NATIONAL ANNEX TO CYS EN 1993-1-3:2006 (Including AC:2009)

Eurocode 3: Design of steel structures

Part 1-3: General rules - Supplementary rules for coldformed members and sheeting

CYPRUS ORGANISATION FOR STANDARDISATION

NATIONAL ANNEX

TO

CYS EN 1993-1-3:2006+AC:2009

Eurocode 3: Design of steel structures

Part 1-3: General rules - Supplementary rules for coldformed members and sheeting

This National Annex has been approved by the Board of Directors of the Cyprus Organisation for Standardisation (CYS) on 14.06.2019.

INTRODUCTION

This National Annex has been prepared by the CYS TC 18 National Standardisation Technical Committee of the Cyprus Organisation for Standardisation. (CYS).

SCOPE

This National Annex is to be used in conjunction with CYS EN 1993-1-3:2006+AC:2009. Any reference in the rest of this text to CYS EN 1993-1-3:2006 means the above document.

This National Annex gives:

(a) Nationally Determined Parameters described in the following clauses of CYS EN 1993-1-3:2006 (see Section NA 2):

- 2 (3)P
- 2 (5)
- 3.1 (3) Note 1 and Note 2
- 3.2.4 (1)
- 5.3 (4)
- 8.3 (5)
- 8.3 (13), Table 8.1
- 8.3 (13), Table 8.2
- 8.3 (13), Table 8.3
- 8.3 (13), Table 8.4
- 8.4 (5)
- 8.5.1 (4)
- 9 (2)
- 10.1.1 (1)
- 10.1.4.2 (1)
- A.1 (1), Note 2
- A.1 (1), Note 3
- A.6.4 (4)
- E (1)

(b) Decisions on the use of CYS EN 1993-1-3:2006 informative annexes (see Section NA 3)

(c) References to non-contradictory complementary information to assist the user to apply CYS EN 1993-1-3:2006 (see Section NA 4)

NA 1 NATIONALLY DETERMINED PARAMETERS

NA 1.1 Clause 2 (3) P Basis of design

The values for the partial factors γ_{Mi} for buildings are:

$\gamma_{M0} = 1,00$;
$\gamma_{M1} = 1,00$;
$\gamma_{M2} = 1,25$.

NA 1.2 Clause 2 (5) Basis of design

The value of $\gamma_{M,ser}$ is 1,00.

NA 1.3 Clause 3.1 (3) Note 1 and Note 2 General

For steel strip less than 3 mm thick conforming to CYS EN 10025, if the width of the original strip is greater than or equal to 600 mm, the characteristic values shall be equal to 0,9 times those given in Table 3.1a (CYS).

Examples for other steel materials and products that may conform to the requirements of this standard are given in Table 3.1b (CYS).

Table 3.1a (CYS): Nominal values of basic yield strength f_{yb} and ultimate tensile strength f_u

Type of steel	Standard	Grade	f_{yb} N/mm^2	f_u N/mm^2
Hot rolled products of non-alloy structural steels. Part 2: Technical delivery conditions for non alloy structural steels	CYS EN 10025: Part 2	S 235 S 275 S 355	235 275 355	360 430 510
Hot-rolled products of structural steels. Part 3: Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels	CYS EN 10025: Part 3	S 275 N S 355 N S 420 N S 460 N S 275 NL S 355 NL S 420 NL S 460 NL	275 355 420 460 275 355 420 460	370 470 520 550 370 470 520 550
Hot-rolled products of structural steels. Part 4: Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels	CYS EN 10025: Part 4	S 275 M S 355 M S 420 M S 460 M S 275 ML S 355 ML S 420 ML S 460 ML	275 355 420 460 275 355 420 460	360 450 500 530 360 450 500 530

Table 3.1b (CYS): Nominal values of basic yield strength f_{yb} and ultimate tensile strength f_u

Cold reduced steel sheet of structural quality	ISO 4997	CR 220 CR 250 CR 320	220 250 320	300 330 400
Continuous hot dip zinc coated carbon steel sheet of structural quality	CYS EN 10326	S220GD+Z S250GD+Z S280GD+Z S320GD+Z S350GD+Z	220 250 280 320 350	300 330 360 390 420
Hot-rolled flat products made of high yield strength steels for cold forming. Part 2: Delivery conditions for thermomechanically rolled steels	CYS EN 10149: Part 2	S 315 MC S 355 MC S 420 MC S 460 MC S 500 MC S 550 MC S 600 MC S 650 MC S 700 MC	315 355 420 460 500 550 600 650 700	390 430 480 520 550 600 650 700 750
	CYS EN 10149: Part 3	S 260 NC S 315 NC S 355 NC S 420 NC	260 315 355 420	370 430 470 530
Cold-rolled flat products made of high yield strength micro-alloyed steels for cold forming	CYS EN 10268	H240LA H280LA H320LA H360LA H400LA	240 280 320 360 400	340 370 400 430 460
Continuously hot-dip coated strip and sheet of steels with higher yield strength for cold forming	CYS EN 10292	H260LAD H300LAD H340LAD H380LAD H420LAD	240 2) 280 2) 320 2) 360 2) 400 2)	340 2) 370 2) 400 2) 430 2) 460 2)
Continuously hot-dipped zinc-aluminium (ZA) coated steel strip and sheet	CYS EN 10326	S220GD+ZA S250GD+ZA S280GD+ZA S320GD+ZA S350GD+ZA	220 250 280 320 350	300 330 360 390 420

Continuously hot-dipped aluminium-zinc (AZ) coated steel strip and sheet	CYS EN 10326	S220GD+AZ S250GD+AZ S280GD+AZ S320GD+AZ S350GD+AZ	220 250 280 320 350	300 330 360 390 420
Continuously hot-dipped zinc coated strip and sheet of mild steel for cold forming	CYS EN 10327	DX51D+Z DX52D+Z DX53D+Z	140 1) 140 1) 140 1)	270 1) 270 1) 270 1)

1) Minimum values of the yield strength and ultimate tensile strength are not given in the standard. For all steel grades a minimum value of 140 N/mm^2 for yield strength and 270 N/mm^2 for ultimate tensile strength may be assumed.
2) The yield strength values given in the names of the materials correspond to transversal tension. The values for longitudinal tension are given in the table.

NA 1.4 Clause 3.2.4 (1) Thickness and thickness tolerances

The following recommended ranges of core thickness t_{cor} shall be used:
- for sheeting and members: 0,45mm $\leq$ t_{cor} $\leq$ 15 mm
- for connections: 0,45mm $\leq$ t_{cor} $\leq$ 4 mm, see 8.1(2) of CYS EN 1993-1-3:2006

NA 1.5 Clause 5.3 (4) Structural modeling for analysis

The recommended values e_0/L = 1/600 for elastic analysis and e_0/L = 1/500 for plastic analysis shall be used for sections assigned to LTB buckling curve a taken from 6.3.2.2 of CYS EN 1993-1-1:2005/A1:2014/AC:2009.

NA 1.6 Clause 8.3 (5) Connections with mechanical fasteners

The value of γ_{M2} is 1,25.

NA 1.7 Clause 8.3 (13), Table 8.1 Connections with mechanical fasteners

No further information is provided in this National Annex.

NA 1.8 Clause 8.3 (13), Table 8.2 Connections with mechanical fasteners

No further information is provided in this National Annex.

NA 1.9 Clause 8.3 (13), Table 8.3 Connections with mechanical fasteners

No further information is provided in this National Annex.

NA 1.10 Clause 8.3 (13), Table 8.4 Connections with mechanical fasteners

No further information is provided in this National Annex.

NA 1.11 Clause 8.4 (5) Spot welds

The value of γ_{M2} is 1,25.

NA 1.12 Clause 8.5.1 (4) General

The value of γ_{M2} is 1,25.

NA 1.13 Clause 9 (2) Design assisted by testing

No further information is provided in this National Annex.

NA 1.14 Clause 10.1.1 (1) General

No further information is provided in this National Annex.

NA 1.15 Clause 10.1.4.2 (1) Buckling resistance of free flange

The value of the reduction factor χ_{LT} shall be determined from 6.3.2.3 of CYS EN 1993-1-1:2005/A1:2014/AC:2009 using buckling curve b (α_{LT}=0,34 ; $\bar{\lambda}_{LT,0} = 0,4$; β=0,75) for the relative slenderness $\bar{\lambda}_{fz}$ given in 10.1.4.2 (2) of CYS EN 1993-1-3:2006.

NA 1.16 Clause A.1 (1), Note 2 General

No further information is provided in this National Annex.

NA 1.17 Clause A.1 (1), Note 3 General

No further information is provided in this National Annex.

NA 1.18 Clause A.6.4 (4) Design values

The values for the partial factors γ_{Mi} shall be those chosen in the design by calculation given in section 2 or section 8 of CYS EN 1993-1-3:2006, unless other values result from the use of Annex D of CYS EN 1990:2002/A1:2005/AC:2010.

NA 1.19 Clause E (1) Simplified design for purlins

No further information is provided in this National Annex.

NA 2 DECISION ON THE USE OF INFORMATIVE ANNEXES

NA 2.1 Annex B

Annex B may be used

NA 2.2 Annex C

Annex C may be used

NA 2.3 Annex D

Annex D may be used

NA 2.4 Annex E

Annex E may be used

NA 3 REFERENCES TO NON-CONTRADICTORY COMPLEMENTARY INFORMATION

None

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NA to CYS EN 1993-1-3:2006 (Including AC:2009)

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