



SLOVENSKI STANDARD
oSIST prEN 1993-2:2024
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Evrokod 3 - Projektiranje jeklenih konstrukcij - 2. del: Mostovi

Eurocode 3 - Design of steel structures - Part 2: Bridges

Eurocode 3 - Bemessung und konstruktion von Stahlbauten - Teil 2: Brücken

Eurocode 3 - Calcul des structures en acier - Partie 2: Ponts

Ta slovenski standard je istoveten z: prEN 1993-2

ICS:

91.010.30	Tehnični vidiki	Technical aspects
91.080.13	Jeklene konstrukcije	Steel structures
93.040	Gradnja mostov	Bridge construction

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Eurocode 3 - Design of steel structures - Part 2: Bridges

Eurocode 3 - Calcul des structures en acier - Partie 2:
Ponts

Eurocode 3 - Bemessung und konstruktion von
Stahlbauten - Teil 2: Brücken

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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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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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European foreword

This document (prEN 1993-2:2024) 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.

This document will supersede EN 1993-2:2006.

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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prEN 1993-2:2024 (E)**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 parts are 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 1993 (all parts)

EN 1993 applies to the design of buildings and civil engineering works in steel. It complies with the principles and requirements for the safety and serviceability of structures, the basis of their design and verification that are given in EN 1990 — Basis of structural and geotechnical design.

EN 1993 is concerned only with requirements for resistance, serviceability, durability and fire resistance of steel structures. Other requirements, e.g. concerning thermal or sound insulation, are not covered.

EN 1993 is subdivided in various parts:

EN 1993-1, *Design of Steel Structures — Part 1: General rules and rules for buildings;*

EN 1993-2, *Design of Steel Structures — Part 2: Bridges;*

EN 1993-3, *Design of Steel Structures — Part 3: Towers, masts and chimneys;*

EN 1993-4, *Design of Steel Structures — Part 4: Silos and tanks;*

EN 1993-5, *Design of Steel Structures — Part 5: Piling;*

EN 1993-6, *Design of Steel Structures — Part 6: Crane supporting structures;*

EN 1993-7, *Design of steel structures — Part 7: Sandwich panels*.

(4) EN 1993-1 in itself does not exist as a physical document, but comprises the following 14 separate parts, the basic part being EN 1993-1-1:

EN 1993-1-1, *Design of Steel Structures — Part 1-1: General rules and rules for buildings*;

EN 1993-1-2, *Design of Steel Structures — Part 1-2: Structural fire design*;

EN 1993-1-3, *Design of Steel Structures — Part 1-3: Cold-formed members and sheeting*;

NOTE Cold formed hollow sections supplied according to EN 10219 are covered in EN 1993-1-1.

EN 1993-1-4, *Design of Steel Structures — Part 1-4: Stainless steel structures*;

EN 1993-1-5, *Design of Steel Structures — Part 1-5: Plated structural elements*;

EN 1993-1-6, *Design of Steel Structures — Part 1-6: Strength and stability of shell structures*;

EN 1993-1-7, *Design of Steel Structures — Part 1-7: Plate assemblies with elements under transverse loads*;

EN 1993-1-8, *Design of Steel Structures — Part 1-8: Joints*;

EN 1993-1-9, *Design of Steel Structures — Part 1-9: Fatigue*;

EN 1993-1-10, *Design of Steel Structures — Part 1-10: Material toughness and through-thickness properties*;

EN 1993-1-11, *Design of Steel Structures — Part 1-11: Tension components*;

EN 1993-1-12, *Design of Steel Structures — Part 1-12: Additional rules for steel grades up to S960*;

EN 1993-1-13, *Design of Steel Structures — Part 1-13: Beams with large web openings*;

EN 1993-1-14, *Design of Steel Structures — Part 1-14: Design assisted by finite element analysis*.

All subsequent parts EN 1993-1-2 to EN 1993-1-14 treat general topics that are independent from the structural type like structural fire design, cold-formed members and sheeting, stainless steels, plated structural elements, etc.

All subsequent parts numbered EN 1993-2 to EN 1993-7 treat topics relevant for a specific structural type like steel bridges, towers, masts and chimneys, silos and tanks, piling, crane supporting structures, etc. EN 1993-2 to EN 1993-7 refer to the generic rules in EN 1993-1 and supplement them.

0.3 Introduction to EN 1993-2

EN 1993-2 is the second part of EN 1993 — Design of Steel Structures and describes the principles and application rules for the safety and serviceability and durability of steel structures for bridges.

EN 1993-2 gives design rules which are supplementary to the generic rules in EN 1993-1.

EN 1993-2 is intended to be used with Eurocodes EN 1990, EN 1991 (all parts) and the parts 2 of EN 1992 to EN 1998 when steel structures or steel components for bridges are referred to.

Matters that are already covered in those documents are not repeated.

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EN 1993-2 is intended for use by

- committees drafting design related product, testing and execution standards,
- clients (e.g. for the formulation of their specific requirements),
- designers and constructors,
- relevant authorities.

Numerical values for partial factors and other reliability parameters are recommended as basic values that provide an acceptable level of reliability. They have been selected assuming that an appropriate level of workmanship and quality management applies.

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 prEN 1993-2

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

The national standard implementing prEN 1993-2 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.

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

When no national choice is made and no default is given in this standard, 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 prEN 1993-2 through notes to the following clauses:

4.1.3(2)	4.3(2) – 2 choices	4.4(1)	4.4(2)
5.2.1(1) – 2 choices	5.2.3(2)	5.2.4(1)	5.3.1.2(1)
5.3.2(2)	5.4(1)	5.5(1)	5.6 (1)
5.7(1)	5.7(3)	6(3)	6(7)
7.4.1(2)	8.2.2.3(1)	8.2.2.5(1)	8.3.5(6)
9.1(3)	9.3(1)	9.4(1)	10.1.1(1)
10.1.1(3)	10.1.2(2)	10.1.2(3)	10.1.3(3)
10.2.2(1)	10.2.3(1)	10.4.2(1)	10.4.3 (2) – 2 choices
10.4.3(3)	10.5(1) – 2 choices	10.6(1)	11.1.2(1)

11.1.3(1)	11.1.5(1)	11.2.2(1)	11.2.3(1)
11.2.4(1)	11.2.6(1)	11.3(1)	11.4(1)
C.1(1)	C.3.1(2)	C.3.2.2(1)	C.3.2.2(2)
E.4(1)	F.1(2)		

National choice is allowed in EN 1993-2 on the application of the following informative annexes:

Annex C

Annex F

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.

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prEN 1993-2:2024 (E)

1 Scope

1.1 Scope of EN 1993-2

- (1) EN 1993-2 provides rules for structural design of steel bridges and steel parts of steel-concrete composite bridges.
- (2) EN 1993-2 is applicable to the resistance, serviceability and durability of steel bridge structures.
- (3) The design of tension components and related parts is covered by EN 1993-1-11. For the design of hangers for tied-arch bridges, the additional provisions in Annex A apply.
- (4) Supplementary requirements for seismic design are given in EN 1998-2.

1.2 Assumptions

- (1) Unless specifically stated, EN 1990, EN 1991 (all parts), EN 1998 (all parts) and EN 1993-1 (all parts) apply.
- (2) The design methods given in EN 1993-2 are applicable if:
 - the execution quality is as specified in EN 1090-2 and EN 1090-4, and
 - the construction materials and products used are as specified in the relevant parts of EN 1993, or in the relevant material and product specifications.

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 (i.e. through 'may' clauses), possibilities ('can' clauses), and in notes.

EN 1090-2, *Execution of steel structures and aluminium structures — Part 2: Technical requirements for steel structures*

EN 1090-4, *Execution of steel structures and aluminium structures — Part 4: Technical requirements for cold-formed structural steel elements and cold-formed structures for roof, ceiling, floor and wall applications*

EN 1990:2023¹, *Eurocode — Basis of structural and geotechnical design*

EN 1991 (all parts), *Eurocode 1 — Actions on structures*

EN 1993 (all parts), *Eurocode 3 — Design of steel structures*

EN 1998 (all parts), *Eurocode 8 — Design of structures for earthquake resistance*

¹ As impacted by EN 1990:2023/prA1:2024.