



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 15027-2:2012

# Immersion suits - Part 2: Abandonment suits, requirements including safety (ISO 15027-2:2012)

## I.S. EN ISO 15027-2:2012

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

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

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**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

English Version

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

Combinaisons de protection thermique en cas d'immersion  
- Partie 2: Combinaisons d'abandon, exigences y compris  
la sécurité (ISO 15027-2:2012)

Schutzkleidung gegen Unterkühlung im Wasser - Teil 2:  
Seenot-Kälteschutzanzüge; Anforderungen einschließlich  
Sicherheit (ISO 15027-2:2012)

This European Standard was approved by CEN on 31 October 2012.

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.

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## **Foreword**

This document (EN ISO 15027-2:2012) has been prepared by Technical Committee CEN/TC 162 "Protective clothing including hand and arm protection and lifejackets", the secretariat of which is held by DIN, in collaboration with Technical Committee ISO/TC 188 "Small craft".

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of an identical text or by endorsement, at the latest by May 2013, and conflicting national standards shall be withdrawn at the latest by May 2013.

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

This document supersedes EN ISO 15027-2:2002.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive.

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

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

## Annex ZA (informative)

### Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 89/686/EEC on the approximation of the laws of the Member States relating to personal protective equipment.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

**Table ZA.1 — Correspondence between this standard and Directive 89/686/EEC**

Clause(s)/sub-clause(s) of this EN	Essential Requirements (ERs) of Directive 89/686/EEC		Qualifying remarks/Notes
4.11	1.1.1	Ergonomics	
4.2.3.1, 4.11	1.1.2.1	Highest level of protection possible	
4.1.2, 4.1.8, 4.1.10, 4.1.11, 4.7, 4.9	1.2.1	Absence of risks and other inherent nuisance factors	
4.2.1	1.2.1.1	Suitable constituent materials	
4.2.3.1	1.2.1.2	Satisfactory surface condition of all PPE parts in contact with the user	
4.11, 4.11.9	1.2.1.3	Maximum permissible user impediment	
4.1.4; 4.2.2.1; 4.11.6	1.3.1	Adaptation to user's morphology	
4.1.1; 4.1.5; 4.8; 4.11.6; 4.12	1.3.2	Lightness and design strength	
4.1.2; 4.1.6; 4.2.2.3; 4.3; 4.4	1.3.3	Compatibility of different classes or types of PPE designed for simultaneous use	
4.1.7; 5; 6; 7	1.4	Information supplied by the manufacturer	
5 h	2.4	PPE subject to ageing	
4.11.3	2.7	PPE intended for emergency use or rapid installation and/or removal	
5	2.12	PPE bearing one or more identification or recognition marks directly or indirectly relating to health and safety	
4.5	2.13	PPE in the form of clothing capable of signalling the user's presence visually	
4.11.8	3.4	Protection against drowning	
4.10	3.7	Protection against cold	

**WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.**

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**Immersion suits —**

**Part 2:**  
**Abandonment suits, requirements**  
**including safety**

*Combinaisons de protection thermique en cas d'immersion —*

*Partie 2: Combinaisons d'abandon, exigences y compris la sécurité*



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Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

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## 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.

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 15027-2 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*, Subcommittee SC 1, *Personal safety equipment*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 15027-2:2002), which has been technically revised. The main technical changes are:

- a) addition of terms and definitions from ISO 15027-1:2012;
- b) revision of requirements for buddy lines;
- c) revision of requirements regarding conspicuity;
- d) addition of Clause 6 “Information supplied by the manufacturer”;
- e) revision of consumer information label;
- f) revision of requirements regarding thermal protection in water.

ISO 15027 consists of the following parts, under the general title *Immersion suits*:

- *Part 1: Constant wear suits, requirements including safety*
- *Part 2: Abandonment suits, requirements including safety*
- *Part 3: Test methods*

## **Introduction**

This part of ISO 15027 has been prepared to meet the needs of persons engaged in certain activities on or near water. Abandonment suits manufactured and maintained according to this part of ISO 15027 will provide protection from cold shock and delay the onset of hypothermia.

The complete immersion system (suit and clothes worn under the suit) should be able to keep the user alive long enough for the rescue services to find and recover them. An individual's estimated thermal protection time will depend on water temperature and wave state as well as their physiology. Detailed in this part of ISO 15027 are the minimum recommended insulation levels and the associated water temperatures in which they are to be used.

This part of ISO 15027 is intended to serve as a minimum performance requirement for manufacturers, purchasers and users of such safety equipment and seeks to ensure that the equipment provides effective performance in use. The abandonment suit should not jeopardize safety by causing undue discomfort which could result in a degradation of performance.

The abandonment suit shall have no features which will be likely to have any detrimental effect on the operation of other life-saving equipment that may be used. In particular, any part of the suit which might pose a snagging hazard shall be suitably covered, protected or restrained.

The primary aims in wearing an abandonment suit are:

- a) to reduce the risk of cold shock and delay the onset of hypothermia;
- b) to enable the user to propel himself in the water and extricate himself from the water without it becoming an encumbrance;
- c) to make the user sufficiently conspicuous in the water so as to aid his recovery.

Many circumstances may alter the performance of the suit, such as wave action or the wearing of additional equipment. Users, owners and employers should ensure that equipment is correctly maintained according to the manufacturer's instructions.

An abandonment suit may often be worn with a lifejacket as it will provide extra flotation and may help to bring a user to a face-up position.

**I.S. EN ISO 15027-2:2012**

# Immersion suits —

## Part 2: Abandonment suits, requirements including safety

### 1 Scope

This part of ISO 15027 specifies performance and safety requirements for abandonment suits in emergency situations in work and leisure activities to protect the body of a user against the effects of cold water immersion, such as cold shock and hypothermia, including head, hand and feet protection.

It is applicable for dry and wet abandonment suits.

Constant wear suits are not covered by this part of ISO 15027. The requirements of constant wear suits are given in ISO 15027-1:2012. Test methods are given in ISO 15027-3:2012.

### 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.

CIE 15:2004, *Colorimetry*<sup>1)</sup>

EN 340, *Protective clothing — General requirements*

ISO 105-A02, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour*

ISO 105-E02, *Textiles — Tests for colour fastness — Part E02: Colour fastness to sea water*

ISO 105-X12, *Textiles — Tests for colour fastness — Part X12: Colour fastness to rubbing*

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 1421, *Rubber- or plastics-coated fabrics — Determination of tensile strength and elongation at break*

ISO 2411:2000, *Rubber- or plastics-coated fabrics — Determination of coating adhesion*

ISO 3801:1977, *Textiles — Woven fabrics — Determination of mass per unit length and mass per unit area*

ISO 4674-1:2003, *Rubber- or plastics-coated fabrics — Determination of tear resistance — Part 1: Constant rate of tear methods*

ISO 7854:1995, *Rubber- or plastics-coated fabrics — Determination of resistance to damage by flexing*

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

ISO 12401, *Small craft — Deck safety harness and safety line — Safety requirements and test methods*

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

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

ISO 12402-4, *Personal flotation devices — Part 4: Lifejackets, performance level 100 — Safety requirements*

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