

STN	Eurokód 1 Zaťaženia konštrukcií Časť 1-8: Zaťaženia pobrežných konštrukcií vlnami a prúdmi	STN EN 1991-1-8 73 0035
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Eurocode 1 - Actions on structures - Part 1-8: Actions from waves and currents on coastal structures

Táto norma obsahuje anglickú verziu európskej normy.

This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/26

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EUROPEAN STANDARD
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English Version

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

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:
Einwirkungen infolge von Wellen und Strömungen auf
Küstenbauwerke

This European Standard was approved by CEN on 28 December 2025.

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.

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

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European foreword

This document (EN 1991-1-8:2026) 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 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of an identical text or by endorsement, at the latest by September 2027, and conflicting national standards shall be withdrawn at the latest by March 2028.

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.

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 recognize 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.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

EN 1991-1-8:2026 (E)**0 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
- EN 19100 Eurocode 10 — Design of glass structures
- New parts are under development, e.g. Eurocode for design of fibre-polymer composite structures and design of tensioned membrane structures

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 (all parts) specifies actions for the structural and geotechnical design of buildings, bridges and other civil engineering works, or parts thereof, including temporary structures, in conjunction with EN 1990 (all parts) 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:

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

NOTE 1 In these cases additional or amended provisions can be necessary.

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

NOTE 2 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.

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 often 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.

0.5 National annex for EN 1991-1-8

National choice is allowed in this document where explicitly stated within notes. National choice includes the selection of values for Nationally Determined Parameters (NDPs).

The national standard implementing EN 1991-1-8 can have a National Annex containing all national choices to be used for the design of buildings and civil engineering works to be constructed in the relevant country.

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When no national choice is given, the default choice given in this document is to be used.

When no national choice is made and no default is given in this document, the choice can be specified by a relevant authority or, where not specified, agreed for a specific project by appropriate parties.

National choice is allowed in EN 1991-1-8 through notes to the following clauses:

4.1(5)	4.2.2(1)	4.5(1) – 2 choices	4.5(2)
4.6.1(1)	4.6.1(2)	4.7.1(1)	4.7.1(4)
4.7.2(4)	4.7.3(1) – 4 choices	4.7.4(6)	4.7.5(3)
4.8.5(2)	5.2.1(11)	5.5.2(2)	5.6(3)
6.1.3(1)			

National choice is allowed in EN 1991-1-8 on the application of the following informative annexes:

Annex A	Annex B	Annex C	Annex D
Annex E	Annex F	Annex G	

The National Annex can contain, directly or by reference, non-contradictory complementary information for ease of implementation, provided it does not alter any provisions of the Eurocodes.

1 Scope

1.1 Scope of EN 1991-1-8

(1) EN 1991-1-8 gives principles and rules to determine the values of wave and current actions on structures and civil engineering works in the coastal zone, i.e. works connected to, or in close vicinity to the shore.

NOTE 1 Provisions in EN 1991-1-8 are limited to hydrodynamic actions that can be directly quantified in terms of wave and/or current induced pressures and associated forces and moments on structures or structural parts.

NOTE 2 As opposed to offshore conditions, waves or currents in the coastal zone are generally affected by the presence of the seabed or shore.

NOTE 3 The coastal zone is typically defined as the area between the shoreline and the deep-water limit.

(2) EN 1991-1-8 describes the principles for defining the hydrodynamic conditions to be used for design, including sea water levels.

(3) EN 1991-1-8 addresses specifically actions from currents and waves on the following structure types:

- cylindrical structures;
- subsea pipelines;
- suspended decks;
- vertical face structures;
- permanently moored floating structures.

NOTE 1 Additional guidance can be needed for:

- moored structures in the coastal zone for renewable energy production or related to oil and gas production or processing;
- moored structures spanning areas with variable wave and current states (e.g. floating aquaculture farms or floating bridges).

NOTE 2 For hydraulic pressures caused by quasi-static water levels, and ground water, see EN 1997 (all parts).

(4) Actions addressed in EN 1991-1-8 do not cover:

- hydraulic resonance in sheltered areas or basins (phenomena also known as harbour resonance);
- translation waves, e.g. tsunamis;
- waves and currents induced by maritime operations, i.e. vessel wake, berthing and mooring;
- hydrodynamic actions induced by earthquakes;
- ice-induced pressures and forces;
- coastal structures where flood risk and/or erosion or sediment management is the dominant function.

EN 1991-1-8:2026 (E)**1.2 Assumptions**

- (1) The assumptions given in EN 1990-1 apply to this document.
- (2) In addition, it is assumed that actions from waves and currents on coastal structures are determined by personnel appropriately qualified and experienced in the following fields:
- a) physical coastal environment including physics of waves and currents, statistical properties and propagation of such;
 - b) marine hydrodynamics, wave and current interaction with structures in general and wave and current actions on structures in the coastal zone including i) fixed structures, and ii) floating structures;
 - c) advanced methods including probabilistic methodology and physical model testing.

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.

NOTE See the Bibliography for a list of other documents cited that are not normative references, including those referenced as recommendations (i.e. in 'should' clauses), permissions ('may' clauses), possibilities ('can' clauses), and in notes.

EN 1990-1:2023+A1:2026, *Eurocode — Basis of structural and geotechnical design*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN