Small craft - Hull construction and scantlings - Part 6: Structural arrangements and details (ISO 12215-6:2008)



EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

5	See Eesti standard EV sisaldab Euroopa standa ngliskeelset teksti.			
- 1	Standard on jõustur avaldamisega EVS Teata		teate	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
E	Euroopa standardimisoi Euroopa standardi kättesaadavaks 03.10.20	rahvuslikele liikm		Date of Availability of the European standard is 03.10.2018.
- 1 '	Standard on Standardikeskusest.	kättesaadav	Eesti	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile <u>standardiosakond@evs.ee</u>.

ICS 47.080

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN ISO 12215-6

NORME EUROPÉENNE EUROPÄISCHE NORM

October 2018

ICS 47.080

Supersedes EN ISO 12215-6:2008

English Version

Small craft - Hull construction and scantlings - Part 6: Structural arrangements and details (ISO 12215-6:2008)

Petits navires - Construction de coques et échantillonnage - Partie 6: Dispositions structurelles et détails de construction (ISO 12215-6:2008) Kleine Wasserfahrzeuge - Rumpfbauweise und Dimensionierung - Teil 6: Bauanordnung und Details (ISO 12215-6:2008)

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

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.

CEN members are the national standards bodies of 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 United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION 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 12215-6:2008 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 12215-6:2018.

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 April 2019, and conflicting national standards shall be withdrawn at the latest by April 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 12215-6:2008.

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 12215-6:2008 has been approved by CEN as EN ISO 12215-6:2018 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 I of Directive 2013/53/EU

Corresponding annexes/paragraphs of Directive 2013/53/EU	Clauses/sub- clauses of this standard	Comments
Annex I, Part A, 3.1 - Structure	All clauses	This part ISO 12215 standard series supports EN ISO 12215-5 and deals with specific structural details and other structural components for monohull and multihull craft constructed from fibre reinforced plastics, aluminium or steel alloys, wood or similar suitable materials that are not explicitly included in Parts 5; 7; 8 and 9.

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

Forewo	ord	v
Introdu	iction	vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols	3
5	General	4
6 6.1 6.2 6.3 6.4 6.5 6.6	Structural arrangement Stiffening Hull girder strength Load transfer Determination of stiffener spans Window mullions Sailboat mast support	4 7 7 11
7 7.1 7.2 7.3 7.4 7.5 7.6 7.7 7.8	Specific structural details for FRP construction Local reinforcement Bonding Major joints Laminate transition Sandwich construction Attachment of fittings Engine seatings and girders Hull drainage	14 16 21 25 25 25
8 8.1 8.2 8.3 8.4 8.5 8.6 8.7	Specific structural details for metal construction Design details End connections Increased hull plating Protective keel Hull drainage Machinery spaces Good practice welding standards Good practice for riveting or adhesive bonding	28 28 28 29 29
9 9.1 9.2 9.3 9.4	Good practice on laminated wood Edge sealing Plywood orientation Local scantlings Alternative criteria	30 30 30
10	Consideration of other loads	
11 11.1 11.2 11.3 11.4 11.5	Other structural components	31 31 32 32
_	A (normative) Structural arrangements for estagery C and D hosts	22

riveted joints.		35
· ·	Good practice welding procedure	
ex D (informative)	Longitudinal strength analysis	47
ography		52
7		
	3	
	2	
	0,	
		70
		O'

Introduction

The underlying reason for preparing 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 boats.

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.

This part of ISO 12215 is considered to have been developed with the application of current practice and sound engineering principles.

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

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