer intervals as recommended by the manufacturer and approved at the time the product is assessed and verified in accordance with Clause 2.12.2.

ANNEX A REQUIREMENTS FOR SOLAS EQUIPMENT

A1 SCOPE

This Annex A provides requirements for the construction, production and performance of SOLAS equipment. It forms a normative (mandatory) part of this document.

This Annex is referenced in Clause 2.12.1 and Table 2, Table 3, and Table 4 of this Subsection.

A2 GENERAL

The safety equipment listed in Table A.1 shall comply with the provisions of the relevant Part of Marine Orders for SOLAS vessels as specified in Table A.1.

For quality control, examination and general requirements, such safety equipment shall also comply with control provisions of Marine Orders Part 25 (Equipment – Life Saving) for SOLAS vessels or for class A vessels over 500 gross tonnage.

Table A.1—Construction, production and performance requirements for SOLAS equipment

Item	Marine Orders Part	Item	Marine Orders Part
Buoyant smoke signal	25	Public Address System	25
Embarkation ladder	25	Retro-reflective tape (use and fitting)	25
EPIRB, 406 MHz	25	Rocket parachute flare	25
Evacuation system	25	SOLAS First Aid Kit	25
Fast rescue boat	25	SOLAS Launching appliance	25
Food ration	25	SOLAS Lifeboat	25
General emergency alarm system	25	SOLAS Lifejacket	25
Hand flare	25	SOLAS Lifejacket light	25
Anti-exposure suit	25	SOLAS Liferaft	25
Lifebuoy	25	SOLAS Lifeboat/Rescue boat recovery arrangement	25
Lifebuoy buoyant line	25	SOLAS Rescue boat	25
Lifebuoy light	25	Thermal protective aid	25
Lifebuoy smoke signal	25	Two-way VHF radiotelephone apparatus	27
Line-throwing apparatus	25	Radar transponder	27

ANNEX B REQUIREMENTS FOR NON-SOLAS RESCUE BOATS

B1 SCOPE

This Annex B provides requirements for the design, construction, and marking of non-SOLAS rescue boats. It forms a normative (mandatory) part of this document.

This Annex is referenced in Clauses 2.12.1 and 3.11.1, and Table 2, Table 3 and Table 4 of this Subsection.

B2 DESIGN AND CONSTRUCTION

B2.1 General

A non-SOLAS rescue boat shall comply with the following requirements:

- a) The minimum length of the boat shall be 3.8 m.
- b) The boat shall be designed and constructed to meet the open waters requirements of AS 1799.1, AS 2677 or other relevant national or international standards.

B2.2 Colour

A non-SOLAS rescue boat shall be of a highly visible colour.

B3 FITTINGS

B3.1 Grab-lines

Grab-lines shall be secured to the side of the rescue boat to support the upper torso of a person out of the water when holding onto them and to facilitate recovery of persons.

Grab-lines shall not be secured more than 150 mm or less than 100 mm below the gunwale. The securing points shall be spaced at not more than 460 mm or less than 300 mm centres and interlaced to prevent movement. The depth of the loop when at right angles to the vessel shall be not more than 200 mm or less than 150 mm.

B3.2 Towing

Arrangements for towing shall be permanently fitted to the rescue boat and be sufficiently strong to marshal and tow liferafts as required in Clause B4 a).

B3.3 Lifting system

A non-SOLAS rescue boat shall comply with the lifting system requirements of AS 1799.1. The lifting system shall be capable of lifting the rescue boat when loaded with two (2) persons each assumed to be of 75 kg weight, and its full outfit of equipment.

NOTE: This Clause does not imply that rescue boats are required to be launched and retrieved with persons on board.

B3.4 Painter

A non-SOLAS rescue boat shall be fitted with a painter that shall be of sufficient length to allow deployment of the rescue boat from its maximum possible height and have a breaking strength of 10 kN.

B4 EQUIPMENT

A non-SOLAS rescue boat shall be equipped with the following:

- a) A motor(s) of sufficient power to provide mobility and manoeuvrability in a seaway to enable persons to be retrieved from the water and to marshal / tow liferafts. The maximum power capacity shall be determined in accordance with the requirements of AS 1799.1.
- b) Lifejackets, additional to those required to be carried on the parent vessel, shall be provided for every person assigned to crew the rescue boat. Buoyant anti-exposure suits, where provided, shall be deemed to satisfy this requirement.
- c) A waterproof, battery-operated torch.
- d) A bailer of robust construction fitted with a lanyard, or a bilge pump.
- e) Oars or paddles.
- f) A heaving line with rescue quoit.

For inflatable rescue boats the following equipment shall also be supplied:

- i) A bellows or pump complete with hose and adapter to suit inflation valves and shall be capable of inflating the rescue boat to normal working pressure.
- ii) Emergency repair kit, complete with suitable patches, adhesive and instructions.

B5 MARKING OF RESCUE BOATS**B5.1 Retro-reflective tapes**

Retro-reflective tapes shall comply and be fitted in accordance with the requirements for rescue boats in Marine Orders Part 25 for class A vessels over 500 gross tonnage.

B5.2 Persons capacity

The persons capacity of a of a non-SOLAS rescue boat shall be determined in accord with AS 1799.1 and shall be legibly and permanently marked upon it in contrasting colours in figures not less than 75 mm in height.

ANNEX C REQUIREMENTS FOR DINGHIES

C1 SCOPE

This Annex C provides requirements for the design, construction, and marking of dinghies. It forms a normative (mandatory) part of this document.

This Annex is referenced in Clauses 2.12.1 and 3.13.1 and Table 2, Table 3 and Table 4 of this Subsection.

C2 DESIGN AND CONSTRUCTION

C2.1 General

A dinghy shall comply with the following requirements:

- a) The minimum length of the dinghy shall be 2.4 m.
- b) The dinghy shall be designed and constructed to meet the open waters and reserve buoyancy with level floatation and swamped stability requirements of AS 1799.1.
- c) Buoyancy materials shall be fitted in accordance with NSCV Part C Section 6D—Damaged Stability.

C2.2 Colour

A dinghy shall be of a highly visible colour.

C3 FITTINGS

C3.1 Grab-lines

The dinghy shall be fitted with grab-lines, which are effective with the dinghy upright or upturned.

Grab-lines, as shown in Figure C.1, shall not be secured more than 150 mm or less than 100 mm below the gunwale. The securing points shall be spaced at not more than 460 mm or less than 300 mm centres and interlaced to prevent movement. The depth of the loop when at right angles to the vessel shall be not more than 200 mm or less than 150 mm.

C4 EQUIPMENT

A dinghy shall be equipped with the following:

- a) Two oars and rowlocks, or paddles.
- b) One painter attached to bow.
- c) One bucket or bailer, attached by lanyard.
- d) One bung permanently attached by lanyard.

C5 MARKING

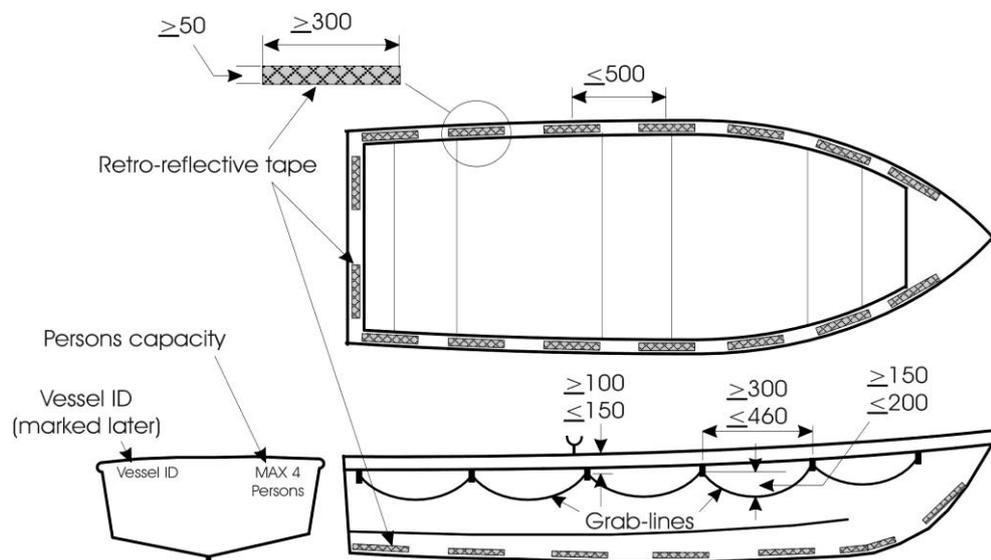
C5.1 Retro-reflective tapes

Retro-reflective tapes shall comply and be fitted in accordance with the requirements of Marine Orders Part 25 for class A vessels over 500 gross tonnage and Figure C.1.

C5.2 Persons capacity

The persons capacity of a dinghy shall be determined in accord with AS 1799.1 and shall be legibly and permanently marked upon the dinghy's transom in contrasting colours in figures not less than 75 mm in height.

Figure C.1—Dinghy marking and grab-lines



ANNEX D REQUIREMENTS FOR INFLATABLE COASTAL LIFERAFTS

D1 SCOPE

This Annex D provides requirements for the design, construction, fittings, equipment, rations, stowage, launching, performance testing and marking of inflatable coastal liferafts. It forms a normative (mandatory) part of this document.

This Annex is referenced in Clause 2.12.1 and Table 1, Table 2, Table 3 and Table 4 of this Subsection.

D2 DESIGN AND CONSTRUCTION

An inflatable coastal liferaft shall comply with—

- a) the requirements of the International Sailing Federation's Special Regulations Appendix A Part 2 Minimum Specifications for Yachtsmen's Inflatable Liferafts; and
- b) the requirements specified in this Annex.

Where there is any conflict in requirements between the ISAF specifications and this Annex, the requirements in this Annex shall apply.

D3 MODIFICATIONS TO THE ISAF'S SPECIAL REGULATIONS APPENDIX A PART 2 MINIMUM SPECIFICATIONS FOR YACHTSMEN'S INFLATABLE LIFERAFTS

D3.1 General

All references to yachts in the ISAF specifications for yachtman's inflatable liferafts shall be replaced with the words "parent vessel."

D3.2 Floor

Delete the last sentence of Clause 1.21.1 of the ISAF specifications for yachtman's inflatable liferafts.

D4 FITTINGS

D4.1 Painter system

Replace the first sentence of Clause 1.17.1.1 of the ISAF specifications for yachtman's inflatable liferafts with:

"The painter shall be of sufficient length to allow deployment of the liferaft from its maximum possible height."

D4.1.1 Hydrostatic release unit

Replace Clause 1.17.1.4 of the ISAF specifications for yachtman's inflatable liferafts with:

“The liferaft painter shall provide a connection between the parent vessel and the liferaft at the vessel end of the painter so arranged as to ensure that the liferaft is not dragged under by the sinking vessel.

A hydrostatic release unit shall be used in the float-free arrangement. The hydrostatic release unit shall:

- a) Be constructed of compatible materials so as to prevent malfunction of the unit. Galvanizing or other forms of metallic coating on parts of hydrostatic release unit is not acceptable.*
- b) Automatically release the liferaft at a depth of not more than 4 m.*
- c) Have drains to prevent the accumulation of water in the hydrostatic release chamber when the unit is in its normal position.*
- d) Be so constructed as to prevent release when seas wash over the unit.*
- e) Be permanently and legibly marked on its exterior with its type and serial number.*
- f) Be permanently and legibly marked on the unit or identification plate securely attached to the unit stating the date of manufacture, type and serial number and whether or not the unit is suitable for use with a liferaft with a capacity of more than 25 persons.*
- g) Be such that each part connected to the painter system has a strength of not less than that required for the painter.*
- h) Indicate in a way that cannot be removed the date by which it is to be replaced.”*

D4.2 Lamp inside canopy

Replace Clause 1.19 of the ISAF specifications for yachtman’s inflatable liferafts with:

“A manually controlled lamp shall be fitted inside the liferaft capable of continuous operation for a period of at least 12 hours. It shall light automatically when the canopy is erected and be of sufficient intensity to permit reading of survival and equipment instructions. Batteries shall be of a type that does not deteriorate due to damp or humidity in the stowed liferaft.”

D5 EQUIPMENT AND RATIONS

An inflatable Coastal liferaft shall carry a Coastal emergency pack that shall comprise the items specified in Clause D5.1 and D5.4.

D5.1 Equipment

In addition to the items specified in Part 4 of the ISAF specifications for yachtman’s inflatable liferafts, an inflatable Coastal liferaft shall carry the following equipment:

- a) One tin opener, which shall not present a puncturing or cutting hazard in its stowed condition.
- b) One fishing line and six hooks.

- c) A watertight container, holding not less than 25 matches of a type not readily extinguishable by wind, and which has an attached waterproof surface on which to strike the matches.
- d) Six chemiluminescent lights.
- e) An efficient radar reflector or survival craft radar transponder.
- f) An EPIRB, 406MHz.

D5.2 Flares

Replace Clause 4.16 of the ISAF specifications for yachtman's inflatable liferafts for red flares with:

“Two red hand-held flares and two hand-held orange smoke signals, complying with the relevant requirements of AS 2092.”

D5.3 First Aid Kit

In addition to the requirements of Clause 4.8 of the ISAF specifications for yachtman's inflatable liferafts, the first aid kit shall contain:

- a) 2 standard dressings no. 14, medium, measuring 15 cm x 10 cm.
- b) 2 standard dressings no. 15, large, measuring 15 cm x 20 cm.
- c) 3 triangular woven bandages with not less than 1 m sides (approx.).
- d) 2 open weave bandages, measuring 5 m x 75 mm.
- e) 1 m x 60 mm self-adhesive waterproof wound dressing.
- f) 1 dressing roll, adhesive, non-woven fabric, 5 cm x 10 m.
- g) 10 non-adhesive dressings, individually wrapped, measuring 10 cm x 10 cm (approx.).
- h) 1 tube of povidone-iodine antiseptic ointment 25 g.
- i) 50 Paracetamol tablets 500 mg (analgesic tablets).
- j) 1 pair of rustless, stainless metal shears measuring 19 cm minimum.
- k) 12 rustless, stainless metal safety pins of assorted sizes.
- l) 1 small packet of silica gel (drying agent).
- m) Instructions for the use of the first aid kit, printed on linen or waterproof paper in the English language.

D5.4 Rations

An inflatable coastal liferaft shall carry the following rations:

- a) One litre of fresh water for each person, contained in watertight and rustproof receptacles.
- b) A food ration providing at least 10,000 kJ per person.

D5.5 Grab bag

Delete references to grab bag in Part 5 and Clauses 3.2 and 4.6 of the ISAF specifications for yachtman's inflatable liferafts.

D6 STOWAGE AND LAUNCHING**D6.1 Stowage**

Coastal liferafts shall be stowed in accordance with Chapter 3 of this Subsection.

D6.2 Mass

Unless designed to be launched by a launching appliance or marine evacuation system, or is stowed such that one person can launch it in adverse conditions, the liferaft shall be capable of being launched by 2 persons.

D6.3 Launching

A liferaft designed for launching inflated with a launching appliance shall be of sufficient strength to permit it to be safely lowered into the water when loaded with its full complement of persons and equipment.

D6.4 Instructions for the parent vessel

Replace Clause 3.2.1 of the ISAF specifications for yachtman's inflatable liferafts with:

“how to stow the liferaft the correct side up, in an appropriate stowage and secure the painter;”

D7 MARKING**D7.1 Retro-reflective material**

Replace Clause 1.49 of the ISAF specifications for yachtman's inflatable liferafts with:

“Retro-reflective tapes shall comply and be fitted in accordance with the inflatable liferaft requirements of Marine Orders Part 25 for class A vessels over 500 gross tonnage.”

D7.2 Product information

In addition to Clause 1.45 of the ISAF specifications for yachtman's inflatable liferafts, the liferaft and its container or valise, and also an accompanying certificate, which shall be kept on board the parent vessel, shall include the words: *‘Coastal Liferaft’*.

D8 SERVICING

Replace Clauses 6.3 and 6.4 of the ISAF specifications for yachtman's inflatable liferafts with:

“Coastal liferafts shall be serviced in accordance with Chapter 5 of NSCV Part C Section 7A.”

ANNEX E REQUIREMENTS FOR OPEN REVERSIBLE LIFERAFTS

E1 SCOPE

This Annex E provides requirements for the design, construction, fittings, equipment, rations, stowage, launching, performance testing and marking of open reversible liferafts. It forms a normative (mandatory) part of this document.

This Annex is referenced in Clauses 2.12.1 and 3.12.1, and Table 1 of this Subsection.

E2 DESIGN AND CONSTRUCTION

An open reversible liferaft shall comply with the requirements specified in—

- a) Annex 11 of International Maritime Organization's High Speed Craft Code; and
- b) this Annex.

Where there is any conflict in requirements between the HSC Code specifications and this Annex, the requirements in this Annex shall apply.

E3 FITTINGS

E3.1 Painter system

Replace Clause 3.3 Annex 11 of the HSC Code with:

“The breaking strength of the painter system including its means of attachment to the open reversible liferaft shall be:

- a) *7.5 kN for open reversible liferafts accommodating up to 8 persons;*
- b) *10.0 kN for open reversible liferafts accommodating 9 to 30 persons;*
and
- c) *15.0 kN for open reversible liferafts accommodating more than 30 persons.”*

E3.2 Hydrostatic release unit

The liferaft painter system shall provide a connection between the parent vessel and the liferaft and shall be so arranged as to ensure that the sinking vessel does not drag the liferaft under when it's released and inflated.

A hydrostatic release unit shall be used in the float-free arrangement and shall satisfy the following conditions.

- a) Be constructed of compatible materials so as to prevent malfunction of the unit. Galvanizing or other forms of metallic coating on parts of hydrostatic release unit is not acceptable.
- b) Automatically release the liferaft at a depth of not more than 4 m.

- c) Have drains to prevent the accumulation of water in the hydrostatic release chamber when the unit is in its normal position.
- d) Be so constructed as to prevent release when seas wash over the unit.
- e) Be permanently and legibly marked on its exterior with its type and serial number.
- f) Be permanently and legibly marked on the unit or identification plate securely attached to the unit stating the date of manufacture, type and serial number and whether or not the unit is suitable for use with a liferaft with a capacity of more than 25 persons.
- g) Be such that each part connected to the painter system has a strength of not less than that required for the painter.
- h) Indicate in a way that cannot be removed, the date by which it is to be replaced.

ANNEX F REQUIREMENTS FOR BUOYANT APPLIANCES

F1 SCOPE

This Annex F provides requirements for the design, construction, and launching of buoyant appliances. It forms a normative (mandatory) part of this document.

This Annex is referenced in Clauses 2.12.1 and 3.14.1 and Table 1, Table 2, Table 3 and Table 4 of this Subsection.

F2 DESIGN AND CONSTRUCTION

F2.1 General

A buoyant appliance shall be designed and constructed to retain its shape and strength under all conditions of service and be equally stable whichever way up it is deployed.

F2.2 Buoyant material

The buoyant material in a buoyant appliance shall comply with the relevant requirements of IMO Resolution MSC.81(70), or relevant national or international standards.

F2.3 Outer covering and fittings

The buoyant material shall be sealed in a waterproof fire retardant outer covering of a highly visible colour, which is designed to protect the buoyant material from mechanical damage. The outer covering of the appliance and all exposed fittings shall be rot-proof, corrosion resistant, resistant to fungal attack, and resistant to degradation from exposure to—

- a) petroleum products;
- b) weather and sea water; and
- c) ultra-violet light.

F2.4 Resistance to impact

A buoyant appliance shall be designed and manufactured to withstand, without incurring any damage or loss in performance, being dropped into the water from a height of 6 m or from a height at which the appliance will be stowed relative to the vessel's water line in the vessel's lightest condition, whichever is the greater.

F2.5 Grab-line

The buoyant appliance shall incorporate a rot-proof buoyant grab-line in the form of a continuous length of rope looped around the appliance, and shall comply with Figure F.1 and the following:

- a) The diameter of the rope shall not be less than 10 mm.

- b) The distance between the points of attachment of the loops to the appliance shall not be greater than 450 mm or less than 300 mm between centres.
- c) Each loop of buoyant line shall have a depth of not less than 150 mm and not more than 200 mm.
- d) Both the loops and their fastenings to the appliance shall be of sufficient strength to enable the appliance to be lifted by a single loop without causing a decrease in the sag of any other loop.
- e) The end of each loop shall be knotted, seized or otherwise secured at the ends of each loop so that breakage of the rope at one loop will not render all other loops unusable.

F2.6 Painter

A buoyant appliance shall be fitted with a painter that shall be of sufficient length to allow deployment of the buoyant appliance from its maximum possible height and have a breaking strength of 10 kN.

F2.6.1 Painter attachment point

A buoyant appliance shall incorporate a strong point to which the painter may be attached of sufficient strength to prevent the appliance from drifting away from the vessel after deployment.

F2.7 Capacity

The number of persons that the appliance is able to support shall be the **lesser** of the total number of grab-line loops around the appliance, or the value obtained from the following formula:

$$N = 70 \left(V - \frac{W}{1000} \right)$$

where

N = number of persons, rounded down to the nearest whole number

V = volume of appliance, in cubic metres

W = mass of appliance, in kilograms

F3 LAUNCHING

Unless a launching device is provided, the buoyant appliance shall be capable of being launched by 2 persons. Where the appliance exceeds 136 kg, handles or rings shall be fitted to facilitate launching by hand. Such handles or rings shall be fitted in addition to the grab-lines specified in Clause F2.5.

F4 MARKING

F4.1 Persons capacity

The persons capacity of buoyant appliances shall be legibly and permanently marked on both of the largest faces of the buoyant appliances in figures not less than 75 mm in height.

F4.2 Retro-reflective tapes

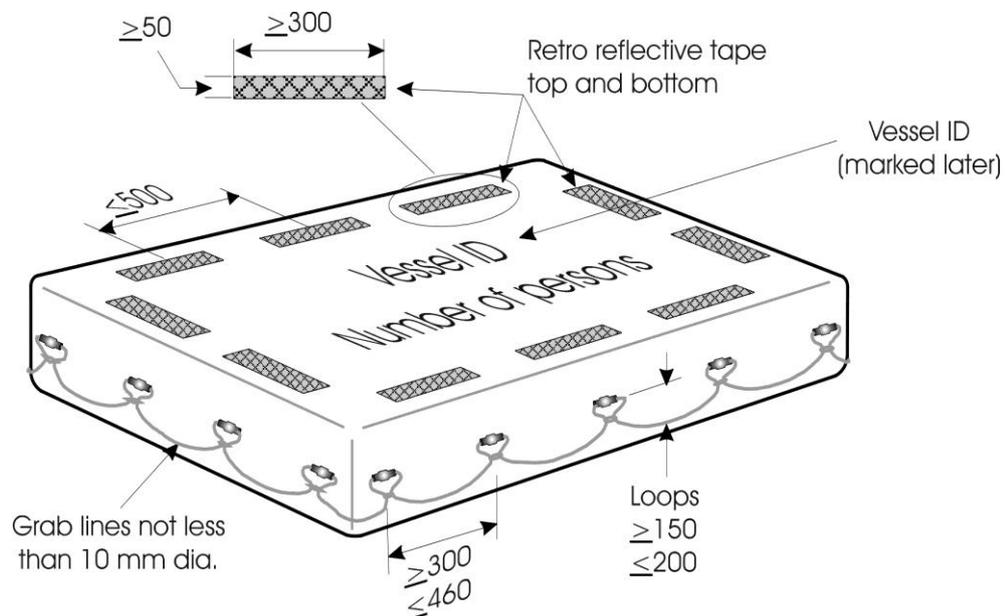
Retro-reflective tapes shall comply with the requirements of Marine Orders Part 25 for class A vessels over 500 gross tonnage and Figure F.1.

Unless otherwise specified, each strip of standard tape shall be not less than 300 mm long and not less than 50 mm wide. Alignment of tapes shall be such that the distance between the centre of the tape and the centre of the next tape in line shall not exceed 500 mm.

F4.3 Location of tapes

The top and bottom of a buoyant appliance shall be fitted with strips of retro-reflective tape spaced around the perimeter of the appliance so that the distance between the centres of consecutive strips is not greater than 500 mm.

Figure F.1—Buoyant appliance marking and grab-lines



ANNEX G REQUIREMENTS FOR COASTAL LIFEJACKETS

G1 SCOPE

This Annex G provides requirements for the design, construction, marking, testing and performance of Coastal lifejackets. It forms a normative (mandatory) part of this document.

This Annex is referenced in Clause 2.12.1 and Table 1, Table 2, Table 3 and Table 4 of this Subsection.

G2 DESIGN AND CONSTRUCTION

A Coastal lifejacket shall comply with the requirements specified in—

- c) BS EN 396; and
- d) this Annex.

Where there is any conflict in requirements between the BS EN 396 specifications and this Annex, the requirements in this Annex shall apply.

G2.1 Inflation system

Inflatable lifejackets that rely solely on oral inflation for buoyancy are not acceptable under this standard.

G2.2 Lifejacket lights

Coastal lifejacket lights shall comply with the requirements of Marine Orders Part 25 for class A vessels over 500 gross tonnage.

G3 MARKING

G3.1 Marking and information

Add the following to Clause 8.1 of BS EN 396, marking and information:

At least one set of written and pictorial instructions for use shall be exhibited at each location where the lifejackets are stowed.

ANNEX H REQUIREMENTS FOR MEDICAL SUPPLIES

H1 SCOPE

This Annex H provides requirements for the first aid, medical supplies and associated equipment on board vessels and includes requirements relating to inventories; labelling; packaging and expiry date control of medicines and medical equipment; and the construction, location and marking of medical cabinets and first aid kits. It forms a normative (mandatory) part of this document.

This Annex is referenced in Table 2, Table 3, and Table 4.

H2 OBJECTIVE

The objective of this Annex H is to specify the medical supplies necessary to treat minor medical conditions or injuries, or to temporarily stabilise a patient until transfer to medical assistance can be arranged.

H3 GENERAL

H3.1 Medical supplies advice

Owners and operators should obtain medical advice from their consultant medical practitioners or pharmacists in specifying medical supplies for their vessels, especially should they wish to add to the mandatory listings.

NOTES:

1. The supplies and quantities specified in this Annex are based on experience of the range of medical and surgical emergencies that can arise on board a vessel. However, they may need to be expanded in accordance with the particular risks inherent to the voyage, the length of the voyage, access to medical facilities, the cargoes carried, and the numbers of persons on board.
2. In addition to this Annex J, other requirements for first aid, medical supplies and associated equipment, medical incident reporting procedures, storage, disposal, labelling and first aid training may be mandatory under other Commonwealth and state / territory legislation including OH&S legislation. In addition Codes of Practice and Australian Standards may exist that relate to medical supplies.

H3.2 Equipment and supplies to be carried

All vessels shall carry the medical equipment and supplies specified in Table H.3, Table H.4, and/or Table H.5, as applicable to the vessel, dependant on its class and operating area. Table H.2 identifies the scales applicable to vessel class and operational area.

The scales of medical equipment and supplies specified in Table H.3 to Table H.5 are those required for single incident events involving 1 or 2 persons, and are based on the assumption that medical assistance will be achieved within the time periods specified in Table H.1.

NOTE: If unsure of the nature or seriousness of an illness or injury, radio medical advice should be sought and, if necessary, medical evacuation by helicopter should be initiated.

Table H.1 – Medical assistance times

Time period in which medical assistance can be obtained	Scale
2 hours	Scale G
6 hours	Scale F
12 hours	Scales E and D

H4 CARRIAGE OF DANGEROUS GOODS

All vessels carrying as cargo, or in shipboard use, any quantity of a hazardous or dangerous chemical or goods, as defined under the International Maritime Dangerous Goods (IMDG) Code, shall have available on board the appropriate additional first aid, medicinal antidotes and other additional treatments as specified by the manufacturer, supplier or other authorised body or publication, including the material safety data sheets relating to the hazardous chemical or goods.

H5 EXPIRY DATES

Medical supplies carried in accordance with this standard shall not exceed the expiry date specified by the manufacturer or supplier of the product.

All medicines have an expiry date. Expired or surplus medications should be returned to a pharmacist for appropriate disposal.

Unused controlled drugs shall not be disposed of other than by transferring them to the control of a registered pharmacist.

H6 REPLACEMENT OF STOCKS

Antibiotics shall always be supplied in original packages or patient courses; however, other products such as analgesics and creams shall be considered adequate if an opened package contains at least 50 per cent of the original quantity, and the remaining product is uncontaminated and unaffected by any expiry date as a result of any seal being broken.

NOTE: This provision is to avoid unwarranted additional supply after a few tablets or capsules are consumed.

H7 LABELLING AND PACKAGING

Medication should be provided in original, sealed blister or foil packs where possible.

All products shall carry instructions and directions for use in English and clearly state the adult dose where applicable to enable safe and effective use of the medication for the intended purpose(s).

Children's doses, with weight or age criteria, can be shown if space permits on the label. It should be understood, however, that the medical inventories for vessels are designed for adult passengers and crew. If a child requires treatment, then Radio Medical Advice should be sought.

All medicines and, where necessary, first aid stocks should carry cautionary and advisory labelling, as provided for in the Australian Pharmaceutical Formulary (APF) to alert Masters or patients as to issues of sedation or interaction with food or alcohol, etc. This ancillary labelling may be printed by the manufacturer on the packaging, included on a dispensing label, or by cautionary and advisory stickers.

The following details should be supplied on the label:

- a) The expiry date and batch number.
- b) The generic or drug name (the brand name is optional unless repackaged).
- c) The strength or quantity as applicable.
- d) The instruction(s) for use and adult dose or directions for safe and effective administration; and
- e) The supplying pharmacist's name, address and telephone number on schedule 4 and higher medicines and substances.

NOTES: Pharmacists are cautioned to avoid placing labels over the manufacturer's expiry date or batch numbers and to provide original unopened packs, if possible. Where the choice of brands provides for blister or foil packaging, or other sealed packs, these are preferred in the harsh sea-going environment.

H8 MEDICAL LOG BOOK

All vessels shall carry and record the use of all medicines, first aid and medical incidents in a Medical Log Book (to include the time, patient, condition and treatment) and record the stock movements for Controlled (#) Drugs in a Controlled Drugs Register. This includes the supply, use, disposal, loss or theft of such controlled (#) drugs.

H9 FIRST AID KIT

H9.1 Application

All vessels covered by Scales D, E and F shall carry at least one remote First Aid Kit as specified in Scale F. For vessels covered by Scale G, either the Scale G or Scale F First Aid Kit shall be carried.

H9.2 Location

The first aid kit shall be located adjacent to the Master's accommodation, or in the wheelhouse. In small partly open vessels, the first aid kit shall be stowed so as to protect it from incoming spray and the weather.

H9.3 Construction and provisions

The first aid kit shall be stored in a weather-tight, portable case of a non-corrosive material of suitable strength and size to accommodate the first aid stores.

The case should be fastened securely with quick-release closures.

H9.4 Labelling and Identification

The first aid kit case shall be labelled FIRST AID on the lid and at least 2 sides for quick identification. The storage location of the first aid kit shall be clearly identified with an appropriate sign or sticker.

The contents shall be listed with a brief instruction for use for each item listed, along with expiry dates and the last check date. The list shall be stowed within or adjacent to the first aid kit.

H9.5 Maintenance

First aid kits shall be cleaned and checked every three (3) months.

H10 MEDICAL CABINET**H10.1 Application**

All vessels covered by Scale D and E shall be provided with a medical cabinet of suitable size, design and construction for storing medical supplies.

NOTE: Storage of splints, neck collars, stretchers, etc may be separate from the medical cabinet; however, storage of these items should be readily accessible to the crew.

H10.2 Location

The medical cabinet shall be located either—

- a) in a separate compartment adjacent to the hospital accommodation;
- b) where hospital accommodation is not provided, adjacent to the vessel's officers' accommodation; or
- c) in a dry and cool space accessible to the Master and a nominated crew member.

H10.3 Construction and illumination

The medical cabinet shall be provided with—

- a) an outer door, fitted with an efficient lock;
- b) an inner cupboard, independently locked, for storing special drugs (noted in Scales by the symbols "*" or "#");
- c) a dispensing counter or table, with an impervious surface, which may be a shelf in the medical cabinet;
- d) suitable storage space for medicines and measuring devices, which facilitate identification of various items; and
- e) illumination by electric light from inside or immediately outside the cabinet.

H10.4 Labelling and Identification

The medical cabinet shall be clearly identified on the outer door with an appropriate sign or sticker.

The contents of the medical cabinet shall be listed with a brief instruction for use for each item listed, along with expiry dates and the last check date. The list shall be stowed within or adjacent to the medical cabinet.

H10.5 Maintenance

Medical cabinets shall be cleaned and checked every three (3) months.

H11 FIRST AID TRAINING

Persons administering first aid should possess as a minimum a current first aid qualification in accord with NSCV Part D.

H11.1 Advisory note

Certain items in these Scales may require additional training to administer.

Persons administering first aid using Scale D should have the competency of a Shipmasters Medical Qualification or an Advanced First Aid Certificate including training in administering injections (IMI and SCI), splinting with vacuum and air splints, and manual resuscitation.

Persons administering the supplies in Scale E First Aid Kits and medical supplies, should possess a current First Aid Certificate or, more preferably the Occupational level of First Aid Certificate, First Aid Oxygen therapy, Asthma management, and the use of Air Splints.

Where a Defibrillator unit is carried, SAE Defibrillation training should be undertaken.

Table H.2—Scales applicable to vessel class and operational area

Class	Vessel use and operational area	Extra specification	Scale and table
1 Passenger Vessel			
1A	Unlimited Domestic Operations (greater than 200 nm)	Nil	Marine Orders Part 10
1B	Offshore Operations (up to 200 nm)	berthed passengers	Scale D – Table H.4 & Table H.5
		unberthed	Scale D – Table H.4 & Table H.5
1C	Restricted Offshore Operations (up to 30 nm)	berthed passengers	Scale E – Table H.4 & Table H.5
		unberthed	Scale F – Table H.3
1D	Partially Smooth Water Operations (areas defined by jurisdictions)	berthed passengers	Scale F – Table H.3
		unberthed	Scale G – Table H.3
1E	Smooth Water Operations (areas defined by jurisdictions)	berthed passengers	Scale F – Table H.3
		unberthed	Scale G – Table H.3
2 Non-Passenger Vessel			
2A	Unlimited Domestic Operations (greater than 200 nm)	Nil	Marine Orders Part 10
2B	Offshore Operations (up to 200 nm)	Nil	Scale E – Table H.4 & Table H.5
2C	Restricted Offshore Operations (up to 30 nm)	Nil	Scale F – Table H.3
2D	Partially Smooth Water Operations (areas defined by jurisdictions)	Nil	Scale G – Table H.3
2E	Smooth Water Operations (areas defined by jurisdictions)	Nil	Scale G – Table H.3
3 Fishing Vessel			
3A	Unlimited Domestic Operations (greater than 200 nm)	Nil	Marine Orders Part 10
3B	Offshore Operations (up to 200 nm)	Nil	Scale E – Table H.4 & Table H.5
3C	Restricted Offshore Operations (up to 30 nm)	Nil	Scale F – Table H.3
3D	Partially Smooth Water Operations (areas defined by jurisdictions)	Nil	Scale G – Table H.3
3E	Smooth Water Operations (areas defined by jurisdictions)	Nil	Scale G – Table H.3

Table H.3— Scale G and F First Aid Kits

Description	Quantity		Notes	Comments
	Scale G	Scale F		
Bandage, conforming 5 cm	1	2		secure dressing and support injured parts
Bandage, conforming 10 cm	1	2		secure dressing and support injured parts
Bandage, heavy crepe 7.5 cm	2	2		support bandage
Bandage, heavy crepe 10 cm	-	1		support bandage, wide
Bandage, triangular	4	4		sling
Dressing, combine 10 x 10 cm, sterile	3	3	†	bleeding control
Dressing, combine 10 x 20 cm, sterile	2	5	†	bleeding control, large
Dressing, non-adherent (10 x 10 cm or similar)	5	10	†	wound cover
Dressing, hydroactive (10 x 10 cm or similar)	1	2	†	blisters, burns and minor exudate wounds
Wound dressing, combination, large	2	3		Major wounds
Wound dressing, combination, small	2	2		Major wounds
Adhesive roll non-woven fabric 5 cm x 10 m	1	1		securing dressings
Dressings, elastic fabric strips	50	50		minor wound cover
Gauze swabs, sterile (single use pkt of 3)	3	9	†	cleansing/dressing wound
Eye pad, sterile	2	4	†	eye cover
Wound closure strips, wide, 6 x 38 mm	1	3	†	securing wound sides
Tape surgical waterproof 2.5 cm x 5 m	1	1		Secure dressing
Tape surgical waterproof 5 cm x 5 m	1	1		Secure dressing
Towels, disposable, pkt of 2	2	3		
Plastic bag set (3 asst L, M and S)	1	2		Amputated parts
Plastic bag	2	2		disposal of soiled dressings
Gloves, disposable, large	10	10		
Safety pins, stainless, assorted pkt of 12	1	1		
Blanket, emergency thermal	1	1		Hypothermia and shock
Ice pack, instant	1	1		
Resuscitation mask, disposable	1	1		
Resuscitation mask, pocket	-	1		
Splinter probes, sterile, disposable	5	10		
Splinter forceps, 12.5 cm	1	1		
Shears, stainless, 19 cm minimum	1	1		

(Continued...)

Table H.3 cont.

Description	Quantity		Notes	Comments
Scalpel, disposable	-	2		
Splint malleable, universal	1	2		
Normal saline, sterile 30 ml polyamp	6	10	†	eye irrigation / wound cleaning
Povidone iodine swabs (single use)	10	20	†	Antiseptic
Anaesthetic + antiseptic cream 30 g	1	1	†	
Hydrocortisone 1% cream 30 g	-	1	†	rashes & bites
Paracetamol 500 mg tabs or caps	24	2 x 24	†	mild pain relief
Paracetamol 500 mg / Codeine 8 mg	-	24	†	moderate pain relief
Ibuprofen 200 mg tablets	-	24	†	anti-inflammatory
Hyoscine hydrobromide 0.3mg tablets	10	10	†	Seasickness
Loperimide 2mg tablets	16	16	†	diarrhoea
Loratadine HCl 10 mg or Fexofenadine HCl 120 mg tablets	-	10	†	antihistamine (non-sedating)
Antacid tablets	12	50	†	
CPR instruction chart or card	1	1		
Australian First Aid Book	1	1		
SAE Defibrillator (Laerdal First Aid unit or similar)	-	Optional		Recommended for Class 1 vessels
Stretcher for helicopter evacuation / ship board use	-	Optional		Recommended for Class 1 vessels
First Aid Oxygen Unit (Oxyport or equal)	-	Optional		Recommended for Class 1 vessels
Legend				
† = Expiry dated				

Table H.4—Scale E and D Medication

Description	Quantity		Notes	Comments
	Scale E	Scale D		
Adrenaline 1-1000 1ml ampoules	-	5	†	sudden allergic reaction
Antibiotic ointment 15g or 20g	1	1	* †	infected wound
Amoxycillin 500mg caps	-	20	* †	oral antibiotic
Doxycycline 100mg caps or tabs	-	21	* †	oral antibiotic
Benzyl penicillin 600mg with WFI 2ml	-	5	* †	antibiotic injection
Chloramphenicol Eye Ointment 4g	1	1	* †	eye antibiotic
Glyceryl trinitrate 400mcg spray	1	1	†	angina/ heart pain
Morphine 10mg/ml ampoules	-	5	* † #	severe pain only with medical advice
Naloxone 0.4mg/ml minijet	-	5	* †	morphine antagonist
Paracetamol 500mg/Codeine 30mg tabs	20	20	* †	moderate-severe pain also cough suppression
Prochlorperazine 5mg tablet	25	25	* †	nausea, giddiness
Prochlorperazine 25mg suppositories	5	5	* †	vomiting, giddiness
Prochlorperazine 12.5mg/ml ampoules	-	10	* †	severe seasickness
Prednisolone 5mg tablet	-	20	* †	only with medical advice
Salbutamol inhaler	1	1	†	asthma attack
Sodium chloride and glucose or dextrose compound, powder sachets, 4.9g approx	10	20	†	rehydration

Legend

† = Expiry dated

* = Requires prescription

= Requires separate locked storage and recording in controlled drug register

Table H.5—Scale E and D Medical Equipment

Description	Quantity		Notes	Comments
	Scale E	Scale D		
Scalpel, sterile, disposable	3	5		
Scissors, stainless, blunt/sharp 12.5 cm	-	1		
Splint set, vacuum or air inflation	1	1		
Neck collar, multi-size, rigid, fully adjustable	1	2		
Syringe with needle, sterile disposable 1 ml	-	5		
Syringe with needle, sterile, disposable 2 ml or 3 ml, 23 G or 25 G	-	5		
Isopropyl alcohol swabs	-	10		
BVM air resuscitator	1	1		
SAE Defibrillator (Laerdal First Aid unit or similar)	Optional	1		
Stretcher for helicopter evacuation / ship board use	Optional	1		
First Aid Oxygen Unit (Oxyport or equal)	Optional	1		
Ship Captain's Medical Guide, current edition	-	1		
Controlled Drug Register	-	1		