

Replaces SN EN 1993-1-1:2005, SN EN 1993-1-1/A1:2014 and
SN EN 1993-1-1/NA:2016

Eurocode 3 - Bemessung und Konstruktion von Stahlbauten - Teil 1-1: Allgemeine Bemessungsregeln und Regeln für den Hochbau

Eurocode 3 - Calcul des structures en acier - Partie 1-1: Règles générales et règles pour les bâtiments

Eurocode 3 - Design of steel structures - Part 1-1: General rules and rules for buildings

Reference number
SN EN 1993-1-1:2022 en

Valid from: 2027-10-01

Editor
Swiss Society of Engineers
and Architects
P.O. Box, CH-8027 Zürich

English Version

Eurocode 3 - Design of steel structures - Part 1-1: General rules and rules for buildings

Eurocode 3 - Calcul des structures en acier - Partie 1-1 :
Règles générales et règles pour les bâtiments

Eurocode 3: Bemessung und Konstruktion von
Stahlbauten - Teil 1-1: Allgemeine Bemessungsregeln
und Regeln für den Hochbau

This European Standard was approved by CEN on 24 July 2022.

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

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European foreword

This document (EN 1993-1-1:2022) has been prepared by Technical Committee CEN/TC 250 “Structural Codes”, 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of an identical text or by endorsement, at the latest by September 2027 and conflicting national standards shall be withdrawn at the latest by March 2028.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.

This document supersedes EN 1993-1-1:2005 and its amendments and corrigenda.

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.

The main changes compared to the previous edition are listed below:

- the scope of EN 1993-1-1 was extended to steel grades up to S700;
- the scope was extended to the design of elliptical hollow sections;
- the methods for the structural analysis were clarified and summarized in a flowchart;
- a new method for the design of semi-compact sections (Class 3) has been implemented;
- the effects of torsion on the resistance of cross-sections and members have been improved;
- a new method for the verification of beams to lateral torsional buckling has been introduced;
- the simplified method for lateral torsional buckling has been fully revised;
- the design of uniform members with mono-symmetric cross-sections was explicitly covered;
- a simplified design approach has been introduced for fatigue;
- an informative annex provides statistical data of material and dimensional properties as used for the calibration of the partial factors.

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.

EN 1993-1-1:2022 (E)

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