SLOVENSKI STANDARD
SIST EN 1997-1:2005/AC:2009

01-maj-2009

Evrokod 7: Geotehniļ no projektiranje - 1. del: Sploġna pravila

Eurocode 7: Geotechnical design - Part 1: General rules

Eurocode 7 - Entwurf, Berechnung und Bemessung in der Geotechnik - Teil 1: Allgemeine Regeln

Eurocode 7: Calcul géotechnique - Partie 1: Règles générales

Ta slovenski standard je istoveten z: **EN 1997-1:2004/AC:2009**

ICS:

91.010.30	Tehniļ ni vidiki	Technical aspects
93.020	Zemeljska dela. Izkopavanja. Gradnja temeljev. Dela pod zemljo	Earthworks. Excavations. Foundation construction. Underground works

SIST EN 1997-1:2005/AC:2009 **en,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1997-1:2004/AC

February 2009
Février 2009
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ICS 93.020; 91.010.30

English version
Version Française
Deutsche Fassung

Eurocode 7: Geotechnical design - Part 1: General rules

Eurocode 7: Calcul géotechnique - Partie 1: Règles générales

Eurocode 7 - Entwurf, Berechnung und Bemessung in der Geotechnik - Teil 1: Allgemeine Regeln

This corrigendum becomes effective on 18 February 2009 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 18 février 2009 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 18.Februar 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 1997-1:2004/AC:2009 D/E/F

1 Modification to Foreword

Last subpart "**National Annex for EN 1997-1**"*, last paragraph including the list of national choice, add between* "2.4.7.1(3)" *and* "2.4.7.2(2)P"*:*

"2.4.7.1(4), 2.4.7.1(5), 2.4.7.1(6)"

and between "8.6(4)" *and* "11.5.1(1)P"*:*

"10.2 (3)".

2 Modification to Subclause 1.1.2

Part (3), 1st indent, replace: "partial safety factor" *with* "partial factor"*.*

3 Modifications to Subclause 1.6

Part "**Latin letters**"*:*

Read the explanation of the following symbols as follows:

"A' effective base area ($A' = B' \times L'$)"

"$q_{b;k}$ characteristic value of unit base resistance"

"$q_{s;i;k}$ characteristic value of unit shaft resistance in stratum i".

Replace as symbol for "width of a foundation": "b" *with* "B".

Replace in the explanation of "C_d"*:* “effect of an action” *with* “relevant serviceability criterion”*.*

Replace as symbol for "foundation length": "l" *with* "L"*.*

Insert the following symbol in the list after "$q_{s;r;k}$":

"q_u unconfined compressive strength".

Part "**Greek letters**"*:*

Read the explanation of the following symbols as follows:

"$\gamma_{R;e}$ partial factor for passive earth resistance"

"$\gamma_{Q;dst}$ partial factor for a variable destabilising action"

"$\gamma_{Q;stb}$ partial factor for a variable stabilising action".

4 Modification to Subclause 2.1

Part (17), replace: “soil” *with* “ground”*.*

5 Modification to Subclause 2.4.2

Part (4), 3rd dash, delete: “and ground-water pressure”.

6 Modifications to Subclause 2.4.7.1

Part (4), add the following note:

“NOTE The values of partial factors may be set by the National Annex.”

Part (5), add the following note:

“NOTE The values of partial factors may be set by the National Annex.”

Part (6), add the following note:

“NOTE The values of model factors may be set by the National Annex.”

7 Modification to Subclause 6.5.3

Part (11)P, replace in formulas (6.4a) and (6.4b): "A_c" *with* "A' ".

8 Modification to Subclause 7.1

*Part (3)P, delete the "*NOTE" *and add:* " — EN 14199:2005, for micropiles".

9 Modification to Subclause 7.6.2.1

Part (13), 2nd dash, replace: “cross-sectional” *with* “gross cross-sectional”.

10 Modification to Subclause 7.6.3.3

Part (6), "NOTE", replace: "from" *with* "in".

11 Modifications to Subclause 7.6.4.2

Part (1)P, replace: "partial safety factors" *with* "partial factors".

Part (4), replace: "assessed on" *with* "assessed on the basis of”.

12 Modifications to Subclause 7.8

Part (4)P, replace: “very weak” *with* “extremely low strength fine”.

Part (5), replace: “representative, undrained” *with* “characteristic”.

13 Modification to Subclause 7.9

Part (4), add after "EN 12699:2000,"*:* "EN 14199:2005,"*; and delete the final* "NOTE"*.*

14 Modifications to Subclause 8.1.1

Part (3):

Replace: "(3)" *with* "(3)P"*.*

Replace the sentence:

"This Section should not be applied to soil nails."

with the following:

“This Section does not apply to soil nails."

15 Modification to Subclause 8.1.2

"8.2.1.7 Tendon free length", *renumber* "8.2.1.7" *into* "8.1.2.7"*.*

16 Modification to Subclause 8.8

Part (1)P, replace: “It shall be specified in the design that all” *with* “All”*.*

17 Modification to Subclause 9.3.1.5

Part (1)P, delete: "forces" *after* “ice”*.*

18 Modification to Subclause 9.3.2.2

Part (3), replace: ‘’execution period’’ *with* "design situation”*.*

19 Modification to Subclause 9.5.3

Part (2), replace: “high angles of internal friction” *with* “high angles of shearing resistance”*.*

20 Modifications to Subclause 9.6

Part (3)P:

Replace: "(3)P" *with* "(3)"*.*

Replace the two occurrences of: “shall” *with* “should normally”*.*

21 Modification to Subclause 9.7.5

Part (5)P, replace: “Section 6” *with* “Section 7”.

22 Modifications to Subclause 9.8.1

Delete full text of parts (2)P and (3)P.

Renumber part (4) into (2) and part (5) into (3).

In paragraph (3) (renumbered), replace: “may” *with* “need”.

23 Modifications to Subclause 10.2

Part (2)P:

Insert: "while" *between* “ground layers,” *and* “the design resistance”.

Part (3):

Replace the entire 1st paragraph with the following:

“

If allowed by the National Annex, resistance to uplift by friction or anchor forces may also be treated as a stabilising permanent vertical action ($G_{stb;d}$).

NOTE The values of the partial factors may be set by the National Annex.

”

Figures 10.1 a) to e), key element 1, replace four times: “(ground)-water table” *with* “groundwater table”,

Replace Figures 10.1 c), 10.1 d) and 10.1 e) with the following new Figures 10.1 c), 10.1 d) and 10.1 e):

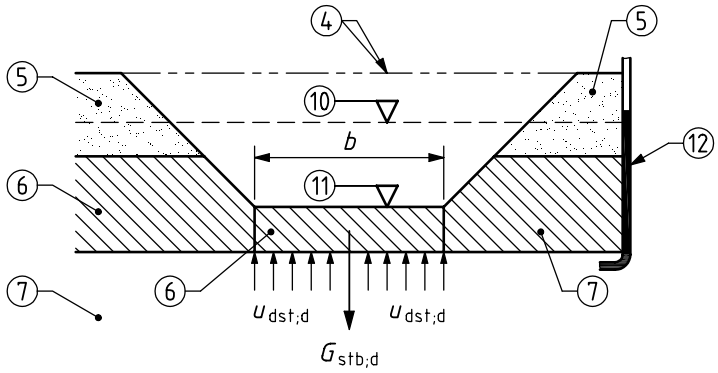

Figure 10.1 c)

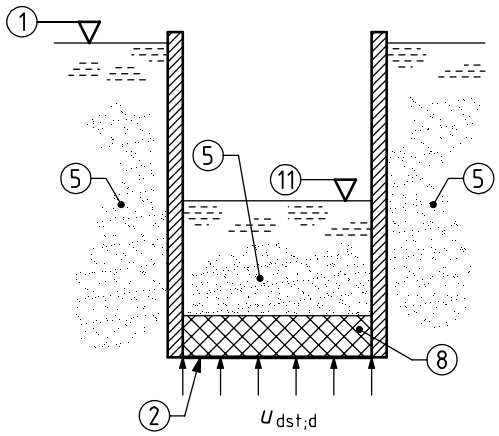

Figure 10.1 d)

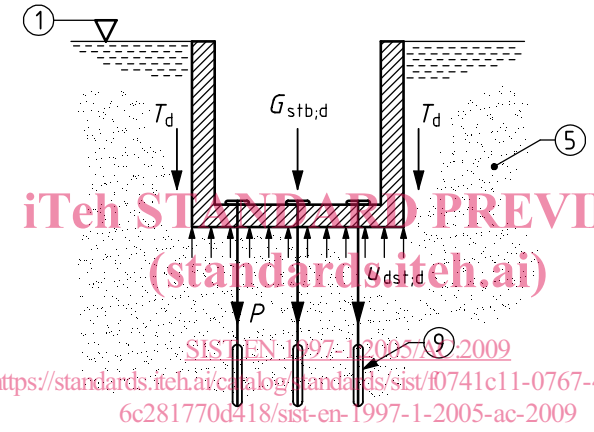

Figure 10.1 e)

Figure 10.1 c), add the key element:

"10 groundwater level before the excavation".

Figures 10.1 c) and d), add the key element:

"11 groundwater level in the excavation".

In Figure 10.1 c), add the key element:

"12 piezometric level at the base of the clay layer".

In Figure 10.1 d), delete the key element:

"6 sand".

24 Modification to Subclause 10.3

Figure 10.2, replace key element 1: "excavation level (left); water table (right)" *with* "excavation level (left); free-water level (right)".

25 Modification to Subclause 10.4

Part (5)P, replace the current paragraph with:

“If the filter criteria are not satisfied, it shall be verified that the design value of the hydraulic gradient is well below the critical hydraulic gradient at which soil particles begin to move.”

26 Modifications to Subclause 10.5

Part (1)P:

Figure 10.3, replace key element 1: "free water table" *with* “free-water level”.

"NOTE"*, 2nd dash, delete underlining of* “the”.

27 Modifications to Subclause 11.5.1

Part (10), replace the 2nd sentence with: “If a method of slices is used and horizontal equilibrium is not checked, the inter-slices forces should be assumed to be horizontal.”

Part (11)P, delete the final "NOTE".

28 Modification to Subclause A.5

Part (1)P, NOTE, replace: “EN 1990:2002” *with* “this standard”.

29 Modifications to Subclause B.2

Part (4):

Replace: “Equation (2.6) includes” *with* “Equations (2.6a) and (2.6b) include”.

Part (5):,

2nd paragraph, replace: “equation (2.6)” *with* “equations (2.6a) and (2.6b)”.

5th paragraph, replace: “equation (2.6) reduces to” *with* “equation (2.6a) applies”.

Part (6):

2nd paragraph replace: “equation (2.6) reduces to:” *with* “equations (2.6a) and (2.6b) reduce to:”.

Part (7):

Replace: “equation (2.6) remains:” *with* “equations (2.6a) and (2.6b) remain:”.

30 Modifications to Subclause B.3

Part (1):

1st line, replace: “equation (2.7)” *with* “equation (2.7c)”.

Equation (B.5.2), replace: “equation (2.7)” *with* “equation (2.7c)”.

Part (2):

Replace: “equation (2.7)” *with* “equations (2.7a), (2.7b) and (2.7c)”.

Part (5):

2nd paragraph, replace: “equation (2.7)” *with* “equation (2.7c)”.

31 Modification to Subclause F.2

Equation (F.1), replace: "*b*" *with* "*B*".

32 Modification to Annex C

Replace the full Annex C with the following new Annex C:

Annex C
(informative)

Sample procedures to determine earth pressures

C.1 Limit values of earth pressure

(1) The limit values of earth pressure on a vertical wall, caused by soil of weight density (γ), uniform vertical surface load (q), angle of shearing resistance (φ) and cohesion (c) should be calculated as follows:

— active limit state:

$$\sigma_a(z) = K_a [\int \gamma dz + q - u] + u - c K_{ac} \quad \text{(C.1)}$$

where the integration is taken from ground surface to depth z

$K_{ac} = 2\sqrt{[K_a (1+a/c)]}$, limited to $2{,}56\sqrt{K_a}$

— passive limit state:

$$\sigma_p(z) = K_p [\int \gamma dz + q - u] + u + c K_{pc} \quad \text{(C.2)}$$

where the integration is taken from ground surface to depth z

$K_{pc} = 2\sqrt{[K_p(1+a/c)]}$, limited to $2{,}56\sqrt{K_p}$

where:

a is the adhesion (between ground and wall)

c is the cohesion

K_a is the coefficient of effective horizontal active earth pressure

K_p is the coefficient of effective horizontal passive earth pressure

q is the vertical surface load

z is the distance down the face of the wall

β is the slope angle of the ground behind the wall (upward positive)

δ is the angle of shearing resistance between ground and wall

γ is the total weight density of retained ground

$\sigma_a(z)$ is the total stress normal to the wall at depth z (active limit state)

$\sigma_p(z)$ is the total stress normal to the wall at depth z (passive limit state)

(2) For drained soil, K_a and K_p are functions of angle of shearing resistance φ', and $c = c'$, the effective cohesion. For undrained soil, $K_a = K_p = 1$ and $c = c_u$, the undrained shear strength.