SLOVENSKI STANDARD
SIST EN ISO 12216:2022

01-december-2022

Nadomešča:
SIST EN ISO 12216:2018

Mala plovila - Okna, lopute, pokrovi in vrata - Zahteve za trdnost in odpornost proti vodi (ISO 12216:2020)

Small craft - Windows, portlights, hatches, deadlights and doors - Strength and watertightness requirements (ISO 12216:2020)

Kleine Wasserfahrzeuge - Fenster, Bullaugen, Luken, Seeschlagblenden und Türen - Anforderungen an die Festigkeit und Wasserdichtheit (ISO 12216:2020)

Petits navires - Fenêtres, hublots, panneaux, tapes et portes - Exigences de résistance et d'étanchéité (ISO 12216:2020)

Ta slovenski standard je istoveten z: **EN ISO 12216:2022**

ICS:

47.080	Čolni	Small craft
91.060.50	Vrata in okna	Doors and windows

SIST EN ISO 12216:2022 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 12216

October 2022

ICS 47.080

Supersedes EN ISO 12216:2018

English Version

Small craft - Windows, portlights, hatches, deadlights and doors - Strength and watertightness requirements (ISO 12216:2020)

Petits navires - Fenêtres, hublots, panneaux, tapes et portes - Exigences de résistance et d'étanchéité (ISO 12216:2020)

Kleine Wasserfahrzeuge - Fenster, Bullaugen, Luken, Seeschlagblenden und Türen - Anforderungen an die Festigkeit und Wasserdichtheit (ISO 12216:2020)

This European Standard was approved by CEN on 6 June 2022.

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

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

Contents

Page

European foreword

The text of ISO 12216:2020 has been prepared by Technical Committee ISO/TC 188 "Small craft" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 12216:2022 by Technical Committee CEN/TC 464 "Small Craft" the secretariat of which is held by SIS.

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of an identical text or by endorsement, at the latest by April 2023, and conflicting national standards shall be withdrawn at the latest by April 2023.

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 12216:2018.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For the relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is included in EN ISO 12216:2022/A1:2022.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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Endorsement notice

The text of ISO 12216:2020 has been approved by CEN as EN ISO 12216:2022 without any modification.

INTERNATIONAL STANDARD

ISO 12216

Second edition
2020-07

Small craft — Windows, portlights, hatches, deadlights and doors — Strength and watertightness requirements

Petits navires — Fenêtres, hublots, panneaux, tapes et portes — Exigences de résistance et d'étanchéité

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Contents

Page

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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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.

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

This second edition cancels and replaces the first edition (ISO 12216:2002), which has been technically revised.

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

— new definitions (Clause 3);

— change in watertightness requirements (4.3.1);

— change of size allowance for glazing in the hull in area I (6.3.1.1);

— change in the requirements for the use of glass in area IIa appliances (6.3.2);

— new requirements for flush deck hatches (6.3.3);

— new requirements for multihull break out panels (6.3.8);

— new definition and requirements for prefabricated appliances (6.3.9);

— new requirements for simply supported plates (7.2.9 and 7.2.10);

— new direct calculation method for laminated glass plates (7.3);

— new advanced calculation method for strength requirements on certain types of non glazed plates (7.4);

— new requirements for pressure test (D.2.1);

— new requirements for watertightness test (D.2.2);

— new requirement for mechanical links test (Clause D.3);

— change to method of separation test (D.4.3);

— new precalculated plate thickness tables (Annex F).

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.

Small craft — Windows, portlights, hatches, deadlights and doors — Strength and watertightness requirements

1 Scope

This document specifies technical requirements and test methods for windows, portlights, hatches, deadlights and doors on small craft with a length of hull, L_H, as defined in ISO 8666:2016, of up to 24 m. It takes into account the type of craft, its design category, and the location of the appliance.

The appliances considered in this document are only those that are critical for the craft's watertightness.

Openings and non-opening devices fitted below area I (see 3.5.2) are excluded from the scope of this document.

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 6603-1:2000, *Plastics — Determination of puncture impact behaviour of rigid plastics — Part 1: Non-instrumented impact testing*

ISO 11336-1:2012, *Large yachts — Strength, weathertightness and watertightness of glazed openings — Part 1: Design criteria, materials, framing and testing of independent glazed openings*

ISO 11812:2020, *Small craft — Watertight cockpits and quick-draining cockpits*

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*

EN 356:1999, *Glass in building — Security glazing — Testing and classification of resistance against manual attack*

EN 1063:1999, *Glass in building — Security glazing — Testing and classification of resistance against bullet attack*

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 General definitions of openings and their coverings

3.1.1
opening
cut-out in the shell of a craft such as in the hull or superstructures

Note 1 to entry: An opening is usually covered by a glazing or an appliance, that can be fixed or opening.

3.1.2
clear opening dimensions
dimensions of the area within a structure or frame, through which objects or people may pass when the incorporated plate is disregarded

3.2 Devices covering an opening

3.2.1
appliance
device made of a *plate* (3.3.1) and its associated framing, opening (hingeing) and fixture systems, when included, used to cover an opening in the hull, deck or superstructure of a boat; it can be fixed or openable (detachable, hinged, sliding, folding, etc.)

EXAMPLE *Windows* (3.4.1), *portlights* (3.4.2), *hatches* (3.4.3), *deadlights* (3.4.7), *doors* (3.4.6), *sliding appliances* (3.2.5), escape hatches.

3.2.2
fixed appliance
non opening *appliance* (3.2.1)

3.2.3
opening appliance
appliance (3.2.1) that can be opened

3.2.4
hinged appliance
opening appliance (3.2.3) that is connected to its framing by hinges

3.2.5
sliding appliance
opening appliance (3.2.3) which opens by sliding in line with its area, in any plane, where the plate either slides in a rabbet or a frame or is fixed in a sliding frame

3.2.6
composite appliance
system comprising *appliances* (3.2.1) [e.g. *portlights* (3.4.2)] situated within *plates* (3.3.1) that are themselves affixed to the vessel by direct bonding or mechanical fastening

3.3 Plate of an appliance

3.3.1
plate
sheet of material, transparent or not, that is attached to the boat structure either directly or indirectly, fixed or opening

3.3.2
stiffened plate
plate (3.3.1) with associated structural stiffeners

3.3.3
non-stiffened plate
plate (3.3.1) not equipped with associated structural stiffeners

3.3.4
unsupported dimensions of a plate
clear dimensions between the inner edges of supports bearing the *plate* (3.3.1)

Note 1 to entry: These dimensions can be different from the *opening* (3.1.1) dimensions in the shell, because a plate can be fixed in either a fixed or opening framing.

Note 2 to entry: See Annexes B and C.

3.3.5
glazing
plate (3.3.1)that is transparent or translucent

3.3.6
sandwich plate
plate (3.3.1) having an inner core covered on each side by a working skin

3.4 Specific appliances

3.4.1
window
glazed *appliance* (3.2.1)

3.4.2
portlight
framed *window* (3.4.1), fixed or opening, located in the hull or transom below deck which, where openable, is hinged and opens inwards

3.4.3
hatch
opening appliance (3.2.3), glazed or not glazed, used for access, lighting, inspection, ventilation or reach, located on any part of the shell

3.4.4
fire escape hatch
escape hatch
hatch (3.4.3) intended or dedicated to provide an exit for people and designated means of escape

Note 1 to entry: See ISO 9094:2015 for definitions and requirements.

3.4.5
multihull escape hatch
appliance (3.2.1) allowing a viable means of escape in the event of inversion for multihulls vulnerable to inversion

Note 1 to entry: See ISO 12217-1:2015, ISO 12217-2:2015 and ISO 12217-3:2015.

Note 2 to entry: As this appliance is not normally totally immersed in the upright and inverted position, it is usually fitted below deck level on the hull side, nacelle or crossarm bottom, or transom.

3.4.6
door
opening appliance (3.2.3) up to 45° from the vertical intended to close a companionway *opening* (3.1.1)

EXAMPLE Door open at sea, door not open at sea, hinged door, sliding door.

3.4.7
deadlight
secondary watertight *appliance* (3.2.1), permanently attached or separate and fitted to the inside of a *window* (3.4.1)