



BSI Standards Publication

Small craft — Watertight or quick-draining recesses and cockpits

National foreword

This British Standard is the UK implementation of EN ISO 11812:2024+A1:2024. It is identical to ISO 11812:2020, incorporating amendment 1:2024. It supersedes BS EN ISO 11812:2018, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO text carry the number of the ISO amendment. For example, text altered by ISO amendment 1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee GME/33, Small craft.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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English Version

Small craft - Watertight cockpits and quick-draining cockpits (ISO 11812:2001)

Petits navires - Cockpits étanches et cockpits rapidement autovideurs (ISO 11812:2001)

Kleine Wasserfahrzeuge - Wasserdichte und schnell-
lenzende Plichten (ISO 11812:2001)

This European Standard was approved by CEN on 16 April 2018.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

European foreword

The text of ISO 11812:2001 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 11812:2018.

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of an identical text or by endorsement, at the latest by March 2019, and conflicting national standards shall be withdrawn at the latest by March 2019.

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 11812:2001.

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 2013/53/EU.

For relationship with EU Directive 2013/53/EU, 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, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 11812:2001 has been approved by CEN as EN ISO 11812:2018 without any modification.

European foreword to amendment A1

This document (EN ISO 11812:2024/A1:2024) has been prepared by Technical Committee ISO/TC 188 "Small craft" in collaboration with Technical Committee CEN/TC 464 "Small Craft" the secretariat of which is held by SIS.

This Amendment to the European Standard EN ISO 11812:2024 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2025, and conflicting national standards shall be withdrawn at the latest by March 2025.

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 has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

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

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Endorsement notice

The text of ISO 11812:2020/Amd 1:2024 has been approved by CEN as EN ISO 11812:2024/A1:2024 without any modification.

Annex ZA
(informative)

Relationship between this European Standard and the essential requirements of Directive 2013/53/EU aimed to be covered

This European Standard has been prepared under a Commission’s standardization request M/542/C(2015) 8736 final to provide one voluntary means of conforming to essential requirements of Directive 2013/53/EU.

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Annex of Directive 2013/53/EU

Essential Requirements of Directive 2013/53/EU	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
Annex I, Part A, 3.5 a) and b) Flooding	5, 6, 7, 8, 9, 10 (except 10.2.2) Annex A (except A.1 and A.5.2.2)	<p>The scope of this document is wider than that of Article 2.1.(a) of Directive 2013/53/EU in that it includes craft with a Load Line Length of up to 24m which can be considerably greater than 24 m hull length. Craft with hull length greater than 24m are excluded from the correspondence between this standard and Annex I of Directive 2013/53/EU.</p> <p>This standard deals with recesses and cockpits that are drained by gravity. It does not deal with removal of water by pumps or other means.</p> <p>This standard only considers ventilation openings installed on the surfaces of a quick-draining or watertight recess.</p>
Annex I, Part A, 2.5	11	Owner’s manual

**Table ZA.2 — Applicable Standards to confer presumption of conformity
as described in this Annex ZA**

Column 1 Reference in Clause 2	Column 2 International Standard Edition	Column 3 Title	Column 4 Corresponding European Standard Edition
ISO 8666	ISO 8666:2020	<i>Small craft — Principal data</i>	EN ISO 8666:2020 EN ISO 8666:2020/A11:2021
ISO 9093	ISO 9093:2020	<i>Small craft — Seacocks and through-hull fittings</i>	EN ISO 9093:2021
ISO 12216	ISO 12216:2020	<i>Small craft — Windows, portlights, hatches, deadlights and doors — Strength and watertightness requirements</i>	EN ISO 12216:2022 EN ISO 12216:2022/A11:2023
ISO 12217-1	ISO 12217-1:2022	<i>Small craft — Stability and buoyancy assessment and categorization — Part 1: Non-sailing boats of hull length greater than or equal to 6 m</i>	Not yet available For applicable standard edition see Column 2
ISO 12217-2	ISO 12217-2:2022	<i>Small craft — Stability and buoyancy assessment and categorization — Part 2: Sailing boats of hull length greater than or equal to 6 m</i>	Not yet available For applicable standard edition see Column 2
ISO 12217-3	ISO 12217-3:2022	<i>Small craft — Stability and buoyancy assessment and categorization — Part 3: Boats of hull length less than 6 m</i>	Not yet available For applicable standard edition see Column 2

The documents listed in the Column 1 of Table ZA.2, in whole or in part, are normatively referenced in this document, i.e. are indispensable for its application. The achievement of the presumption of conformity is subject to the application of the edition of Standards as listed in Column 4 or, if no European Standard Edition exists, the International Standard Edition given in Column 2 of Table ZA.2.

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols	5
5 General	6
5.1 Loading and measurement conditions	6
5.2 Requirements for watertight and quick-draining recesses	6
6 Watertightness requirements	6
6.1 Watertightness requirements for watertight recesses	6
6.2 Watertightness requirements for quick-draining recesses	7
7 Requirements for companionway sills	7
7.1 Companionway sills	7
7.2 Quick-draining recess with a reduced risk of flooding	8
7.3 Sill height measurement	8
7.4 Minimum companionway sill height for quick-draining recesses	8
8 Height of recess bottom above waterline for quick-draining recesses	8
9 Quick-draining recesses — Single bottom recess drainage	9
9.1 Drainage general requirements	9
9.2 Drain requirements	9
9.2.1 Number and dimensions	9
9.2.2 Special provisions	9
9.2.3 Installation	10
9.3 Drainage calculation requirements	10
9.3.1 Drainage calculation principle and assessment methods	10
9.3.2 Simplified drainage assessment method	11
10 Quick-draining recesses — Multi-bottom recess drainage	12
10.1 Drainage general requirements	12
10.2 Drainage calculations	12
10.3 Drainage requirements for a foot basin	13
11 Owner's manual	14
11.1 General recommendation for use	14
11.2 Recommendation for use from Table 4 — Companionway opening	14
Annex A (normative) Full calculation method for draining time	16
Annex B (informative) Technical background — Source of the calculations used	24
Annex C (informative) Examples of “quick-draining” recesses	30
Bibliography	32

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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 WTO principles in the Technical Barriers to Trade (TBT), see [Foreword - Supplementary information](#).

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

This second edition cancels and replaces the first edition (ISO 11812:2001), which has been technically revised.

A1 The main changes are as follows (see also Annex D): **A1**

- systematic usage of the general term "recess" instead of "cockpit";
- introduction of the concept of recess open to the sea and recess with reduced risk of flooding;
- clarification of requirements;
- clarification of requirements on engine ventilation openings installed in recesses;
- implementation of multi-bottom recesses or recesses with a foot-basin in the main core of the standard;
- deletion of "major head losses" (friction in drain pipes) as their effect was very small, but this made the calculation much more complex;
- improved data for "minor head losses" (local losses) to correspond to common practice;

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 — Watertight or quick-draining recesses and cockpits

1 Scope

This document specifies watertightness, draining time and sill heights requirements for watertight and quick-draining recesses and cockpits in small craft of up to 24 m load line length (see Reference [1]).

Recesses located in elevated parts of the craft are covered by this document.

This document does not specify requirements for the size, the shape and the location of recesses or cockpits. It only considers draining by gravity, and not by pumping or other methods.

It only considers normal operation of the craft, but unattended craft recess issues are out of scope.

A1 This document does not guarantee that the water contained in a watertight or quick-draining recess or cockpit will not affect the stability and buoyancy of the craft, which are covered by ISO 12217-1, ISO 12217-2 and ISO 12217-3. **A1**

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.

A1 ISO 8666, *Small craft — Principal data*

ISO 9093, *Small craft — Seacocks and through-hull fittings*

ISO 12216, *Small craft — Windows, portlights, hatches, deadlights and doors — Strength and watertightness requirements*

ISO 12217-1, *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, *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, *Small craft — Stability and buoyancy assessment and categorization — Part 3: Boats of hull length less than 6 m* **A1**

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 craft is assessed to be suitable

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

Note 2 to entry: The definitions of design categories are in line with the European Recreational Craft Directive 2013/53/EU.

3.2

sailing craft

craft for which the primary means of propulsion is by wind power, having a reference sail area $A_S \geq 0,07(m_{LDC})^{2/3}$, expressed in metres squared, where m_{LDC} is the mass of the craft in the maximum load condition, expressed in kilograms

 Note 1 to entry: The reference sail area, A_S , is defined in ISO 8666. 

3.3

non-sailing craft

craft for which the primary means of propulsion is other than by wind power, having a reference sail area $A_S < 0,07(m_{LDC})^{2/3}$, expressed in metres squared, where m_{LDC} is the mass of the craft in the maximum load condition, expressed in kilograms

 Note 1 to entry: The reference sail area, A_S , is defined in ISO 8666. 

3.4

reference waterline

W_L

level of the water on the hull in the fully loaded, ready-for-use condition

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

3.5

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 craft and multihulls; or
- the level of the sheer line amidships or an angle of 30° , whichever is lower, for monohull sailing craft

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

3.6

recess

volume open to the air that can retain water within the range of loading conditions and corresponding trims

EXAMPLE Cockpits, wells, open volumes or areas bounded by bulwarks or coamings.

 Note 1 to entry: Where fitted with closure device(s) according to ISO 12216, cabins, shelters or lockers are not recesses. 

Note 2 to entry: A recess can be composed of several recesses connected together.

Note 3 to entry: Cockpits that are open to the sea are considered as recesses. Flush decks without bulwarks or coamings are not recesses.

3.7

cockpit

recess (3.6) intended for the accommodation of people

3.8**watertight recess**

recess (3.6) that satisfies the watertightness and *sill* (3.24) height requirements of this document, but not the drainage requirements

3.9**quick-draining recess**

recess (3.6) with characteristics and draining capacity that satisfy all the requirements of this document for one or several design categories

Note 1 to entry: According to its characteristics, a recess can be considered as quick-draining for one design category, but not for a higher category.

Note 2 to entry: The term "quick-draining" has been chosen to differentiate from the common understanding term "self-draining", where water can be drained overboard in certain conditions, but without a specified draining speed, height of bottom or sill, etc.

3.10**recess open to the sea**

∇ *recess* (3.6) where the aft and/or side boundaries are open to the outside of the craft so to not retain water in the recess, with:

— a *recess retention height* (3.21) equal to zero; or

— a draining section area of the recess greater than or equal to $[0,05 V_C]$, where V_C is the recess volume (3.30)

Note 1 to entry: Figure C.1 gives an example of a recess open to the sea. ∇

3.11**recess bottom**

lowest surface of the *recess* (3.6), where water collects before being drained

Note 1 to entry: The recess bottom can have several levels.

3.12**recess bottom height**

H_B

height of the *recess bottom* (3.11) above the waterline, the craft being upright, at rest and fully loaded

3.13**minimum recess bottom height**

$H_{B \min}$

minimum value of the *recess bottom height* (3.12) required by this document

3.14**single-bottom recess**

recess (3.6) where the bottom has only one level

Note 1 to entry: A single-bottom recess fitted with a *foot basin* (3.31) is considered as a *multi-bottom recess* (3.15).

3.15**multi-bottom recess**

recess (3.6) where the bottom has more than one level

3.16**bridge deck**

area in the proximity of the *companionway* (3.23) opening and above the *recess bottom* (3.11), on which people normally step before entering the accommodation

3.17**interior**

inside the craft's watertight envelope

3.18
watertightness degree
degree of watertightness

capacity of an *appliance* (3.20) or fitting to resist ingress of water, according to the conditions of exposure to water

Note 1 to entry: See Table 1 for a definition of the four watertightness degrees.

Table 1 — Definitions of the degrees of watertightness

Degree of watertightness:	Definition
1 (waterproof)	Constructed to withstand continuous immersion Provides protection against the effects of continuous immersion in water
2 (watertight)	Constructed to prevent ingress of water Provides protection against the effects of temporary immersion in water
3 (weathertight)	Constructed to minimize seepage Provides protection against splashing water
4 (spraytight)	Provides protection against waterdrops falling at an angle of up to 15° from the vertical
NOTE  Test procedures for watertightness degrees are provided in ISO 12216. 	

3.19
downflooding opening

opening in the hull or deck (including the edge of a recess) that might admit water into the interior or bilge of a craft, or into a recess

 Note 1 to entry: Those excluded by ISO 12217-1, ISO 12217-2 and ISO 12217-3 are not considered in this document. 

3.20
appliance

device used to cover an opening in the hull, deck or superstructure of a craft

EXAMPLE Windows, portlights, hatches, deadlights, doors, sliding appliances, escape hatches, washboard, compass, ventilation grids, loudspeakers, engine control panel, etc.

Note 1 to entry: They can be fixed appliances or opening appliances.

3.21
 recess retention height

h_c
height of a horizontal plane, measured from the recess bottom, below which the sum of open areas leading to the outside of the craft is greater than $A_c/(L_H B_H)$, where A_c is the area of the recess bottom, with all closing appliances closed when measuring the sum of these open areas

Note 1 to entry: Drains smaller than 25 mm in diameter or equal area are not part of this sum. 

3.22
drain

outlet of the *recess* (3.6) enabling water contained to be discharged overboard by gravity

EXAMPLE A pipe discharging overboard above or below waterline; a part of the recess allowing direct discharge overboard; scuppers and freeing port.

3.23
companionway

opening intended for crew access to the accommodation and fitted with an opening *appliance* (3.20)

Note 1 to entry: The opening appliance can be a door, a hatch; vertical, horizontal, etc.

Note 2 to entry: There can be several companionways.

3.24

sill

barrier above which water in the *recess* (3.6) can enter *companionway* (3.23) openings and downflood the craft

EXAMPLE Hatches of cockpit companionways.

3.25

fixed sill

sill (3.24) that is a fixed, integral and permanent part of the *recess* (3.6)

3.26

semi-fixed sill

opening *appliance* (3.20), movable but permanently installed on the craft that, when in place, constitutes a *sill* (3.24) higher than the fixed part of the sill

EXAMPLE Hatches, sliding sills, but excluding washboards.

Note 1 to entry: A lanyard is not regarded as a permanent attachment.

Note 2 to entry: Sliding or hinged doors are considered as a mobile part of a semi-fixed sill.

3.27

washboard

opening *appliance* (3.20) for *companionway* (3.23) openings made of several mobile boards sliding in a rabbet that, when closed, are stacked one on top of each other, and located above the *minimum sill height* (3.29)

Note 1 to entry: This is a frequent device on sailing monohulls; boards are added as the weather worsens.

3.28

sill height

h_s

minimum vertical distance from the top of the *sill* (3.24) to the closest part of the *recess* (3.6) bottom

Note 1 to entry: See [Figure 1](#).

3.29

minimum sill height

$h_{s\min}$

minimum value of the *sill height* (3.28) required by this document

3.30

recess volume

V_c

volume of water that can be contained in a *recess* (3.6) before discharge

Note 1 to entry: It is the maximum volume, considering any combination of movable coamings, etc., measured from the *recess bottom* (3.11) up to the *recess retention height* (3.21), assuming that all opening *appliances* (3.20) and *drains* (3.22) are closed.

3.31

foot basin

specific *recess* (3.6) that satisfies the requirements of 10.3 of this document, located between a recess and a *companionway* (3.23) opening, and having a lower bottom than the surrounding recess

4 Symbols

[Table 2](#) gives the main symbols used in this document, with their meaning and unit.