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Eurocode 1 - Actions on structures - Part 1-8: Actions from waves and currents on coastal structures

Eurocode 1 - Einwirkungen auf Tragwerke - Teil 1-8: Einwirkungen durch Wellen und Strömungen auf Küstenbauwerke

Eurocode 1 - Actions sur les structures - Partie 1-8 : Actions des vagues et des courants sur les structures côtières

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Eurocode 1 - Actions sur les structures - Partie 1-8 :
Actions des vagues et des courants sur les structures
côtières

Eurocode 1 - Einwirkungen auf Tragwerke - Teil 1-8:
Allgemeine Einwirkungen - Einwirkungen durch
Wellen und Strömungen auf Küstenbauwerke

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 250.

If this draft becomes a European Standard, 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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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prEN 1991-1-8:2024 (E)**European foreword**

This document (prEN 1991-1-8:2024) has been prepared by Technical Committee CEN/TC 250 “Structural Eurocodes”, the secretariat of which is held by BSI.

CEN/TC 250 is responsible for all Structural Eurocodes and has been assigned responsibility for structural and geotechnical design matters by CEN.

This document is currently submitted to the CEN Enquiry.

The first generation of EN Eurocodes was published between 2002 and 2007. This document forms part of the second generation of the Eurocodes, which have been prepared under Mandate M/515 issued to CEN by the European Commission and the European Free Trade Association.

The Eurocodes have been drafted to be used in conjunction with relevant execution, material, product and test standards, and to identify requirements for execution, materials, products and testing that are relied upon by the Eurocodes.

The Eurocodes recognise the responsibility of each Member State and have safeguarded their right to determine values related to regulatory safety matters at national level through the use of National Annexes.

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Introduction

0.1 Introduction to the Eurocodes

The structural Eurocodes comprise the following standards generally consisting of a number of parts:

- EN 1990, *Eurocode — Basis of structural and geotechnical design*
- EN 1991, *Eurocode 1 — Actions on structures*
- EN 1992, *Eurocode 2 — Design of concrete structures*
- EN 1993, *Eurocode 3 — Design of steel structures*
- EN 1994, *Eurocode 4 — Design of composite steel and concrete structures*
- EN 1995, *Eurocode 5 — Design of timber structures*
- EN 1996, *Eurocode 6 — Design of masonry structures*
- EN 1997, *Eurocode 7 — Geotechnical design*
- EN 1998, *Eurocode 8 — Design of structures for earthquake resistance*
- EN 1999, *Eurocode 9 — Design of aluminium structures*
- New Eurocodes under development, e.g. Eurocode for design of structural glass

The Eurocodes are intended for use by designers, clients, manufacturers, constructors, relevant authorities (in exercising their duties in accordance with national or international regulations), educators, software developers, and committees drafting standards for related product, testing and execution standards.

NOTE Some aspects of design are most appropriately specified by relevant authorities or, where not specified, can be agreed on a project-specific basis between relevant parties such as designers and clients. The Eurocodes identify such aspects making explicit reference to relevant authorities and relevant parties.

0.2 Introduction to EN 1991 (all parts)

EN 1991 specifies actions for the structural design of buildings, bridges and other civil engineering works, or parts thereof, including temporary structures, in conjunction with EN 1990 and the other Eurocodes.

EN 1991 does not cover the specific requirements of actions for seismic design. Provisions related to such requirements are given in EN 1998 (all parts), which complement and are consistent with EN 1991.

EN 1991 is also applicable to existing structures for their:

- structural assessment,
- strengthening or repair,
- change of use.

NOTE In these cases additional or amended provisions can be necessary.

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EN 1991 is applicable for the design of structures where materials or actions outside the scope of the other Eurocodes are involved.

NOTE In this case additional or amended provisions can be necessary.

EN 1991 is subdivided in various parts:

- EN 1991-1-1, *Eurocode 1 — Actions on structures — Part 1-1: Specific weight of materials, self-weight of construction works and imposed loads for buildings*
- EN 1991-1-2, *Eurocode 1 — Actions on structures — Part 1-2: Actions on structures exposed to fire*
- EN 1991-1-3, *Eurocode 1 — Actions on structures — Part 1-3: Snow Loads*
- EN 1991-1-4, *Eurocode 1 — Actions on structures — Part 1-4: Wind Actions*
- EN 1991-1-5, *Eurocode 1 — Actions on structures — Part 1-5: Thermal Actions*
- EN 1991-1-6, *Eurocode 1 — Actions on structures — Part 1-6: Actions during execution*
- EN 1991-1-7, *Eurocode 1 — Actions on structures — Part 1-7: Accidental actions*
- EN 1991-1-8, *Eurocode 1 — Actions on structures — Part 1-8: Actions from waves and currents on coastal structures*
- EN 1991-1-9, *Eurocode 1 — Actions on structures — Part 1-9: Atmospheric icing*
- EN 1991-2, *Eurocode 1 — Actions on structures — Part 2: Traffic loads on bridges and other civil engineering works*
- EN 1991-3, *Eurocode 1 — Actions on structures — Part 3: Actions induced by cranes and machines*
- EN 1991-4, *Eurocode 1 — Actions on structures — Part 4: Silos and tanks*

0.3 Introduction to EN 1991-1-8

EN 1991-1-8 gives guidance for the determination of actions by waves and currents to be used for the design of structures in the coastal zone/area.

As wind is the governing physical parameter for wave generation on the sea surface and storm surge, i.e waves and design water levels are strongly correlated with wind, EN 1991-1-4 is particularly relevant in this respect.

0.4 Verbal forms used in the Eurocodes

The verb “shall” expresses a requirement strictly to be followed and from which no deviation is permitted in order to comply with the Eurocodes.

The verb “should” expresses a highly recommended choice or course of action. Subject to national regulation and/or any relevant contractual provisions, alternative approaches could be used/adopted where technically justified.

The verb “may” expresses a course of action permissible within the limits of the Eurocodes.

The verb “can” expresses possibility and capability; it is used for statements of fact and clarification of concepts.