

BSI Standards Publication

Maritime works

Part 4: Design of fendering and mooring systems – Code of practice

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Summary of pages

This document comprises a front cover, an inside front cover, pages I to VI, pages 1 to 92, an inside back cover and a back cover.

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Foreword

Publishing information

This part of [BS 6349](#) is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 28 February 2026. It was prepared by Technical Committee CB/502, *Maritime works*. A list of organizations represented on this committee can be obtained on request to the committee manager.

Supersession

This part of [BS 6349](#) supersedes [BS 6349-4:2014](#), which is withdrawn.

Relationship with other publications

[BS 6349](#) is published in the following parts:

- Part 1-1: *General – Code of practice for planning and design for the asset lifecycle*;
- Part 1-2: *General – Code of practice for assessment of actions*;
- Part 1-3: *General – Code of practice for geotechnical design*;
- Part 1-4: *General – Code of practice for materials*;
- Part 2: *Code of practice for the design of quay walls, jetties and dolphins*;
- Part 3: *Code of practice for the design of shipyards and sea locks*;
- Part 4: *Design of fendering and mooring systems – Code of practice*;
- Part 5: *Code of practice for dredging and land reclamation*;
- Part 6: *Design of inshore moorings and floating structures (withdrawn)*;
- Part 7: *Guide to the design and construction of breakwaters*;
- Part 8: *Code of practice for the design of Ro-Ro ramps, linkspans and walkways*.

Information about this document

This is a full revision of the document, and introduces the following principal changes.

- The nomenclature in the equations in [Clause 5](#) and [Clause 6](#) has been revised to follow Eurocode practice.
- The berthing velocity discussion in [5.1](#) has been deleted and replaced with a discussion in [Annex B](#).
- [Clause 6](#) has been revised to include recovery and hardening factors. The manufacturing factor has been revised to depend on the amount of testing.
- [Annex A](#) specifying the performance testing of fenders has been added.
- [Annex C](#) detailing the durability testing of fenders has been added.
- Annexes [D](#), [E](#) and [F](#) have been added; this text was previously included in [BS 6349-1-1](#).
- [Annex G](#) detailing the testing of mooring equipment has been added.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

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As a code of practice, this part of BS 6349 takes the form of recommendations and guidance. It is not to be quoted as if it were a specification. Users are expected to ensure that claims of compliance are not misleading.

Users may substitute any of the recommendations in this part of BS 6349 with practices of equivalent or better outcome. Any user claiming compliance with this part of BS 6349 is expected to be able to justify any course of action that deviates from its recommendations.

It has been assumed in the preparation of this part of BS 6349 that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Presentational conventions

The provisions in this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is “should”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the *Shorter Oxford English Dictionary* is used (e.g. “organization” rather than “organisation”).

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Section 1 General

1 Scope

This part of [BS 6349](#) gives recommendations and guidance on the design of fendering systems and layouts, mooring devices and mooring system layouts, principally for commercial vessels with a minimum displacement of 1 000 t.

NOTE Several provisions in this part of [BS 6349](#) might be applicable to other types of vessels, such as naval vessels, provided that the particular vessel characteristics and berthing/mooring procedures are taken into account.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions, or limits the application, of this document¹⁾. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Standards publications

[BS 6349-1-1](#), *Maritime works – Part 1-1: General – Code of practice for planning and design for the asset lifecycle*

[BS 6349-1-2](#), *Maritime works – Part 1-2: General – Code of practice for assessment of actions*

[BS 6349-1-4](#), *Maritime works – Part 1-4: General – Code of practice for materials*

[BS 6349-2](#), *Maritime works – Part 2: Code of practice for the design of quay walls, jetties and dolphins*

[BS 7419](#), *Specification for holding down bolts*

[BS EN 1090](#) (all parts), *Execution of steel structures and aluminium structures*

[BS EN 1593](#), *Non-destructive testing – Leak testing – Bubble emission techniques*

[BS EN 1990](#), *Eurocode – Basis of structural and geotechnical design*

[BS EN 1991](#) (all parts), *Eurocode 1 – Actions on structures*

[BS EN 1992-1-1](#), *Eurocode 2 – Design of concrete structures – Part 1-1: General rules and rules for buildings, bridges and civil engineering structures*

[BS EN 1992-4](#), *Eurocode 2 – Design of concrete structures – Part 4: Design of fastenings for use in concrete*

[BS EN 1993](#) (all parts), *Eurocode 3 – Design of steel structures*²⁾

[BS EN 1995](#) (all parts), *Eurocode 5 – Design of timber structures*³⁾

[BS EN IEC 60079-10-1](#), *Explosive atmospheres – Part 10-1: Classification of areas – Explosive gas atmospheres*

[BS EN ISO 898](#) (all parts), *Mechanical properties of fasteners made of carbon steel and alloy steel*⁴⁾

[BS EN ISO 3506](#) (all parts), *Fasteners – Mechanical properties of corrosion-resistant stainless steel fasteners*

[BS EN ISO 10684](#), *Fasteners – Hot dip galvanized coatings*

¹⁾ Documents that are referred to solely in an informative manner are listed in the Bibliography.

²⁾ This British Standard also gives normative references to [BS EN 1993-1-1](#) and [BS EN 1993-1-8](#), and an informative reference to [BS EN 1993-1-5:2006](#).

³⁾ This British Standard also gives a normative reference to [BS EN 1995-1-1](#).

⁴⁾ This British Standard also gives a normative reference to [BS EN ISO 898-1](#).