International Standard

ISO 15027-3

Immersion suits —

Part 3: Test methods

Combinaisons d'immersion —

Partie 3: Méthodes d'essai

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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.

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 document 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).

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This document was prepared by Technical Committee ISO/TC 188, *Small craft*, Subcommittee SC 1, *Personal safety equipment*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 162, *Protective clothing including hand and arm protection and lifejackets*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 15027-3:2012), which has been technically revised.

The main changes are as follows:

— the terms and definitions have been revised;

— in Clause 4, the order of testing has been changed and clarified;

— in 4.3, a temperature and cycling test procedure for suits stored in sealed storage bags has been added;

— in 4.5, a test for tensile strength of seams has been added;

— in 4.7, a buoyancy test has been added;

— in 4.8, a suit strength test has been added;

— in 4.9, a lifting loop test has been added;

— in 4.12.2, the number and sizes of human test subjects have been revised;

— in 4.14.2, the use of a thermal manikin has been revised;

— Annex B "Test protocol and checklist for thermal manikin testing" has been added;

— Annex C "Thermal manikin — Means of circulated water" has been added;

— Annex D "Correlation of thermal manikin systems" has been added;

— Annex E "Thermal insulation identification for suit material — Test methods" has been added;

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— Annex F “Medical fitness assessment for human thermal testing in cold water” has been added.

A list of all parts in the ISO 15027 series can be found on the ISO website.

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Immersion suits —

Part 3:
Test methods

1 Scope

This document specifies the test methods for constant wear suits and abandonment suits.

Requirements for constant wear suits are given in ISO 15027-1:2026.

Requirements for abandonment suits are given in ISO 15027-2:2026.

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 811:2018, *Textiles — Determination of resistance to water penetration — Hydrostatic pressure test*

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

ISO 12894:2001, *Ergonomics of the thermal environment — Medical supervision of individuals exposed to extreme hot or cold environments*

ISO 13935-2:2014, *Textiles — Seam tensile properties of fabrics and made-up textile articles — Part 2: Determination of maximum force to seam rupture using the grab method*

ISO 15027-1:2026, *Immersion suits — Part 1: Safety and performance requirements for constant wear suits*

ISO 15027-2:2026, *Immersion suits — Part 2: Safety and performance requirements for abandonment suits*

ISO 15831:2004, *Clothing — Physiological effects — Measurement of thermal insulation by means of a thermal manikin*

EN 590:2022, *Automotive fuels — Diesel — Requirements and test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 15027-1:2026, ISO 15027-2:2026 and the following apply.

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

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

— IEC Electropedia: available at https://www.electropedia.org/

3.1
test panel
group of persons experienced in testing immersion suits who observe the test subject undergoing the tests

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