CORRIGENDUM for EN 1992-1-1

The following list of corrigenda has been approved by CEN TC 250 "Structural Eurocodes" committee but is not yet issued by CEN in a consolidated form.

It is being made available by BSI British Standards for information and in response to market demand for the most up to date details on the Eurocodes during this important implementation phase.

Once the full corrected text is received BS EN 1992-1-1: 2004 will be republished incorporating Corrigendum 1.

At that time this list will be removed from the public domain.

This document is not a British Standard.

CORRIGENDUM for EN 1992-1-1

National Annex for EN 1992-1-1

Page 13 - replace:
“6.8.6(2)”
with the following:
“6.8.6(3)”

Page 13 - replace:
“J.1(3)”
with the following:
“J.1(2)”

SECTION 1 GENERAL

Under 1.2.2 Other reference standards replace:
“EN ISO 17760  Permitted welding process for reinforcement”
with the following:

SECTION 3 MATERIALS

In Table 3.1, 8th row, last column replace
“εc1(‰) = 0.7 fcm0.31 < 2,8”
with the following:
“εc1(‰) = 0.7 fcm0.31 ≤ 2,8”

In the clause 3.1.4(4) replace:
“φ, (∞, t0)”
with the following:
“φ, (∞, t0)”

In the clause 3.1.4(4) replace:
“k is the stress-strength ratio σc/fcm(t0) ....”
with the following:

“$k_s$ is the stress-strength ratio $\sigma_c / f_{ck}(t_0)$, where $\sigma_c$ is the compressive stress and $f_{ck}(t_0)$ is the characteristic concrete...”

In the clause 3.2.4(2) replace in the Note:

“Values of $(f_c / f'_c)$ and....

with the following:

“Values of $k = (f_c / f'_c)$ and....”

In the clause 3.2.5(2)P replace:

“...with EN ISO 17760.”

with the following:

“...with EN ISO 17660.”

In the clause 3.2.7(2) replace in point a):

“$\gamma_s$”

with the following:

“$\gamma_s$”

In figure 3.8 replace:

“$\gamma_s$”

with the following:

“$\gamma_s$”

In the clause 3.3.2(9) replace:

“...10.3.2.2 applies.”

with the following:

“...10.3.2.1 applies.”

In figure 3.10 replace:

“$\gamma_s$”

with the following:

“$\gamma_s$”
SECTION 4 DURABILITY AND COVER TO REINFORCEMENT

In the clause 4.4.1.3(4) replace:
“minimum cover”
with the following:
“nominal cover”

SECTION 5 STRUCTURAL ANALYSIS

Under 5.1.1 General requirements
delete Clause(5)
and renumber the subsequent clauses as follows:
   (6)P into (5)P
   (7) into (6)
   (8) into (7)

In the clause 5.2(5) replace:
“l is the length or height [m], see (4)”
with the following:
“l is the length or height [m], see (6)”

Correct figure 5.1 a2) as follows:

In the clause 5.6.3(2) replace:
"In region of yield hinges, $x/d$ shall not..."
with the following:
"In region of yield hinges, $x/d$ should not..."

In the clause 5.8.6(3) replace:
"... Expressions (3.14) and 3.2.3 (Figure 3.8) ..."
with the following:
"... Expressions (3.14) and 3.2.7 (Figure 3.8) ..."

In the clause 5.8.6(3) replace in Expression (5.20) and in the Note:
"$\gamma_{ce}$"
with the following:
"$\gamma'_{ce}$"

In the clause 5.8.7.1(2) replace:
"... as compared with 5.8.6(2)."
with the following:
"... as compared with 5.8.5(1)."

In the clause 5.8.7.3(1) replace:
"... moments resulting from a linear analysis, namely:"
with the following:
"... moments resulting from a first order analysis, namely:"

In the clause 5.8.8.1(1) replace:
"... (see also 5.8.5(4))."
with the following:
"... (see also 5.8.5(3))."

In the clause 5.8.8.2(2) replace:
"Differing first order end moments $M_{01}$ and $M_{02}$ may be..."
with the following:
"For members without loads applied between their ends, differing first order end moments $M_{01}$ and $M_{02}$ may be..."

In the clause 5.8.9(3) replace:
"... and if the relative eccentricities $e_y/h$ and $e_z/b$ (see figure 5.7) satisfy..."
with the following:
"... and if the relative eccentricities $e_y/h_{eq}$ and $e_z/b_{eq}$ (see figure 5.8) satisfy..."
In the clause 5.10.2.1(2) replace:
“… the maximum prestressing force \( P_{\text{max}} \) may be increased to \( k_3 \cdot f_{p0.1k} \) (e.g. for…”
with the following:
“… the maximum prestressing force \( P_{\text{max}} \) may be increased to \( k_3 \cdot f_{p0.1k} \cdot A_p \) (e.g. for…”

In the clause 5.10.4(1) replace in the Note:
“…(see Annex D)”
with the following:
“…(see 10.3.2.1 and Annex D)”

In the clause 5.10.5.2(4) replace in the Note:
“HPDE”
with the following:
“HDPE”

In the clause 5.10.6(2) in Expression (5.46) replace:
“\( I_c \)”
with the following:
“\( I_c \)”

In the clause 5.10.6(2) replace:
“where:
…
\( E_p \) is the modulus of elasticity for the prestressing steel, see 3.3.3(9)”
with the following:
“where:
…
\( E_p \) is the modulus of elasticity for the prestressing steel, see 3.3.6(2)”

SECTION 6 ULTIMATE LIMIT STATES (ULS)

In the clause 6.1(5) replace:
“…concentric loading \( (e/h<0,1) \), such…”
with the following:
“…concentric loading \( (e_d/h<0,1) \), such…”
“…(see Expression (6.8)).”

In the clause 6.2.2(1) replace:
“where:
... 
$N_{Ed}$ is the axial … for compression). The influence on $N_{E}$ may be ignored.”

In the clause 6.2.3(1) replace:
“… the longitudinal tensile force due to shear defined in (3).”

In the clause 6.2.3(5) replace:
“...(e.g. for uniformly distributed loading) the shear reinforcement in any length increment $l = z(\cot \theta + \cot \alpha)$ may be... “

In the clause 6.2.3(6) replace:
“Where the web contains grouted ducts…”

In the clause 6.2.3(8) replace:
“The value $V_{Ed}$ calculated without reduction by $\beta$, should however always satisfy Expression (6.5).”

Change title of paragraph 6.2.4:
“6.2.4 Shear between web and flanges of T-sections”

“6.2.4 Shear between web and flanges”
In the clause 6.2.5(2) replace:

“...following examples:

− Very smooth: a surface cast against steel, plastic or specially prepared wooden moulds: \(c = 0,25\) and \(\mu = 0,5\).
− Smooth: a slipformed or extruded surface, or a free surface left without further treatment after vibration: \(c = 0,35\) and \(\mu = 0,6\).
− Rough: a surface with at least 3 mm roughness at about 40 mm spacing, achieved by raking, exposing of aggregate or other methods giving an equivalent behaviour: \(c = 0,45\) and \(\mu = 0,7\)

with the following:

“...following examples:

− Very smooth: a surface cast against steel, plastic or specially prepared wooden moulds: \(c = 0,025\) to \(0,10\) and \(\mu = 0,5\).
− Smooth: a slipformed or extruded surface, or a free surface left without further treatment after vibration: \(c = 0,20\) and \(\mu = 0,6\).
− Rough: a surface with at least 3 mm roughness at about 40 mm spacing, achieved by raking, exposing of aggregate or other methods giving an equivalent behaviour: \(c = 0,40\) and \(\mu = 0,7\)

In the clause 6.3.2(4) replace:

“where \(\nu\) follows from 6.2.2 (6) and \(\alpha_c\) from Expression (6.9)”

with the following:

“where \(\nu\) follows from 6.2.2 (6) and \(\alpha_{cw}\) from Expression (6.9)”

In the clause 6.4.2(11) correct figure 6.18 as follows:

Figure 6.18: Slab with enlarged column head where \(I_{hi} > 2 h_i\)

In the clause 6.4.3(2) replace:

“\(v_{Ed} < v_{Rd,\text{max}}\)”

with the following:

“\(v_{Ed} \leq v_{Rd,\text{max}}\)”

and

“\(v_{Ed} < v_{Rd,c}\)”

with the following:

“\(v_{Ed} \leq v_{Rd,c}\)”

In the clause 6.4.3(3) replace Expression (6.40):
"W_1 = \int_0^\infty |e| \, dl"  

with the following:  
"W_1 = \int_0^\infty |e| \, dl"

In the clause 6.4.3(3) replace after Expression (6.42):  
"where D is the diameter of the circular column"  
with the following:  
"where D is the diameter of the circular column  
e is the eccentricity of the applied load e = M_{Ed} / V_{Ed}"

In the clause 6.4.3(4) replace after Expression (6.45):  
"…the eccentricity e should be measured from the centroid of the control perimeter."  
with the following:  
"…the distance e should be measured from the centroid axis of the control perimeter."

In the clause 6.4.4(2) replace in Expression (6.50):  
"\rho"  
with the following:  
"A"

In the clause 6.5.4(6) replace:  
"… and (3.25) with \( \sigma_{Rd,max} \leq k_4 \sqrt[4]{f_{cd}} \) if for all three directions…"  
with the following:  
"… and (3.25) with an upper limit \( \sigma_{Rd,max} \leq k_4 \sqrt[4]{f_{cd}} \) if for all three directions…"

In the clause 6.5.4(9) replace:  
"… in accordance with 8.4."  
with the following:  
"… in accordance with 8.3."

In the clause 6.8.5(3) replace in Expression (6.71):  
"\gamma_{s, fat}"  
with the following:  
"\gamma_{s, fat}"

In the clause 6.8.6(1) replace:  
"For welded reinforcing bars …under frequent load combined with the basic…"  
with the following:  
"For welded reinforcing bars …under frequent cyclic load combined with the basic…"
In the clause 6.8.6(2) replace:
“…above verification may be carried out using the Frequent load…”
with the following:
“…above verification may be carried out using the frequent load…”

SECTION 7 SERVICEABILITY LIMIT STATES (SLS)

In the clause 7.2(5) replace:
“Unacceptable cracking or deformation…”
with the following:
“For the appearance unacceptable cracking or deformation…”

In the clause 7.3.1(5) replace:
“A limiting calculated crack width, \( w_{\text{max}} \), taking into account…”
with the following:
“A limiting value, \( w_{\text{max}} \), for the calculated crack width, \( w_{\text{k}} \), taking into account…”

In the clause 7.3.1(5) in Note 1 of Table 7.1N replace:
“…this limit is set to guarantee acceptable appearance. In the absence…”
with the following:
“…this limit is set to give generally acceptable appearance. In the absence…”

In the clause 7.3.3(2) in Note 1 of Table 7.2N replace:
“…\( h_{\alpha} = 0,5; (h-d) = \)…”
with the following:
“…\( h_{\alpha} = 0,5h ; (h-d) = \)…”

In the clause 7.3.3(2) in Note 1 of Table 7.2N replace:
“…\( k’ = 1,0 \)
with the following:
“…\( k_d = 1,0 \)

In the clause 7.3.3(3) replace:
“…or a suitable simplification (see 7.3.3(2)) assuming pure tension…”
with the following:
“…or a suitable simplification assuming pure tension…”
In the clause 7.3.3(5) replace:
“…detailing rules given in 9.22, 9.2.3, 9.3.2 and 9.4.4.3 are observed.”
with the following:
“…detailing rules given in 9.22, 9.2.3, 9.3.2 and 9.4.3 are observed.”

In the clause 7.3.4(3) replace Expression (7.13):
“\( k_2 = (\varepsilon_1 + \varepsilon_2)/2\varepsilon_1 \)”
with the following:
“\( k_2 = (\varepsilon_1 + \varepsilon_2)/(2\varepsilon_1) \)”

In the clause 7.4.2(2) replace:
“where…
\( \rho_0 \) is the reference reinforcement ratio = \( \sqrt{f_{ck}} \times 10^{-3} \)
with the following:
“where…
\( \rho_0 \) is the reference reinforcement ratio = \( 10^{-3} \sqrt{f_{ck}} \)”

In the clause 7.4.3(5) replace:
“\( \varphi(t, t_0) \) is the creep coefficient relevant for the load and time interval (see 3.1.3)”
with the following:
“\( \varphi(t, t_0) \) is the creep coefficient relevant for the load and time interval (see 3.1.4)”

SECTION 8 DETAILING OF REINFORCEMENT AND PRESTRESSING TENDONS – GENERAL

In the clause 8.3(2) in the Note of Table 8.1N replace:
“…in accordance with prEN ISO 17660 Annex B”
with the following:
“…in accordance with EN ISO 17660 Annex B”
In the clause 8.4.1(2) correct figure 8.1 a) as follows:

1) Basic required anchorage length, $l_{b,reqd}$, for any shape measured along the centreline

In the clause 8.4.3(3) replace:
"…the basic anchorage length, $l_b$, and the design…"
with the following:
"…the basic required anchorage length, $l_{b,reqd}$, and the design…"

In the clause 8.4.4(1) in Expression (8.6) replace:
"$l_{b,min} > \max\{0,3l_{b,reqd}; 10 \phi; 100 \text{ mm}\}"
with the following:
"$l_{b,min} \geq \max\{0,3l_{b,reqd}; 10 \phi; 100 \text{ mm}\}"

In the clause 8.4.4(1) in Expression (8.7) replace:
"$l_{b,min} > \max\{0,6l_{b,reqd}; 10 \phi; 100 \text{ mm}\}"
with the following:
"$l_{b,min} \geq \max\{0,6l_{b,reqd}; 10 \phi; 100 \text{ mm}\}"

In the clause 8.6(5) replace:
"If two welded cross bars with a minimum spacing of $\phi t$ are used, the anchorage length given by…"
with the following:
"If two welded cross bars with a minimum spacing of $\phi t$ are used, the anchorage capacity given by…"

In the clause 8.7.3(1) in Expression (8.11) replace:
"$l_{0,min} > \max\{0,3 \alpha_b l_{b,reqd}; 15 \phi; 200 \text{ mm}\}"
with the following:
"$l_{0,min} \geq \max\{0,3 \alpha_b l_{b,reqd}; 15 \phi; 200 \text{ mm}\}"

In the clause 8.7.4.1(3) replace:
"Where the diameter, $\phi$, of the lapped bars is greater than or equal to 20 mm, the transverse reinforcement should have a total area, $A_{st}$ (sum of all legs)…"
with the following:
“Where the diameter, $\varphi$, of the lapped bars is greater than or equal to 20 mm, the transverse reinforcement should have a total area, $\sum A_{st}$ (sum of all legs).”

*In the clause 8.8.(4) replace:*

“…or where the stress is not greater than 80%…”

*with the following:*

“…or where the reinforcement stress is not greater than 80%…”

*In the clause 8.9.2(2) correct figure 8.12 as follows:*

![Figure 8.12: Anchorage of widely staggered bars in a bundle](image)

*In the clause 8.10.2.2(1) replace:*

“$f_{ctd}(t)$ is the design tensile value of strength at time of release; $f_{ctd}(t) = \alpha_{ct} \cdot 0,7 \cdot f_{ctm}(t) / \gamma_c$ (see also 3.1.2 (8) and 3.1.6 (2P))”

*with the following:*

“$f_{ctd}(t)$ is the design tensile value of strength at time of release; $f_{ctd}(t) = \alpha_{ct} \cdot 0,7 \cdot f_{ctm}(t) / \gamma_c$ (see also 3.1.2 (9) and 3.1.6 (2P))”

*In the clause 8.10.2.2(4) replace:*

“…see Figure 8.16:”

*with the following:*

“…see Figure 8.16:”

*Change the title of 8.10.2.3:*

“Anchorage of tensile force for the ultimate limit state”

*with the following:*

“Anchorage of tendons for the ultimate limit state”

*In the clause 8.10.2.3(1) replace:*

“…the effect of shear according to 6.2.3(6); see also…”

*with the following:*

“…the effect of shear according to 6.2.3(7); see also…”
SECTION 9 DETAILING OF MEMBERS AND PARTICULAR RULES

In the clause 9.2.1.4(1) replace:
“The Area of bottom reinforcement provided at supports with little…”
with the following:
“The Area of bottom reinforcement provided at end supports with little…”

In the clause 9.2.1.4(2) replace:
“The tensile force to be anchored may be determined according to 6.2.3(6) (members…”
with the following:
“The tensile force to be anchored may be determined according to 6.2.3(7) (members…”

In the clause 9.2.1.4(2) replace Expression (9.3):
\[ F_E = |V_{Ed}| \cdot a_l / z + N_{Ed} \]
with the following:
\[ F_{Ed} = |V_{Ed}| \cdot a_l / z + N_{Ed} \]

In the clause 9.8.2.1(1) replace:
“…the design model shown in 9.8.2.1 may be used.”
with the following:
“…the design model shown in 9.8.2.2 may be used.”

In the clause 9.8.5.(3) replace:
“Bored piles with diameters not exceeding \( h_1 \) should be provided with a minimum longitudinal reinforcement area \( A_{s, bpmin} \).”
with the following:
“Bored piles with a diameter less than \( h_1 \) should be provided with a minimum longitudinal reinforcement area \( A_{s, bpmin} \); this minimum applies also to reinforced bored piles with diameter larger than \( h_1 \).”

In the clause 9.10.2.2(2) replace Expression (9.15):
\[ F_{tie, per} = l \cdot q_1 \leq q_2 \]
with the following:
\[ F_{tie, per} = l \cdot q_1 \leq Q_2 \]

In the clause 9.10.2.2(2) replace in the Note:
“\( q_2 \)”
with the following:
“\( Q_2 \)”

In the clause 9.10.2.3(4) replace Expression (9.16):
\[ F_{tie} = (l_1 + l_2)/2 \cdot q_3 \leq q_4 \]
with the following:
"\(F_{\infty} = q_3 \cdot (l_1 + l_2)/2 \geq q_4\)"

SECTION 10 ADDITIONAL RULES FOR PRECAST CONCRETE ELEMENTS AND STRUCTURES

In the clause 10.3.1.1(3) replace:
“...\(f_{cm}(t)\), may be estimated from Expression (3.3) in which..."
with the following:
“...\(f_{cm}(t)\), may be estimated from Expression (3.1) in which..."

Under 10.3.2 Prestressing Steel correct the numbering of heading:
“10.3.2.2 Technological properties of prestressing steel”
with the following:
“10.3.2.1 Technological properties of prestressing steel”

In the clause 10.5.2(1) replace:
“Where... \(\alpha_C\) is the linear coefficient of thermal expansion for concrete (see 3.1.2)”
with the following:
“Where... \(\alpha_C\) is the linear coefficient of thermal expansion for concrete (see 3.1.3(5))”

In the clause 10.9.6.2(2) replace:
“...The lap length according to 8.6 should be increased...”
with the following:
“...The lap length according to 8.7 should be increased...”

SECTION 11 LIGHTWEIGHT AGGREGATE CONCRETE STRUCTURES

In the clause 11.3.1(1P) replace:
“In EN 206-1 lightweight aggregate is classified...”
with the following:
“In EN 206-1 lightweight aggregate concrete is classified...”
In Table 11.3.1, 12th row, last column replace
\[ \| a_{c2u} \| \geq \| a_{c2} \| \]
with the following:
\[ \| a_{c2} \| \geq \| a_{c2} \| \]

In the clause 11.3.5(1P) replace (2 occurrences):
"\( \gamma_c \)"
with the following:
"\( \gamma_C \) (upper case C)"

In the clause 11.3.5(1P) replace:
"where \( \gamma_c \) is the partial safety factor for concrete, see 2.4.1.4, and…"
with the following:
"where \( \gamma_c \) is the partial safety factor for concrete, see 2.4.2.4, and…"

In the clause 11.3.5(2P) replace (2 occurrences):
"\( \gamma_c \)"
with the following:
"\( \gamma_C \) (upper case C)"

In the clause 11.5.1 replace in the Note:
"For light weight concrete the value of \( \theta_{plast} \), as shown in Figure 5.6N, should be multiplied by a factor \( \varepsilon_{lc2u}/\varepsilon_{c2u} \)."
with the following:
"For light weight concrete the value of \( \theta_{pl,d} \), as shown in Figure 5.6N, should be multiplied by a factor \( \varepsilon_{lc2u}/\varepsilon_{c2u} \)."

In the clause 11.6.1(1) replace Expression (11.6.2):
\[ V_{Rdc} = \ldots \geq (v_{\min} + k_1 \sigma_{cp})b_w d^* \]
with the following:
\[ V_{Rdc} = \ldots \geq (\eta_1 v_{\min} + k_1 \sigma_{cp})b_w d^* \]

In the clause 11.6.1(1) replace in the Note:
"\( \ldots 0,15/\gamma_c \ldots \)"
with the following:
"\( \ldots 0,15/\gamma_C \ldots \) (upper case C)"

In the clause 11.6.1(1) replace in the Note:
"\( \ldots \upsilon_{\min} \) is 0,30 \( k^{3/2}f_{ck}^{1/2} \ldots \)"
with the following:
"\( \ldots \upsilon_{\min} \) is 0,028 \( k^{3/2}f_{ck}^{1/2} \ldots \)"
In the clause 11.6.1(1) replace in the Note:
“…and that \( k_1 \) is 0.15…”
with the following:
“…and that for \( k_1 \) is 0.15…”

In the clause 11.6.1(1) replace caption of Table 11.6.1N:
“Table 11.6.1N: Values of \( v_{l,min} \) for given values of \( d \) and \( f_{ck} \)”
with the following:
“Table 11.6.1N: Values of \( v_{l,min} \) for given values of \( d \) and \( f_{lck} \)”

In the clause 11.6.1(1) replace in Table 11.6.1N (2nd row):
“\( f_{ck} \) (MPa)”
with the following:
“\( f_{lck} \) (MPa)”

In the clause 11.6.1(1) replace in Table 11.6.1N (6th row 2nd column):
“\( 0.40 \)”
with the following:
“\( 0.23 \)”

In the clause 11.6.2(1) replace Expression (11.6.6N):
“\( \nu_1 = 0.5 \eta_1 (1- f_{lck}/250) \)”
with the following:
“\( \nu_1 = 0.5 (1- f_{lck}/250) \)”

In the clause 11.6.4.1(2) replace:
“\( \rho_1 \)”
with the following:
“\( \rho_l \)”

In the clause 11.8.1(1) replace:
“…for normal density concrete given in 8.4.4 to avoid…”
with the following:
“…for normal density concrete given in 8.3 to avoid…”

In the clause 11.8.2(1) replace:
“…with \( f_{ld} = f_{lck,0.05}/\gamma_c \)”
with the following:
“…with \( f_{ld} = f_{lck,0.05}/\gamma_c \)”
SECTION 12 PLAIN AND LIGHTLY REINFORCED CONCRETE STRUCTURES

In the clause 12.3.1(2) replace in Expression (12.1):

\[ f_{cd} = \alpha_{c_t} f_{ck,0.05} / \gamma_c \]

with the following:

\[ f_{cd,pl} = \alpha_{c_t,pl} f_{ck,0.05} / \gamma_c \]

In the clause 12.6.1(3) replace in Expression (12.2):

\[ f_{cd} \]

with the following:

\[ f_{cd,pl} \]

In the clause 12.6.1(3) replace:

"where:

\[ \eta_{f_{cd}} \]

is the design effective compressive…"

with the following:

"where:

\[ \eta_{f_{cd,pl}} \]

is the design effective compressive…"

In the clause 12.6.3(2) and in Expression (12.7) replace:

\[ f_{cd} \]

with the following:

\[ f_{cd,pl} \]

(3 occurrences)

In the clause 12.6.3(2) and in Expressions (12.5), (12.6), (12.7), replace:

\[ f_{ctd} \]

with the following:

\[ f_{ctd,pl} \]

(7 occurrences)

In the clause 12.6.3(3) replace:

\[ f_{ctd} \]

with the following:

\[ f_{ctd,pl} \]

In the clause 12.6.5.2(1) replace in Expression (12.10):

\[ f_{cd} \]

with the following:

\[ f_{cd,pl} \]
In the clause 12.6.5(1) replace Expression (12.11):

\[ \Phi = (1,14 \times (1-2 \frac{e_{\text{tot}}}{h_w}) - 0,02 \times \frac{l_o}{h_w} \leq (1-2 \frac{e_{\text{tot}}}{h_w}) \]

with the following:

\[ \Phi = 1,14 \times (1-2 \frac{e_{\text{tot}}}{h_w}) - 0,02 \times \frac{l_o}{h_w} \leq (1-2 \frac{e_{\text{tot}}}{h_w}) \]

In the clause 12.9.3(1) replace Expression (12.13):

\[ \frac{0,85 \cdot h_F}{a} \geq \sqrt{\left(9 \sigma_{\text{glt}} \right) / f_{\text{ctd}}} \]

with the following:

\[ \frac{0,85 \cdot h_F}{a} \geq \sqrt{\left(3 \sigma_{\text{glt}} \right) / f_{\text{ctd,pl}}} \]

In the clause 12.9.3(1) replace:

\[ f_{\text{ctd}} \]

with the following:

\[ f_{\text{ctd,pl}} \]

ANNEX A MODIFICATION OF PARTIAL FACTORS FOR MATERIALS

In the clause A.2.1(1) replace:

\[ \gamma_{s,\text{red1}} \]

with the following:

\[ \gamma_{S,\text{red1}} \] (Upper case S)

In the clause A.2.1(1) in the Note of Table A.1 replace:

\[ \gamma_{s,\text{red1}} \]

with the following:

\[ \gamma_{S,\text{red1}} \] (Upper case S)

In the clause A.2.1(2) and in the Note replace:

\[ \gamma_{c,\text{red1}} \]

with the following:

\[ \gamma_{C,\text{red1}} \] (Upper case C)

In the clause A.2.2(1) and in the Note replace:

\[ \gamma_{s,\text{red2}} \]
with the following:
“\( \gamma_{S,\text{red2}} \) (Upper case S)

In the clause A.2.2(1) and in the Note replace:
“\( \gamma_{c,\text{red2}} \)
with the following:
“\( \gamma_{C,\text{red2}} \) (Upper case C)

In the clause A.2.2(2) and in the Note replace:
“\( \gamma_{c,\text{red3}} \)
with the following:
“\( \gamma_{C,\text{red3}} \) (Upper case C)

In the clause A.2.3(1) replace:
“\( \gamma_{c} \)
with the following:
“\( \gamma_{C} \) (Upper case C)

In the clause A.2.3(1) and in the Note replace:
“\( \gamma_{c,\text{red4}} \)
with the following:
“\( \gamma_{C,\text{red4}} \) (Upper case C)

In the clause A.3.2(1) replace:
“\( \gamma_{S,\text{pcred}} \)
with the following:
“\( \gamma_{S,\text{pcred}} \) (Upper case S)

In the clause A.3.2(1) replace:
“\( \gamma_{c,\text{pcred}} \)
with the following:
“\( \gamma_{C,\text{pcred}} \) (Upper case C)

ANNEX C PROPERTIES OF REINFORCEMENT SUITABLE FOR USE WITH THIS EUROCODE

In the clause C.1(1) in the text after Table C.2N replace:
“…the bond stresses shall satisfy the recommended…”
with the following:
“…the bond stresses should satisfy the recommended…”

In the clause C.1(3) replace:
“- the individual values of yield strength $f_{yk}$ and $\varepsilon_{uk}$ should be greater than…”
with the following:
“- the individual values of yield strength $f_y$ and $\varepsilon_u$ should be greater than…”

In the clause C.1(3) in Table C.3N 3rd row, 1st column replace:
“K”
with the following:
“k”

In the clause C.3(1P) replace:
“…specified for bending in Table 8.1 of this Eurocode.”
with the following:
“…specified for bending in Table 8.1N of this Eurocode.”

ANNEX D DETAILED CALCULATION METHOD FOR PRESTRESSING STEEL RELAXATION LOSSES

In the clause D.1(4) replace:
“…given by Expression (3.31), becomes:”
with the following:
“…given by Expression (3.29), becomes:”

ANNEX E INDICATIVE STRENGTH CLASSES FOR DURABILITY

In the clause E.1(2) replace:
“…calculation of minimum reinforcement according to 7.3.2 and 9.1.1.1 and crack…”
with the following:
“…calculation of minimum reinforcement according to 7.3.2 and 9.2.1.1 and crack…”
ANNEX I ANALYSIS OF FLAT SLABS AND SHEAR WALLS

In the clause I.1.3(2) replace:
“…to edge of columns given in 5.11.2 should be applied.”
with the following:
“…to edge of columns given in I.1.2(5) should be applied.”

ANNEX J DETAILING RULES FOR PARTICULAR SITUATIONS

In the clause J.1(2) in the Note replace:
“...(see figure 9.7).”
with the following:
“...(see figure J.1).”