



SLOVENSKI STANDARD SIST EN 1992-1-1:2024

01-marec-2024

Nadomešča:

SIST EN 1992-1-1:2005

SIST EN 1992-1-1:2005/A1:2015

SIST EN 1992-1-1:2005/AC:2008

SIST EN 1992-1-1:2005/AC:2011

SIST EN 1992-2:2005

SIST EN 1992-2:2005/AC:2008

SIST EN 1992-3:2006

Evrokod 2 - Projektiranje betonskih konstrukcij - 1-1. del: Splošna pravila in pravila za stavbe, mostove in gradbene konstrukcije

Eurocode 2 - Design of concrete structures - Part 1-1: General rules and rules for buildings, bridges and civil engineering structures

Eurocode 2 - Bemessung und Konstruktion von Stahlbeton- und Spannbetontragwerken - Teil 1-1: Allgemeine Regeln und Regeln für Hochbauten, Brücken und Ingenieurbauwerke

Eurocode 2 : Calcul des structures en béton - Partie 1-1 : Règles générales - Règles pour les bâtiments, les ponts et les ouvrages de génie civil

Ta slovenski standard je istoveten z: EN 1992-1-1:2023

ICS:

91.010.30	Tehnični vidiki	Technical aspects
91.080.40	Betonske konstrukcije	Concrete structures

SIST EN 1992-1-1:2024

en,fr,de

EUROPEAN STANDARD

EN 1992-1-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2023

ICS 91.010.30; 91.080.40

Supersedes EN 1992-1-1:2004, EN 1992-2:2005, EN
1992-3:2006

English Version

Eurocode 2 - Design of concrete structures - Part 1-1: General rules and rules for buildings, bridges and civil engineering structures

Eurocode 2 : Calcul des structures en béton - Partie 1-1
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Stahlbeton- und Spannbetontragwerken - Teil 1-1:
Allgemeine Regeln und Regeln für Hochbauten,
Brücken und Ingenieurbauwerke

This European Standard was approved by CEN on 23 July 2023.

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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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EN 1992-1-1:2023 (E)**European foreword**

This document (EN 1992-1-1:2023) 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of an identical text or by endorsement, at the latest by September 2027 and conflicting national standards shall be withdrawn at the latest by March 2028.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.

This document supersedes EN 1992-1-1:2004, EN 1992-2:2005 and EN 1992-3:2006 and their 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 1992-1-1 was extended to higher material strengths - for concrete up to class C100, for reinforcing steel to B700, for prestressing steel strand to Y2060 – and covering stainless steel;
- a new performance-based method for durability design of concrete structures was introduced;
- ULS design models were updated for confined concrete, shear and punching shear without and with shear reinforcement, strut-and-tie modelling, and size effect considered where relevant;
- provisions for anchorage and laps of reinforcing steel were updated to consider non-linear bond characteristics and size effect, and new anchorage methods for U-bar loops, headed bars and post-installed bars were integrated;
- an informative annex provides statistical data of material and dimensional properties as basis for the partial factors;
- creep and shrinkage models were updated and unified for normal strength and high strength — concretes;
- assumed material characteristics not directly used in design are listed in Annex C as basis for specifications and interface to product standards;
- a new informative annex gives provisions for early-age thermo-mechanical design;
- a new informative annex gives requirements for use of non-linear finite element methods;