AS 4758.1:2015

Lifejackets

Part 1: General requirements

This Australian Standard® was prepared by Committee CS-060, Lifejackets and Personal Safety Equipment for Small Craft. It was approved on behalf of the Council of Standards Australia on 24 July 2015.
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The following are represented on Committee CS-060:

- Australian Canoeing
- Australian Chamber of Commerce and Industry
- Australian Maritime Safety Authority
- Australian Power Boat Association
- Boating Industries Alliance Australia
- Certification Interests
- Marine and Safety Tasmania
- Maritime Safety Queensland
- Marine Safety Victoria
- NSW Police Force
- Royal Life Saving Society Australia
- Surf Life Saving Australia
- Transport for NSW
- Yachting Australia

This Standard was issued in draft form for comment as DR AS 4758.1:2015.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Australian Standard®

Lifejackets

Part 1: General requirements

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PREFACE

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee CS-060, Lifejackets and Personal Safety Equipment for Small Craft, to supersede AS 4758.1—2008, *Personal flotation devices*, Part 1: *General requirements*, 12 months from the date of publication.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to provide manufacturers, regulatory authorities and wearers with the requirements for lifejackets [also known as 'personal flotation devices' (PFDs)] suitable for use by persons engaged in activities, whether in relation to their work or their leisure, in or near water in a range of prevailing conditions.

This Standard was revised to include requirements for the following:

(a) New L25 category.

(b) New 5–10 kg body mass.

(c) Harmonize L50 buoyancy requirements with International Standards.

(d) Revised terminology; 'lifejacket' instead of 'PFD'.

This Standard is Part 1 of the following series:

AS		
4758	Lifejackets	
4758.1	Part 1:	General requirements (this Standard)
4758.2	Part 2:	Materials and components—Requirements and test methods
4758.3	Part 3:	Test methods

This Standard is based on but not equivalent to Parts 1 to 6 of ISO 12402, *Personal floatation devices*. Content from these Standards has been reproduced with the permission of ISO. These International Standards are available from SAI Global. Copyright remains with ISO.

Committee CS-060 decided not to adopt the ISO Standards as they needed to extend the scope to include lifejackets for children. The 6 ISO Standards have been amalgamated into one comprehensive document.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

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FOREWORD

This Standard was prepared to give guidance on the design and application of lifejackets for persons engaged in activities, whether in relation to their work or their leisure, in, on or near water. Lifejackets manufactured, selected, maintained and serviced to this Standard should give a reasonable assurance of safety to a person who is immersed in water.

It should be noted that the term ‘lifejacket’ does not import a representation that it will save the wearer’s life under all circumstances. A lifejacket will only assist a wearer in certain circumstances.

This Standard allows for the buoyancy of a lifejacket to be provided by a wide variety of materials or designs, some of which may require preparation before entering the water (e.g. inflation of chambers by gas from a cylinder). However, lifejackets can be divided into the following two main classes:

(a) Those which assist the wearer to remain face up in the water regardless of their personal physical condition.

(b) Those which require the wearer to make movements to position the face out of the water.

Within these two classes there are a number of levels of support, types of buoyancy, activation methods for inflatable devices, and auxiliary items (such as location aids), all of which will affect the wearer’s probability of survival. Within the different types of buoyancy allowed, inflatable lifejackets either provide full buoyancy without any wearer intervention other than arming (i.e. lifejackets inflated by a fully automatic method) or require the wearer to initiate the inflation. Hybrid lifejackets always provide some buoyancy but rely on the same methods as inflatable lifejackets to achieve full buoyancy. With inherently buoyant lifejackets, the wearer only needs to wear a correctly fitted lifejacket to achieve the performance of its class.

Automatically operating lifejackets are suited to activities where persons are likely to enter the water unexpectedly. Manually inflated lifejackets are only suitable for use if the person believes there will be sufficient time, and they will have the ability, to activate the device. In every circumstance, the person should ensure that the selection of the lifejacket is suited to the activity. A lifejacket’s compliance to this Standard does not imply that it is suitable for all circumstances.

Inspection, maintenance and servicing are important factors in the choice and use of lifejackets.

This Standard is a minimum specification for manufacturers, purchasers, and wearers of such safety equipment to ensure it provides an effective standard of performance. Manufacturers need to encourage the wearing of the equipment by making it comfortable and functional to wear for the duration of the activity. The primary function of a lifejacket is to provide the wearer with a reasonable level of safety in, on or near the water.

Lifejackets provide various degrees of buoyancy, which are defined in this Standard. They need to be correctly fitted in order to provide positive support in the water and to allow a person to float, swim or actively assist themselves or others.

The use of wetsuits, clothing, or equipment may alter the performance of the lifejacket. Similarly, lifejackets that comply with this Standard may vary in performance in extremes of temperatures or in rough water and waves. Lifejackets may also be compromised by other conditions, such as UV exposure, chemicals, welding or other industrial activities, and may require additional protection to meet the specific requirements of use. If the lifejacket is intended to be used in such conditions, the wearer needs to be assured that it will not be adversely affected.

Performance tests included are believed to assess relevant aspects of performance in real-life use; however, they do not accurately simulate all conditions. For example, the fact that a device passes the self-righting tests in swimming attire, as described herein, does not guarantee that it will self-right an unconscious person wearing waterproof clothing; neither can it be expected to completely protect the airway of an unconscious person in rough water. Waterproof clothing can trap air and further impede the self-righting action of a lifejacket.

Wearers, owners and employers need to ensure that these factors are taken into account when selecting a lifejacket.

This Standard also allows a lifejacket to be an integral part of a safety harness designed to conform to AS 2227, *Yachting harnesses and lines—Conventional lines*, or ISO 12401, *Small craft—Deck safety harness and safety line—Safety requirements and test methods*, or an integral part of a garment with other uses, in which case the complete assembly as used is required to conform to this Standard.

The AS 4758 series of Standards outlines the best practice for the design and manufacture of lifejackets. The useful life of the lifejacket will depend on its use, storage, care, maintenance and service.

It is essential that owners, wearers and employers choose those lifejackets that meet the correct performance level of this Standard for the circumstances in which they will be used. Similarly, those framing legislation regarding the use of these lifejackets need to consider which performance level is most appropriate for the type of activity being undertaken in, on or near the water.

STANDARDS AUSTRALIA

Australian Standard
Lifejackets

Part 1: General requirements

1 SCOPE

This Standard specifies the requirements for lifejackets, also known as personal flotation devices (PFDs), with buoyancy classifications of level 275, level 150, level 100, level 50, level 50S, level 25 and restricted use lifejackets suitable for use by adults and children greater than 5 kg mass.

Requirements for lifejackets on commercial seagoing ships are regulated separately by the International Maritime Organization (IMO) under the International Convention for the Safety of Life at Sea (SOLAS) and are not covered by this Standard.

NOTE: Guidance on the selection and use of lifejackets is provided in Appendix A.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
2227 Yachting harnesses and lines—Conventional lines

4758 Lifejackets
4758.2 Part 2: Materials and components—Requirements and test methods
4758.3 Part 3: Test methods

AS/NZS
1906 Retroreflective materials and devices for road traffic control purposes
1906.1 Part 1: Retroreflective sheeting

ISO
105 Textiles—Tests for colour fastness
105-A02 Part A02: Grey scale for assessing change in colour
105-A03 Part A03: Grey scale for assessing staining
105-B02 Part B02: Colour fastness to artificial light: Xenon arc fading lamp test
105-E02 Part E02: Colour fastness to sea water
105-X12 Part X12: Colour fastness to rubbing

9227 Corrosion tests in artificial atmospheres—Salt spray tests

12401 Small craft—Deck safety harness and safety line for use on recreational craft—Safety requirements and test methods

International Commission on Illumination (CIE)
Publication 15: Calorimetry

International Maritime Organization
International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended
IMO Resolution A-658 (16), Use and fitting of retro-reflective materials on life-saving appliances

Scandinavian Colour Institute
National Colour System (NCS)

