



SLOVENSKI STANDARD
SIST EN 1992-1-1:2023/oprA1:2026
01-julij-2026

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 et règles pour les bâtiments, les ponts et les ouvrages de génie civil

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91.080.40	Betonske konstrukcije	Concrete structures

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
EN 1992-1-1:2023

prA1

May 2026

ICS 91.080.40

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
: Règles générales et règles pour les bâtiments, les
ponts et les ouvrages de génie civil

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

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

This draft amendment A1, if approved, will modify the European Standard EN 1992-1-1:2023. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

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European foreword

This document (EN 1992-1-1:2023/prA1:2026) has been prepared by Technical Committee CEN/TC 250 “Structural Eurocodes”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

This document is an amendment to EN 1992-1-1:2023.

NOTE Some modifications are purely editorial corrections to improve the quality of the document and these will not be tagged in the consolidated publication, as noted after the modification.

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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1 Modification of title

Replace “Stahlbeton- und Spannbetontragwerken“ by “Betontragwerken“ in German title.

2 Modification of reference to other parts of the Eurocode

Replace in 0.3(3) and 0.5 “FprEN 1992-1-1” by “EN 1992-1-1”.

Replace in 1.1(1), 1.2(1), Clause 2, 4.1.1(1), 4.2.1.1(1), 6.1(1), 7.3.4(2), 9.3.4(1), 10.2(1), F.3(2), F.6(2), F.7(6), I.1(1) NOTE 2, I.4.1.1(1), J.9(1) “EN 1990” (dated or undated) by “EN 1990 (all parts)”.

Replace in 3.1, 4.1.1(2) (three occasions), 4.1.2(1), 4.1.3(1), 4.2.1.4(2), 9.3.1(2) (three occasions), 9.4(2), 10.2(1) NOTE, 10.4(1) NOTE, 12.5.2(1), A.3(3) NOTE, A.12.4, Table A.4 NOTE, Table E.1(NDP), E.3(1), F.3(5), F.4(1), F.5(1), F.6(1), I.4.2.1(2) NOTE 3, I.9.1(2), K.12.4(1), L.15(5) “EN 1990” by “EN 1990-1”. References to the publication date, clauses, tables, annexes, if any, remain unchanged.

Replace in K.9(5) NOTE “EN 1991-2:2021“ by “EN 1991-2:2023“. References to table and annex remain unchanged.

Replace in 5.3.1(3) NOTE 2 “EN 10138” by „EN 10138 (all parts)“.

3 Modification to Clause 0 "Introduction"

0.1 Replace “:” with “—” in Eurocode titles

0.1 Replace “— New parts are under development, e.g. Eurocode for design of structural glass” with “— EN 19100 Eurocode 10 — Design of glass structures”

0.1 Add the following new list item: “— New parts are under development, e.g. Eurocode for design of fibre-polymer composite structures and Eurocode for design of tensioned membrane structures”

Replace in 0.2(1) the first sentence by:

“EN 1992 applies to the design of buildings, bridges and civil engineering structures in plain, reinforced and prestressed and precast concrete.”

Add a note at the end of 0.2(3):

“NOTE EN 1992-2:2005 and EN 1992-3:2006 are withdrawn.”

Replace in 0.3(3) “FprEN 1992-1-1” by “EN 1992-1-1”.

0.5 Add “clauses” to the end of “National choice is allowed in EN 1992-1-1 through notes to the following:”

Add in 0.5 the following references to the list of NDPs:

“K.4(2), K.3(3), K.5(3), K.5(4), K.5(5), K.5(6), K.7(4), K.7(6), K.7(7), K.7(8), K.7(9), K.7(10), K.7(11), K.8(7), K.8(8), K.8(9), K.8(10), K.8(11), K.8(12), K.9(2), K.9(3), K.9(4), K.10.2(3), K.12.1(2), K.13(3), K.13(5)”

4 Modification to Clause 1 “Scope”

In 1.1(2) replace first sentence by the following new sentence:

“This document is only concerned with the requirements for resistance, serviceability, durability and robustness of concrete.”

5 Modification to Clause 2 "Normative references"

Replace “EN 1990:2023, Eurocode — Basis of structural and geotechnical design” with “by “EN 1990-1:2023+A1:2026, Eurocode — Basis of structural and geotechnical design — Part 1: New structures”

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Delete space "EN 1993 -1-9," with "EN 1993-1-9,"

6 Modification to Clause 3 "Terms, definitions and symbols"

In 3.1.36 change "a reinforcement" to "an ordinary reinforcement bar".

In 3.1.37 change "closed reinforcement" to "closed ordinary reinforcement bar".

In 3.1.38 change "reinforcing steel" to "reinforcement".

In 3.1.46 change the first entry of "reinforcement" to "ordinary reinforcement bar".

In 3.1.48 change the term from "loop" to "U-bar loop" and in the definition "U-shaped reinforcement" to "U-shaped ordinary reinforcement bar".

In 3.1.66 replace "made of strands" by "consisting of strands".

In 3.1.70 replace "reinforcing bars" by "reinforcement".

In 3.1.80 change in definition from "continuously wound reinforcement" to "continuously wound reinforcement bar".

Replace definition of stainless steel in 3.1.82 by "corrosion-resistant alloy reinforcing steel".

In 3.1.83 change "reinforcement bent" to "reinforcement bar bent".

In 3.1.101 delete "used as NSM reinforcement"

In 3.1.114 the second sentence of the definitions is changed to "Note 1 to entry" to read:

"Note 1 to entry: This class defines the strength of the SFRC concrete without additional reinforcing bars or prestressing"

In 3.2.1:

change " A_{cc} " to " $A_{c,conf}$ "

For $A_{s,min,w1}$ change definition to "Area of minimum reinforcement to be placed at the most tensioned face of the section part under consideration to avoid yielding when cracking occurs"

For $A_{s,min,w2}$ change definition to "Area of minimum reinforcement to be placed at the least tensioned face of the section part under consideration to avoid yielding when cracking occurs"

Add " E_{in} Internal force or stress in case of the initial support conditions"

For N_{obs} change definition to "Number of lorries per year according to EN 1991-2:2023, Table 6.7"

In 3.2.2:

In definition of k_w replace "design crack" by "calculated crack".

Add a comma between $k_{1/r}$ and $k_{1/r,simpl}$.

Delete symbol $w_{k,cal,1}$ and $w_{k,cal,2}$ with definitions.

In 3.2.3:

Change in definition for α_e the symbol " E_c " to " E_{cm} ".

Replace " θ_{Rd} " and " θ_{Ed} " by " θ_{Rd} " and " θ_{Ed} " (same font as above)

Replace σ_{sd} by " σ'_{sd} "

Change the definition of τ_{Ed} to "Design value of the average acting shear stress over a cross-section".

Start definitions of τ_{Rd} , $\tau_{Rd,c}$, $\tau_{Rd,cs}$, $\tau_{Rd,i}$, $\tau_{Rd,m}$, $\tau_{Rd,sv}$, $\tau_{Rd,min}$, $\tau_{Rd,max}$, $\tau_{t,Rd}$, $\tau_{t,Rd,sw}$, $\tau_{t,Rd,sl}$ and $\tau_{t,Rd,max}$ with "Design value of..."; change capital letter of "Shear, Minimum, Maximum, Torsional" to small letters.

Delete " φ_{fat} or Φ " from the definition of φ .

Add definition " w_c Mechanical ratio for the amount of confinement reinforcement".

Add definition " w_t Mechanical ratio for the amount of transverse reinforcement".

In 3.5.2:

Replace "stress" by "strength" in definition of f_{bsm} .

Replace "short-term" by "long-term" in definition of f_{tud} .

In 3.6.2:

Add "and volume effects" at the end of definition of $f_{\text{Fts,ef}}$.

Replace "to be used in the constitutive law for bi-linear stress distribution" by "and volume effects" in definition of $f_{\text{Ft1,ef}}$.

Delete "for crack widths" and "accounting for fibre orientation" from definition of f_{Ftsd} .

Replace definition of f_{Ft1d} by the following new: "Design residual tensile strength for crack width = 0,5 mm accounting for fibre orientation and volume effects to be used for bi-linear stress distribution".

Replace "to be used in the constitutive law for bi-linear stress analysis" by "and volume effects" in definition of $f_{\text{Ft3,ef}}$.

Replace definition of f_{Ftud} by the following new: "Design residual tensile strength at the ultimate limit state".

Replace definition of $f_{\text{Ftu,ef}}$ by the following new: "Effective residual tensile strength for crack widths at the ultimate limit state accounting for fibre orientation and volume effects"

In the definition of f_{Ft3d} add "and volume effects" between "orientation" and "to be used".

Add "in slabs" at the end of the definition of k_{AS} .

In 3.6.3 add definition " $\tau_{\text{RD,csF}}$ Design value of the punching shear resistance of SFRC with shear reinforcement"

In 3.6.3 delete in definition of $\varepsilon_{\text{Ftud}}$ the references "according to 5.1.7 and 8.1.5"

In 3.7.2 change " f_{bd100a} " to " $f_{\text{bd,100a}}$ "

7 Modification to Clause 4 "Basis of design"

In 4.2.1.5(2) add "of bonded tendons" between "design prestress action" and "at ultimate limit" and add a new second sentence at the end:

"For unbonded tendons, the characteristic value of the prestressing stress should be used and multiplied by the partial factor for prestress."

In 4.2.2(1) divide first sentence into two sentences to read:

"The design rules in this standard are consistent with EN 13670 Tolerance Class 1. Where other tolerances are permitted, they shall be specified in the execution specification and suitable allowances shall be made in the design."

8 Modification to Clause 5 "Materials"

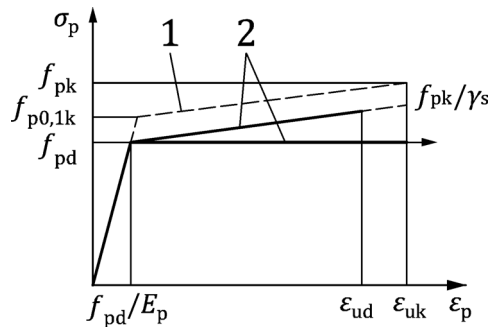
In 5.1.1, Note 2, replace "informative Annex M" with "Normative Annex M"

In 5.2.1(2) replace "reinforcement" by "reinforcing steel" (for ribbed and indented).

In Table 5.6 change footnote a to "In all strength classes, a characteristic strain at maximum force $\varepsilon_{\text{uk}} = 3,5$ % applies."

Replace Figure 5.3 with the following new figure:

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9 Modification to Clause 6 "Durability and concrete cover"

In 6.1(3), NOTE 2 replace "pitting depth" by "loss of section due to pitting".

In 6.4(1), NOTE 2 change the beginning of note from "An informative Annex P..." to "Informative Annex P..."

In 6.5.2.2(9), NOTE change "a National Annex" to "the National Annex".

In Table 6.6 change "Table 12.2" to "Table 12.2(NDP)"

10 Modification to Clause 7 "Structural analysis"

Align Formula (7.6) left, as in Formula (7.7).

In 7.2.2(4), 4th bullet point, add "or 1/10 of" between "ribs," and "smallest horizontal void".

In 7.3.1(2) delete ", and for structures designed for earthquake resistance,"

Replace in 7.3.1(6) in Formula (7.14) and in definition below the formula " $E_{t=0}$ " by " E_{te} ".

Replace in Formula (7.15) " $E_{t=0}$ " by " E_{in} " and add to definition instead of " E_t and $E_{t=0}$ see (6) ":

" E_t see (6);

E_{in} is the internal force or stress in case of the initial support conditions;"

Replace in 7.4.2(2) in definition of δ_{Ed} under Formula (7.27) " $\varphi_{eff,b}$ " by " $\varphi_{eff,s}$ ".

Replace NOTE in 7.4.3.1(1) by new NOTE:

„NOTE Examples are given for:

- nominal curvature method, in 0.7;
- reduced stiffness value method, in 0.8.1; and
- moment magnification factor method in 0.8.2."

In 7.4.3.2(1), last sentence, replace "estimates" by "assumptions".

Replace in title of Figure 7.4 "equivalent" by "effective"

Add in 7.6.3.2(1), NOTE 1 "the" before "post-tensioning system".

In 7.6.5(1), replace 2nd sentence by the following new sentence:

"In the first case for verification of the ultimate limit state, the origin of the design stress-strain relationship in 5.3 (Figure 5.3) should be shifted to a stress equal to σ_{pd} and a strain equal to σ_{pd}/E_p ."

Replace 7.6.5(2) by the following new paragraph (2):

“(2) When verifying the application of prestress to members, the design value of the prestressing stress as external action should be determined as $\sigma_{pd}(x,t) = \gamma_P \sigma_{pm}(x,t)$. When verifying the capacity of members with unbonded tendons, the design value of the prestressing stress should be taken as $\sigma_{pd}(x,t) = \gamma_P r_{inf} \sigma_{pm}(x,t) + \Delta\sigma_{pd}$.”

11 Modification to Clause 8 "Ultimate Limit States (ULS)"

Replace first sentence in 8.1.1(5) by:

“Unless second order effects and effects of geometric imperfections and of imposed deformations have been accounted for in the analysis, cross-sections loaded by an axial compression N_{Ed} should be designed for a minimum moment of at least”

Add in 8.1.1(6) sub-headings a) and b) to Figure 8.1 to read:

Figure 8.1 (not included, no changes)	
a) Section	b) Strain distribution

Delete “permanently” in 8.1.1(7).

Change in 8.1.1(8) last sentence of definition of $N_{Rd,0}$ to read:

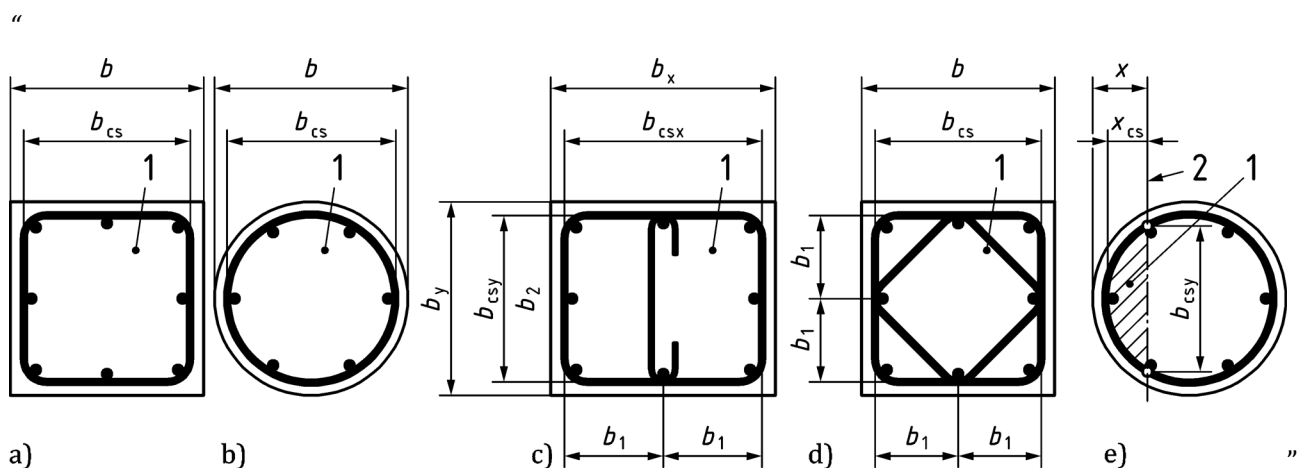
“where if benefit is taken from confinement reinforcement in design, f_{cd} should be replaced by $f_{cd,c}$ according to Formula (8.15).”

Replace in 8.1.3(2) “G.4(1)-(2)” by “G.4(1) and (2)”.

Replace in 8.1.4(3) the second paragraph below the definitions of Formula (8.14) by:

“For confining reinforcements not in the x , or y -axes, the corresponding components should be considered (in the instance of Figure 8.3 d), the component of the inner confinement reinforcement effective in x and y may be taken as $\sqrt{2}$ times the area of one leg.”

Replace in 8.1.4(3) Figure (8.3)e) by new Figure (8.3)e):



In Table 8.1, rows a), b) and c), last column, add a blank (more space) between the minus-sign “-” and “ $\frac{s}{2b_{cs}}$ ”, “ $\frac{s}{2b_{csx}}$ ” and “ $\frac{s}{2b_{csy}}$ ”.

In Table 8.1, row c), second column, second indent, delete the reference to Figure 8.3 c).

In Table 8.1, row c), third column, replace the text under the formular with the following new text:

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“ b_i is the straight length of a segment between bends (defined by the intersections of centrelines) and anchorages

($\Sigma b_i^2 = 4b_1^2 + 2b_2^2$ in the example of Figure 8.3c);

$\Sigma b_i^2 = 8b_1^2$ in the example of Figure 8.3d);

and $\Sigma b_i^2 = 0$ in the example of Figure 8.3e))”

In Table 8.1, row d), last column, replace the text under the formula with the following new text:

“where

$x_{cs} \leq b_{csx}/2$, and

$1 - \frac{s}{4x_{cs}} \geq 0$; and

$1 - \frac{s}{4b_{csy}} \geq 0$ ”

In 8.2.1 b) delete “and 8.4.3” and in c) delete “and 8.4.4”.

Replace 8.2.1(2) by the following new paragraph (2):

“(2) When, on the basis of the design shear calculation, no shear reinforcement is required, minimum shear reinforcement may nevertheless be necessary for linear members, according to Clause 12. For linear members-with $d > 500$ mm, minimum shear reinforcement fulfilling the provisions of Clause 12 shall be provided.

NOTE In exceptions where this were not possible, the verification methods according to I.8.3.1(3), which define an additional size effect for $d > 500$ mm can be used.”

Replace in Formula (8.20) “11” by “8,8”.

Delete in definition of d below Formula (8.28) “ d_{nom} ” and add the following new note below the definition:

“NOTE For d refer to NOTE in 8.2.1(3).”

In 8.2.2(3) replace “ a_{cs} shorter than $4d$ ” with “ $a_{cs} < 4d$ ”.

Add in 8.2.2(5) “due to prestressing” after “compressive normal forces”.

Replace in 8.2.2(5) the NOTE by the following new note:

“NOTE The factor k_1 can be calculated according to Formula (8.34), and $\tau_{Rdc,max}$ according to Formula (8.35), unless the National Annex gives another value.”

Delete in 8.2.2(5) from the definition of e_p , 1st sentence, “or of the external load that produces the compressive axial force”.

Replace in 8.2.2(5) the definition of $a_{cs,0}$ and the paragraph below with the following new text:

“ $a_{cs,0}$ is determined according to Formula (8.30) without considering in M_{Ed} the effect of prestressing.

For the given factor k_1 according to Formula (8.34), the effective depth d in Formula (8.33) may be replaced by a_v where a_v is determined according to Formulae (8.29) and (8.30) replacing a_{cs} by $a_{cs,0}$.”

In 8.2.2(7) replace “with different reinforcement ratios in both directions” by “with reinforcement in both directions” and replace the reference to “8.2.1(5)” by “Formula (8.26)”.

In 8.2.2(9) add “, with a value of v defined in 8.2.3(6) or 8.2.3(7).” to the last sentence.

In 8.2.3(10) replace the text before Formula (8.54) with the following new sentence:

“Where the web contains ducts of diameters such that $\Sigma \phi_{duct} > b_w/8$, the strength reduction factor v in Formula (8.44) and in both Formulae in the Note of 8.2.3(5) shall be multiplied with the ratio $b_{w,nom}/b_w$ where:”