



BSI Standards Publication

## **Small craft — Stability and buoyancy assessment and categorization**

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Part 3: Boats of hull length less than 6 m

## National foreword

This British Standard is the UK implementation of EN ISO 12217-3:2017. It is identical to ISO 12217-3:2015. It supersedes BS EN ISO 12217-3:2015, which is withdrawn.

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 secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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**Compliance with a British Standard cannot confer immunity from legal obligations.**

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EUROPEAN STANDARD

**EN ISO 12217-3**

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English Version

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

Petits navires - Évaluation et catégorisation de la  
stabilité et de la flottabilité - Partie 3: Bateaux d'une  
longueur de coque inférieure à 6 m (ISO 12217-  
3:2015)

Kleine Wasserfahrzeuge - Stabilitäts- und  
Auftriebsbewertung und Kategorisierung - Teil 3:  
Boote unter 6 m Rumpflänge (ISO 12217-3:2015)

This European Standard was approved by CEN on 23 July 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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 CEN-CENELEC Management Centre has the same status as the official versions.

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## European foreword

The text of ISO 12217-3:2015 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 12217-3:2017.

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 February 2018, and conflicting national standards shall be withdrawn at the latest by February 2018.

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 12217-3:2015.

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, 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 12217-3:2015 has been approved by CEN as EN ISO 12217-3:2017 without any modification.

## Annex ZA (informative)

### Relationship between this European Standard and the essential requirements of Directive 2013/53/EU

This European Standard has been prepared under a Commission's standardization request M/075 to provide one voluntary means of conforming to essential requirements of Directive 2013/53/EU of the European Parliament and of the Council of 20 November 2013 on recreational craft and personal watercraft and repealing Directive 94/25/EC (OJ L 354, 28.12.2013, p. 90–131).

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 I.A of Directive 2013/53/EU**

Clause(s)/sub-clause(s) of this EN	Essential Requirements of Directive 2013/53/EU	Remarks/Notes
Clause 5; 6; 9; Annex G	I.A.1 - Watercraft Design Categories	EN ISO 12217-3 is applicable to boats of hull length less than 6 m, whether propelled by human or mechanical power, except habitable sailing multihulls.  The evaluation of stability and buoyancy properties using EN ISO 12217-3 will enable boats of hull length less than 6 m to be assigned to a design category (C or D) appropriate to its design and maximum load.  Design categories A, B, C and D defined in this standard correspond to design categories A, B, C and D of Directive 2013/53/EU.
Clause 5, 6, 7 Annexes A, B, C, D	I.A.3.2 - Stability and Freeboard	
Clause 6.2, 6.7, 6.8, 6.9, 7.4, 7.5, 7.8 Annexes C, D, E	I.A.3.3 - Buoyancy and flotation	EN ISO 12217-3 includes the flotation characteristics of craft susceptible to swamping.  Habitable non-sailing multihulls susceptible to inversion shall also comply with the inverted buoyancy requirements of ISO 12217-2:2015, clause 7.12.

Clause 6.3, 7.2 Annexes A, B,	I.A.3.5 - Flooding	In respect of watertight integrity and downflooding openings including ventilation openings and fittings.
Clause 5	I.A.3.6 - Maximum recommended load	
Clause 6.2	I.A.3.8 - Escape	Habitable non-sailing multihulls susceptible to inversion shall also comply with the escape requirements of ISO 12217-2:2015, clause 7.13. This standard does not include means of escape in the event of fire.
Annex F	I.A.2.5 - Owner's manual	

**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.

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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](http://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](http://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 on 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 the following URL: [Foreword - Supplementary information](#).

The committee responsible for this document is ISO/TC 188, *Small craft*.

This third edition cancels and replaces the second edition (ISO 12217-3:2013), of which it constitutes a minor revision. It incorporates the following modifications:

- Introduction and [Clause 9.2](#): the reference to the European Directive has been updated (2013/53/EU);
- [Clause 1](#), [subclauses 6.2](#), [6.3.1.5 d](#)) [3](#)) and [F.2 g](#)): vulnerable has been replaced with susceptible.
- [Clause 3](#): definitions [3.1.1](#), [3.3.5](#) and [3.4.9](#) have been amended;
- [Subclause 6.3.2.2 c](#)): option 5 has been included;
- [Subclauses 6.4.2.3](#) and [6.4.2.4](#): the formulae coefficients have been corrected;
- [Subclauses 6.5.2.5](#) and [6.5.3.3 e](#)) [2](#)) and [Table G.1](#) have been slightly amended to remove inconsistencies.
- [Subclause 6.6.1](#) and [Table G.1](#): the formulae have been harmonised with ISO 12217-1;
- [Subclause 7.5.1 b](#)) has been aligned with the text in ISO 12217-2.
- [Subclause 9.2](#): the text has been amended;
- [Annex H](#): worksheets 2, 4, 6, 8 and 15 have been corrected to align with corrections listed above;
- [Annex I](#) has been added;
- Bibliography: reference to ISO 7010 has been added;
- Editorial and cross-referencing corrections have been made to definitions [3.2.2](#) and [3.2.3](#) and to [subclauses 6.4.1](#), [6.4.2.1](#), [6.4.2.2](#) and [6.4.2.3](#), to [Table G.2](#), and to [Annex H](#), worksheet 6.

ISO 12217 consists of the following parts, under the general title *Small craft — Stability and buoyancy assessment and categorization*:

- *Part 1: Non-sailing boats of hull length greater than or equal to 6 m*
- *Part 2: Sailing boats of hull length greater than or equal to 6 m*
- *Part 3: Boats of hull length less than 6 m*

## Introduction

This part of ISO 12217 enables the determination of the limiting environmental conditions to be determined for which an individual boat has been designed.

It enables the boat to be assigned to a design category appropriate to its design and maximum load. The design categories used align with those in the Recreational Craft Directive of the European Union, EU Directive 2013/53/EU.

[Annex H](#) provides worksheets to assist in the systematic assessment of a boat according to this part of ISO 12217.

# Small craft — Stability and buoyancy assessment and categorization —

## Part 3: Boats of hull length less than 6 m

**CAUTION** — Compliance with this part of ISO 12217 does not guarantee total safety or total freedom of risk from capsizing or sinking.

**IMPORTANT** — The electronic file of this document contains colours which are considered to be useful for the correct understanding of the document. Users should therefore consider printing this document using a colour printer.

### 1 Scope

This part of ISO 12217 specifies methods for evaluating the stability and buoyancy of intact (i.e. undamaged) boats. The flotation characteristics of craft susceptible to swamping are also encompassed.

The evaluation of stability and buoyancy properties using this part of ISO 12217 will enable the boat to be assigned to a design category (C or D) appropriate to its design and maximum load.

This part of ISO 12217 is applicable to boats of hull length less than 6 m, whether propelled by human or mechanical power, except habitable sailing multihulls. Boats of hull length less than 6 m which are fitted with a full deck and quick-draining cockpit(s) complying with ISO 11812 may alternatively be assessed using ISO 12217-1 or ISO 12217-2 (for non-sailing and sailing boats, respectively), in which case higher design categories may be assigned.

In relation to habitable multihulls, this part of ISO 12217 includes assessment of susceptibility to inversion, definition of viable means of escape and requirements for inverted flotation.

This part of ISO 12217 excludes:

- inflatable and rigid-inflatable boats covered by ISO 6185, except for references made in ISO 6185 to specific clauses of ISO 12217;
- personal watercraft covered by ISO 13590 and other similar powered craft;
- aquatic toys;
- canoes and kayaks;
- gondolas and pedalos;
- sailing surfboards;
- surfboards, including powered surfboards;
- hydrofoils, foil stabilized boats and hovercraft when not operating in the displacement mode; and
- submersibles.

**NOTE** Displacement mode means that the boat is only supported by hydrostatic forces.

It does not include or evaluate the effects on stability of towing, fishing, dredging or lifting operations, which need to be separately considered if appropriate.