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

**Part 10:
Rig loads and rig attachment in
sailing craft**

*Petit navires — Construction de la coque et échantillonnage —
Partie 10: Charges dans le gréement et points d'attache du gréement
dans les bateaux à voiles*

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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).

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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

A list of all parts in the ISO 12215 series can be found on the ISO website.

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.

Introduction

The reason underlying the preparation of the ISO 12215 series is that scantlings rules and recommended practices for small craft differ considerably, thus limiting the general worldwide acceptability of craft.

This document has been set towards the minimal requirements of the current practice.

The dimensioning according to this document 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.

This document is not a design standard and designers/builders are strongly cautioned from attempting to design craft such that nearly all structural components only just comply.

The connection between the rig attachment and the structure is required to be stronger than the rig attachment itself. It is therefore considered that unforeseen overload will not entail its detachment from the structure, and that the watertight integrity will be maintained.

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Small craft — Hull construction and scantlings —

Part 10: Rig loads and rig attachment in sailing craft

1 Scope

This document specifies methods for the determination of:

- the design loads and design stresses on rig elements; and
- the loads and scantlings of rig attachments and mast steps/pillars;

on monohull and multihulls sailing craft.

It also gives, in Annexes, "established practices" for the assessment of mast steps/pillars or chainplates

NOTE 1 Other engineering methods can be used provided the design loads and design stresses are used.

This document is applicable to craft with a hull length L_H up to 24 m but it can also be applied to craft up to 24 m load line length.

NOTE 2 The load line length is defined in the OMI "International Load Lines Convention 1966/2005", it is smaller than L_H . This length also sets up, at 24 m, the lower limit of several IMO conventions.

Scantlings derived from this document are primarily intended to apply to recreational craft, including charter vessels.

This document is not applicable to racing craft designed only for professional racing.

<https://www.iso.org/standard/85314.html>
This document only considers the loads exerted when sailing. Any loads that may result from other situations are not considered in this document.

Throughout this document, and unless otherwise specified, dimensions are in (m), areas in (m^2), masses in (kg), forces in (N), moments in (N m), stresses and elastic modulus in N/mm^2 ($1 N/mm^2 = 1 Mpa$). Unless otherwise stated, the craft is assessed in fully loaded ready for use condition.

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.

ISO 12215-5:2019, *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.

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/>