



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 12215-8:2009

# Small craft - Hull construction and scantlings - Part 8: Rudders (ISO 12215-8:2009)

## I.S. EN ISO 12215-8:2009

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

EN ISO 12215-8:2009/AC:2010

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**Small craft - Hull construction and scantlings - Part 8: Rudders - Technical  
Corrigendum 1 (ISO 12215-8:2009/Cor 1:2010)**

**Petits navires - Construction de coques et  
échantillonnage - Partie 8: Gouvernails -  
Rectificatif technique 1 (ISO 12215-  
8:2009/Cor 1:2010)**

**Kleine Wasserfahrzeuge - Rumpfbauweise  
und Dimensionierung - Teil 8: Ruder (ISO  
12215-8:2009/Cor 1:2010)**

This corrigendum becomes effective on 15 September 2010 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 15 septembre 2010 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 15. September 2010 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.



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

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## **Foreword**

This document (EN ISO 12215-8:2009/AC:2010) has been prepared by Technical Committee ISO/TC 188 "Small craft".

### **Endorsement notice**

The text of ISO 12215-8:2009/Cor 1:2010 has been approved by CEN as a EN ISO 12215-8:2009/AC:2010 without any modification.

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EUROPEAN STANDARD

**EN ISO 12215-8**

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## Small craft - Hull construction and scantlings - Part 8: Rudders (ISO 12215-8:2009)

Petits navires - Construction de coques et échantillonnage -  
Partie 8: Gouvernails (ISO 12215-8:2009)

Kleine Wasserfahrzeuge - Rumpfbauweise und  
Dimensionierung - Teil 8: Ruder (ISO 12215-8:2009)

This European Standard was approved by CEN on 21 April 2009.

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COMITÉ EUROPÉEN DE NORMALISATION  
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## **Foreword**

This document (EN ISO 12215-8:2009) has been prepared by Technical Committee ISO/TC 188 "Small craft" in collaboration with CEN Sub-sector T01 "Shipbuilding and maritime structures", the secretariat of which is held by 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 November 2009, and conflicting national standards shall be withdrawn at the latest by November 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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 EC Directive(s).

For relationship with EC 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

### **Endorsement notice**

The text of ISO 12215-8:2009 has been approved by CEN as a EN ISO 12215-8:2009 without any modification.

## **Annex ZA**

(informative)

### **Relationship between this International Standard and the Essential Requirements of EU Directive 94/25/EC amended by EU Directive 2003/44/EC**

This standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide one means of conforming to Essential Requirements of the New Approach Directive 94/25/EC amended by EU Directive 2003/44/EC.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, 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 International Standard and Directive 94/25/EC amended by EU Directive 2003/44/EC**

<b>Clause(s)/sub-clause(s) of this International Standard</b>	<b>Essential requirements (ERs) of EU Directive 94/25/EC amended by EU Directive 2003/44/EC</b>	<b>Qualifying remarks/Notes</b>
All clauses	Annex 1 A, Clause 3.1 structure	<p>The standard provides requirements for the structural strength of rudders.</p> <p>Single bearing spade rudders and single hull bearing skeg rudders are not addressed by this standard.</p>

**WARNING — Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.**

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**INTERNATIONAL  
STANDARD**

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12215-8**

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**Small craft — Hull construction and  
scantlings —**

**Part 8:  
Rudders**

*Petits navires — Construction de coques et échantillonnage —  
Partie 8: Gouvernails*



Reference number  
ISO 12215-8:2009(E)

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 12215-8 was prepared by Technical Committee ISO/TC 188, *Small craft*.

ISO 12215 consists of the following parts, under the general title *Small craft — Hull construction and scantlings*:

- *Part 1: Materials: Thermosetting resins, glass-fibre reinforcement, reference laminate*
- *Part 2: Materials: Core materials for sandwich construction, embedded materials*
- *Part 3: Materials: Steel, aluminium alloys, wood, other materials*
- *Part 4: Workshop and manufacturing*
- *Part 5: Design pressures for monohulls, design stresses, scantlings determination*
- *Part 6: Structural arrangements and details*
- *Part 8: Rudders*

## **Introduction**

The reason underlying the preparation of this part of ISO 12215 is that standards and recommended practices for loads on the hull and the dimensioning of small craft differ considerably, thus limiting the general worldwide acceptability of craft. This part of ISO 12215 has been set towards the lower boundary range of common practice.

The objective of this part of ISO 12215 is to achieve an overall structural strength that ensures the watertight and weathertight integrity of the craft.

The working group considers this part of ISO 12215 to have been developed applying present practice and sound engineering principles. The design loads and criteria of this part of ISO 12215 may be used with the scantling determination equations of this part of ISO 12215 or using equivalent engineering methods such as continuous beam theory, matrix-displacement method and classical lamination theory, as indicated within.

Considering future development in technology and craft types, and small craft presently outside the scope of this part of ISO 12215, provided that methods supported by appropriate technology exist, consideration may be given to their use as long as equivalent strength to this part of ISO 12215 is achieved.

The dimensioning according to this part of ISO 12215 is regarded as reflecting current practice, provided the craft is correctly handled in the sense of good seamanship and equipped and operated at a speed appropriate to the prevailing sea state.



# Small craft — Hull construction and scantlings —

## Part 8: Rudders

### 1 Scope

This part of ISO 12215 gives requirements on the scantlings of rudders fitted to small craft with a length of hull,  $L_H$ , of up to 24 m, measured according to ISO 8666. It applies only to monohulls.

This part of ISO 12215 does not give requirements on rudder characteristics required for proper steering capabilities.

This part of ISO 12215 only considers pressure loads on the rudder due to craft manoeuvring. Loads on the rudder or its skeg, where fitted, induced by grounding or docking, where relevant, are out of scope and need to be considered separately.

NOTE Scantlings derived from this part of ISO 12215 are primarily intended to apply to recreational craft including charter craft.

### 2 Normative references

The following referenced documents are indispensable for the application 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, *Small craft — Principal data*

ISO 12215-5:2008, *Small craft — Hull construction and scantlings — Part 5: Design pressures for monohulls, design stresses, scantlings determination*

### 3 Terms and definitions

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

#### 3.1

##### design categories

sea and wind conditions for which a craft is assessed by this part of ISO 12215 to be suitable, provided the craft is correctly handled in the sense of good seamanship and operated at a speed appropriate to the prevailing sea state

##### 3.1.1

##### design category A (“ocean”)

category of craft considered suitable to operate in seas with significant wave heights above 4 m and wind speeds in excess of Beaufort Force 8, but excluding abnormal conditions such as hurricanes

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