



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 12402-10:2020

Personal flotation devices - Part 10:  
Selection and application of personal  
flotation devices and other relevant  
devices (ISO 12402-10:2020)

**I.S. EN ISO 12402-10:2020**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):*

*NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.*

*This document is based on:*

EN ISO 12402-10:2020

*Published:*

2020-10-14

*This document was published under the authority of the NSAI and comes into effect on:*

2020-11-02

ICS number:

13.340.70

NOTE: If blank see CEN/CENELEC cover page

NSAI  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

Sales:  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

## National Foreword

I.S. EN ISO 12402-10:2020 is the adopted Irish version of the European Document EN ISO 12402-10:2020, Personal flotation devices - Part 10: Selection and application of personal flotation devices and other relevant devices (ISO 12402-10:2020)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

**Compliance with this document does not of itself confer immunity from legal obligations.**

*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

This page is intentionally left blank

EUROPEAN STANDARD

**EN ISO 12402-10**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2020

ICS 13.340.70

Supersedes EN ISO 12402-10:2006

English Version

## Personal flotation devices - Part 10: Selection and application of personal flotation devices and other relevant devices (ISO 12402-10:2020)

Équipements individuels de flottabilité - Partie 10:  
Sélection et application des équipements individuels  
de flottabilité et d'autres équipements pertinents (ISO  
12402-10:2020)

Persönliche Auftriebsmittel - Teil 10: Auswahl und  
Anwendung von persönlichen Auftriebsmitteln und  
anderen entsprechenden Geräten (ISO 12402-  
10:2020)

This European Standard was approved by CEN on 10 June 2019.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN ISO 12402-10:2020 (E)**

<b>Contents</b>	<b>Page</b>
<b>European foreword.....</b>	<b>3</b>

## **European foreword**

This document (EN ISO 12402-10:2020) has been prepared by Technical Committee ISO/TC 188 "Small craft" in collaboration with Technical Committee CEN/TC 162 "Protective clothing including hand and arm protection and lifejackets" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2021, and conflicting national standards shall be withdrawn at the latest by April 2021.

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

This document supersedes EN ISO 12402-10:2006.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 12402-10:2020 has been approved by CEN as EN ISO 12402-10:2020 without any modification.

This page is intentionally left blank

**INTERNATIONAL  
STANDARD**

**ISO  
12402-10**

Second edition  
2020-07

---

---

**Personal flotation devices —**

Part 10:

**Selection and application of personal  
flotation devices and other relevant  
devices**

*Équipements individuels de flottabilité —*

*Partie 10: Sélection et application des équipements individuels de  
flottabilité et d'autres équipements pertinents*



Reference number  
ISO 12402-10:2020(E)

© ISO 2020

**ISO 12402-10:2020(E)**



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
<b>Foreword</b> .....	<b>v</b>
<b>Introduction</b> .....	<b>vi</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Classification; risks and recommended areas of application</b> .....	<b>3</b>
4.1 General.....	3
4.2 Performance criteria.....	5
4.3 Interaction with other devices or equipment.....	5
4.4 Performance levels.....	6
4.4.1 Level 50.....	6
4.4.2 Level 100.....	6
4.4.3 Level 150.....	6
4.4.4 Level 275.....	6
4.5 Selection and use.....	7
<b>5 Essentials that should be observed</b> .....	<b>8</b>
5.1 Personal flotation devices (PFDs).....	8
5.1.1 General.....	8
5.1.2 Risk assessment.....	8
5.1.3 Interaction with clothing.....	9
5.2 Accessories.....	10
5.2.1 General.....	10
5.2.2 Location aids.....	10
5.2.3 Improved design.....	10
5.2.4 Harnesses.....	10
5.2.5 Sprayhood.....	10
5.3 Immersion suits.....	11
5.3.1 General.....	11
5.3.2 Rationale.....	12
<b>6 Guidance for risk management</b> .....	<b>14</b>
6.1 General.....	14
6.2 Description of operation and environment.....	14
6.3 Identification of risk areas and establishment of safety levels.....	14
6.4 Guidance for the identification of risk managing measures.....	14
6.4.1 General.....	14
6.4.2 Measures to reduce risk.....	14
6.4.3 Measures to reduce consequences.....	14
6.4.4 Safety level management.....	15
6.5 Guidance for the selection of a risk management.....	15
6.5.1 General.....	15
6.5.2 Training.....	15
6.5.3 Personal protective equipment.....	15
6.5.4 Rescue services.....	15
6.6 Guidance for the selection of personal protective equipment.....	15
6.7 Checklist.....	16
6.7.1 Typical exposure hazards.....	16
6.7.2 Constant use comfort and ergonomics.....	16
6.7.3 Basic in-water safety functions.....	17
6.7.4 Search-and-rescue functions.....	17
6.7.5 Additional hazards by emergency donning.....	17
6.7.6 Factors that reduce performance.....	17
6.8 Example: evaluation of PPE for offshore workers, based on risk assessment.....	17

**ISO 12402-10:2020(E)**

**Bibliography** ..... **19**

## Foreword

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 188, Subcommittee *Small craft*, SC 1, *Personal safety equipment*.

This second edition cancels and replaces the first edition (ISO 12402-10:2006), which has been technically revised.

The main changes compared to the previous edition are as follows:

- the document has been updated to be consistent with ISO 12402-2:2020 to ISO 12402-9:2020 (second editions).

A list of all parts in the ISO 12402 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## ISO 12402-10:2020(E)

### Introduction

ISO 12402 (all parts):2020 has been prepared to give guidance on the design and application of personal flotation devices (hereafter referred to as PFDs) and immersion suits according to ISO 15027 (all parts):2012. This document deals with personal floatation devices 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 International Standard give a reasonable level of safety against drowning.

Based on a risk assessment, a PFD according to ISO 12402 (all parts):2020 can be used in combination with other personal protection equipment (PPE) according to the European PPE Regulation (EU) 2016/425.

ISO 12402 (all parts):2020 and ISO 15027 (all parts):2012 neither cover life saving appliances (LSA) on commercial vessels, which are regulated by the International Maritime Organisation (IMO)<sup>1)</sup> under the International Convention for the Safety of Life at Sea (SOLAS), nor devices used in aircraft, which are under IATA rules. All those devices are equipment on board used in case of emergency and not suitable for permanent use.

Rescue devices, throwable devices and flotation cushions are also not covered in ISO 12402 (all parts):2020.

Devices under ISO 12402-2:2020 to ISO 12402-10:2020 and ISO 15027-1:2012 to ISO 15027-3:2012 are regarded as personal protective equipment.

#### Performance criteria

PFDs can be divided into the following two main classes, based on their performance:

- **lifejackets**, providing face-up in-water support to the user regardless of physical conditions, and
- **buoyancy aids**, requiring swimming and other movements to keep the user with airways free out of the water.

"**Buoyancy**" is a main criterion to meet those basic performances.

The ISO 12402 series:2020 encourages manufacturers to adopt innovative designs of PFDs providing buoyancy by a wide variety of materials, devices and performance levels.

Buoyancy can be provided by means requiring preparation before entering the water (e.g. inflation of chambers by gas) or inherent materials.

"**Inherently buoyant**" provide permanent buoyancy; the user needs only to don the PFD to achieve full performance.

"**Inflatable PFDs**" provide full buoyancy without further intervention other than arming. They can be operated in fully automatic mode or require initiating the inflation (manual mode).

"**Hybrid PFDs**" provide some minimum inherent buoyancy but rely on additional inflatable buoyancy, such as inflatable PFDs, to achieve full buoyancy.

---

1) The International Maritime Organization (IMO) is an institution with domicile in London issuing regulations which are then published as laws by its Member States.

# **Personal flotation devices —**

## **Part 10:**

# **Selection and application of personal flotation devices and other relevant devices**

## **1 Scope**

This document provides requirements and recommendations for the selection and application of both personal flotation devices (PFD) complying with the relevant Parts of the ISO 12402 series:2020, and immersion suits according to ISO 15027 (all parts):2012.

It is intended to assist manufacturers, suppliers, users and regulators in the appropriate selection and application of those garments for the circumstances in which they will be used.

## **2 Normative references**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 12401:2009, *Small craft — Deck safety harness and safety line — Safety requirements and test methods*

ISO 12402-2:2020, *Personal flotation devices — Part 2: Lifejackets, performance level 275 — Safety requirements*

ISO 12402-3:2020, *Personal flotation devices — Part 3: Lifejackets, performance level 150 — Safety requirements*

ISO 12402-8:2020, *Personal flotation devices — Part 8: Accessories — Safety requirements and test methods*

ISO 12402-9:2020, *Personal flotation devices — Part 9: Evaluation*

ISO 15027-1:2012, *Immersion suits — Part 1: Constant wear suits, requirements including safety*

ISO 15027-2:2012, *Immersion suits — Part 2: Abandonment suits, requirements including safety*

ISO 15027-3:2012, *Immersion suits — Part 3: Test methods*

## **3 Terms and definitions**

For the purposes of this document, the terms and definitions given in ISO 15027-1:2012 and the following apply.

Where terms are defined below and in ISO 15027-1:2012, the definitions given below apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-