INTERNATIONAL STANDARD

ISO 15083

Second edition
2020-04

Small craft — Bilge-pumping systems

Petit navires — Systèmes de pompe de cale

Reference number
ISO 15083:2020(E)

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Published in Switzerland

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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 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).

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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.

This document was prepared by Technical Committee ISO/TC 188, *Small craft*.

This second edition cancels and replaces the first edition (ISO 15083:2003), which has been technically revised.

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

— the definitions have been updated (Clause 3);

— in 5.1.2, a requirement has been added for craft not fully enclosed with bilge compartments to have a bilge pump system installed;

— exposed and enclosed steering position requirements have been removed from 5.1.3.2;

— a requirement has been added (7.13) for the system design to ensure that accidental discharge is prevented.

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.

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Introduction

Bilge-pumping systems as specified in this document are limited to normal amounts of water in an intact boat due to spray, rain, seepage, spillage, and occasional small amounts of water shipped from boat movements in heavy weather.

This document is not intended to control flooding resulting from hull damage.

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Small craft — Bilge-pumping systems

1 Scope

This document specifies requirements for pumping or alternative means designed to remove normal accumulations of bilge water for small craft with a length of hull, L_H, as defined in ISO 8666:2016, of up to 24 m.

This document does not set requirements for bilge pumps or bilge-pumping systems designed for damage control.

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 8666:2016, *Small craft — Principal data*

ISO 8849:2003, *Small craft — Electrically operated direct-current bilge pumps*

ISO 9093-1:1994, *Small craft — Seacocks and through-hull fittings — Part 1: Metallic*

ISO 9093-2:2002, *Small craft — Seacocks and through-hull fittings — Part 2: Non-metallic*

ISO 10133:2012, *Small craft — Electrical systems — Extra-low-voltage d.c. installations*

ISO 11591:2019, *Small craft — Field of vision from the steering position*

ISO 12217-1:2015, *Small craft — Stability and buoyancy assessment and categorization — Part 1: Non-sailing boats of hull length greater than or equal to 6 m*

ISO 12217-2:2015, *Small craft — Stability and buoyancy assessment and categorization — Part 2: Sailing boats of hull length greater than or equal to 6 m*

ISO 12217-3:2015, *Small craft — Stability and buoyancy assessment and categorization — Part 3: Boats of hull length less than 6 m*

ISO 13297:2014, *Small craft — Electrical systems — Alternating current installations*

IEC 60529:1989/AMD2:2013/COR1:2019, *Degrees of protection provided by enclosures (IP Code)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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/

3.1
design category
description of the sea and wind conditions for which a boat is assessed to be suitable

Note 1 to entry: The design categories are specified in ISO 12217-1:2015, ISO 12217-2:2015 and ISO 12217-3:2015.

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3.2
sailing boat
craft for which the primary means of propulsion is by wind power, having a reference sail area $A_S \geq 0{,}07\ (m_{LDC})^{2/3}$ in m^2

3.3
non-sailing boat
craft for which the primary means of propulsion is other than by wind power, having reference sail area $A_S < 0{,}07\ (m_{LDC})^{2/3}$ in m^2

3.4
fully enclosed boat
craft in which the horizontal projection of the *sheerline* (3.13) area comprises any combination of

— watertight deck and superstructure, and/or

— quick-draining recesses, and/or

— watertight recesses with a combined volume of less than $(L_H B_H F_M)/40$, and with all closing appliances having a degree of watertightness meeting the requirements of ISO 12216:2002

Note 1 to entry: Quick-draining recesses and watertight recesses are covered in ISO 11812.

3.5
accumulation of bilge water
minor amounts of water collecting in the bilge from spray, rain, seepage, spillage, and water shipped from normal boat movements or breaking waves

3.6
critical bilge water level
level at which bilge water contacts metallic fuel tanks, couplings, engine pans, non-submersible machinery, or non-watertight electrical circuits and connections, with the craft in the static upright floating position at maximum load condition (m_{LDC})

3.7
heeled waterline
level of the water on the hull in the fully loaded, ready-for-use condition when the craft is inclined to:

— an angle of 7°, for *non-sailing boats* (3.3) and sailing multihulls; or

— 30° or immersion of the *sheerline* (3.13), whichever occurs first, for monohull *sailing boats* (3.2)

Note 1 to entry: The fully loaded, ready for use condition is defined in ISO 8666:2016.

3.8
submersible bilge pump
pump designed to be operated completely immersed in water

3.9
water head
maximum head of water in the bilge pump discharge line, measured vertically from the pump inlet port to the centre of the discharge line's highest position

3.10
accessible
capable of being reached for inspection, removal or maintenance without removal of permanent craft structure

3.11
readily accessible
capable of being reached for use, inspection, removal or maintenance without the use of tools

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