ANSI/CAN/UL 12402-4:2020

JOINT CANADA-UNITED STATES
NATIONAL STANDARD

STANDARD FOR SAFETY

Personal Flotation Devices – Part 4: Lifejackets, Performance Level 100 – Safety Requirements

(ISO 12402-4:2006, MOD)

Approved American National Standard

ANSI/UL 12402-4-2020

Standards Council of Canada
Conseil canadien des normes

SCC FOREWORD

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UL Standard for Safety for Personal Flotation Devices – Part 4: Lifejackets, Performance Level 100 – Safety Requirements, ANSI/CAN/UL 12402-4

First Edition, Dated July 9, 2020

Summary of Topics

This First Edition of ANSI/CAN/UL 12402-4, Standard for Safety for Personal Flotation Devices – Part 4: Lifejackets, Performance Level 100 – Safety Requirements, has been issued to reflect the latest ANSI and SCC approval dates, and to incorporate the proposals dated June 1, 2018, March 22, 2019 and September 13, 2019.

UL ANSI/CAN/UL 12402-4 is an adoption with national deviations of ISO Standard for Personal Flotation Devices – Part 4: Lifejackets, Performance Level 100 – Safety Requirements, first edition of ISO 12402-4: 2006-09-01, Technical Corrigendum 2006-12-01, and Amendment 1 dated 2010-06-01.

The requirements are substantially in accordance with Proposal(s) on this subject dated June 1, 2018, March 22, 2019 and September 13, 2019.

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ANSI/UL 12402-4-2020

JULY 9, 2020

ANSI/CAN/UL 12402-4:2020

Standard for Personal Flotation Devices – Part 4: Lifejackets, Performance Level 100 – Safety Requirements

First Edition

July 9, 2020

This ANSI/CAN/UL Safety Standard consists of the First Edition.

The most recent designation of ANSI/UL 12402-4 as an American National Standard (ANSI) occurred on July 9, 2020. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, Preface or SCC Foreword.

This standard has been designated as a National Standard of Canada (NSC) on July 9, 2020.

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Preface

This is the First Edition of the ANSI/CAN/UL 12402-4, Standard for Personal Flotation Devices – Part 4: Lifejackets, performance level 100 – Safety requirements, which is a National Adoption of the first edition of ISO 12402-4: 2006-09-01, Technical Corrigendum 2006-12-01, and Amendment 1 dated 2010-06-01.

UL is accredited by the American National Standards Institute (ANSI) and the Standards Council of Canada (SCC) as a Standards Development Organization (SDO).

This Standard has been developed in compliance with the requirements of ANSI and SCC for accreditation of a Standards Development Organization.

This ANSI/CAN/UL 12402-4 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of ANSI and SCC for accreditation of a Standards Development Organization. In the event that no revisions are issued for a period of four years from the date of publication, action to revise, reaffirm, or withdraw the standard shall be initiated.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at http://csds.ul.com.

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This Edition of the Standard has been formally approved by the UL Standards Technical Panel (STP) on Personal Flotation Devices, STP 1123.

This list represents the STP 1123 membership when the final text in this standard was balloted. Since that time, changes in the membership may have occurred.

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This Standard is intended to be used for conformity assessment.

The intended primary application of this standard is stated in its scope. It is important to note that it remains the responsibility of the user of the standard to judge its suitability for this particular application.

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Reasons for Differences from ISO

National Differences from the ISO standard are being added in order to address regulatory and safety situations present in the US and Canada.

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NATIONAL DIFFERENCES

There are six types of National Differences as noted below. The difference type is noted on the first line of the National Difference in the standard. The standard may not include all types of these National Differences. The National Differences in this standard were developed via a binational effort by the Canada / US 12402 Task Group.

DR – These are National Differences based on the **national regulatory requirements**.

D1 – These are National Differences which are based on **basic safety principles and requirements**, elimination of which would compromise safety for consumers and users of products.

D2 – These are National Differences from ISO requirements based on existing **safety practices**. These requirements reflect national safety practices, where empirical substantiation (for the IEC or national requirement) is not available or the text has not been included in the IEC standard.

DC – These are National Differences based on the **component standards** and will not be deleted until a particular component standard is harmonized with the ISO component standard.

DE – These are National Differences based on **editorial comments or corrections**. Some examples of editorial comments or corrections include replacing "lifejacket" with "PFD" or vice versa and correcting paragraph references.

DT – These are National Differences that are the result of pending changes that have been tentatively agreed internationally by ISO TC188/SC1 for the next edition of the standard and therefore are expected outcomes of the second edition of ISO 12402. These changes include both clarifications and substantive changes in requirements and that will be reviewed when the next edition of ISO 12402 is published.

Each national difference contains a description of what the national difference entails. Typically one of the following words is used to explain how the text of the national difference is to be applied to the base ISO text:

Addition / Add – An addition entails adding a complete new numbered clause, subclause, table, figure, or annex. Addition is not meant to include adding select words to the base ISO text.

Modification / Modify – A modification is an altering of the existing base ISO text such as the addition, replacement or deletion of certain words or the replacement of an entire clause, subclause, table, figure, or annex of the base ISO text.

Deletion / Delete – A deletion entails complete deletion of an entire numbered clause, subclause, table, figure, or annex without any replacement text.

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Foreword (ISO)

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 12402-4 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 162, *Protective clothing including hand and arm protection and lifejackets*, in collaboration with Technical Committee ISO/TC 188, *Small craft*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

ISO 12402 consists of the following parts, under the general title *Personal flotation devices*:

– *Part 1: Lifejackets for seagoing ships – Safety requirements*

– *Part 2: Lifejackets, performance level 275 – Safety requirements*

– *Part 3: Lifejackets, performance level 150 – Safety requirements*

– *Part 4: Lifejackets, performance level 100 – Safety requirements*

– *Part 5: Buoyancy aids (level 50) – Safety requirements*

– *Part 6: Special purpose lifejackets and buoyancy aids – Safety requirements and additional test methods*

– *Part 7: Materials and components – Safety requirements and test methods*

– *Part 8: Accessories – Safety requirements and test methods*

– *Part 9: Test methods*

– *Part 10: Selection and application of personal flotation devices and other relevant devices*

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Introduction

ISO 12402 has been prepared to give guidance on the design and application of personal flotation devices (hereafter referred to as PFDs) for persons engaged in activities, whether in relation to their work or their leisure, in or near water. PFDs manufactured, selected, and maintained to this standard should give a reasonable assurance of safety from drowning to a person who is immersed in water.

Requirements for lifejackets on large, commercial seagoing ships are regulated by the International Maritime Organization (IMO) under the International Convention for the Safety of Life at Sea (SOLAS). ISO 12402-1 addresses lifejackets for seagoing ships.

ISO 12402 allows for the buoyancy of a PFD 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 or blown in orally). However, PFDs can be divided into the following two main classes:

– those which provide face up in-water support to the user regardless of physical conditions (lifejackets), and

– those which require the user to make swimming and other postural movements to position the user with the face out of the water (buoyancy aids).

Within these main 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 user‘s probability of survival. Within the different types of buoyancy allowed, inflatable PFDs either provide full buoyancy without any user intervention other than arming (i.e. PFDs inflated by a fully automatic method) or require the user to initiate the inflation. Hybrid PFDs always provide some buoyancy but rely on the same methods as inflatable PFDs to achieve full buoyancy. With inherently buoyant PFDs, the user only needs to put the PFD on to achieve the performance of its class.

PFDs that do not require intervention (automatically operating PFDs) are suited to activities where persons are likely to enter the water unexpectedly; whereas PFDs requiring intervention (e.g. manually inflated PFDs) are only suitable for use if the user believes there will be sufficient time to produce full buoyancy, or help is close at hand. In every circumstance, the user should ensure that the operation of the PFD is suited to the specific application. The conformity of a PFD to this part of ISO 12402 does not imply that it is suitable for all circumstances. The relative amount of required inspection and maintenance is another factor of paramount importance in the choice and application of specific PFDs.

ISO 12402 is intended to serve as a guide to manufacturers, purchasers, and users of such safety equipment in ensuring that the equipment provides an effective standard of performance in use. Equally essential is the need for the designer to encourage the wearing of the equipment by making it comfortable and attractive for continuous wear on or near water, rather than for it to be stored in a locker for emergency use. Throwable devices and flotation cushions are not covered by this part of ISO 12402. The primary function of a PFD is to support the user in reasonable safety in the water. Within the two classes, alternative attributes make some PFDs better suited to some circumstances than others or make them easier to use and care for than others. Important alternatives allowed by ISO 12402 are the following:

– to provide higher levels of support (levels 100, 150, or 275) that generally float the user with greater water clearance, enabling the user’s efforts to be expended in recovery rather than avoiding waves; or to provide lighter or less bulky PFDs (levels 50 or 100);

– to provide the kinds of flotation (inherently buoyant foam, hybrid, and inflatable) that will accommodate the sometimes conflicting needs of reliability and durability, in-water performance, and continuous wear;

– to provide automatically operating (inherently buoyant or automatically inflated) PFDs that float users without any intervention on their part, except in initially donning the PFD (and regular inspection and rearming of inflatable types), or to provide user control of the inflatable PFD’s buoyancy by manual and oral operation; and

– to assist in detection (location aids) and recovery of the user.

PFDs provide various degrees of buoyancy in garments that are light in weight and only as bulky and restrictive as needed for their intended use. They will need to be secure when worn, in order to provide positive support in the water and to allow the user to swim or actively assist herself/himself or others. The PFD selected shall ensure that the user is supported with the mouth and nose clear of the water under the expected conditions of use and the user's ability to assist.

Under certain conditions (such as rough water and waves), the use of watertight and multilayer clothing, which provide (intentionally or otherwise) additional buoyancy, or the use of equipment with additional weight (such as tool belts) will likely alter the performance of the PFD. Users, owners and employers need to ensure that this is taken into account when selecting a PFD. Similarly, PFDs may not perform as well in extremes of temperature, although fully approved under this part of ISO 12402. PFDs may also be affected by other conditions of use, such as chemical exposure and welding, and may require additional protection to meet the specific requirements of use. If the user intends taking a PFD into such conditions, she/he has to be assured that the PFD will not be adversely affected. This part of ISO 12402 also allows a PFD to be an integral part of a safety harness designed to conform to ISO 12401, or an integral part of a garment with other uses, for example to provide thermal protection during immersion, in which case the complete assembly as used is required to conform to this part of ISO 12402.

In compiling the attributes required of a PFD, consideration has also been given to the potential length of service that the user might expect. Whilst a PFD needs to be of substantial construction and material, its potential length of service often depends on the conditions of use and storage, which are the responsibility of the owner, user and/or employer. Furthermore, whilst the performance tests included are believed to assess relevant aspects of performance in real-life use, they do not accurately simulate all conditions of this. 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 user 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.

It is essential that owners, users and employers choose those PFDs that meet the correct standards for the circumstances in which they will be used. Manufacturers and those selling PFDs have to make clear to prospective purchasers the product properties, alternative choices and the limitations to normal use, prior to the purchase.

Similarly, those framing legislation regarding the use of these garments should consider carefully which class and performance levels are most appropriate for the foreseeable conditions of use, allowing for the higher risk circumstances. These higher risk circumstances should account for the highest probabilities of occurrence of accidental immersion and the expected consequences in such emergencies. More information on the selection and application is given in ISO 12402-10.

Personal flotation devices – Part 4: Lifejackets, performance level 100 – Safety requirements

1 Scope

This part of ISO 12402 specifies the safety requirements for lifejackets, performance level 100. It applies to lifejackets used by adults or children.

1DV *DT Modification by revising the second sentence of clause 1 to add infants, as follows:*

It applies to lifejackets used by adults, children, or infants.

1DV.1 *DR Addition to clause 1 as follows:*

1DV.1.1 Where references are made to ISO 12402 standards, they shall be considered to be to ANSI/CAN UL 12402 with the applicable Canadian /US National Differences where UL Standards exist. Where references are made to particular requirements within a part they shall include the associated DVs contained in that standard, as applicable.

1DV.1.2 Where references are made to the use of at least in the official language(s) of the country of destination, this shall at a minimum include English and French.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

– ISO 12402-5:2006, *Personal flotation devices – Part 5: Buoyancy aids (level 50) – Safety requirements*

– ISO 12402-8:2006, *Personal flotation devices – Part 8: Accessories – Safety requirements and test methods*

– ISO 12402-9:2006, *Personal flotation devices – Part 9: Test methods*

– IMO Resolution A.658 (16), *Use and fitting of retro-reflective materials on life-saving appliances, International Maritime Organization*[1]

[1] IMO is an institution with domicile in London issuing regulations which are then published as laws by its Member States.

2DV D2 *Addition of 2DV to Clause 2 as follows:*

ANSI/UL 1191, *Components for Personal Flotation Devices*

IMO LSA Code (2010), *Revised recommendation on testing of live-saving appliances*, Annex 3

46 CFR 160.055 (2014), *Life Preservers, Unicellular Plastic Foam, Adult and Child, for Merchant Vessels*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
personal flotation device
PFD
garment or device which, when correctly worn and used in water, will provide the user with a specific amount of buoyancy which will increase the likelihood of survival

3.2
inherently buoyant material
material which is permanently less dense than water

3.3
automatically operating PFD
PFD in which buoyancy is provided by permanent means (inherently buoyant material) or by suitable means (gas inflation) effected by a system which automatically activates upon immersion and which, except for the inspection and rearming of inflatable types, when correctly donned requires no further action by the user

3.3DV D2 *DT Modification by deleting clause 3.3.*

3.4
automatically inflated PFD
PFD in which inflation is effected as a result of immersion without the user carrying out any action at the time of immersion

3.5
manually inflated PFD
PFD in which inflation is effected as a result of the user operating a mechanism

3.6
orally inflated PFD
PFD inflated by mouth to produce buoyancy

3.7
PFD with secondary donning
PFD for which additional donning or adjustment is needed to place the PFD in its functioning position from the position it is normally worn

NOTE Pouch-type devices are examples of the type of PFDs which usually require such additional positioning.

3.8
vest-type PFD
PFD covering the upper trunk of the user like a vest

3.9

yoke-type PFD
PFD in a style worn around the back of the neck and secured by a waist strap

3.10
emergency light
device which emits light so as to increase the chances of a user being located

3.11
multi-chamber buoyancy system
system that divides the buoyancy provided by an inflatable lifejacket into two or more separate compartments, such that if mechanical damage occurs to one, others can still operate and provide buoyancy so as to aid the user when immersed

3.11DV D2 ***Modification by replacing the multi-chamber buoyancy system definition as follows:***

multi-chamber buoyancy system
PFD with buoyancy to meet the applicable PFD performance requirement provided by multiple sources including, for example, devices with a combination of inherent buoyancy and inflatable chamber(s), or devices with two or more independent inflatable chambers that collectively provide the in-water performance conforming to the relevant part.

NOTE 1 This excludes supplemental inflation chambers.

3.12
deck safety harness and safety line
device that allows a user to be securely attached to a strong point on a vessel or on shore, so as to prevent him from falling into the water, or, if he does fall into the water, to prevent him from being separated from the vessel or shore

3.13
buddy line
length of cord which can be tied or otherwise fixed to another person or to that person's PFD or other objects, so as to keep a user in the vicinity of that person or object with a view to making location and thus rescue easier

3.14
lifting loop
device which facilitates manual recovery of a person from water

3.15
sprayhood
cover brought or placed in front of the airways of a user in order to reduce or eliminate the splashing of water from waves or the like onto the airways and thereby to promote the survival of the user in rough water conditions

3.16
protective cover
cover that is normally in place over the functional elements of a PFD in order to protect them from physical damage, or snagging on external objects

NOTE 1 The protective cover may be designed to provide additional properties, i.e. to make the PFDs suitable for use when the subject is exposed to additional hazards, e.g. significant abrasion, molten metal splash, flame and fire.

NOTE 2 The inflatable chamber of an inflatable PFD is an example of a functional element.

3.17
overpressure relief valve
valve which may be used in an inflatable system to avoid the likelihood of destruction caused by overpressure

3.18
whistle
device which, when blown by mouth, produces an audible sound which can aid in the location of the user

3.19
hybrid-type PFD
PFD of combined buoyancy types, i.e. inherent and inflatable

3.19DV D1 ***Modification by replacing the hybrid-type PFD definition as follows:***

hybrid-type PFD
PFD of combined buoyancy types, i.e. inherent and inflatable that provides a prescribed minimum inherent buoyancy

NOTE – An inflatable PFD with minimal inherent buoyancy to meet the uninflated buoyancy test (see 5.3.1.2) is not considered a hybrid-type PFD.

3.20DV D2 ***Modification by adding bunching definition to clause 3:***

bunching
curling or folding of internal buoyant material upon itself, from its original position, within the envelope

3.21DV ***DT Modification by adding sheltered waters definition to clause 3:***

sheltered waters
water with protection from significant breaking waves, current, or strong winds, where the possibility of being blown or carried away from shore or place of safety is minimal

3.22DV ***DT Modification by adding offshore definition to clause 3:***

offshore
water that is unprotected and influenced by a variety of threat conditions such as waves, tide, currents, or wind, which may be at sea or on inland waters

3.23DV ***DT Modification by adding primary inflation definition to clause 3:***

primary inflation
means of inflating an inflation chamber that meets the applicable PFD performance requirements and that requires the least amount of intervention by the user, generally according to the following order of precedence: automatic (easiest), manual (second), and oral (most difficult)

3.24DV ***DT Modification by adding secondary inflation definition to clause 3:***

secondary inflation
alternate method of inflation which is provided in case the primary system fails

3.25DV ***DT Modification by adding primary inflation chamber(s) definition to clause 3:***

primary inflation chamber(s)
inflation chamber (s) associated with the primary inflation system (s) that meets the applicable PFD performance requirements and provides the greatest in-water performance and ease of use

3.26DV ***DT Modification by adding back-up inflation chamber definition to clause 3:***

back-up inflation chamber
inflation chamber(s) other than the primary chamber(s) that, when used alone or together, provides redundancy to float the wearer in case a primary inflation chamber fails to function

3.27DV ***DT Modification by adding supplemental inflation chamber definition to clause 3:***

supplemental inflation chamber
inflation chamber other than a primary or back-up chamber that is intended for deployment after stabilization in the water, and provides enhanced performance such as higher freeboard, improved head support, additional stability, or features such as splash protection, location detection, etc.

3.28DV D2 ***Modification by adding somatotypes definition to clause 3:***

3.28DV.1
somatotypes
four categories of human body types characterized as: endomorph (En), mesomorph (Me), ectomorph (Ec), and central (Ce).

a) endomorph (En) – body type having a more rounded appearance with limited muscle definition, normal bone structure, higher body fat, and typically the waist and thigh areas carry a larger percentage of body mass than the upper chest area

b) mesomorph (Me) – body type having well defined muscles, large bone structure, and low body fat with broad shoulders tapering to a defined narrower waist

c) ectomorph (Ec) – lean body type with low muscle mass, light bone structure, and low body fat with a linear physique

d) central somatotype – body type having no dominant endomorph, mesomorph, or ectomorph characteristics

3.29DV D2 *Modification by adding primary closure definition to clause 3:*

primary closure
one or more means of securing the device onto the body so that the device can be expected to function substantially in the intended manner without the use of any other means of fastening the device onto the body

3.30DV D2 *Modification by adding secondary closure definition to clause 3:*

secondary closure
closure or closures not meeting the definition of a primary closure

3.31DV D2 *DT Modification by adding structural component definition to clause 3:*

structural parts, materials, and components
parts, materials, or components that are integral to the device and that are essential for its correct function and performance

3.32DV D2 *Modification by adding design inflation range definition to clause 3:*

design inflation range
the range of buoyancy and pressure, as specified by the manufacturer, to which a compartment may be inflated to provide the intended in-water performance

3.33DV D2 *Modification by adding user category definitions to clause 3:*

user categories
four categories of user types based on weight.

a) Adult PFD – PFD intended for users with a mass greater than 40 kg

b) Youth PFD – PFD intended for users with a mass greater than 25 kg and less than or equal to 40 kg

c) Child PFD – PFD intended for users with a mass greater than 15 kg and less than or equal to 25 kg

d) Infant PFD – PFD intended for users with a mass less than or equal to 15 kg

3.34DV DR *Modification by adding RTD definitions to clause 3:*

Reference Test Device (RTD)
a calibrated test apparatus with known in-water performance for comparison of a candidate PFD, used in the RTD testing method. A RTD may be in one of the following sizes:

a) Adult RTD – USCG Model 63, used in the RTD testing method for a level 100 lifejacket intended for users with a mass greater than 40 kg

b) Child RTD – USCG Model 67, used in the RTD testing method for a level 100 lifejacket intended for users with a mass greater than 15kg and less than or equal to 40 kg

c) Infant RTD – SOLAS Infant RTD, used in the RTD testing for a level 100 lifejacket intended for users with a mass less than or equal to 15 kg

3.35DV ***DT Modification by adding RUPS definition to clause 3:***

ride-up prevention system
system that helps to secure the PFD in its functional position on the body and prevent the PFD from riding-up the body towards the head

NOTE: A crotch strap is an example of a ride up prevention system

4 Classification

4.1 Classes

4.1.1 Lifejackets

These devices provide face-up flotation with levels of support sufficient for various open and rough water uses. Lifejackets have a buoyancy distribution sufficient to turn most users, when tested on users wearing swimming costumes according to ISO 12402, to a position where the mouth has a defined freeboard above the water's surface, even when the user is unconscious.

4.1.2 Buoyancy aids

These devices should be comfortable for continuous wear and provide lift, without significant face-up turning ability, to float the conscious user with the level of support marked on the device. Buoyancy aids shall at least be suitable for sheltered waters, but at higher performance levels may be suitable for some users in other waters.

4.1.3 Special purpose lifejackets and buoyancy aids

These devices perform as in 4.1.1 and 4.1.2 with different levels of support, but have modifications related to special applications for use. These applications shall not relate to essential requirements such as in-water performance, stability and safety in use. The specific conditions for use shall be stated on their label to maintain essential requirements.

4.1DV ***DT Modification by replacing entire clause 4.1 as follows:***

4.1DV.1 Classes

4.1DV.1.1 Buoyancy Aids

A buoyancy aid is a garment or device that, when worn correctly, will provide support without significant face up turning ability and therefore may require action by the user to position the face clear of the water. A buoyancy aid provides suitable performance in sheltered waters, and at higher levels of floatation and stability, may be suitable for use in other waters.

4.1DV.1.2 Lifejackets

A lifejacket is a garment or device that, when worn correctly, will maintain the user in a face-up flotation position, without additional action, with various levels of performance suitable for open waters. When tested to the relevant part of this standard, a lifejacket has a buoyancy distribution sufficient to turn most users, wearing swimming attire, to a position where the mouth is clear of the water even when exhausted.

4.1DV.1.3 Special purpose devices

A special purpose device has performance equivalent to a lifejacket or buoyancy aid, but has modifications related to specific applications for use. These modifications may require additional action by the user, or may only be suitable for certain activities or user groups.

4.2 Performance levels

4.2.1 Level 275

This level is intended primarily for offshore use under extreme conditions. It is also of value to those who are wearing clothing which traps air and which may adversely affect the self-righting capacity of the lifejacket. It is designed to ensure that the user is floating in the correct position with his mouth and nose clear of the surface.

See ISO 12402-2.

4.2.2 Level 150

This level is intended for general application or for use with foul weather clothing. It will turn an unconscious person into a safe position and requires no subsequent action by the user to maintain this position.

See ISO 12402-3.

4.2.3 Level 100

This level is intended for those who may have to wait for rescue, but are likely to do so in sheltered water. The device should not be used in rough conditions.

See this part of ISO 12402.

4.2.4 Level 50

This level is intended for use by those who are competent swimmers and who are near to bank or shore, or who have help and a means of rescue close at hand. These garments have minimal bulk, but they are of limited use in disturbed water, and cannot be expected to keep the user safe for a long period of time. They do not have sufficient buoyancy to protect people who are unable to help themselves. They require active participation by the user.

See ISO 12402-5.

4.2DV *DT Modification by replacing entire clause 4.2 as follows:*

4.2DV.1 Performance levels

4.2DV.1.1 Level 50

When worn, this level is intended for use by those who have help or a means of rescue close at hand, and who are able to swim. This device often has minimal bulk, but requires active participation by the user and cannot be expected to keep the user safe for a long period of time.

4.2DV.1.2 Level 70

This level is intended for use by those who have help or a means of rescue close at hand, or who are near to bank or shore. These devices have minimal bulk, but cannot be expected to keep the user safe for a long period of time in disturbed water.

4.2DV.1.3 Level 100

This level is intended for use in sheltered or calm water where users may have to wait for rescue. As tested in swimming costume (when fully inflated, if inflatable) the device has some turning ability to bring the user into a position with the mouth and nose clear of the water. It is intended to maintain a fully clothed user in this position without active participation.

4.2DV.1.4 Level 150

This level is intended for general, offshore, and rough water use. As tested in swimming costume (when fully inflated, if inflatable) the device will turn an unconscious user into a position with the mouth and nose clear of the water. It is intended to maintain a fully clothed user in this position without active participation.

4.2DV.1.5 Level 275

This level is intended primarily for offshore use under severe weather or sea conditions. It is of value to those who are wearing clothing which traps air and adversely affects the self-righting capacity of the lifejacket. It is also intended for a user who requires a high level of buoyancy, for example when carrying heavy objects. As tested in swimming costume, (when fully inflated, if inflatable) it will turn an unconscious user into a position with the mouth and nose clear of the water. It is intended to maintain a fully clothed user in this position without active participation.

5 Requirements

5.1 General

A lifejacket, performance level 100, shall meet the requirements specified in Clause 5 when tested in accordance with ISO 12402-9.

Materials and components used for a lifejacket, performance level 100, shall comply with ISO 12402-7.

5.1DV.1 DC *Modification by replacing the second paragraph of clause 5.1 as follows:*

Structural materials and components shall be Use Codes 1, 1F, 2F, or 3F (as applicable) in compliance with ANSI/UL 1191. Non-structural materials and components shall not hinder compliance with this standard.

An inflatable lifejacket complying with this part of ISO 12402 shall have automatic, manual and oral inflation that allows for full compliance with all performance requirements of this part of ISO 12402. Each chamber of the inflatable lifejacket shall have at least manual and oral inflation. The inflatable lifejacket shall meet the performance requirements of this part of ISO 12402 with any one chamber deflated. Inflatable lifejackets shall be tested against inadvertent inflation according to ISO 12402-7:2006, 4.11 and ISO 12402-9:2006, 5.5.11.

5.1DV.2 D1 *Modification by replacing third paragraph of clause 5.1 as follows:*

5.1DV.2.1 An inflatable lifejacket intended for wearers at least 16 years of age shall have as its primary inflation means, automatic inflation with cylinder seal indication complying with ANSI/UL 1191. It shall also have oral inflation means. It shall not require secondary donning. If an automatic inflation system is not capable of manual inflation, the lifejacket shall have secondary manual inflation.

5.1DV.2.2 An inflatable lifejacket intended for wearers less than 16 years of age shall have as its primary inflation system, automatic inflation with cylinder seal indication complying with ANSI/UL 1191. It shall also have secondary manual and oral inflation means. It shall not require secondary donning. It shall also be marked as defined in 6DV.3.2.1(g) to require Adult Supervision and approved only when worn.

5.1DV.2.3 Supplemental inflation chambers may be provided with oral inflation as the primary inflation means.

5.1DV.3 D2 *Modification by adding the following new paragraphs to clause 5.1:*

5.1DV.3.1 Following the rotating shock bin test in accordance with UL 12402-9, 5.5.3, an inflatable lifejacket is considered to be acceptable if all hardware is intact and the lifejacket is operable. The rotating shock bin test is not applicable to solely inherently buoyant devices.

5.1DV.3.2 All status indicators shall be grouped or located such that when installed on a packed device in their intended position, they are viewed simultaneously by the user prior to donning and shall be readily visible by others after donning the lifejacket.

5.1DV.3.3 Closures (for example: body straps, lacings, drawstrings, hardware, etc.) shall be prevented from becoming disengaged from the lifejacket.

5.1DV.3.4 The lifejacket shall remain serviceable, and the donning characteristics of a wearable device shall not be impaired following temperature extremes when tested in accordance with UL 12402-9, 5.5.4.3DV.

5.1DV.3.5 Only a lock-type stitching or redundant chain stitching shall be used for structural sewn seams.

5.1DV.3.6 The cut ends of woven or braided components and construction features shall be turned under and stitched, or the equivalent, so as not to ravel. Synthetic materials such as webbing and lacing may be heat-sealed in lieu of being turned under.

5.1DV.3.7 When tested in accordance with UL 12402-9, 5.5.12, the lifejacket shall not continue to burn 6 s after removal from the flame, and shall retain at least the minimum required buoyancy.

NOTE: Fabrics which would be exposed to flame are not required to be tested for compliance with this requirement if they have uncoated faces of either:

a) Plain surface fabrics, regardless of fiber content, weighing 62 g or more per square meter; or

b) Plain and raised surface fabrics made of acrylic, modacrylic, nylon, olefin, polyester, wool, or any combination of these fibers, regardless of weight.

5.1DV.3.8 A device designed for persons of less than or equal to 25 kg shall be provided with a ride-up prevention system (e.g. crotch straps) ensuring a secure fit, or other alternative means of ensuring a secure fit that provides an equivalent measure of securement.

5.2 Combination of lifejackets and accessories

5.2.1 General

Accessories used on lifejackets, performance level 100 shall comply with ISO 12402-8 as specified in Table 1.

A combination of a lifejacket and accessories shall not impair the performance of either item. This shall be proved during the test required for the lifejacket as well as accessories. If necessary the test sequence has to be arranged accordingly. Requirements and test methods for accessories are specified in ISO 12402-8.

Table 1
Accessories for lifejackets, performance level 100

Accessory	Mandatory (M) / Optional (O)
Emergency light	O
Whistle	M
Lifting loop	O
Buddy line	O
Retroreflective material	M
Deck safety harness	O
Overpressure relief valve	O
Multi-chamber system	O
Protective covers	O
Sprayhood	O

Lifejackets can be equipped with further accessories. Such accessories shall comply at least with ISO 12402-8.

5.2.1DV D2 *Modification by replacing clause 5.2.1 as follows:*

5.2.1DV.1 Accessories used on lifejackets, performance level 100 shall comply with Table 1.

5.2.1DV.2 A combination of a lifejacket and accessories shall not impair the performance of either item. This shall be proved during the test required for the lifejacket as well as accessories. If necessary the test sequence has to be arranged accordingly.

5.2.2 Lifting loop

If a lifejacket, performance level 100, will be provided with a lifting loop, it shall be tested according to ISO 12402-9:2006, 5.5.1.4.

5.2.2DV.1 DE *Modification by replacing the first paragraph of clause 5.2.2 as follows:*

If a lifejacket, performance level 100, will be provided with a lifting loop, it shall be tested according to UL 12402-9, 5.5.2.4.

The lifting loop shall be affixed to the lifejacket in front of the chest anterior to two lines, each axial to the midline between the lower end of the sternum and the umbilicus and no more than 100 mm to the side of the midline.

5.2.2DV.2 D2 *Modification by replacing the second paragraph as follows:*

The lifting loop shall be affixed to the lifejacket above the umbilicus and such that the vector or direction of loading is no more than 100 mm to the side of the midline.

The minimum length of the loop shall be 150 mm, measured from attachment to end of the loop.

5.2.2DV.3 D2 *Modification by replacing the third paragraph as follows:*

The minimum length of the loop shall be 150 mm, measured from attachment to end of the loop and shall have a minimum interior opening length of at least 125 mm which is half of the interior circumference.

The lifting loop shall have a minimum width of 20 mm and shall be of a colour distinctive from that of the lifejacket.

The lifting loop shall be conspicuous when the user is floating.

See also 5.5.

5.2.3 Whistle

The lifejacket shall be provided with a whistle. The whistle shall comply with ISO 12402-8:2006, 5.2.

5.2.3DV D2 *Modification by revising clause 5.2.3 as follows:*

The lifejacket shall be provided with a multi-tone whistle.

5.2.4 Sprayhood

If any form of hood or sprayhood is fitted to cover the face in whole or in part, it shall comply with ISO 12402-8:2006, 5.5 and be marked as specified therein.

5.2.4DV.1 D2 *Modification by revising clause 5.2.4 as follows:*

5.2.4DV.1.1 If any form of hood or sprayhood is fitted to cover the face in whole or in part to protect the mouth and nose from water splash, the carbon dioxide level within the hood shall not exceed 5 % at any place at any time and shall not average more than 2.5 % in any 1 min, when tested in accordance with UL 12402-9, 5.5.16.

5.2.4DV.1.2 The sprayhood shall be stowed in a position which keeps it clear of the user's face. It shall not interfere with the operation of the lifejacket or create a hazard, for example through snagging.

5.2.4DV.1.3 The sprayhood shall be able to be unstowed and deployed to protect the airway whilst the user is in the water, with the lifejacket fully deployed and inflated, if inflatable. When deployed, it shall not impair the performance of the lifejacket in such a way as to render it no longer in conformity with the relevant requirements.

5.2.4DV.2 *Addition of a new requirement to clause 5.2:*

5.2.4DV.2.1 Personal Locator Light Holder

Each lifejacket shall be fitted with a personal locator light holder that accepts compatible locator lights meeting the minimum standard of IMO Life-Saving Appliances Code. This light location must be above the water level when the user is in the upright position.

5.3 Types of buoyancy

5.3.1 General

5.3.1.1 The amount of buoyancy shall be such that the in-water performance required by this this part of ISO 12402 (freeboard, turning capacity, stable floating position, etc.) is met.

The minimum amount of buoyancy for a lifejacket as specified in Table 2 can be provided by inherently buoyant material, chambers inflated by gas or by a combination of the two.

5.3.1.2 If the lifejacket is of a hybrid type, it shall provide by its inherent buoyancy alone, the buoyancy required of an equivalently sized device of level 50.

5.3.1.3 Inflatable lifejackets which are manufactured for use by children under 30 kg in body mass and/or less than 6 years of age shall be automatically inflated. If a hybrid type is used it shall have a minimum inherent buoyancy in accordance with ISO 12402-5:2006, 5.3.

5.3.1.3DV ***DT Modification by deleting clause 5.3.1.3.***

5.3.2 Inflatable buoyancy chambers

5.3.2.1 Inflatable buoyancy chambers shall be capable of withstanding an internal pressure of 70 kPa without damage or permanent deformation when tested in accordance with ISO 12402-9:2006, 5.5.6 at a temperature of − 5 °C and + 30 °C for 2 min.

If a device is operated with an overpressure relief valve, the valve has to be blocked and tested in accordance with ISO 12402-9:2006, 5.5.6 with 40 kPa.

5.3.2.1DV ***DT Modification by replacing the first paragraph of clause 5.3.2.1 as follows and deleting the second paragraph of clause 5.3.2.1:***

Inflatable buoyancy chambers shall be capable of withstanding an overpressure without damage or permanent deformation, or evidence of leakage when tested in accordance with UL 12402-9, 5.5.7.

5.3.2.2 Gas-inflated lifejackets shall withstand the inflation test in accordance with ISO 12402-9:2006, 5.5.10 before the buoyancy test in accordance with ISO 12402-9:2006, 5.5.9 is performed. The time from immersion until initiation of inflation in automatic mode shall not exceed 5 s.

5.3.2.2DV.1 D2 ***Modification by replacing the first paragraph of clause 5.3.2.2 as follows:***

Gas inflated lifejackets shall withstand the inflation test in accordance with UL 12402-9, 5.5.10 before the buoyancy test in accordance with UL 12402-9, 5.5.9 is performed. Both automatic and manual inflation modes shall be tested. A lifejacket shall attain the minimum buoyancy required by Table Table 2 within the stated time limits below:

a) For automatic inflation mode, the time required from the immersion of the inflator until the assembly begins to rise to the surface shall not exceed 10 s. when tested according to UL 12402-9, 5.5.10.

b) For manual inflation mode, the time required from the manual activation of the device to when the assembly begins to rise to the surface shall not exceed 5 s when tested according to UL 12402-9, 5.5.10

5.3.2DV.2 D2 ***Modification by adding the following new paragraphs to clause 5.3.2:***

5.3.2DV.2.1 Inflatable lifejackets shall not fire manually below 13 N and shall fire between 13 N and 67 N when tested in accordance with UL 12402-9, 5.5.10.2.DV.

5.3.2DV.2.2 Inflatable lifejackets shall be tested against inadvertent inflation according to UL 12402-9, 5.5.11. The device shall not actuate during the water spray and shall actuate within 5 s when submerged in water after the water spray.

5.3.2DV.2.3 Each inflatable compartment shall not be punctured when tested in accordance UL 12402-9, 5.5.13.

5.3.3 Inherently buoyant material

5.3.3.1 Any inherently buoyant material used to provide buoyancy shall be capable of withstanding compression and movement in normal wear without sustaining permanent loss of buoyancy.

5.3.3.2 Any inherently buoyant material shall prove to have properties in accordance with ISO 12402-7:2006, 4.8.

5.3.3DV D2 *Modification by deleting entire clause 5.3.3.*

5.3.4 Total buoyancy provided

5.3.4.1 For the purpose of assessment in accordance with this part of ISO 12402, items of different size are to be accompanied by stated minimum and maximum user's mass, which shall conform to the marked size ranges.

The primary means of indicating the device's size as regards fit shall be one which is appropriate and meaningful to the prospective user, for instance the statement of mass and girth ranges.

5.3.4.1DV *DT Modification by adding the following new paragraph to clause 5.3.4.1:*

An inflatable PFD in the uninflated state shall maintain positive buoyancy when tested in accordance with UL 12402-9, 5.5.14

5.3.4.2 When tested in accordance with ISO 12402-9:2006, 5.5.9, the minimum buoyancy provided by the different levels shall be as specified in Table 2.

5.3.4.2DV *DT Modification by replacing entire clause 5.3.4.2 as follows:*

Except as provided in 5.3.5DV.1.1, when tested in accordance with UL 12402-9, 5.5.9, the total buoyancy provided by the lifejacket shall be not less than the applicable minimum buoyancy as specified in Table 2DV.

Table 2
Minimum buoyancy

Parameter	User						
	Child			Adult			
User's mass, *m* (kg)	*m* u 15	15 < *m* u 30	30 < *m* u 40	40 < *m* u 50	50 < *m* u 60	60 < *m* u 70	*m* > 70
Minimum buoyancy (N)	30	40	50	60	70	80	100

Table 2DV
Minimum buoyancy

Parameter	User					
	Infant	Child	Youth	Adult		
User's mass (kg)	**≤15**	**>15 to 25**	**>25 to 40**	**>40 to 60**	**>60 to 70**	**>70**
Minimum buoyancy (N)	**30**	**40**	**50**	**70**	**80**	**100**

5.3.4.3 If the lifejacket is intended for two or more mass categories, the buoyancy shall be at least as specified for the heavier category.

5.3.4.4 The buoyancy of the lifejacket shall be tested in accordance with ISO 12402-9:2006, 5.5.9. The difference between the initial measurements and the measurement after 24 h shall not exceed 5 % of the original buoyancy.

The buoyancy measured in any test carried out for the purpose of ascertaining conformity with this part of ISO 12402 shall not be less than that claimed on the marking of the lifejacket, nor less than that required in 5.3.4.2.

5.3.4.5 The two lifejackets which were subjected to the test in accordance with ISO 12402-9:2006, 5.5.9, shall be used to measure the total buoyancy.

5.3.4.5DV DE *Modification by deleting entire clause 5.3.4.5*

5.3.5DV D1 *Modification by adding clause 5.3.5DV, (5.3.5DV.1 – 5.3.5DV.7 and Table 3DV), V-factor requirements, to clause to 5.3:*

5.3.5DV.1 V-factor requirements

5.3.5DV.1.1 The minimum design buoyancy of the foam flotation materials shall be not less than the greater of:

the applicable minimum buoyancy values required by Table 2DV, or

the value determined according to 5.3.5DV.1.6.

5.3.5DV.1.2 This requirement does not apply to foam that is not relied upon for compliance with the requirement of Table 2DV, provided that the device complies with the requirements of the in-water human subject performance tests, UL 12402-9, Clause 5.6.6, both with and without the foam in place.

5.3.5DV.1.3 When the lifejacket's back inherently buoyant material is less than 40 percent of the total buoyancy, the aggregate V-factor of the foam aft of the body axis shall be not more than 5 points greater than the aggregate V-factor of the foam forward of the body axis.

An approximation of the aggregate V-factor may be calculated by the equation specified in 5.3.5DV.1.7.

5.3.5DV.1.4 When the lifejacket's back inherently buoyant material is greater than 40 percent of the total buoyancy, the aggregate V-factor of the foam aft of the body axis shall be not more than 2 points greater than the aggregate V-factor of the foam forward of the body axis.

5.3.5DV.1.5 In lieu of compliance with the requirements of 5.3.5DV.1.3 or 5.3.5DV.1.4, a sample of the device may be tested for its buoyancy loss distribution performance according to UL 12402-9, 5.5.15DV. The sample shall comply with the requirements in 5.6.3 of this part.

5.3.5DV.1.6 The total buoyancy required shall be calculated as follows:

a) For a vest or yoke-style device:

$$B_t = (0.82)(F)\sum_{i=1}^{N}\frac{P_i}{3R_i - 2}$$

b) For a full-sleeved jacket, i.e. lifejacket with buoyancy covering the torso and arms:

$$B_t = (0.70)(F)\sum_{i=1}^{N}\frac{P_i}{3R_i - 2}$$

where:

B_t is the total buoyancy required for the device, in *N*;

F is the applicable minimum buoyancy for the device specified in Table 2DV, in *N*;

P_i is the fraction of Buoyancy provided by the i^{th} material to the total buoyancy of the device;

R_i is the applicable value specified in Table 5.3.5DV; and

***N* is the number of materials used in the device.**

5.3.5DV.1.7 An approximation of the aggregate V-factor shall be calculated by the following equation:

$$V_a = \sum_{i=1}^{N} R_i \left(\frac{P_i}{\sum_{i=1}^{N} P_i} \right)$$

where:

V_a is the approximate aggregate V-factor of two or more buoyancy foams in either the front of the lifejacket or in the back of the lifejacket, as applicable;

P_i is the fraction of Buoyancy provided by the i^{th} material to the buoyancy of either the front of the lifejacket or back of the lifejacket, as applicable;

R_i is the applicable value specified in Table 5.3.5DV for the i^{th} material; and

***N* is the number of materials used in the front or back of the lifejacket.**

Table 5.3.5DV
Values of R_i

Application	V-Factor for material[a]	R_i
Wearable device – vest or yoke-style	94 or more	0.94
	Less than 94	V-factor/100
Wearable device – jacket-style	90 or more	0.90
	Less than 90	V-factor/100
[a] The applicable factor (V) as determined in accordance with ANSI/UL 1191, 24.3.		

5.4 Conspicuousness

5.4.1 Colour

The colour of the exposed portions (excluding components such as webbing, zippers and other fittings) of the lifejacket when deployed in the normal floating position shall be in accordance with ISO 12402-7:2006, 4.3.3.

For search and rescue, yellow-orange and red-orange shall be favoured, preferably fluorescent paints which are superior in detectability.

5.4.1DV DC *Modification by replacing clause 5.4.1 in its entirety as follows:*

The colour of the lifejacket shall be in accordance with UL 1191 section 2.5, Color – Conspicuity.

5.4.2 Retroreflective material

There shall be affixed to the surface of the lifejacket at least 100 cm^2 area of material which is retroreflective of light and conforms to the specification in IMO Resolution A.658(16), Annex 2.

When supporting the user at the rest in the water, approximately the same amount of material shall be visible from all directions around and above the lifejacket and the material shall be located above water level.

In case of a reversible lifejacket, the minimum area and arrangement shall be complied with no matter which way the device is donned.

5.4.2DV D2 *Modification by replacing 5.4.2 in its entirety as follows:*

5.4.2DV.1 Life jackets shall be fitted with retroreflective materials of which is retroreflective of light and conforms to the specification in IMO Resolution A.658(16), Annex 2 with a total area of at least 400 cm^2 distributed so as to be useful for search from air and surface craft from all directions.

5.4.2DV.2 In the case of a reversible life jacket, the arrangement shall be complied with, irrespective of the way the life jacket is put on. The retro-reflective material shall be arranged to uniformly return light in all directions, around and above the life jacket, and these areas shall be located as high up on the life jacket as possible and above water level when the life jacket is in use.

5.4.2DV.3 If the life jacket is sized for an infant, child or youth, and cannot provide sufficient surface area above water, then it shall be permitted to affix retro-reflective materials not less than 300 cm^2 (for youth size) and not less than 200 cm^2 (for child size), and not less than 100 cm^2 (for infant size) provided that the highest possible value is used for the available surface area. If a life jacket is reversible, it shall also comply with these requirements while in reverse.

5.4.2DV.4 The total area of retroreflective material must be tested in accordance with UL 12402-9, 5.6.10DV. When supporting the user at the rest in the water, approximately the same amount of material shall be visible from all directions around and above the lifejacket and the material shall be located above water level.

5.4.2DV.5 The average of the measurements for the number of subjects as specified in UL 12402-9 5.6.1.2 and 5.6.1.3 shall meet this requirement. Depending on the chest size adjustment range of the device, measurements on at least 80% of the subjects shall meet the requirement, and no measurement shall be below 75% of the requirement.

5.5 Strength

The strength of the device shall be tested in accordance with ISO 12402-9:2006, 5.5.1. No damage shall occur which would result in the lifejacket failing to function in accordance with this part of ISO 12402. The means of adjustment shall not have a slippage exceeding 25 mm when subjected to the test.

5.5DV.1 D2 *Modification by replacing first paragraph of clause 5.5 as follows:*

The strength of the device shall be tested in accordance with UL 12402-9, 5.5.2. No damage, such as separated or broken seams, broken zippers, buckles, webbing, and/or lacing shall occur. The means of adjustment shall not have a slippage exceeding 25 mm when subjected to the various tests.

The horizontal load shall be no less than 2 000 N for adults and children. The vertical load shall be no less than 750 N for adults and children.

5.5DV.2 D2 *Modification by replacing second paragraph of clause 5.5 as follows:*

5.5DV.2.1 The horizontal load shall be no less than 2000 N for Adult PFD's, no less than 1020 N for Youth and Child PFDs, and no less than 510 N for Infant PFDs.

5.5DV.2.2 The vertical load shall be no less than 750 N for Adult PFDs, no less than 510 N for Child and Youth PFDs, and no less than 270 N for Infant PFDs.

5.5DV.2.3 If the device is intended for two or more user categories (infant, child, youth or adult), the load values shall be specified for the heavier category.

The horizontal load value shall also apply, if provided, for the lifting loop tested in accordance with ISO 12402-9:2006, 5.5.1.4.

5.5DV.3 DE *Modification by replacing third paragraph of clause 5.5 as follows:*

The horizontal load value shall also apply to the lifting loop, if provided, when tested in accordance with UL 12402-9, 5.5.2.4.

The load shall be maintained for 30 min, if not specified otherwise.

5.5DV.4 D2 *Modification by adding the following new paragraphs to clause 5.5:*

5.5DV.4.1 A collar handle shall support the vertical load specified in 5.5DV.2 and not have any damage, such as separated seams or broken zippers, buckles, webbing, and/or lacing when tested in accordance with ANSI/CAN/UL 12402-9, 5.5.2.6.

5.5DV.4.2 A holding down device shall support the vertical load specified in 5.5DV.2 and not have any damage, such as separated seams, or broken zippers, buckles, webbing, and/or lacing when tested in accordance with ANSI/CAN/UL 12402-9, 5.5.2.7.

5.5DV.4.3 The free end of a body strap shall be provided with a t-tab or an equivalent means, such that the strap does not disengage from the hardware when tested in accordance with ANSI/CAN/UL 12402-9, 5.5.2.8.

5.5DV.4.4 For a device that employs a secondary closure (chest strap, tie tape, or other free hanging appendage) that is attached directly to the cover fabric, the breaking strength of attachment for each specimen shall be not less than 265 N when tested in accordance with ANSI/CAN/UL 12402-9, 5.5.2.9.

5.5DV.4.5 For an inflatable device, each connection to the inflatable compartment and each joint or coupling other than at the connection to the compartment, shall support the specified load without losing its function when tested in accordance with ANSI/CAN/UL 12402-9, 5.5.2.10.

5.5DV.4.6 For a device fitted with a buddy line, the buddy line shall withstand a load of 400 (±5) N for 10 s, when tested in accordance with ANSI/CAN/UL 12402-9, 5.5.2.5. The force required to accomplish separation of the buddy line shall be greater than 400 N and less than 1340 N. The separation of the buddy line from the PFD shall not adversely affect the integrity of the PFD.

5.6 Performance

5.6.1 General

5.6.1.1 When worn, the lifejacket shall not be unduly bulky, heavy or uncomfortable when tested in accordance with ISO 12402-9:2006, 5.5 and 5.6.

5.6.1.1DV D2 *DT Modification by replacing entire clause 5.6.1.1 as follows:*

When worn, the lifejacket shall not be unduly bulky, or heavy when tested in accordance with UL 12402-9, 5.6. The buoyant materials shall not bunch when tested in conformance with UL 12402-9, 5.6.5 and 5.6.6.

5.6.1.2 The lifejacket shall not unduly restrict the vision, hearing, breathing or movement of the user when worn both ashore and in the water and tested in accordance with ISO 12402-9:2006, 5.6. It shall allow easy tightening and loosening of all essential adjustments both ashore and in the water. The lifejacket shall not interfere with vision when worn both ashore and in the water and shall allow sufficient comfort, and head and limb movement to preclude it from being removed because of encumbrance or discomfort during emergency use both ashore and in the water.

5.6.1.2DV D2 *DT Modification by replacing entire clause 5.6.1.2 as follows:*

When worn the lifejacket shall allow tightening and loosening of essential adjustments both ashore and in the water, if necessary, to allow the device to not unduly restrict the vision, hearing, breathing or movement of the user when tested in accordance with UL 12402-9, 5.6. The lifejacket shall not interfere with vision when worn both ashore and in the water and shall allow sufficient comfort, and head and limb movement to preclude it from

being removed because of encumbrance or discomfort during emergency use both ashore and in the water.

5.6.1.3 The lifejacket shall not contain any component nor use any method of component attachment which in normal use is likely to cause injury to the user or damage the lifejacket when tested in accordance with ISO 12402-9:2006, 5.5 and 5.6.

5.6.1.4 The lifejacket shall not significantly hinder dexterity. The user shall be able to swim whilst using the lifejacket, climb a ladder, and board a platform when tested in accordance with ISO 12402-9. At least two-thirds of subjects who can accomplish the task specified in ISO 12402-9:2006, 5.6 without the lifejacket shall also be able to perform it with the lifejacket.

5.6.1.5 The lifejacket shall withstand all tested conditions of normal storage and use. The lifejacket shall remain serviceable when tested in accordance with ISO 12402-9:2006, 5.5 and 5.6.

5.6.1.6 The lifejacket shall not form channels having a tendency to direct water into the face or to the head of the user. The test panel shall witness this by visual inspection during the in-water performance tests.

5.6.1.7 Automatic inflatable lifejackets shall be tested against inadvertent inflation in accordance with ISO 12402-9:2006, 5.5.11.

5.6.1.7DV DE *Modification by deleting clause 5.6.1.7*

5.6.2 Donning, adjustment and fit

5.6.2.1 The lifejacket shall have a proper fit and adjustment. It shall be easy to don. Ties and fastenings necessary for proper performance should be few and simple.

5.6.2.2 Donning shall be obvious and simple on the briefest of instructions. It shall be possible without assistance, except children's lifejackets. The ease in donning and discarding the lifejacket shall not be unduly affected by adverse conditions in use such as poor light, cold or wet. When tested in accordance with ISO 12402-9, donning by all means of securing the lifejacket required to meet the in-water performance requirements shall take no longer than 1 min.

5.6.2.2DV D2 *Modification by replacing entire clause 5.6.2.2 as follows:*

5.6.2.2DV.1 Donning shall be obvious and simple on the briefest of instructions. When tested in accordance with UL 12402-9, 5.6.4, donning by all means of securing the lifejacket required to meet the in-water performance requirements shall take no longer than 1 min. The inflated donning shall take no longer than 2 min.

5.6.2.2DV.2 If a subject dons the lifejacket substantially correctly but fails to secure and/or adjust all closures, donning is considered successful if the in-water performance requirements are met with the lifejacket in the as-donned condition. However, the in-water performance requirements must also be met with the same subject wearing the lifejacket properly donned as intended by the manufacturer.

5.6.2.2DV.3 For inflatable lifejackets, the device shall be located on the subject as intended by the manufacturer and complete donning, adjustment to a secure fit, and inflation shall occur.

5.6.2.2DV.4 For youth, child and infant lifejackets, the donning requirement may be met using the assistance of an adult in accordance with part 9; however, the subject shall demonstrate manual and oral inflation of the lifejacket, if applicable, without assistance.

5.6.2.3 When tested in accordance with ISO 12402-9, the means of adjustment within the stated size range shall ensure a secure fit. Security of fit shall not be dependent upon highly elastic material. If crotch straps or other non elastic devices for improving the security of fit and retention are provided, and it is possible (without physically damaging the lifejacket) to wear the lifejacket with and without the straps or devices, the tests in accordance with ISO 12402-9:2006, 5.6.4 and 5.6.5 shall be performed with and without the straps or devices in place.

5.6.2.3DV D2 *Modification by replacing the entire clause 5.6.2.3 as follows:*

When tested in accordance with UL 12402-9, the means of adjustment shall ensure a secure fit. If crotch straps for improving the security of fit and retention are provided for devices designed for persons of greater than 25 kg, the tests in accordance with UL 12402-9, 5.6.4 and 5.6.5 shall be performed with and without the straps in place. For Infant and Child PFDs, the tests in accordance with UL 12402-9, 5.6.4 and 5.6.5 shall be performed with the straps in place.

5.6.2.4 The user shall not slip out of the lifejacket when tested in accordance with ISO 12402-9.

5.6.2.4DV D2 *Modification by adding a new paragraph to clause 5.6.2.4 as follows:*

In addition, when tested for ride-up in accordance with UL 12402-9, 5.6.11.1DV, Adult and Youth PFDs shall not shift upward on the wearer so as to impede respiration or forward vision, or to allow the freeboard to fall below the requirements in 5.6.3.1DV.3 of this part. Also, the device in the ridden-up condition shall not have a tendency to turn a subject face-down from a position of relaxed static balance in the water following the plunging motions. The use of crotch straps is not acceptable to achieve compliance with these ride-up requirements.

5.6.2.5 Manual and oral inflation shall be tested both in and out of water in accordance with ISO 12402-9:2006, 5.6.5 and 5.6.7.

5.6.2.5DV.1 D2 *Modification by replacing clause to 5.6.2.5 as follows:*

Manual and oral inflation shall be tested both in and out of water in accordance with UL 12402-9, 5.6.4.

5.6.2.5DV.2 D2 *Modification by adding new clause, 5.6.2.6DV, to 5.6.2:*

Each test subject shall properly rearm and repack an inflatable device in accordance to UL 12402-9. The device shall also properly inflate after each subject has completely donned and adjusted the device to a secure fit. Infant, Child, and youth devices may have the device repacked and rearmed by an accompanying adult, if unable to properly perform the repack and rearming on their own.

5.6.3 In water performance

5.6.3DV DR *Modification by adding the following paragraph to allow RTD and non-RTD methods for in-water testing:*

Certain test results may be assessed using comparison to a reference test device (RTD Method) or against absolute values (non-RTD Method). Where the RTD method is available as an option, the same Method shall be used for all tests.

5.6.3.1 A lifejacket shall provide lateral and occipital support of the user's head so that the mouth of a relaxed individual is held clear of a still water surface, with the trunk of the body inclined backwards from the vertical at an angle of at least 30° and not more than 90° and an average face plane angle of at least 20° from the horizontal and not more than 90°, when tested in accordance with ISO 12402-9:2006, 5.6. Lifejackets for small children shall be tested in accordance with ISO 12402-9:2006, 5.6. A manikin can be used as a supplementary tool, in which case the test procedure according to ISO 12402-9:2006, 5.6.9 shall be followed.

5.6.3.1DV.1 DR *Modification by replacing clause to 5.6.3.1 as follows:*

5.6.3.1DV.1.1 A lifejacket shall provide the following lateral and occipital support of the user's head so that the mouth of a relaxed individual is held clear of a still water surface, with the trunk of the body inclined backwards from the vertical.

5.6.3.1DV.1.2 When using the non-RTD Method:

1) For adult, youth and child test subjects, the average trunk angle and face plane angle for a group of test subjects shall be no less than 30º and no less than 20º for any individual subject when tested in accordance with UL 12402-9, 5.6.

2) For infant test subjects, the average trunk angle for a group of test subjects shall be no less than 30º and no less than 20º for any individual subject. The face plane angle for each individual shall not be less than 0º.

5.6.3.1DV.1.3 When using the RTD Method:

1) The average trunk angle of all subjects in the candidate device shall not be less than the average for the RTD by 10º.

2) For adult and youth subjects, the average face plane angle of all subjects in the candidate device shall not be less than the average for the RTD by 5º.

3) For child and infant subjects, the face plane angle for each subject shall not be less than 0º.

The test subjects have to be able to swim. They shall wear swimming costumes only. Each test subject has to be made familiar with each of the tests, particularly the requirements regarding relaxing and exhaling in the face-down position. The test subjects have to don the lifejacket, unassisted, using only the instructions provided by the manufacturer.

5.6.3.1DV.2 DE *DT Modification by deleting the second paragraph of clause 5.6.3.1.*

The freeboard measured in accordance with ISO 12402-9:2006, 5.6.2 shall be not less than 80 mm for any subject.

5.6.3.1DV.3 D2 *Modification by replacing third paragraph of clause 5.6.3.1 as follows:*

5.6.3.1DV.3.1 The freeboard measured in accordance with UL 12402-9:2006, 5.6.2 shall be as follows:

5.6.3.1DV.3.2 When using the non-RTD Method:

1) For Adult lifejackets, the minimum measured freeboard for all subjects shall be 80 mm.

2) For youth, child, and infant lifejackets, the minimum measured freeboard for all subjects shall be 50 mm.

5.6.3.1DV.3.3 When using the RTD Method,

1) The average freeboard of the group of test subjects shall be not less than the average freeboard of the RTD minus 6.4 mm; and

2) Each individual freeboard measurement shall be no less than 25 mm.

5.6.3.1DV.4 *DT Modification by adding the following new paragraph at the end of clause 5.6.3.1:*

When floating in an attitude of relaxed static balance, each subject's respiration shall not be impeded at any time, and each subject shall have no tendency to turn face-down, when tested in accordance with UL 12402-9, 5.6.6.

5.6.3.1DV.5 D1 *Modification by adding new clause,5.6.3.1DV.5 to clause 5.6.3.1.*

5.6.3.1DV.5.1 Upon water entry in accordance with UL 12402-9, 5.6.5, the buoyant elements shall not dislodge, cause harm to the test subject or be damaged so as to affect its in-water performance or buoyancy. A device shall maintain its intended position on each subject. The device is to be considered in the intended use position if:

a) the subject's arms are not trapped in the overhead position;

b) the device remains in a usable position on the subject; and

c) the subject's breathing is not impeded.

5.6.3.1DV.5.2 In addition, an inflatable device shall have automatic and manual-auto inflation systems activate as intended. For automatic and manual-auto inflation systems, upon entry into the water, the device shall inflate and, without assistance by the subject, bring the subjects to the surface of the water within an average of 10 s.

5.6.3.2 When the lifejacket is in an operational condition, it shall turn the test subject to the position required by 5.6.3.1 within 10 s when tested in accordance with ISO 12402-9:2006, 5.6.

5.6.3.2DV D2 *Modification by replacing clause 5.6.3.2 as follows:*

5.6.3.2DV.1 The lifejacket shall turn the test subject to the position required by 5.6.3.1 when tested in accordance with ISO 12402-9:2006, 5.6, within the time limits below.

5.6.3.2DV.2 When using the non-RTD Method, the turn time shall not exceed 10 s for each subject.

5.6.3.2DV.3 When using the RTD Method, the turn time shall meet the following requirements:

a) The corrected average turn time for all subjects in the candidate device shall not exceed the following:

i) For adult and youth devices, the corrected average turn time for the candidate device shall not exceed that for the RTD by more than 2 seconds;

ii) For child and infant devices, the corrected average turn time for the candidate device shall not exceed that for the RTD by more than 1s.

b) In addition, the total number of turns for the group of test subjects shall not be less than the number of turns obtained by using the RTD.

The corrected average turning time shall be calculated as follows:

$$A_c = \frac{A_t}{(\frac{T_t}{T_{total}})}$$

in which:

A_c is the corrected average turning time;

A_t is the average turning time for tests resulting in a turn;

T_t is the number of tests resulting in a turn; and

T_{total} is total number of tests performed.

5.6.3.4 When tested in accordance with ISO 12402-9:2006, 5.6.5 the lifejacket shall not be damaged so as to affect the lifejacket's in-water performance or buoyancy.

The lifejacket shall not become dislodged, cause harm to the test subject or be damaged so as to affect its in water performance or buoyancy.

5.6.3.5 When tested in accordance with ISO 12402-9:2006, 5.6.2, the lifejacket shall bring the test subject to rest with the mouth clear of the water by at least the required freeboard.

Without repositioning of any part of the body, the freeboard shall meet the relevant requirements

5.6.3.5DV D2 *Modification by adding the following new clause to 5.6.3:*

When tested according to UL 12402-9, 5.6.7.2.3, the lifejacket shall permit the user to inflate by mouth while in or out of the water using either hand independently.

5.7 Multi-Chamber Buoyancy Systems

Multi chamber buoyancy systems shall meet the performance requirements of this part of ISO 12402 with any one chamber deflated. Multi-chamber systems shall conform with ISO 12402-8:2006, 5.7.

5.7DV D2 *Modification by replacing clause 5.7 in its entirety, as follows:*

5.7DV.1 General

5.7DV.1.1 For multi-chamber buoyancy systems where the minimum performance required is provided by the aggregate buoyancy of multiple primary chambers, each required chamber shall have independent primary auto inflation, and the system shall meet the performance requirements of this part of ANSI/CAN/UL 12402 without exception.

5.7DV.1.2 Multi-chamber buoyancy systems that provide back-up or supplemental flotation shall conform with 5.7DV.2 or 5.7DV.3, as applicable. If provided, a full back-up chamber or combination of full back-up chambers shall, when tested according to 5.8.2 and UL 12402-9, 5.6, provide at least in-water performance conforming to this part. If provided, partial back-up chamber or combination of partial back-up chambers shall, when tested according to 5.8.3 and UL 12402-9, 5.6 separately, provide at least in-water performance conforming to UL 12402-5. Multi chamber buoyancy for back-up protection

5.7DV.2 Back-Up flotation

This section refers to PFDs with multi- chamber buoyancy systems that provide performance or features exceeding the minimum requirements of the part to which the PFD is designed in order to provide back- up protection. The back-up protection can be either full or partial. In all cases when the primary chamber (s) and back-up chamber (s) are inflated together, the PFD shall continue to meet the in-water performance requirements of this part of 12402.

5.7DV.3 Full back-up protection

A multi-chamber or multi-buoyancy source PFD with back-up protection (in case a primary chamber fails to function) shall provide performance that meets this part of 12402 with any one chamber deflated. All chambers necessary to meet the performance requirements of this part (given that any one chamber is deflated) must be provided with oral inflation and with auto and/or manual inflation consistent with this part.

5.7DV.4 Partial back-up protection

A multi-chamber or multi-buoyancy source PFD with partial back-up protection (in case a primary chamber fails to function) shall continue to provide performance at a level of not less than 5.6 of 12402-5 even with any one chamber deflated. All chambers necessary to meet the performance requirements of 5.6 of 12402-5 (given that any one chamber will be deflated) must be provided with oral inflation and with auto and manual inflation consistent with this part.

5.7DV.5 Supplemental chamber buoyancy for enhanced performance

5.7DV.5.1 General

5.7DV.5.1.1 This section refers to PFDs with supplemental chamber buoyancy systems that provide performance or features exceeding the minimum requirements of the part to which the PFD is designed in order to provide enhanced in-water performance or other accessory functions. Enhanced in- water performance may include items such as higher freeboard, improved head support, additional stability, etc. Other accessory functions may include items such as increased location detection, splash protection, etc. These PFDs incorporate a supplemental inflation chamber or chambers to provide these features for deployment after stabilisation in the water.

5.7DV.5.1.2 The buoyancy to meet the requirements of this part shall not rely on a supplemental chamber(s). Supplemental chambers will provide additional buoyancy.

5.7DV.5.1.3 Supplemental inflation chambers shall be provided with oral inflation. Additional inflation sources are optional.

5.7DV.6 Supplemental chamber with single primary chamber/ buoyancy source

Such a system shall have at least one independent inflation system for each supplemental chamber. The system shall provide performance that meets this part with its primary chamber inflated alone and with both the primary chamber and, any supplemental chamber (s) inflated. The primary chambers shall have oral inflation and auto and/or manual inflation.

5.7DV.7 Supplemental chamber with multiple primary chambers/buoyancy source

For a multi chamber inflation or multi-buoyancy source system where the minimum performance required is provided by the aggregate buoyancy of multiple buoyancy sources, each required inflation chamber shall have oral inflation and auto and/or manual inflation consistent with this part.

5.7DV.8 Testing

PFD's with supplemental chamber(s) shall meet the following:

- **Any supplemental chamber(s) when inflated alone or in any combination with the primary chamber(s) shall not prevent the user from maintaining a face up position in the water. A PFD with supplemental chamber(s) when inflated in combination with the primary chamber(s) shall provide performance that meets this part when tested in accordance with UL 12402-9, 5.6.**

6 Marking

6.1 General

The lifejacket shall be permanently and legibly marked with the information given in 6.2, which shall be given at least in the official language(s) of the country of destination. Information shall be given preferably as pictograms, or as text combined with pictograms, or, if defined pictograms do not exist, as text alone.

6.2 Information on the lifejacket

Information on the lifejacket shall include the following items:

a) identification of the manufacturer – at least the name of the manufacturer or representative and their mailing address;

b) the class the PFD and the performance level according to 4.2;

c) the statement that it is not a PFD until fully inflated (only on an inflatable PFD);

d) the size range of the lifejacket, e.g. range of chest girth and user's body mass;

e) the minimum buoyancy provided and amount of inflatable buoyancy, if a hybrid type;

f) storage, care, cleaning and maintenance instructions in brief;

g) simple donning and adjustment instructions;

h) simple instructions for use;

i) if inflated by gas, the correct size and charge of the cylinder;

NOTE This information appears near the place where the cylinder is actually fitted.

j) if inflated by gas, a warning that gas cylinders are dangerous goods, and that they shall be kept away from children and not misused;

k) the manufacturer's model, designation, serial number, and quarter (or month) and year of manufacture;

NOTE Months are given as Arabic numerals (1 to 12), and quarters as Roman numerals (I to IV) in order, starting from 1st January.

l) the number of this part of ISO 12402;

m) pictograms or words indicating other risks catered for or not provided for;

n) the text “Do not use as a cushion”;

o) the text “Train yourself in the use of the device”;

p) the text “Teach the child to float in this lifejacket”, if intended for children;

q) the text “For children less than 6 years of age use automatically operating devices only”, if intended for children;

r) the range of its specific application;

s) the expected servicing interval assuming average use, and a space for servicing dates to be marked, including additional items (gas bottles, bobbins, retroreflective tapes, etc.) and their replacement

t) compatibility with safety harnesses, clothing or additional equipment as relevant;

u) the text “Full performance may not be achieved using waterproof clothing or in other circumstances. Refer to the leaflet.”;

v) the text “Warning: Do not apply diapers which provide buoyancy when using the lifejacket”.

NOTE This warning is only required for lifejackets for users with a body mass up to 15 kg.

The label bearing this information shall be permanently affixed to the lifejacket, shall be resistant to salt water and stand at least 10 washes carried out in accordance with the manufacturer's instructions. The label shall not shrink so as to affect the appearance or performance of the lifejacket or its own legibility.

Special ‘lace up’ pictograms showing the manufacturer’s exact recommendations for webbing (narrow fabric) lacing through the buckle and fastening combination of the ‘cow-tail’ and the text “Practice and training are required with this device before use” shall be placed on the lifejacket and in the accompanying information.

6DV DR *Modification by replacing entire clause 6 as follows:*

6DV MARKING

6DV.1 General

6DV.1.1 All markings that are provided shall be in English and French. When Spanish is provided, the markings shall comply with Section 6DV.

6DV.1.2 All required markings shall be clearly reproduced in permanent, waterproof lettering that contrasts with the color of the surface on which it is applied.

6DV.1.3 A device shall not be provided with any marking or literature which modifies or contradicts the intent of the required markings, specified in Section 6DV.

6DV.1.4 A device shall not have any literature or markings that imply personal protection from impact.

6DV.1.5 A marking shall be included on both sides of a buddy line or the outside of a pocket in which a buddy line is stowed, in letters at least 12 mm (1/2 inch) high, with the following words:

English	French	Spanish
NOT FOR LIFTING	PAS POUR LE LEVAGE	NO SE USE PARA ELEVACIÓN

6DV.2 Label Location and Format

6DV.2.1 All lettering on the PFD label shall have a similar typeface and layout. Unless otherwise specified, all lettering shall have a height of no less than 1.5 mm (0.06 in).

6DV.2.2 The PFD label shall have similar information grouped together into 3 panels; Selection and Warnings, Certification and Approval, Care and Maintenance, as described in this section. Each Panel shall be fully bordered by a distinct solid line. The 3 panels may be grouped together as a single label or separated as individual labels as follows:

a) Selection and Warnings – The Selection and Warnings panel of the PFD label shall lay entirely on one continuous surface of the device and be visible immediately prior to donning. When the selection and warnings are not printed directly to the PFD, the label shall comply with the requirements in 6DV.4.1 – 6DV.4.5. Unless a separate or additional "neck" label with the device size information is provided, the Selection and Warning panel shall be oriented such that, after donning, the sizing information is located as near as practicable to the back of the wearer's neck.

b) Certification and Approval – When not adjacent to the Selection and Warnings Panel, the Certification and Approval Panel shall be provided on an interior or exterior surface or tag. When the Certification and Approval Panel is not printed directly to the PFD, it shall comply with the requirements in Section 6DV.4.

c) Care and Maintenance – When not adjacent to the Selection and Warnings Panel, the Care and Maintenance information shall be provided on an interior or exterior surface or tag. When the Care and Maintenance panel is not printed directly to the PFD, it shall comply with the requirements in Section 6DV.4.

6DV.3 Label Content

6DV.3.1 Selection and Warnings Panel

6DV.3.1.1 The Selection and Warnings Panel shall include the following information arranged in the order listed:

a) Sizing information, to include a size class, weight range, and chest size (if applicable), according to Table 6DV.1.

b) Graphics indicating the appropriate performance level according to Figure 6DV.1a and Figure 6DV.1b. The graphics shall be located within the same region of the label. The order in which the graphics shall be located on the panel shall be Figure 6DV.1a and Figure 6DV.1b respectively. For devices which comply with the requirements in different configurations, such as a hybrid, the performance level must be provided for each state of operation.

c) Graphics to warn the user that the PFD is not designed for use on a personal watercraft, or when water skiing, or participating in similar towed uses, according to Figure 6DV.2.

d) Any applicable warnings and limitations, as determined elsewhere in this standard. Examples include, but are not limited to those shown in Table 6DV.2. When the warnings in 6DV.3.2 are not applicable, the warning symbol shown in Table 6DV.3.2 shall be included with the content from Table 6DV.2.

e) The following statement:

English	French	Spanish
Choose and wear the device which fits you and your activity, visit www.wearitlifejacket.org. Read and keep the owner's manual and tags for info such as rearming[1], wear, and care.	Choisir et porter l'appareil qui vous convient et votre activité, visitez www.wearitlifejacket.org Lire et conserver le manuel et les étiquettes pour les informations, telles que le réarmement , l'usure et les soins.	Elija y utilice el chaleco salvavidas que le ajuste a su medida y actividad, visite www.wearitlifejacket.org Lea y conserve el manual de usuario y etiquetas para consultar la información de rearme, forma correcta de utilizarlo y recomendaciones para su cuidado
[1] The word "rearming" is only required for inflatable devices.		

f) A device shall state whether full or partial back up is provided, and the buoyancy provided by the primary buoyancy source(s) alone and the buoyancy provided by the back-up chamber(s) shall be stated.

g) A device shall state both the buoyancy provided by the primary buoyancy source (s) alone and the buoyancy provided by the supplemental chamber(s).

Table 6DV.1
Sizing Information for PFD Labels

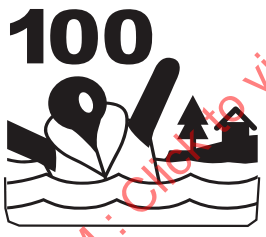
Size Class English[1, 2]	Size Class French[1, 2]	Size Class Spanish[1, 2]	Maximum Weight Range	Chest Size[1, 4]	Waist Size[1,4]
"ADULT"[3]	ADULTE	ADULTOS	> 40 kg (> 88 lbs.)	Mandatory	Mandatory
"YOUTH/A-DULT"	JEUNESSE / ADULTE	JOVEN/ ADULTO	> 35 – 50 kg (> 77 – 110 lbs.)	Mandatory	Mandatory
"YOUTH"	JEUNESSE	JOVEN	> 25 – 40 kg (> 55 – 88 lbs.)	Optional	Mandatory
"CHILD"	ENFANT	NIÑO	> 15 – 25 kg (> 33 – 55 lbs.)	Optional	Mandatory
“INFANT/-CHILD”	NOURRISSONS / ENFANT	NIÑO	< 23 kg (< 50 lbs)	Optional	Mandatory
“INFANT”	NOURRISSONS	BEBÉ	< 14 kg (< 30 lbs)	Optional	Mandatory

[1] If this marking is not visible when the device is packaged, it shall also appear on the package.

[2] Notwithstanding 6DV.2.1, the size class on the device shall have a letter height of no less than 9 mm (0.35 in).

[3] The size class may be followed by a size description, such as but not limited to: "S", "M", "L", "UNIVERSAL", or "OVERSIZE".

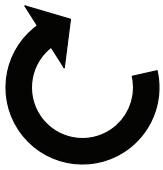
[4] Shall be expressed in inches and centimeters over a range of not less than 2 inches; for example, "76 to 81 cm (30 to 32 in)".

Graphic	Description
	Meets all requirements for Level 100 devices

su2844a

Figure 6DV.1a

Performance Information for PFD Labels – Environment

Graphic	Definition of Graphic
	Device turns most wearers from a face down position.

su2742b

Figure 6DV.1b

Performance Information for PFD Labels – Turning

Graphic	Definition of graphic
	Not designed for water skiing, towed sports or for use on personal watercraft (PWC).

su3470

Figure 6DV.2

Water Skiing, Towed Sports, or Personal Watercraft (PWC) Icons for PFD

Graphic	Definition of graphic
	Not designed for use in whitewater.

su3471

Figure 6DV.3

Whitewater Icon for PFD Labels

Table 6DV.2
Warnings for PFD Labels

Foa-m	Gas	Ka-pok	English	French	Spanish	Graphic
	X		Do not Use below freezing.	Ne pas utiliser en dessous de zéro.	No utilizar por debajo de cero.	
X[1]	X[1]	X[1]	Approval conditions state that this device must be worn to be counted as equipment required by vessels meeting Transport Canada or USCG regulations.	Les conditions d'approbation stipulent que cet appareil doit être porté pour être compté comme l'équipement requis par les navires qui respectent les règlements de Transports Canada ou de l'USCG.	Las condiciones de aprobación establecen que este dispositivo debe usarse para contar como el equipo requerido por los buques que cumplen con las regulaciones de Transport Canada o USCG.	
	X[1]		WARNING – Not approved for users less than 16 years old.	AVERTISSEMENT – Non approuvé pour les utilisateurs de moins de 16 ans.	ADVERTENCIA – No aprobado para los usuarios menores de 16 años de edad.	
	X[1]		WARNING – In Canada, not approved for users less than 16 years old. In the US users less than 16 years old must have adult supervision.	AVERTISSEMENT – Au Canada , pas approuvé pour les utilisateurs de moins de 16 ans. Dans les utilisateurs américains de moins de 16 ans doivent avoir surveillance d'un adulte.	ADVERTENCIA – En Canadá , no aprobado para los usuarios menores de 16 años de edad. En los usuarios estadounidenses de menos de 16 años deben tener supervisión de un adulto.	
		X	Do not puncture inner plastic cover. Replace PFD if pads become waterlogged.	Ne pas perforer la couverture plastique intérieure. Remplacer l'EIF si les coussinets prennent l'eau.	No perfore la cubierta de plástico interior. Reemplace los PFD si se empapa la almohadilla.	
X	X	X	Drowning hazard if not worn.	Noyade danger si ce ne est porté.	Peligro de ahogamiento si no se usa.	
X	X	X	Must be fastened and properly adjusted to float the wearer.	Doit être fixé et correctement ajusté de laisser flotter le porteur.	Debe abrocharse y ajustarse apropiadamente para flotar al usuario.	
	X		Do not wear under clothing.	Ne pas porter sous les vêtements.	No usar debajo de la ropa.	
	X		Check CO_2 status before each use.	Vérifier l'état de CO_2 avant chaque utilisation.	Comprobar el estado de CO_2 antes de cada uso.	
X[1]	X[1]	X[1]	Attach accessories at your own risk; they can reduce PFD performance.	Fixez des accessoires à vos risques et périls; ils peuvent réduire les performances de l'EIF.	Agregue accesorios bajo su propio riesgo; pueden reducir el rendimiento del PFD.	X[1]

6DV.3.2 Certification and Approval Panel

6DV.3.2.1 The Certification and Approval Panel shall include the following information, arranged as indicated:

a) Company trademark and/or name and physical address or web address of the Applicant, in the upper left corner of the Panel;

b) “USCG Approved” and the U.S. Coast Guard Approval Number in the format “160. ###/####/#” [and TC approval information], in the lower left corner of the Panel;

c) Model Number and Style (if applicable), manufacturer may include a catalog number;

d) Lot Number, directly below the Model Number and Style. The lot number shall:

1) Incorporate a means of identifying the year and quarter of manufacture of the device;

2) Be numbered serially; and

3) Provide a means of identifying the device as the product of a particular factory (if a manufacturer produces PFDs at more than one factory);

e) The Mark or Name of the Certification Organization, in the lower right corner of the Panel; and

f) State "Approved only when worn", if applicable in the bottom left of the panel. See the following:

English	French	Spanish
Approval conditions state that this device must be worn to be counted as equipment required by vessels meeting Transport Canada or USCG regulations.	Les conditions d’approbation stipulent que cet appareil doit être porté pour être compté comme l’équipement requis par les navires qui respectent les règlements de Transports Canada ou de l’USCG.	Las condiciones de aprobación establecen que este dispositivo debe usarse para contar como el equipo requerido por los buques que cumplen con las regulaciones de Transport Canada o USCG.

g) State "In Canada, not approved for users less than 16 years old” or “Not approved for users less than 16 years old”, where applicable on inflatable devices. "In the US, users less than 16 years old must have adult supervision". See the following:

English	French	Spanish
WARNING – In Canada, not approved for users less than 16 years old. In the US users less than 16 years old must have adult supervision.	AVERTISSEMENT – Au Canada, ce produit n’est pas approuvé pour les utilisateurs de moins de 16 ans. Aux États-Unis, la supervision d’un adulte est requise pour les utilisateurs de moins de 16 ans.	ADVERTENCIA: En Canadá, no aprobado para usuarios menores de 16 años. En los Estados Unidos, los usuarios menores de 16 años deben tener supervisión de un adulto.
Not approved for users less than 16 years old.	Non approuvé pour les utilisateurs de moins de 16 ans.	No aprobado para los usuarios menores de 16 años de edad.

6DV.3.3 Care and Maintenance Panel

6DV.3.3.1 The Care and Maintenance Panel shall include the following for all PFDs:

a) The manufacturer's recommended cleaning, drying, and storage instructions, which shall comply with the Federal Trade Commission Rule (16 CFR 423), and the Canadian Textile Labeling Act. The care instructions shall use International Care Labeling Symbols, ASTM D5489, and at a minimum shall indicate “Do not dry clean”, unless all critical components of the device have been evaluated to the Standard for Components for Personal Flotation Devices, UL 1191, following perchloroethylene exposure.

English	French	Spanish
Use: • Fasten all closures and adjust for a snug fit.	Utilisation : • Attacher toutes les fermetures fermement.	Uso: • Fije todos los enganches y ajuste para que estén bien apretados.
Inspection: • Inspect your life vest before each outing. Do not use if your life vest shows signs of weathering, damage, or rot.	Inspection : • Inspecter le gilet de sauvetage avant chaque sortie. Ne pas utiliser si le gilet de sauvetage présente des signes d'usure, de dommage ou de moisissure.	Inspección: • Revise su chaleco salvavidas antes de cada salida. No lo use si su chaleco salvavidas muestra signos de intemperie, daños o mal estado.
Care and Storage: • Dry thoroughly after each outing. • Store in a dry, cool place out of direct sunlight.	Entretien et entreposage : • Faire complètement sécher après chaque sortie. • Entreposer dans un endroit sec et frais à l'abri des rayons du soleil.	Cuidado y almacenamiento: • Séquelo completamente después de cada salida. • Guárdelo en un lugar seco y fresco, alejado de la luz directa del sol.

6DV.3.4 Additional PFD Markings for Inflatables

6DV.3.4.1 The following information and markings shall be located on the PFD as follows:

a) Written, pictogram, or both, instructions for arming that were used for certification testing;

b) An area suitable for recording owner identification and maintenance/inspection details;

c) The unique model number of the inflation mechanism approved for use on the PFD except when the inflation system information is included on the PFD label, or when the inflation system is permanently attached to the PFD;

d) The proper mass, in grams, of the inflation medium container to be used;

e) An inflatable device shall be marked with a shadow outline or other suitable means to identify the correct position for the inflation medium container. Where there is a physical potential for containers of an incorrect size to be used with the inflatable PFD, the shadow area shall approximate the outline of the correct inflation medium container;

f) Identical written, pictogram, or both, donning instructions present on the device during the in water testing shall be included on all devices;

g) An inflatable device which is not sold in an armed and ready-to-use condition shall be marked with a removable hang tag which states "WARNING – DEVICE IS NOT ARMED. READ INSTRUCTIONS AND ARM PROPERLY PRIOR TO USE." The characters in the warning label shall be at least 13 mm (1/2 inch) in height; and

h) A manual actuation means (e.g., lanyard, knob, or handle) which normally rests against the surface of the PFD shall be provided in a color which contrasts with the color of the PFD. A manual actuation means which normally hangs below the surface of the PFD shall be provided in a highly visible color regardless of the color of the PFD.

6DV.4 Alternate Attachment Means for PFD Markings

6DV.4.1 If required markings are not printed directly on the outer shell or lining of a device as specified in 6DV.2, the material on which the markings are printed and the means of attachment shall comply with the requirements in this section.

6DV.4.2 The material on which the markings are printed shall be spun-bonded, high-density polyethylene sheeting, woven poly label fabric, or the equivalent.

6DV.4.3 The material shall be fastened to the outer shell or lining of the PFD using either a type 301 stitch constructed in accordance with Federal Standard 751a, at 7 – 12 stitches per inch (3 – 5 stitches per cm) or an equivalent means of attachment.

6DV.4.4 Stitching of the label must not obscure any of the text and must be at least 1.6 mm (1/16 in) away from any text.

6DV.4.5 Stitching shall lie at least 1.6 mm (1/16 in) from the outer edges of the material along the entire perimeter of the label, or equivalent alternate means of attachment shall secure the entire perimeter of the label to the PFD.

6DV.4.6 For all other markings, the label shall be attached as specified in 6DV.4.3 – 6DV.4.5, or stitched or attached by an equivalent means on at least one edge of a single or multi-page or stacked or folded flag-style arrangement which allows either an exposed or stowed arrangement. Exposed labels shall not present a potential for snagging any greater than other construction features of the PFD.

6DV.4.7 Flag-style arrangements shall be prominently marked on the bottom of the label with the words "Do Not Remove".

7 Information supplied by the manufacturer

The lifejacket shall be supplied with an explanatory leaflet, containing at least the following items:

a) items given in 6.2;

b) the recommendation that the user should try out the lifejacket to ascertain its performance before use;

c) full instructions for donning and use (also instructions for whistle and light if fitted);

d) details of the recommended limitations on use, including sea conditions, temperature limits, life span and any other pertinent information;

e) a description of any spare parts and their replacement, instructions for servicing, maintenance, and packing, if applicable;

f) such other general advice on the care and use of the lifejacket as the manufacturer sees fit.

7DV DR *Modification by replacing entire clause 7 as follows:*

7DV OWNER'S MANUAL

7DV.1 General

Each device which uses inflation to meet all or part of the performance requirements shall be accompanied by an owner's manual which incorporates the text specified in 7DV.2 – 7DV.5.

7DV.2 Required Text

7DV.2.1 The following text shall be verbatim where presented within quotation marks. The text specified in (b) shall be accompanied by illustrations of the types of devices being described. The illustrations provided shall be photographs or drawings of the manufacturer's own products or, where this is not possible, shall be illustrations of other approved flotation devices. The text shall be printed in the sequence shown and shall be preceded by the words "Do not remove prior to sale." The type size shall be a minimum of 1.59 mm (1/16 inches) tall.

a) "APPROVAL CONDITIONS AND CARRIAGE REGULATIONS"

If the device complies with the requirements in 5.1DV.2.2:

English	French	Spanish
"This inflatable flotation device is approved by Transport Canada and the U.S. Coast Guard. It is not approved for white water paddling, water skiing or other high impact, high speed activities. This inflatable flotation device was designed to be more comfortable and less restrictive to wear than inherently buoyant flotation devices. When worn, used, and serviced according to this owner's manual, this flotation device can greatly increase your chances of survival in the water. Not recommended for nonswimmers or weak swimmers. In Canada, users of inflatable flotation devices must be at least 16 years old."	« Cet équipement de flottabilité gonflable est approuvé par Transports Canada et la Garde côtière des États-Unis. Il n'est pas approuvé pour sports de pagaie en eau vive, le ski nautique et les autres activités à fort impact se déroulant à de grandes vitesses. Cet équipement de flottabilité gonflable est conçu pour fournir plus de confort et moins entraver les mouvements que les équipements à flottabilité inhérente. Lorsque porté, utilisé et entretenu conformément au manuel du propriétaire, cet équipement de flottabilité peut grandement accroître vos chances de survie dans l'eau. Il n'est pas recommandé pour les non-nageurs ou les faibles nageurs. Au Canada, les utilisateurs d'équipements de flottabilité gonflables doivent être âgés d'au moins 16 ans. »	"La Guardia Costera de Estados Unidos y el Departamento de Transporte de Canadá aprobaron este dispositivo de flotación inflable. No está aprobado para kayak de aguas bravas, esquí acuático u otras actividades de alto impacto y alta velocidad. Este dispositivo de flotación inflable se diseñó para proporcionar una mayor comodidad y una menor restricción al desgaste que los dispositivos de flotación boyante por naturaleza. Cuando este dispositivo de flotación se desgasta, se utiliza y recibe su mantenimiento según lo establecido en el manual del usuario puede aumentar considerablemente sus posibilidades de supervivencia en el agua. No recomendado para personas que no saben nadar ni nadadores débiles. En Canadá, los usuarios de dispositivos de flotación inflables deben tener al menos 16 años de edad".

If the device does not comply with the requirements in 5.1DV.2.2:

English	French	Spanish
"This inflatable flotation device is approved by Transport Canada and the U.S. Coast Guard. It is not approved for white water paddling, water skiing or other high impact, high speed activities. This inflatable flotation device was designed to be more comfortable and less restrictive to wear than inherently buoyant flotation devices. When worn, used, and serviced according to this owner's manual, this flotation device can greatly increase your chances of survival in the water. Not recommended for nonswimmers or weak swimmers. Users of this inflatable flotation device must be at least 16 years old."	« Cet équipement de flottabilité gonflable est approuvé par Transports Canada et la Garde côtière des États-Unis. Il n'est pas approuvé pour sports de pagaie en eau vive, le ski nautique et les autres activités à fort impact se déroulant à de grandes vitesses. Cet équipement de flottabilité gonflable est conçu pour fournir plus de confort et moins entraver les mouvements que les équipements à flottabilité inhérente. Lorsque porté, utilisé et entretenu conformément au manuel du propriétaire, cet équipement de flottabilité peut grandement accroître vos chances de survie dans l'eau. Il n'est pas recommandé pour les non-nageurs ou les faibles nageurs. Les utilisateurs de cet équipement de flottabilité gonflable doivent être âgés d'au moins 16 ans. »	"La Guardia Costera de Estados Unidos y el Departamento de Transporte de Canadá aprobaron este dispositivo de flotación inflable. No está aprobado para kayak de aguas bravas, esquí acuático u otras actividades de alto impacto y alta velocidad. Este dispositivo de flotación inflable se diseñó para proporcionar una mayor comodidad y una menor restricción al desgaste que los dispositivos de flotación boyante por naturaleza. Cuando este dispositivo de flotación se desgasta, se utiliza y recibe su mantenimiento según lo establecido en el manual del usuario puede aumentar considerablemente sus posibilidades de supervivencia en el agua. No recomendado para personas que no saben nadar ni nadadores débiles. Los usuarios de este dispositivo de flotación inflable deben tener al menos 16 años de edad".

[Also, specific instructions for any special approvals, i.e., harness models, etc., shall be included.]

b) "MANDATORY CARRIAGE REQUIREMENTS"

English	French	Spanish
"The U.S. Coast Guard and Transport Canada require you to carry approved flotation devices of the correct size for each person on board that are legibly marked with an approval number and are in good and serviceable condition. To be considered serviceable, this flotation device shall not exhibit deterioration that could diminish its performance such as broken or deformed hardware, detached webbing, rotted structural components, air leaks, or nonfunctional oral inflation tube. Unless worn inflated, this flotation device must also be properly armed with a full CO_2 cylinder, inflation system status indicator, and an accessible manual inflation lanyard. A flotation device which is "approved only when worn" or "required to be worn" must be worn under the specified conditions."	« La Garde côtière des États-Unis et Transport Canadas exigent que vous transportiez des équipements de flottabilité qui soient de la bonne taille pour chaque personne à bord, marqués lisiblement avec un numéro d'approbation et en bonne condition et fonctionnels. Pour être considéré comme fonctionnel, un équipement de flottabilité ne doit pas présenter de signes de détérioration pouvant diminuer sa performance, p. ex. des pièces brisées ou déformées, des sangles détachées, des composants structurels pourris, des fuites d'air ou des tubes de gonflage buccal non fonctionnels. Sauf s'il est porté gonflé, l'équipement de flottabilité doit aussi être correctement enclenché avec une bouteille de CO_2 pleine, un indicateur d'état du système de gonflage et un cordon de gonflage manuel accessible. Un équipement de flottabilité qui est "approuvé seulement lorsque porté" ou dont "le port est exigé" doit être porté sous les conditions spécifiées. »	"La Guardia Costera de Estados Unidos y el Departamento de Transporte de Canadá exigen que cada persona a bordo lleve su dispositivo de flotación aprobado con la talla correcta, que esté marcado de manera legible con un número de aprobación y esté en condiciones óptimas y utilizables. Para que este dispositivo de flotación se considere como utilizable, no deberá presentar un nivel de deterioro que pueda disminuir su rendimiento, como equipo roto o deformado, redes separadas, componentes estructurales descompuestos, fugas de aire o un tubo de inflado oral no funcional. Este dispositivo de flotación también se debe armar con un cilindro de CO_2 completo, un indicador de estado del sistema de inflado y un cordón de inflado manual accesible, a menos que se use inflado. Un dispositivo de flotación que esté "solo aprobado cuando se usa" o "se deba usar" se debe usar en condiciones específicas".

c) "WHY ARE FLOTATION DEVICES REQUIRED SAFETY EQUIPMENT?"

English	French	Spanish
"Drowning is the leading cause of fatalities involving recreational boating. In over 80 percent of fatal incidents the person was not wearing flotation and most of these occurred after falls overboard or capsize of small boats. An approved flotation device, when worn, helps raise your head above water in the first critical moments of immersion. Some devices are designed to keep you to face up in the water, and increase your chances for survival and rescue. Different body types float differently and some boating activities require special features in a flotation device."	« La noyade est la principale cause de décès liée à la navigation de plaisance. Dans plus de 80 % des accidents mortels, la personne ne portait pas d'équipement de flottabilité et, dans la plupart des cas, l'accident s'est produit après une chute par-dessus bord ou le chavirement d'une petite embarcation. Un équipement de flottabilité approuvé, lorsque vous le portez, aide à maintenir votre tête hors de l'eau dans les premiers instants critiques suivant l'immersion. Certains équipements sont conçus pour vous maintenir en position sur le dos lorsque vous êtes dans l'eau, ce qui augmente vos chances de survie et de sauvetage. Les différents types de corps humain ne flottent pas tous de la même manière et certaines activités de navigation nécessitent des équipements de flottabilité possédant des caractéristiques spéciales. »	"El ahogamiento es la causa principal de mortalidad involucrado con la navegación recreacional. En más del 80 por ciento de incidentes fatales, la persona no estaba usando flotadores y muchos de estos ocurrieron después de caídas por la borda o volcaduras de botes pequeños. Un dispositivo de flotación aprobado, cuando se usa apropiadamente, ayuda a elevar la cabeza por encima del agua en los primeros momentos críticos de inmersión. Algunos dispositivos son diseñados para mantener la cara por encima del agua, e incrementar sus probabilidades de supervivencia y rescate. Los diferentes tipos de cuerpos flotan diferentemente y algunas actividades de navegación requieren características especiales en el dispositivo de flotación."

d) "INSTRUCTIONS FOR USE"

The instructions required by 7DV.3 shall be provided here.

e) "IS YOUR FLOTATION DEVICE IN GOOD AND SERVICEABLE CONDITION?"

English	French	Spanish
"Check your flotation device between outings to be sure that it is properly armed; that it is free of rips, tears or holes; that all seams are securely sewn; and that the fabric, straps and hardware are still strong. Inspect the inflatable portion of the flotation device in accordance with (item f) below."	« Vérifiez votre équipement de flottabilité entre chaque sortie pour vous assurer qu'il est bien enclenché; qu'il n'a pas d'accrocs, de déchirures ou de trous; que toutes les coutures sont en bon état; et que les matériaux, les sangles et les pièces sont robustes. Inspectez la partie gonflable de l'équipement de flottabilité conformément aux indications ci-dessous (point f). »	"Revisar su dispositivo de flotación antes de salir para asegurar que esta apropiadamente armado; que no está roto, rasgado o tiene agujeros; que todas las costuras estén aseguradas; y que la tela, correas y dispositivo sigan siendo firmes. Inspeccionar la porción inflable del dispositivo de flotación de acuerdo con f) debajo."

f) "CARE AND MAINTENANCE INSTRUCTIONS"

The instructions required by 7DV.4 shall be provided here.

g) The following [bracketed text in italic] should be added for flotation devices with automatic features.

"HOW AND WHY TO TEST YOUR FLOTATION DEVICE?"

English	French	Spanish
An inflatable flotation device does not have inherent buoyancy, meaning that it must be inflated to provide flotation. You must	Un équipement de flottabilité gonflable n'a pas de flottabilité inhérente, c'est-à-dire qu'il doit être gonflé pour fournir une	Un dispositivo de flotación inflable no tiene flotación inherente, por lo tanto, debe inflarse para proporcionar flotación. Debe

understand how to arm, inflate, and maintain your inflatable device. Familiarize yourself with the use of your inflatable so you know what to do in an emergency." Always test your flotation device in a safe manner, under controlled conditions, and where help is readily available. Inflate your flotation device and try it out in a pool, or some other calm protected water, with proper supervision:	flottabilité. Vous devez savoir comment enclencher, gonfler et entretenir votre équipement gonflable. Familiarisez-vous avec l'utilisation de votre équipement gonflable pour savoir quoi faire en cas de détresse. » Il est important de toujours essayer l'équipement de flottabilité de façon sécuritaire dans des conditions contrôlées, où de l'aide se trouve à proximité. Gonflez votre équipement de flottabilité et faites-en l'essai dans une piscine ou tout autre plan d'eau calme et protégé, sous une supervision adéquate :	comprender como armar, inflar, y dar mantenimiento a su dispositivo inflable. Familiarizarse con el uso de su inflable para que así usted sepa que hacer en alguna emergencia." Siempre probar su dispositivo de flotación de una manera segura, bajo condiciones controladas, y donde encuentre ayuda fácilmente. Infle su dispositivo de flotación y pruébelo en una piscina, o cualquier otra agua protegida tranquila, con supervisión apropiada:
• Make sure it floats you: Comfortably (When worn properly) Adequately for expected wave conditions (Body shapes/densities affect performance)	• Il doit vous faire flotter : Confortablement (Lorsque l'équipement est porté correctement) Adéquatement, selon les conditions de mer prévues (Les types de corps humain et le poids ont un impact sur la performance)	• Asegúrese de flotar con el: Cómodamente (Cuando se usa apropiadamente) Adecuadamente para condiciones de olas esperadas (Formas del cuerpo/densidades afectan el desempeño)
• Make sure it works: A flow of bubbles should not appear (See section [add appropriate section] for leak tests) It should inflate quickly and easily	• Il doit être fonctionnel : Sans la présence de bulles (Voir la section [ajoutez la section appropriée] sur les essais contre les fuites) Il doit se gonfler rapidement et facilement	• Asegúrese que funcione: No debe aparecer un flujo de burbujas (Ver sección [añadir sección apropiada] para pruebas de fugas) Debe inflarse rápida y fácilmente
• Learn how it works by:	• Apprenez son fonctionnement :	• Aprenda como funciona por medio de:

Activating the CO_2 inflation system Rearming the CO_2 inflation system Using the Oral inflator tube	**Activez le système de gonflage au CO_2 Enclenchez à nouveau le système de gonflage au CO_2 Utilisez le tube de gonflage buccal**	**Activación del sistema de inflación del CO_2 Rearmado del sistema de inflación del CO_2 Usando el tubo de inflación oral**
To properly test your flotation device and to ensure you have a replacement rearming kit, you should purchase two [automatic] rearming kits. One to be used immediately in testing the [automatic] inflation system [(see HOW DO YOU TEST YOUR FLOTATION DEVICE USING THE AUTOMATIC INFLATOR?)] and the other to carry onboard as a spare. Remember you must rearm your inflatable after discharging the CO_2 cartridge. [You should test the automatic inflation system in-the-water at the beginning of each boating season. This includes inspecting the [specify: tablet, bobbin, or other] (water sensing element's) expiration date and discarding if past the expiration date or discarding if the element has been exposed gas, oil, water, or high humidity. By doing this, you demonstrate that the automatic inflation system is still working properly and reduce the likelihood of premature inflation and its associated dangers. Check the manual inflation system (with CO_2 cylinder and green indicator tab removed) to determine that the lever arm and piercing pin move freely when moving the lever (attached to the pull tab) several times down and up. There should be no binding of the mechanical parts.]	**Pour essayer correctement votre équipement de flottabilité et pour vous assurer d'avoir une trousse de réarmement de rechange, vous devriez acheter deux trousses de réarmement [automatiques]. Utilisez la première sans tarder pour l'essai du système de gonflage [automatique] (voir COMMENT ESSAYER L'ÉQUIPEMENT DE FLOTTABILITÉ AVEC LE MÉCANISME DE GONFLAGE AUTOMATIQUE?) et apportez la seconde à bord comme trousse de rechange. N'oubliez pas d'enclencher à nouveau votre équipement gonflable lorsque la cartouche de CO_2 est vide. [Il est recommandé de faire l'essai du système de gonflage automatique dans l'eau, et ce, avant chaque saison de navigation. L'essai comprend une vérification de la date d'expiration de [spécifiez l'élément hydrosensible qui est concerné : la cartouche, la bobine, etc.], que vous devrez jeter si la date d'expiration est dépassée ou si l'élément a été exposé au gaz, aux hydrocarbures, à l'eau ou à une forte humidité. Ainsi, vous pouvez vous assurer que le système de gonflage automatique fonctionne toujours correctement et vous réduisez les risques d'un gonflage prématuré et des dangers associés. Vérifiez le système de gonflage manuel (après avoir retiré la bouteille de CO_2 et la tige indicatrice verte) pour déterminer si le levier et la pointe bougent librement lorsque vous déplacez le levier (attaché à la tirette) plusieurs fois vers le haut et le bas. Les pièces mécaniques ne devraient pas se coincer.]**	**Para probar apropiadamente su dispositivo de flotación y asegurarse de tener un kit de reemplazo de rearmado, se recomienda comprar dos kits de rearmado [automáticos]. Uno para ser usado inmediatamente en pruebas del sistema de inflación [automático] [(ver COMO PROBAR SU DISPOSITIVO DE FLOTACIÓN USANDO EL INFLADOR AUTOMÁTICO?)] y el otro para llevar a bordo como reemplazo. Recuerde que debe rearmar su inflable después de descargar el cartucho de CO_2. [Se recomienda probar el sistema de inflación automático dentro del agua al inicio de cada navegación. Esto incluye inspeccionar [especificar: tableta, bobina, u otro] (elementos sensibles al agua) la fecha de expiración y descartar si pasó la fecha de expiración o descartar si el elemento ha estado expuesto a gas, aceite, agua o humedad alta. Al hacer esto, demostrara que el sistema de inflación automático aun funciona apropiadamente y debe reducir la probabilidad de inflación prematura y sus peligros asociados. Revisar el sistema de inflación manual (con un cilindro de CO_2 y el indicador verde removido) para determinar que la palanca y la punta de perforación se mueva libremente cuando se mueve la palanca (sujeta a la lengüeta) varias veces hacia arriba y hacia abajo. No debería tener ataduras en las partes mecánicas.]**

Trying Your PFD

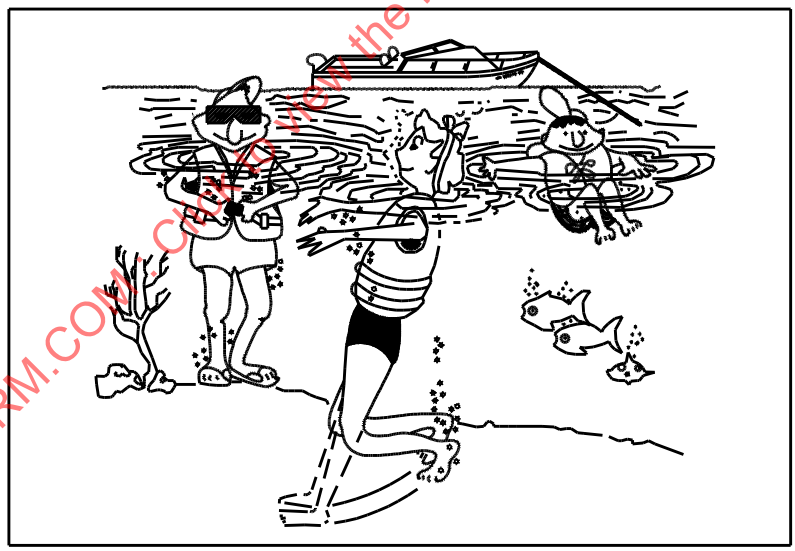
Try on your PFD to see if it fits comfortably snug. Then test it in shallow water to see how it handles.

To check the buoyancy of your PFD in the water, relax your body and let your head tilt back. Make sure your PFD keeps your chin above water and you can breathe easily.

Be aware: your PFD may not act the same in swift or rough water as in calm water. The clothes you wear and the items in your pockets may also change the way your PFD works.

If your mouth is not well above the water, get a new PFD or one with more buoyancy.

A PFD is designed not to ride-up on the body when in the water. But, when a wearer's stomach is larger than the chest, ride-up may occur. Before use, test this PFD in the water to establish that excessive ride-up does not impair PFD performance



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Note, the figure may be re-done showing people using inflatable flotation devices.

Figure 7DV.1

People Using Inflatable Flotation Devices

7DV.2.2 In order to understand how your inflatable operates you should inflate it. Depending on the type of inflatable you have you can inflate it automatically, manually, or by the oral inflator. The following steps will guide you through each process:

English	French	Spanish
Always test your flotation device in a safe manner, under controlled conditions, and where help is readily available.	Toujours tester votre équipement de flottabilité de manière sûre dans des conditions contrôlées, et là où de l'aide est rapidement disponible.	Siempre probar su dispositivo de flotación de una manera segura, bajo condiciones controladas, y donde encuentre ayuda fácilmente.
1) To test your inflatable flotation device, you will need: • Your fully armed flotation device, and • Rearming kit approved for your flotation device.	1) Pour tester votre équipement de flottabilité gonflable, vous aurez besoin de : • votre équipement de flottabilité totalement équipé, et • une trousse de réenclenchement approuvée pour votre équipement de flottabilité.	1) Para probar su dispositivo de flotación, usted necesita: • Su dispositivo armado completamente, y • El kit de rearme aprobado para su dispositivo de flotación.
2) Put on the flotation device.	2) Revêtez l'équipement de flottabilité.	2) Ponerse el dispositivo de flotación.
3) Get into shallow water, just deep enough that you can stand with your head above the surface. Once the inflator is under water the flotation device should automatically, fully inflate within 10 seconds.	3) Entrez dans une eau peu profonde, juste assez profonde pour vous tenir debout avec la tête au-dessus de la surface. Une fois que le gonfleur est sous l'eau, l'équipement de flottabilité doit se gonfler automatiquement, complètement dans les 10 secondes.	3) Meterse en aguas poco profundas, solo lo suficiente para pararse con su cabeza por encima de la superficie. Una vez que el inflador está bajo el agua, el dispositivo de flotación debe inflarse automáticamente por completo dentro de un lapso de 10 segundos.
4) See if the flotation device will float you on your back or just slightly back of vertical. In a relaxed floating position, verify that your mouth is well above the water's surface. Note the effect of where you hold your legs on how you float.	4) Vérifiez que l'équipement de flottabilité vous fait flotter sur votre dos ou juste un peu en arrière de la verticale. Dans une position de flottation détendue, vérifiez que votre bouche est bien au-dessus de la surface de l'eau. Notez l'effet de l'endroit où vous mettez vos jambes selon la façon dont vous flottez.	4) Ver si el dispositivo de flotación va a hacerlo flotar sobre su espalda o solo un poco erguido. En una posición relajada de flotación, verificar que su boca este por encima de la superficie del agua. Notar el efecto de donde usted mantiene sus piernas sobre como usted flota.
5) Get out of the water and remove the flotation device. Remove the used CO_2 cylinder and the used [specify: tablet, bobbin, or other] (automatic inflator element) from the flotation device inflator. Deflate the flotation device using the oral inflator.	5) Sortez de l'eau et ôtez l'équipement de flottabilité. Retirez la bouteille de CO_2 usagée et [préciser : la tablette, la bobine ou autre] (l'élément de gonfleur automatique) usagé(e) du gonfleur de l'équipement de flottabilité. Dégonflez l'équipement de flottabilité à l'aide du gonfleur buccal.	5) Salga del agua y retire el dispositivo de flotación. Remueva el cilindro usado de CO_2 y el elemento inflador automático usado [especificar: tableta, bobina, u otro] del inflador del dispositivo de flotación. Desinflar el dispositivo de flotación usando el inflador oral.
6) Let the flotation device dry thoroughly. REARM AND REPACK the flotation device in accordance with the manufacturer's instructions!]	6) Laissez l'équipement de flottabilité sécher complètement. RÉENCLENCHEZ ET REMBALLEZ l'équipement de flottabilité conformément aux instructions du fabricant!	6) ¡Dejar el dispositivo de flotación secarse completamente. REARMAR Y RE-EMPAQUETAR el dispositivo de flotación de acuerdo con las instrucciones del fabricante!
HOW DO YOU TEST YOUR FLOTATION DEVICE USING THE MANUAL INFLATOR?	COMMENT TESTER VOTRE DISPOSITIF DE PORTANCE À L'AIDE DU GONFLEUR MANUEL?	[¿COMO PROBAR SU DISPOSITIVO DE FLOTACIÓN USANDO EL INFLADOR MANUAL?
Always test your flotation device in a safe manner, under controlled conditions, and where help is readily available.	Il est important de toujours essayer l'équipement de flottabilité de façon sécuritaire dans des conditions contrôlées, où de l'aide se trouve à proximité.	Siempre probar su dispositivo de flotación de una manera segura, bajo condiciones controladas, y donde la ayuda esté disponible fácilmente.

1) To test your inflatable flotation device, you will need: • Your fully armed flotation device, and • Rearming kit approved for your flotation device.	1) Pour faire l'essai de votre équipement de flottabilité, vous aurez besoin de : • L'équipement de flottabilité enclenché; • La trousse de réarmement approuvée pour votre équipement de flottabilité.	1) Para probar su dispositivo de flotación, usted necesita: • Su dispositivo armado completamente, y • El kit de rearme aprobado para su dispositivo de flotación.
2) Put on the flotation device.	2) Revêtez l'équipement de flottabilité.	2) Ponerse el dispositivo de flotación.
3) Actuate the inflation system by jerking firmly downward on the pull tab. The flotation device should fully inflate within 5 seconds.	3) Activez le système de gonflage en tirant fermement la tirette vers le bas. L'équipement de flottabilité devrait se gonfler en cinq (5) secondes.	3) Accionar el sistema de inflación sacudiendo firmemente hacia abajo la lengüeta. El dispositivo de flotación debe inflarse completamente dentro del lapso de 5 segundos.
4) Get into shallow water, just deep enough that you can stand with your head above the surface.	4) Entrez dans l'eau, où la profondeur vous permet tout juste de toucher le fond lorsque votre tête est hors de l'eau.	4) Meterse a aguas poco profundas, solo lo suficiente para pararse con su cabeza por encima de la superficie.
5) See if the flotation device will float you on your back or just slightly back of vertical. In a relaxed floating position, verify that your mouth is well above the water's surface. Note the effect of where you hold your legs on how you float.	5) Vérifiez si l'équipement de flottabilité vous fait flotter sur le dos ou dans une position légèrement inclinée vers l'arrière. En position de relaxation, votre bouche devrait se trouver bien au-dessus de la surface de l'eau. Notez l'effet de la position de vos jambes sur votre manière de flotter.	5) Ver si el dispositivo de flotación va a hacerlo flotar sobre su espalda o solo un poco erguido. En una posición relajada de flotación, verificar que su boca este por encima de la superficie del agua. Notar el efecto de donde usted mantiene sus piernas sobre como usted flota.
6) Get out of the water and remove the flotation device. Remove the used CO_2 cylinder from the flotation device inflator. Completely deflate the flotation device using the oral inflator.	6) Sortez de l'eau et enlevez l'équipement de flottabilité. Retirez la bouteille de CO_2 utilisée de l'équipement de flottabilité. Dégonflez complètement l'équipement de flottabilité à l'aide du mécanisme de gonflage buccal.	6) Salga del agua y retire el dispositivo de flotación. Remover el cilindro de CO_2 del inflador del dispositivo de flotación. Desinflar completamente el dispositivo de flotación usando el inflador oral.
7) Let the flotation device dry thoroughly. REARM AND REPACK the flotation device in accordance with the manufacturer's instructions!	7) Faites complètement sécher l'équipement de flottabilité. RÉENCLENCHEZ ET REPLIEZ l'équipement de flottabilité selon les instructions du fabricant!	7) ¡Dejar el dispositivo de flotación secarse completamente. REARMAR Y RE-EMPAQUETAR el dispositivo de flotación de acuerdo con las instrucciones del fabricante!
HOW DO YOU TEST YOUR FLOTATION DEVICE USING THE ORAL INFLATOR?	COMMENT ESSAYER L'ÉQUIPEMENT DE FLOTTABILITÉ AVEC LE MÉCANISME DE GONFLAGE BUCCAL?	[¿COMO PROBAR SU DISPOSITIVO DE FLOTACIÓN USANDO EL INFLADOR ORAL?
Always test your flotation device in a safe manner, under controlled conditions, and where help is readily available.	Il est important de toujours essayer l'équipement de flottabilité de façon sécuritaire dans des conditions contrôlées, où de l'aide se trouve à proximité.	Siempre pruebe su dispositivo de flotación de manera segura, bajo condiciones controladas, y donde encuentre ayuda fácilmente.
1) You will not need any spare parts, or rearming kits, to test your inflatable flotation device with oral inflation, and it gives you the opportunity to learn about how much inflation is needed to float you.	1) Vous n'aurez pas besoin de pièces de rechange ou de trousse de réarmement pour faire l'essai de votre équipement de flottabilité gonflable avec un mécanisme de gonflage buccal. Vous pourrez savoir quel degré de flottabilité est requis pour que vous flottiez.	1) No necesita ninguna parte de repuesto, o kits de rearmado para probar su dispositivo de flotación con la inflación oral, y esto le da la oportunidad de aprender sobre qué tanta inflación se necesita para que usted flote.
2) For devices where the CO_2 cylinder is accessible, remove the CO_2 cylinder, to prevent inadvertent	2) En ce qui concerne les équipements dont la bouteille de CO_2 est accessible, retirez la bouteille de CO_2 pour éviter	2) Remover el cilindro de CO_2, para prevenir la activación inadvertida del sistema de inflación manual, el cual puede dañar el dispositivo de

activation of the manual inflation system which could potentially damage the flotation device. Inspect the threaded end to confirm that it has not been pierced and is unused. For inflators where the water sensing element is not removable, it is necessary to seal the water inlet with the provided sealing cap. [If automatic feature add specific instructions for removing the water sensing element].	l'activation accidentelle du système de gonflage manuel, ce qui pourrait endommager l'équipement de flottabilité. Inspectez l'extrémité filetée pour vous assurer qu'elle n'est pas percée et qu'elle n'a pas été utilisée. Pour les mécanismes de gonflage dont l'élément hydrosensible ne peut être retiré, il est nécessaire de sceller l'orifice d'entrée avec le bouchon fourni. [Si l'équipement est doté d'un dispositif automatique, ajoutez les instructions spéciales pour retirer l'élément hydrosensible].	flotación. Inspeccionar el final del enroscado para confirmar que no ha sido perforado y que no se ha utilizado. [Si el inflador automático añade instrucciones específicas para remover el elemento sensible al agua.]
3) Put on the flotation device. Locate and release the oral tube from its cover.	3) Revêtez l'équipement de flottabilité. Repérez le tube de gonflage buccal et sortez-le de son espace de rangement.	3) Ponerse el dispositivo de flotación. Localizar y liberar el tubo oral de su cubierta.
4) Get into shallow water, just deep enough that you can stand with your head above the surface.	4) Entrez dans l'eau, où la profondeur vous permet tout juste de toucher le fond lorsque votre tête est hors de l'eau.	4) Meterse en aguas poco profundas, solo lo suficiente para pararse con su cabeza por encima de la superficie.
5) To learn how much inflation is needed to float you, blow a full breath into the oral tube and then try lifting your feet from the bottom to see if your airway stays clear of the water. If not, try adding another breath and lifting your feet, and then another if needed and so forth so that you are supported well enough to be able to complete inflation without touching bottom or treading water. There may be situations where you wish to wear your device partially inflated such as activities or conditions in which accidental inflation would present a significant risk. The device must be fully inflated to function as designed and approved.	5) Pour connaître le degré de flottabilité dont vous avez besoin, respirez à fond et soufflez dans le tube de gonflage buccal. Levez ensuite vos pieds de façon à ne plus toucher le sol pour vérifier si vos voies respiratoires restent hors de l'eau. Si ce n'est pas le cas, soufflez à nouveau dans le tube jusqu'à ce que l'équipement soit assez gonflé pour que vous puissiez flotter sans toucher le fond et sans nager sur place. Il peut être préférable de porter l'équipement lorsqu'il est partiellement gonflé lors de certaines activités ou dans des conditions où le gonflage accidentel présente des risques non négligeables. L'équipement doit être complètement gonflé pour fonctionner de la manière prévue et approuvée.	5) Para aprender que tanta inflación se necesita para que usted flote, sople fuerte en el tubo oral y después intente levantar sus pies del fondo para ver si puede respirar fuera del agua. Y si no, sople de nuevo hasta que pueda flotar sin tocar el fondo o pedalear en el agua. Pueden existir haber situaciones donde necesita usar su dispositivo parcialmente inflado, como en actividades o condiciones en las cuales la inflación accidental puede presentar un riesgo significativo. El dispositivo debe estar inflado completamente para funcionar como fue diseñado y aprobado.
6) Remember as your breath air cools down it contracts in volume. You may require more topping up breaths to maintain this level. This level of inflation may also be useful in cold conditions where inflation could be delayed.	6) Lorsque vos bouffées d'air refroidissent, leur volume se contracte. Il se peut que vous deviez souffler à d'autres reprises pour maintenir le niveau de gonflage désiré. Ce niveau de gonflage peut aussi être utile dans de basses températures pouvant retarder le gonflage.	6) Recordar que como el aire soplado se va enfriando se contrae en volumen. Puede que requiera más soplos para mantener su nivel. Este nivel de inflación debe también ser útil en condiciones de frio donde puede retardarse la inflación.
7) Then see if the turning characteristics of the PFD are different with this level of flotation, as it most likely will be.	7) Vérifiez maintenant si les caractéristiques de retournement de l'EIF sont différentes avec ce degré de flottabilité; il est probable que ce soit le cas.	7) Después, ver si las características del viraje del DFP son diferentes con este nivel de flotación, que probablemente debe ser así.
8) Fully inflate the flotation device using the oral inflator.	8) Gonflez complètement l'équipement de flottabilité à l'aide du mécanisme de gonflage buccal.	8) Inflar completamente el dispositivo de flotación usando el inflador oral.

9) See if the flotation device will float you on your back or just slightly back of vertical. In a relaxed floating position, verify that your mouth is well above the water's surface. Note the effect of where you hold your legs on how you float.	9) Vérifiez si l'équipement de flottabilité vous fait flotter sur le dos ou dans une position légèrement inclinée vers l'arrière. En position de relaxation, votre bouche devrait se trouver bien au-dessus de la surface de l'eau. Notez l'effet de la position de vos jambes sur votre manière de flotter.	9) Ver si el dispositivo de flotación va a hacerlo flotar sobre su espalda o solo un poco erguido. En una posición relajada de flotación, verificar que su boca este por encima de la superficie del agua. Notar el efecto de donde usted mantiene sus piernas sobre como usted flota.
10) Get out of the water and remove the flotation device. Completely deflate the flotation device using the oral inflator.	10) Sortez de l'eau et enlevez l'équipement de flottabilité. Dégonflez complètement l'équipement de flottabilité à l'aide du mécanisme de gonflage buccal.	10) Salga del agua y retire el dispositivo de flotación. Desinflar completamente el dispositivo de flotación usando el inflador oral.
11) Let the flotation device dry thoroughly. REARM AND REPACK the flotation device in accordance with the manufacturer's instructions!"	11) Faites complètement sécher l'équipement de flottabilité. RÉENCLENCHEZ ET REPLIEZ l'équipement de flottabilité selon les instructions du fabricant! »	11) ¡Deje el dispositivo de flotación secarse completamente. REARMAR Y RE-EMPAQUETAR el dispositivo de flotación de acuerdo con las instrucciones del fabricante!

h) "CHOOSE A FLOTATION DEVICE THAT YOU WILL WANT TO WEAR"

English	French	Spanish
"A good choice for a flotation device is one that will offer sufficient buoyancy for your size and body type to raise your airway (mouth and nose) above water. Also important is comfort and mobility out of the water so that it can be worn at all times during your boating activity. An increased performance level (more flotation and turning) should be considered when in rougher waters or when further offshore where rescue assistance may be a long time coming. Some activities require special features or accessories for better visibility, for a more secure fit in wave conditions and for thermal protection."	« Une immersion accidentelle (même dans de l'eau modérément froide) peut provoquer une respiration haletante et une perte de contrôle musculaire. Cela peut vous prendre une minute ou plus avant de vous calmer et, pendant ce temps, vous risquez d'avaler de l'eau. Le soutien d'un équipement de flottabilité est essentiel dans une telle situation. Dans l'eau froide, même les meilleurs nageurs peuvent éprouver des difficultés et s'épuiser. Tenter d'enfiler et d'attacher un équipement de flottabilité après l'immersion est souvent impossible. N'oubliez pas que l'eau peut être froide même par les chaudes journées ensoleillées, et qu'une immersion accidentelle peut causer un choc aux systèmes nerveux et respiratoire. Choisir un équipement confortable et le porter avec diligence peut vous sauver la vie dans ces premiers instants critiques. »	"Una buena opción para un dispositivo de flotación es uno que ofrezca suficiente flotabilidad para su tamaño y tipo de cuerpo para incrementar su respiración (boca y nariz) por encima del agua. La comodidad y movilidad fuera del agua también es importante para que pueda usarlo todo el tiempo durante su actividad de navegación. Debe considerarse un nivel de desempeño mayor (más flotación y viraje) en aguas fuertes o lejos de la orilla del mar donde la asistencia de rescate puede tardar mucho tiempo en llegar. Algunas actividades requieren características especiales o accesorios para mejor visibilidad, para una colocación más segura en condiciones de olas y para protección térmica."

i) "COLD SHOCK"

English	French	Spanish
"Unexpected immersion (even in moderately cold water) can cause involuntary gasping and loss of muscle control. It can take one minute or more for these reactions to subside and there is a risk of inhaling water. You really need the support of a flotation device in this situation. In colder water, swim failure can occur even for strong and experienced swimmers. Trying to put on and fasten a flotation device after immersion can be impossible. Remember that on a hot sunny day the water can still be cool and the effect of sudden immersion shocking to the nervous and breathing systems. Choosing a comfortable device and being diligent about wearing it can save you in these critical first moments."	« Une immersion accidentelle (même dans de l'eau modérément froide) peut provoquer une respiration haletante et une perte de contrôle musculaire. Cela peut vous prendre une minute ou plus avant de vous calmer et, pendant ce temps, vous risquez d'avaler de l'eau. Le soutien d'un équipement de flottabilité est essentiel dans une telle situation. Dans l'eau froide, même les meilleurs nageurs peuvent éprouver des difficultés et s'épuiser. Tenter d'enfiler et d'attacher un équipement de flottabilité après l'immersion est souvent impossible. N'oubliez pas que l'eau peut être froide même par les chaudes journées ensoleillées, et qu'une immersion accidentelle peut causer un choc aux systèmes nerveux et respiratoire. Choisir un équipement confortable et le porter avec diligence peut vous sauver la vie dans ces premiers instants critiques. »	"Inmersión inesperada (aun en agua moderadamente fría) puede causar jadeo involuntario y pérdida de control muscular. Estas reacciones pueden tomar un minuto o más en para desaparecer y existe el riesgo de inhalar agua. Usted realmente necesita el apoyo de un dispositivo de flotación en esta situación. En aguas más frías, puede ocurrir fallo al nadar incluso por nadadores fuertes y experimentados. Intentar ponerse y abrochar un dispositivo de flotación después de la inmersión puede ser imposible. Recuerda que en un día soleado el agua puede aún estar fría y el efecto de inmersión repentina crea un choque en el sistema nervioso y la respiración. Escoger un dispositivo cómodo y ser perseverante al usarlo puede salvarlo a usted en esos primeros momentos críticos."

j) "HYPOTHERMIA"

English	French	Spanish
"Prolonged immersion in cold water (after one hour or more) leads to a loss of body heat. Over time (depending on water temperature, body type and thermal protection) the core temperature of the body decreases. This produces a condition called hypothermia which is very serious and can lead to unconsciousness and circulatory failure. Swimming and treading water accelerates heat loss. Wearing a flotation device is essential to help you conserve body energy and increase your survival time. It enables you to float quietly and curl up arms and legs in a Heat Escape Lessening Posture (HELP), see Figure 7DV.2ja, with the head out of water, also reducing heat loss from the head, under the arms, and the groin area. If there is more than one person in the water, gathering together in a huddle is recommended while waiting to be rescued." See HELP and Huddle, See Figure 7DV.2jb below:	« Une immersion prolongée dans l'eau froide (une heure ou plus) mène à une perte de chaleur corporelle. Avec le temps (selon la température de l'eau, le type de corps et la protection thermique), la température centrale du corps baisse. Cette baisse de la température provoque l'hypothermie, un état grave pouvant causer une perte de conscience et une insuffisance circulatoire. Nager et faire du sur-place dans l'eau accélère la perte de chaleur. Porter un équipement de flottabilité est essentiel pour conserver votre énergie et ainsi augmenter votre temps de survie. Il vous permet de flotter calmement en repliant vos bras et vos jambes en position fœtale (voir la Figure 7DV.2ja) avec la tête hors de l'eau, ce qui réduit la perte de chaleur par la tête, le dessous des bras et la région de l'aine. Si plus d'une personne se trouve dans l'eau, il est recommandé de se regrouper en position de caucus pour attendre les secours. » Voir Position fœtale et caucus à la Figure 7DV.2jb ci-dessous :	"La inmersión prolongada en agua fría (después de una hora o más) lleva a la perdida de calor corporal. Pasado el tiempo (dependiendo de la temperatura del agua, tipo de cuerpo y protección térmica) la temperatura del núcleo del cuerpo disminuye. Esto produce una condición callada hipotermia la cual es muy seria y puede llevar a falla de la circulación y perder la conciencia. Nadar y patalear en el agua acelera la perdida de calor. Usar un dispositivo de flotación es esencial para ayudarlo a conservar la energía corporal e incrementar su tiempo de sobrevivencia. Esto le permite flotar tranquilamente y enroscar los brazos y piernas en una Postura de Reducción de Escape del Calor (HELP), ver Figure 7DV.2ja, con la cabeza fuera del agua, también reduciendo la perdida de calor de la cabeza, bajo los brazos, y en el área de la ingle. Si hay más de una persona en el agua, se recomienda juntarse todos acurrucándose mientras esperan a ser rescatados." Ver figura Figure 7DV.2jb.

su2081

Figure 7DV.2ja

Heat Escape Lessening Posture (HELP)

su2082

Figure 7DV.2jb

HELP and Huddle

English	French	Spanish
Preparation, good safety practices and strong spirit are the keys to survival. Stay Calm and Don't Give Up."	« La préparation, de bonnes pratiques de sécurité et une volonté tenace sont les clés de la survie. Restez calme et ne vous découragez pas. »	"La preparación, las buenas prácticas de seguridad y un espíritu fuerte son claves para sobrevivir. Manténgase en calma y no se dé por vencido."
"For your flotation device to function properly, follow these suggestions to verify that it fits, floats, and remains in good condition.	« Afin d'assurer le fonctionnement adéquat de votre équipement, suivez ces recommandations pour en vérifier l'ajustement, la flottabilité et le bon état.	"Para que su dispositivo de flotación funcione apropiadamente, siga estas sugerencias para verificar que se ajuste, flote, y se mantenga en buena condición.
1) Check the inflation mechanism status indicators before each use.	1) Vérifiez les indicateurs d'état du mécanisme de gonflage avant chaque utilisation.	1) Revisar los indicadores de estado del mecanismo de inflación antes de cada uso.
2) Get in the habit of rearming the inflation mechanism right after each inflation.	2) Habituez-vous à enclencher à nouveau le mécanisme de gonflage après chaque gonflage.	2) Hágase el hábito de rearmar el mecanismo de inflación justo después de cada inflación.
3) Try your wearable flotation device on and adjust it until it fits comfortably in and out of the water.	3) Essayez l'équipement de flottabilité portable et ajustez-le afin qu'il soit confortable dans l'eau et hors de l'eau.	3) Pruébese su dispositivo de flotación y ajústelo hasta que sea cómodo dentro y fuera del agua.
4) Mark your flotation device with your name if you are the only wearer.	4) Inscrivez votre nom sur votre équipement de flottabilité, si vous êtes le seul utilisateur.	4) Marcar su dispositivo de flotación con su nombre si es el único usuario.
5) Do not alter your flotation device. If it doesn't fit properly, get one that does. An altered device is no longer approved.	5) Ne modifiez pas votre équipement de flottabilité. Si vous ne pouvez l'ajuster correctement, procurez-vous-en un qui vous convienne. Un équipement modifié n'est plus approuvé.	5) No alterar el dispositivo de flotación. Si no se ajusta apropiadamente, consiga uno que lo haga. No debe ser aprobado un dispositivo alterado
6) Your flotation device is not intended for use as a fender or kneeling pad.	6) Votre équipement de flottabilité n'est pas conçu pour servir de protection ou de coussin pour les genoux.	6) Su dispositivo de flotación no está destinado a usarse como escudo o protector de rodilla.
7) If your flotation device is wet, allow it to dry thoroughly before storing it. Store it in a well-ventilated area.	7) Si votre équipement de flottabilité est mouillé, faites-le sécher complètement avant de l'entreposer. Entreposez-le dans un endroit bien aéré.	7) Si su dispositivo de flotación esta mojado, déjelo secar enteramente antes de almacenarlo. Almacenar en un área bien ventilada.
8) Do not dry your flotation device in front of a radiator or other source of direct heat."	8) Ne faites pas sécher votre équipement de flottabilité devant un radiateur ou toute autre source de chaleur directe. »	8) No secar su dispositivo de flotación en frente de un calefactor o cualquier otra fuente directa de calor."

k) "ADDITIONAL INFORMATION"

English	French	Spanish
"For information about lifejackets and boating safety consult: www.wearitlifejacket.org;	« Pour obtenir plus de renseignements sur les gilets de sauvetage et la sécurité nautique, consultez les sites Web suivants : www.wearitlifejacket.org;	"Para información sobre chalecos salvavidas y seguridad de navegación" consulte: www.wearitlifejacket.org;
US Coast Guard uscgboating.org;	Garde côtière des États-Unis – uscgboating.org (lien anglais);	Guardacostas de los Estados Unidos uscgboating.org;
Transport Canada http://www.tc.gc.ca/;	Transports Canada – http://www.tc.gc.ca/;	Transporte de Canadá http://www.tc.gc.ca/;

English	French	Spanish
Canadian Red Cross http://canadian.redcross.ca/canadian-red-cross-society/;	Croix-Rouge canadienne – http://www.croixrouge.ca/;	Cruz Roja Canadiense http://canadian.redcross.ca/canadian-red-cross-society/;
American Red Cross http://www.redcross.org/;	American Red Cross – http://www.redcross.org/ (lien anglais);	Cruz Roja Americana http://www.redcross.org/;
Canadian Safe Boating Council www.csbc.ca;	Conseil canadien de la sécurité nautique – www.csbc.ca/fr;	Consejo Canadiense de Navegación Segura www.csbc.ca;
National Safe Boating Council www.safeboatingcouncil.org;	National Safe Boating Council – www.safeboatingcouncil.org (lien anglais);	Consejo Nacional de Navegación Segura www.safeboatingcouncil.org;
US Power Squadrons http://usps.org/;	US Power Squadrons – http://usps.org/ (lien anglais);	US Power Squadrons http://usps.org/;
Canadian Power and Sail Squadrons www.cps_ecp.ca.	Escadrilles canadiennes de plaisance – http://www.cps-ecp.ca/public_fr/	Escuadrones canadienses de poder y vela www.cps_ecp.ca.

l) Devices with Multi-Chamber Buoyancy systems

If a device includes multi-chamber buoyancy, the manual must state whether full or partial back up is provided, and the buoyancy provided by the primary buoyancy source (s) alone and the buoyancy provided by the back-up chamber (s) shall be stated.

The manual shall include both the buoyancy provided by the primary buoyancy source(s) alone and the buoyancy provided by the supplemental chamber(s).

7DV.3 Instructions for use

The instructions for use required by 7DV.2.1 (d) shall include, but need not be limited to, descriptions of the following:

a) Where and how to check inflation system status indicators.

b) The intended method of donning the device.

c) Procedures required to inflate the device. A recommendation that the procedures be practiced shall be included.

d) The intended method of resetting an inflation system.

e) The intended method for deflating the device.

f) Use and non-use below freezing temperature, including the hazard associated with wearing an orally inflated device with an armed automatic or manual-auto inflation system.

7DV.4 Instructions for care and maintenance

The instructions for care and maintenance required by 7DV.2.1 (f) shall include, but need not be limited to, descriptions of the following:

a) Recommendations for inspection of the device for tears, rips, and punctures. A visual inspection shall be recommended for each use. Seasonal (or more frequent) leakage tests shall also be recommended.

b) For a device having replaceable gas cylinders or the like; the type, size, and method for replacement of the component.

c) For a device having a replaceable activation medium or a requirement to reset the unit; the type, quantity and method of replacement of the component.

d) Information (procedures and frequency) regarding required lubrication and the like.

e) Information as to the intended method of storage.

f) Either a list of authorized repair agents or instructions that damaged devices are to be discarded.

g) Information regarding the intended method of deflation and extent of inflation (relative to uninflated buoyancy) if appropriate.

h) Details regarding type and frequency of manufacturer servicing, if recommended. Recommendations regarding manufacturer repair and instructions on how to obtain repair services.

i) Recommendations regarding the replacement frequency for any user installed components not expended during use. (e. g. water soluble pills for automatic inflation systems)

j) The owner's manual shall indicate that permeation loss is greater when the device is inflated with carbon dioxide than with air, and that earlier replenishment by means of the oral inflation system will therefore be necessary.

7DV.5 Additional text for owner's manual

The following text shall be provided in the owner's manual. The text shall be verbatim:

English	French	Spanish
"DO NOT ATTACH FLOTATION DEVICES TO YOUR BOAT **Each flotation device has straps, hooks, buckles, or other means for securing the device in place on the wearer. Some flotation devices also incorporate decorative D-rings or tabs. Such items are not to be used to attach the device to the boat. Attaching the device to the boat will not permit it to perform as intended."**	**« NE PAS ATTACHER LES ÉQUIPEMENTS DE FLOTTABILITÉ À VOTRE EMBARCATION.** **Chaque équipement de flottabilité comprend des sangles, des crochets, des boucles et d'autres moyens d'être ajusté de façon sécuritaire sur l'utilisateur. Certains équipements de flottabilité sont dotés d'anneaux en D décoratifs ou de languettes. Ces éléments ne doivent pas servir à attacher l'équipement à l'embarcation. Si l'équipement est attaché à l'embarcation, il ne peut remplir sa fonction prévue. »**	**"NO FIJAR DISPOSITIVOS DE FLOTACIÓN A SU BOTE** **Cada dispositivo de flotación tiene correas, ganchos, broches, u otros medios para asegurar el dispositivo al usuario. Algunos dispositivos de flotación también incorporan anillos en D decorativos o etiquetas. Dichos artículos no son para fijar el dispositivo al bote. Fijar el dispositivo al bote no permite que se desempeñe como se destina."**

English	French	Spanish
"IMPACT ON USE AT COLD TEMPERATURES **Inflatable flotation devices are not recommended for use in temperatures below freezing.** **As temperatures approach freezing your inflatable flotation device will provide less buoyancy and will inflate more slowly. At temperatures near freezing the device should be worn partially inflated to ensure that some buoyancy is immediately available to you if you fall overboard. The oral inflator can then be used to adequately top up the flotation device after CO_2 inflation.** ***Caution:*** **Do not fully inflate the device orally and then activate the CO_2 cylinder. The resulting overpressure could seriously damage the device resulting in loss of flotation.** **Inflatable flotation devices are not recommended for use in temperatures below freezing."**	**« IMPACT SUR L'UTILISATION À DES TEMPÉRATURES FROIDES** **Quand la température avoisine le point de congélation, l'équipement de flottabilité gonflable offre un degré moins élevé de flottabilité et se gonfle moins rapidement.** **Quand la température frôle le point de congélation, l'équipement doit être porté partiellement gonflé pour garantir une flottabilité immédiate en cas de chute par-dessus bord. Le mécanisme de gonflage buccal peut être utilisé pour atteindre le degré de flottabilité maximal de l'équipement après le gonflage par CO_2.** ***Avertissement*** **: N'activez pas la bouteille de CO_2 après avoir gonflé complètement l'équipement par la bouche. La surpression causée pourrait considérablement endommager l'équipement, ce qui provoquerait une perte de flottabilité.** **L'utilisation d'un équipement de flottabilité gonflable n'est pas recommandée lorsque la température est sous le point de congélation. »**	**"IMPACTO EN EL USO A TEMPERATURAS DE FRÍO** **De manera que la temperatura desciende bajo cero, su dispositivo de flotación inflable proporcionara menos flotabilidad y se inflara más despacio. A temperaturas cercanas al congelamiento el dispositivo debe usarse parcialmente inflado para asegurar que el dispositivo proporcione algo de flotabilidad inmediatamente si usted cae de la borda. El inflador oral puede entonces utilizarse para adecuar al máximo el dispositivo de flotación después de la inflación con CO_2.** **Peligro: No inflar por completo el dispositivo oralmente y después activar el cilindro de CO_2. La sobrepresión puede dañar severamente el dispositivo resultando en una pérdida de flotabilidad.** **No se recomienda usar los dispositivos flotadores inflables en temperaturas bajo cero."**

8 Consumer information at point of sale

8.1 General

A plain text version (see Figure 1 and Figure 2) and/or a pictogram version (see) shall be applied for consumer information.

8.2 Plain text version

The information shall be clearly visible and legible when the device is presented ready for sale, either by ensuring visibility of a marking on the lifejacket itself or by additional labelling on the packaging.

If the presentation of information is divided in various sections, they shall be given in such a way that the consumer can perceive all sections together ("Survey on the entire PFD-system"). The layout of the labels given in Figure 1 and Figure 2 is recommended, whereas the content is mandatory.

If the plain text version is chosen, the information shall be laid out in accordance with Figure 1. The minimum dimension of the information shall be 75 mm × 75 mm. Colours for the text and the label may vary, but shall always contrast with the background.

NOTE 1 Information in row (8) may be given by plain text data or by representing the supplier's logo.

NOTE 2 The label shown in Figure 1 may form the left side of a complete label presenting all stipulated data from the data list (see Figure 2).