EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1998-1:2004/AC

July 2009
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English version
Version Française
Deutsche Fassung

Eurocode 8: Design of structures for earthquake resistance - Part 1: General rules, seismic actions and rules for buildings.

Eurocode 8: Calcul des structures pour leur résistance aux séismes - Partie 1: Règles générales, actions sismiques et règles pour les bâtiments

Eurocode 8: Auslegung von Bauwerken gegen Erdbeben - Teil 1: Grundlagen, Erdbebeneinwirkungen und Regeln für Hochbauten

This corrigendum becomes effective on 8 July 2009 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 8 juillet 2009 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 8.Juli 2009 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No.:EN 1998-1:2004/AC:2009 D/E/F

1) General modification in the whole document

All along the document, replace all the occurences of the dated reference "EN 1993-1-1:2004" *with* "EN 1993-1-1:2005".

2) Modification to "National Standards implementing Eurocodes"

1st paragraph, replace "and may be followed by a National annex (informative)" *with* "and may be followed by a National annex".

3) Modifications to "National annex for EN 1998-1"

Page 12, Table, 1st column, 1st row, replace "3.2.1(5)" *with* "3.2.1(5)P".

Page 12, Table, 1st column, 2nd row, replace "3.2.2.2(1)P " *with* "3.2.2.2(2)P".

Page 12, Table, 2nd column, 10th row, replace:

"Overstrength factor γ_{Rd} for diaphragms."

with:

"Overstrength factor γ_d for diaphragms.".

Page 12, Table, 1st column, 12th row, replace "5.2.1(5)" *with* "5.2.1(5)P".

Page 12, Table, 1st column, 14th row, replace "5.2.4(1), (3)" *with* "5.2.4(3)".

Page 12, Table, 2nd column, 20th row, replace:

"*q*-factors of precast systems."

with:

"Reduction factors k_p of behavior factors of precast systems.".

Page 13, Table, 1st column, 2nd row, replace "6.1.2(1)" *with* "6.1.2(1)P".

Page 13, Table, 5th row, 2nd column, replace "EN 1993-1-10:2004" *with* "EN 1993-1-10:2005".

Page 13, Table, 1st column, 8th row, replace "7.1.2(1)" *with* "7.1.2(1)P".

Page 13, Table, 1st column, 12th row, replace "8.3(1)" *with* "8.3(1)P".

4) Modifications to 1.2.2

Paragraph "1(P)", *replace* "EN 1990, to EN 1997 and to EN 1999" *with* "EN 1990 to EN 1997 and to EN 1999".

Paragraph "(2)", *replace:*

"EN 1090-1 Execution of steel structures – Part 1: General rules and rules for buildings;"

with:

"EN 1090-2 Execution of steel structures and aluminium structures – Part 2: Technical requirements for steel structures;".

Paragraph "(2)"*,after new reference to* "EN 1090-2"*, add:*

"EN 1993-1-8 Eurocode 3: Design of steel structures – Part 1-8: Design of joints;

EN 1993-1-10 Eurocode 3: Design of steel structures – Part 1-10: Material toughness and through-thickness properties;"*.*

5) Modifications to 1.5.2

Title, replace:

"1.5.2 Further terms used in EN 1998"

with:

"1.5.2 Further terms used in EN 1998-1"*.*

Paragraph "(1)"*, replace* "EN 1998" *with* "EN 1998-1"*.*

Paragraph "(1)"*, definition of the term* **"capacity design method"***, replace* **"capacity design method"** *with* **"capacity design"***.*

6) Modification to 1.6.2

Definition of "$S_d(T)$"*, replace:*

"$S_d(T)$ design spectrum (for elastic analysis). At T=0, the spectral acceleration… by the soil factor S"

with:

"$S_d(T)$ design spectrum (for elastic analysis)"*.*

7) Modification to 1.6.5

Definition of "$f_{y,max}$"*, replace:*

"$f_{y,max}$ maximum permissible yield stress of steel"

with:

"$f_{y,max}$ upper value of the yield strength of steel"*.*

8) Modifications to 1.6.8

Definition of "$f_{b,min}$"*, replace:*

"$f_{b,min}$ normalised compressive strength of masonry normal to the bed face"

with:

"$f_{b,min}$ normalised compressive strength of masonry units normal to the bed face"*.*

Definition of "$f_{bh,min}$"*, replace:*

"$f_{bh,min}$ normalised compressive strength of masonry parallel to the bed face in the plane of the wall"

with:

"$f_{bh,min}$ normalised compressive strength of masonry units parallel to the bed face in the plane of the wall".

9) Modifications to 1.7

Paragraph "(2)", *3rd line, replace* "t/m^3" *with* "tonne/m^3".

Paragraph "(2)", *4th line, replace* "t" *with* "tonne".

10) Modification to 2.2.2

Paragraph "(2)", "NOTE", *3rd line, replace* "unfavourable limiting condition shall be applied" *with* "unfavourable limiting condition should be applied".

11) Modification to 3.2.3.1.3

Paragraph "(1)P", *replace* "through a physical simulation" *with* "through a numerical simulation".

12) Modifications to 4.3.3.2.2

Paragraph "(2)", *1st line, replace* "For the determination of the fundamental period of vibration period T_1" *with* "For the determination of the fundamental period of vibration T_1".

Paragraph "(4)", *Equation* "(4.8)", *replace* "$A_c = \Sigma \left[A_i \cdot (0{,}2 + (l_{wi} / H))^2 \right]$" *with* "$A_c = \Sigma \left[A_i \cdot (0{,}2 + (l_{wi} / H)^2 \right]$".

13) Modification to 4.3.6.1

Paragraph "(5)", *3rd line, replace* "Clause **9**" *with* "Section **9**".

14) Modification to 4.4.2.2

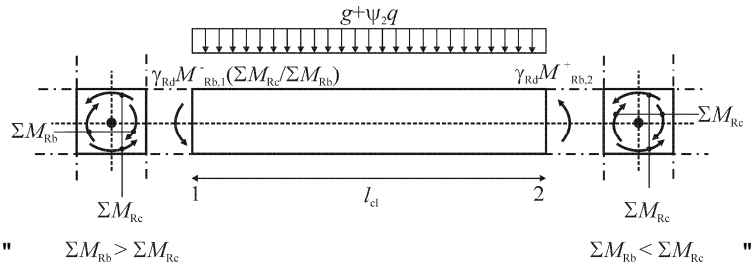
Paragraph "(1)P", *definition of* "E_d", *replace* "EN 1993-1:2004" *with* "EN 1993-1-1:2005".

15) Modification to 4.4.3.2

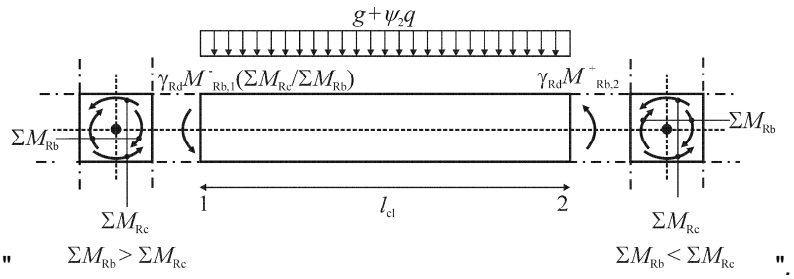
Paragraph "(2)", *5th line, replace* "ultimate limit state requirement" *with* "no-collapse requirement".

16) Modification to 5.4.2.2

Replace "Figure 5.1":



with:



17) Modification to 5.5.3.3

Paragraph "(3)"*, 8th line, replace:*

"V_{jhd} is as defined in expressions (5.23) and (5.24)*"*

with:

"V_{jhd} is as defined in expressions (5.22) and (5.23)*".*

18) Modification to 5.11.1.2

Paragraph "(1)"*, list entry* "d)"*, 10th and 11th lines, replace:*

"- connections located within critical regions with substantial ductility (see **5.11.2.1.3** and e.g. Figure 5.14.c)."

with:

"- connections located within critical regions with substantial ductility (see **5.11.2.1.3** and e.g. Figure 5.14c) and 5.14d))."*.*

19) Modification to 5.11.1.3.2

Paragraph "(3)", "NOTE"*, 3rd and 4th lines, replace* "For wall panel systems the recommended" *with* "For wall panel structures the recommended".

20) Modification to 5.11.3.3

Paragraph "(2)"*, 1st and 2nd lines, replace* "(see figure 5.14b) and c) should be specifically" *with* "(see figure 5.14b) and d)) should be specifically".

21) Modifications to 6.2

Paragraph "(3)"*, list entry "a)", 1st line, replace* "the actual maximum yield strength $f_{y,max}$ of the steel" *with* "the upper value of the yield strength $f_{y,max}$ of the steel".

Paragraph "(7)"*, 2nd and 3rd lines, replace* "(see EN 1993-1-10:2004)" *with* "(see EN 1993-1-10)".

Paragraph "(7)", "NOTE"*, replace* "EN 1993-1-10:2004" *with* "EN 1993-1-10:2005".

22) Modifications to 6.5.5

Paragraph "(4)"*, replace twice* "EN 1993-1-8:2004" *with* "EN 1993-1-8:2005".

Paragraph "(4)"*, 4th line, replace* "in ENV 1090-1" *with* "in EN 1090-2".

23) Modifications to 6.6.3

Paragraph "(5)"*, 1st and 2nd lines, replace* "conform to the design rules given in EN 1993-1-1:2004, Section **6**" *with* "conform to the design rules given in EN 1993-1-8:2005, Section **6**"*.*

Paragraph "(6)"*, 8th and 9th lines, replace* "with EN 1993- 1-8:2004, **6.2.4.1**" *with* "with EN 1993-1-8:2005, **6.2.6.1**"*.*

Paragraph "(7)"*, replace* "EN 1993-1-5:2004" *with* "EN 1993-1-5:2006"*.*

24) Modification to 6.8.2

Paragraph "(15)"*, replace* "EN 1993-1-5:2004" *with* "EN 1993-1-5:2006"*.*

25) Modifications to 6.11

Paragraph "(2)"*, entry* "c)"*, 2nd line, replace* "in EN 1090;" *with "*in EN 1090-2;"*.*

Paragraph "(2)"*, entry* "d)"*, 2nd line, replace* "not exceed f_{ymax} noted" *with "*not exceed $f_{y,max}$ noted"*.*

Paragraph "(2)P"*, 1st line, replace* "(2)P" *with* "(3)P"*.*

26) Modifications to 7.6.1

Paragraph "(4)"*,* "Table 7.3"*, Title, replace:*

"Table 7.3: Relation between behaviour factor and limits of wall slenderness."

with:

"Table 7.3: Relation between behaviour factor and slenderness limits of walls of sections in dissipative zones of encased composite structures"*.*

Paragraph "(4)"*, 22nd line, replace* "and the wall thickness" *with* "and the wall thickness of the steel profile"*.*

27) Modification to 7.6.4

Paragraph "(2)"*, after Equation* "(7.6)"*, add:*

*"*where

A_a is the area of the steel section

A_c is the area of concrete

A_s is the area of rebars

f_{yd} is the design value of the yield strength of steel

f_{cd} is the design value of the concrete compressive strength

f_{sd} is the design value of the yield strength of the rebar steel*".*

28) Modification to 7.11.1

Paragraph "(2)"*, 2nd line, replace* "to prevent buckling of steel" *with* "to prevent buckling of the steel plate"*.*

29) Modification to 8.1.3

Paragraph "(6)"*, 4th and 5th lines, replace* "calculated in accordance with EN 1995-1:2004" *with* "calculated in accordance with EN 1995-1-1:2004"*.*

30) Modification to 8.5.3

Paragraph "5(P)"*, 2nd line, replace* "the minimum spacing given in EN 1995-1:2004" *with* "the minimum spacing given in EN 1995-1-1:2004"*.*

31) Modifications to 8.6

Paragraph "2(P)"*, 3rd line, replace* "fundamental load combinations from EN 1995 apply" *with* "fundamental load combinations from EN 1995-1-1: 2004 apply"*.*

Paragraph "3(P)"*, 3rd line, replace* "for accidental load combinations from EN 1995 apply" *with* "for accidental load combinations from EN 1995-1-1:2004 apply"*.*

32) Modification to 9.3

Paragraph "(4)", "NOTE 2"*, 4th line, replace* "in its National Annex of these document" *with* "in its National Annex of this document"*.*

33) Modification to 9.7.2

Paragraph "(2)"*, list entry* "c)"*,* "NOTE"*, 1st and 2nd lines, replace* "in its National Annex of this documentThe recommended" *with* "in its National Annex of this document. The recommended"*.*

34) Modifications to B.5

After Equation "(B.11)"*, add:*

"d_t* need not exceed 3 d_{et}*."*.*

After Equation "(B.12)"*, delete:*

"d_t* need not exceed 3 d_{et}*."*.*

*Paragraph beginning with "*The relation between different quantities...*" (last paragraph before Title* **"Iterative procedure (optional)"***), replace* "coordinates $d^* = S_e(T^*)(T^*/2\pi)^2$" *with* "coordinates $d^*_{et} = S_e(T^*)(T^*/2\pi)^2$"*.*

Paragraph immediately following the title **"Iterative procedure (optional)"***, lines 1 to 3, replace* "If the target displacement d_t* determined in the 4th step is much different" *with* "If the target displacement d_t* determined in the 4th step (cl. B.5) is much different"*; then replace* "force – displacement relationship in the 2nd step, an iterative procedure" *with* "force – displacement relationship in the 2nd step (cl. B.3), an iterative procedure"*.*

35) Modification to C.3.2.1

Paragraph "(3)"*, under Equation* "(C.3)"*, just before the definition of* "$f_{yd,T}$"*, add:*

"*l* is the beam span, as defined in 7.6.3(3) and Figure 7.7;".

36) Modification to C.3.2.2

Paragraph "(2)"*, replace Equation* "(C.6)"*:*

" $A_{\mathrm{T}} \geq \frac{F_{\mathrm{Rd2}}}{f_{\mathrm{yd,T}}}$ "

with the following one:

" $A_{\mathrm{T}} \geq 0{,}5\frac{F_{\mathrm{Rd2}}}{f_{\mathrm{yd,T}}}$ ".

37) Modification to C.3.3.1

Paragraph "(2)"*, replace Equation* "(C.12)"*:*

" $A_{\mathrm{T}} \geq \frac{F_{\mathrm{Rd2}}}{f_{\mathrm{yd,T}}}$ "

with the following one:

" $A_{\mathrm{T}} \geq 0{,}5\frac{F_{\mathrm{Rd2}}}{f_{\mathrm{yd,T}}}$ ".