SWEDISH STANDARDS INSTITUTE

SVENSK STANDARD
SS-EN ISO 12216

Fastställd 2002-06-28

Utgåva 1

Båtar – Fönster, ljusventiler, stormluckor, luckor och dörrar – Krav för hållfasthet och vattentäthet
(ISO 12216:2002)

Small craft – Windows, portlights, hatches, deadlights and doors – Strength and watertightness requirements
(ISO 12216:2002)

ICS 47.080

Språk: engelska

Tryckt i augusti 2002

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The European Standard EN ISO 12216:2002 has the status of a Swedish Standard. This document contains the official English version of EN ISO 12216:2002.

Dokumentet består av 70 sidor.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 12216

June 2002

ICS 47.020.10; 47.080

English version

Small craft - Windows, portlights, hatches, deadlights and doors - Strength and watertightness requirements (ISO 12216:2002)

Petits navires - Fenêtres, hublots, panneaux, tapes et portes - Exigences de résistance et d'étanchéité (ISO 12216:2002)

Kleine Wasserfahrzeuge - Fenster, Bullaugen, Luken, Seeschlagblenden und Türen - Anforderungen an die Festigkeit und Wasserdichtheit (ISO 12216:2002)

This European Standard was approved by CEN on 26 May 2002.

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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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

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Contents

Foreword

This document (EN ISO 12216:2002) has been prepared by Technical Committee ISO/TC 188 "Small craft", in collaboration with CMC.

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of an identical text or by endorsement, at the latest by December 2002, and conflicting national standards shall be withdrawn at the latest by December 2002.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(s).

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

NOTE FROM CMC The foreword is susceptible to be amended on reception of the German language version. The confirmed or amended foreword, and when appropriate, the normative annex ZA for the references to international publications with their relevant European publications will be circulated with the German version.

Endorsement notice

The text of the International Standard ISO 12216:2002 has been approved by CEN as a European Standard without any modifications.

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

1 Scope

This International Standard specifies technical requirements for windows, portlights, hatches, deadlights and doors on small craft of hull length up to 24 m, taking into account the type of craft, its design category, and the location of the appliance.

The appliances considered in this International Standard are only those that are critical for the craft's watertightness, i.e. those that could lead to flooding in case of rupture of the plate.

This International Standard is mostly intended to be used for recreational craft, but it may be used for non-recreational small craft of hull length up to 24 m, excluding lifeboats. However, it is not applicable to commercial or work boats used in severe conditions.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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

ISO 7823–1:—[1)], *Poly(methyl methacrylate) sheets — Types, dimensions and characteristics — Part 1: Cast sheets*

ISO 8666:—[2)], *Small craft — Principal data*

ISO 9094-1:—[2)], *Small craft — Fire protection — Part 1: Craft with a hull length of up to and including 15 m*

ISO 9094-2:—[2)], *Small craft — Fire protection — Part 2: Craft with a hull length of over 15 m*

ISO 11812:2001, *Small craft — Watertight cockpits and quick-draining cockpits*

ISO 12217 (all parts):2002, *Small craft — Stability and buoyancy assessment and categorization*

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*

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1) To be published. (Revision of ISO 7823-1:1998)

2) To be published.

3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

3.1
appliance
device made of a plate and possibly a framing system, used to cover an opening in the hull or superstructure of a boat

EXAMPLE Windows, portlights, hatches, deadlights, doors, sliding appliances, escape hatches.

3.2
plate
sheet of material, which may be transparent, that is fixed on the boat structure either directly or via a framing system

3.2.1
stiffened plate
plate equipped with stiffeners

3.2.2
non-stiffened plate
plate directly fixed on its supports

3.2.3
glazing
transparent or translucent plate

3.2.4
unsupported dimensions of a plate
clear dimensions between the supports bearing the plate

NOTE See annexes B and C.

3.3
passage
clear opening through which people or material may pass

NOTE This definition can be used in defining passage dimensions and passage area.

3.4
window
portlight
glazed appliance

NOTE The term “portlight” is generally used for a small window.

3.5
deck hatch
appliance fitted on decks and superstructures

3.6
companionway door
door or closing appliance intended to close a companionway opening

3.7
escape hatch
appliance intended to provide an exit and designated means of escape

3.8
multihull escape hatch
appliance allowing a viable means of escape in the event of inversion

NOTE As this hatch 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.

3.9
deadlight
shutter
secondary watertight closure, fitted to a window, a hatch or a door, and which may be fitted inside or outside the plate

3.10
closing appliance
device used to cover an opening in the cockpit, hull or superstructure

3.11
sliding appliance
appliance that can slide in a rabbet or a frame

3.11.1
framed plate sliding appliance
plate mechanically connected to a frame that slides in a rabbet or a frame

3.11.2
frameless plate sliding appliance
plate without frame that slides in a rabbet or a frame

3.12
design category
description of the sea and wind conditions for which a boat is assessed to be suitable

3.12.1
design category A
category for "ocean" sailing
boat designed for extended voyages where conditions experienced may exceed wind force 8 (Beaufort Scale) and significant wave heights of 4 m and above, but excluding abnormal conditions (e.g. hurricanes)

3.12.2
design category B
category for "offshore" sailing
boat designed for offshore voyages where conditions up to and including wind force 8 (Beaufort Scale) and significant wave heights up to and including 4 m may be experienced

3.12.3
design category C
category for "inshore" sailing
boat designed for voyages in coastal waters, large bays, estuaries, lakes and rivers, where conditions up to and including wind force 6 (Beaufort Scale) and significant wave heights up to and including 2 m may be experienced

3.12.4
design category D
category for sailing in "sheltered waters"
boat designed for voyages in sheltered waters, small bays, estuaries, lakes, rivers and canals, where conditions up to and including wind force 4 (Beaufort Scale) and maximum occasional wave heights up to and including 0,5 m may be experienced

3.13
sailing boat
boat for which the primary means of propulsion is by wind power, having:

$$A_S \geqslant 0{,}07 \times (m_{LDC})^{2/3}$$

where

A_S is the projected sail area according to ISO 8666;

m_{LDC} is the loaded mass of the boat, expressed in kilograms.

NOTE Motor sailers are regarded as sailing boats.

3.14
motor boat
boat designed to use engine power as its primary means of propulsion

3.15
waterline
side projection of the flotation plan, when the boat is upright and in fully loaded ready-for-use conditions

3.16
length of hull
L_H
length of hull according to ISO 8666

3.17
appliance location area
area of the boat where the appliance is fitted

NOTE See annex A for sketches showing examples of appliance location areas.

3.17.1
area I
part of the hull sides situated above waterline, i.e. up to its intersection with the weather deck (for decked craft), or the upper edge of the hull (for open craft or partially decked craft), but only to the following upper boundary:

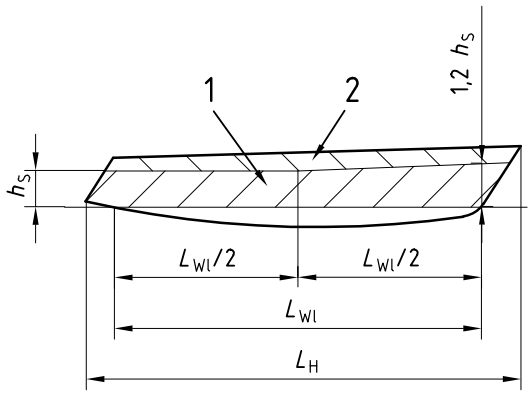
— a horizontal line located at the height h_S above waterline in the rear half of the waterline (see Figure 1);

— a sloped line having a height h_S at mid waterline, and a height $1{,}2h_S$ at the front end of the waterline, with

  — $h_S = L_H/12$ for sailing monohulls,

  — $h_S = L_H/17$ for motor boats, sailing catamarans and central hull of sailing trimarans.

NOTE The outer hulls of sailing trimarans are considered to be entirely in Area I.



Key

1 Area I
2 Area II b

Figure 1 — Limits of Areas I and II b

3.17.2
area II a
area, other than Area I, where persons are liable to walk or step, such as decks, superstructures, cockpit soles, at an inclination of less than 25° to the horizontal in a longitudinal direction, and at an inclination of less than 50° to the horizontal in the transversal direction respectively for sailing monohulls, or 25° for multihulls

3.17.3
area II b
areas from the hull sides not belonging to Area I

NOTE 1 The following areas may be included if they correspond to the definition:

— transoms of all types of craft;

— rear faces of transverse girders of multihulls when located above the waterline.

NOTE 2 Areas placed below the waterline are not covered by this International Standard.

NOTE 3 Areas on which people may stand or step, even inadvertently, are part of Area II a.

EXAMPLE Top of sailboat coachroof on which one may stand or attend to sails.

NOTE 4 Superstructure areas on which people may not normally stand or step, are not part of Area II a, but Area III.

EXAMPLE Top of motorboat wheelhouse out of normal working deck areas.

3.17.4
area III
area, other than Area I or II

EXAMPLE Superstructures, decks or cockpits soles which cannot be considered as belonging to Area II.

NOTE On some boat types, Area III may be divided into particular areas. For example superstructure front and superstructure sides on motorboats.

3.17.5
area IV
parts of Area III protected from the direct impact of sea or slamming waves

EXAMPLE Cockpit sides, rear faces of superstructures.