SLOVENSKI STANDARD
SIST EN ISO 20650:2026

01-september-2026

Plovila za celinske vode - Majhni plavajoči delovni stroji - Zahteve in preskusne metode (ISO 20650:2025)

Inland navigation vessels - Small floating working machines - Requirements and test methods (ISO 20650:2025)

Fahrzeuge der Binnenschifffahrt - Kleine schwimmende Arbeitsmaschinen - Anforderungen und Prüfverfahren (ISO 20650:2025)

Bateaux de navigation intérieure - Petites machines de travail flottantes - Exigences et méthodes d’essai (ISO 20650:2025)

Ta slovenski standard je istoveten z: **EN ISO 20650:2026**

ICS:

47.060	Jezerska in rečna plovila	Inland navigation vessels

SIST EN ISO 20650:2026 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 20650

June 2026

ICS 47.060

English Version

Inland navigation vessels - Small floating working machines - Requirements and test methods (ISO 20650:2025)

Bateaux de navigation intérieure - Petites machines de travail flottantes - Exigences et méthodes d'essai (ISO 20650:2025)

Fahrzeuge der Binnenschifffahrt - Kleine schwimmende Arbeitsmaschinen - Anforderungen und Prüfverfahren (ISO 20650:2025)

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Ref. No. EN ISO 20650:2026 E

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European foreword

The text of ISO 20650:2025 has been prepared by Technical Committee ISO/TC 8 "Ships and marine technology" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 20650:2026 by Technical Committee CEN/TC 15 "Inland navigation vessels" the secretariat of which is held by DIN.

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The text of ISO 20650:2025 has been approved by CEN as EN ISO 20650:2026 without any modification.

International Standard

ISO 20650

Inland navigation vessels — Small floating working machines — Requirements and test methods

First edition
2025-05

Reference number
ISO 20650:2025(en)

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Published in Switzerland

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Foreword

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This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 7, *Inland navigation vessels*.

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Inland navigation vessels — Small floating working machines — Requirements and test methods

1 Scope

This document is applicable to small floating working machines used for work in, over, or on, inland waters. This document specifies safety-related requirements and test methods.

This document specifies minimum requirements for small floating working machines with a length of < 10 m and a product of length, width and depth of less than 30 m^3, with temporarily or permanently installed work equipment or machines used on inland waters.

These small floating working machines can be used for activities such as extraction work, lifting work, sampling, mowing and clearing work or comparable tasks.

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 1035-1, *Hot-rolled steel bars — Part 1: Dimensions of round bars*

ISO 1035-2, *Hot-rolled steel bars — Part 2: Dimensions of square bars*

ISO 1035-3, *Hot-rolled steel bars — Part 3: Dimensions of flat bars*

ISO 2922, *Acoustics — Measurement of airborne sound emitted by vessels on inland waterways and harbours*

ISO 2923, *Acoustics — Measurement of noise on board vessels*

ISO 4254-1, *Agricultural machinery — Safety — Part 1: General requirements*

ISO 7010, *Graphical symbols — Safety colours and safety signs — Registered safety signs*

ISO 7165, *Fire fighting — Portable fire extinguishers — Performance and construction*

ISO 9519, *Ships and marine technology — Single rungs and rungs for dog-step ladders*

ISO 10240, *Small craft — Owner's manual*

ISO 11102-1, *Reciprocating internal combustion engines — Handle starting equipment — Part 1: Safety requirements and tests*

ISO 11105, *Small craft — Ventilation of petrol engine and/or petrol tank compartments*

ISO 12100, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

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 13297, *Small craft — Electrical systems — Alternating and direct current installations*

ISO 13857, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs*

ISO 14895, *Small craft — Liquid-fuelled galley stoves and heating appliances*

ISO 16180, *Small craft — Navigation lights — Installation, placement and visibility*

ISO 17631:2022, *Ships and marine technology — Shipboard plans for fire control, damage control, life-saving appliances and means of escape*

ISO 18422, *Ships and marine technology — Inland navigation vessels — Plate with instructions for rescue, resuscitation and first aid for drowning persons*

IEC 60092-504, *Electrical installations in ships — Part 504: Automation, control and instrumentation*

IEC 60364-5-54, *Low-voltage electrical installations — Part 5-54: Selection and erection of electrical equipment — Earthing arrangements and protective conductors*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 61000-4-2, *Electromagnetic compatibility (EMC) — Part 4-2: Testing and measurement techniques — Electrostatic discharge immunity test*

IEC 61000-4-3, *Electromagnetic compatibility (EMC) — Part 4-3: Testing and measurement techniques — Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-4, *Electromagnetic compatibility (EMC) — Part 4-4: Testing and measurement techniques — Electrical fast transient/burst immunity test*

IEC 62619, *Secondary cells and batteries containing alkaline or other non-acid electrolytes — Safety requirements for secondary lithium cells and batteries, for use in industrial applications*

IEC 62620, *Secondary cells and batteries containing alkaline or other non-acid electrolytes — Secondary lithium cells and batteries for use in industrial applications*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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
small floating working machine
watercraft used on inland waters with a hull whose length is less than 10 m and whose product of length, width and depth of less than 30 m^3, with temporarily or permanently installed working equipment or machinery

EXAMPLE Mowing boats, watercraft for sampling, extraction work, keeping waters clean, lifting work.

3.2
residual safety clearance
shortest vertical distance between surface of the water and the lowest part of the *small floating working machine* (3.1) beyond which it is no longer watertight, taking into account trim and heel resulting from the moments

3.3
residual freeboard
smallest vertical distance between the surface of the water and the upper surface of the deck at its edge taking into account trim and heel

3.4
working area
area of inland water, where the work is carried out

3.5
operating range
driving range from the berth to the *working area* (3.4), and from/to the working area itself

3.6
propulsion system
system consisting of internal combustion engine and/or electric drive engine with power source including power electronics, gearbox, shaft, propeller, etc., used to move the craft in the water

3.7
propulsion
diesel, LPG (liquified petroleum gas), electric or diesel or gas-electric *propulsion system* (3.6) of a *small floating working machine* (3.1) containing at least one *propulsion engine* (3.9)

3.8
main propulsion
propulsion (3.7) used to achieve the manoeuvring characteristics

3.9
propulsion engine
engine for driving the propeller shaft or the shaft of comparable drive systems such as water jet drives

3.10
expert
person recognised by the competent authority or by an authorised institution, having specialist knowledge in the relevant area on the basis of his or her professional training and experience, fully conversant with the relevant rules and regulations and the generally accepted technical rules (e.g. ISO standards, relevant regulations, technical rules), and able to examine and give a thorough and knowledgeable assessment of the relevant systems and equipment

3.11
competent person
person who has acquired sufficient knowledge in the relevant area on the basis of his or her professional training and experience and is sufficiently conversant with the relevant rules and regulations and the generally accepted technical rules (such as ISO standards, relevant regulations, technical rules) to be able to assess the operational safety of the relevant systems and equipment

4 General requirements

4.1 General requirements

Small floating working machines shall be built in accordance with the manufacturer's specification.

At least one watertight collision bulkhead and one machinery space bulkhead shall be fitted up to the deck or to the upper edge of the ship's side. The collision bulkhead shall be installed at an appropriate distance from the bow so that when the watertight compartment forward of the collision bulkhead is flooded, the buoyancy of the fully loaded vessel is maintained and a residual safety clearance of not less than 300 mm is maintained.

4.2 Strength

The strength of small floating machines shall be sufficient to withstand the stresses to which they are exposed, under the conditions of use specified by the manufacturer.

When using steel S 235 B according to ISO 630-2, the requirement above is fulfilled if the thickness of the bottom and side plates is at least 3 mm. If other materials or lower material thicknesses are used, a mathematical verification is required.