

CYS National Annex to CYS EN 1991-3:2006

Eurocode 1: Actions on structures

Part 3: Actions induced by cranes and machinery

Prepared by Eurocodes Committee, Scientific

and Technical Chamber of Cyprus under a

Ministry of Interior's Programme



NATIONAL ANNEX
TO
CYS EN 1991-3:2006 Eurocode 1: Actions on structures
Part 3: Actions induced by cranes and machinery

This National Annex has been approved by the Board of Governors of the Cyprus Organisation for Standardisation on 11/06/2010.

INTRODUCTION

This National Annex has been prepared by the Eurocodes Committee of the Technical Chamber of Cyprus which was commissioned by the Ministry of Interior of the Republic of Cyprus

NA 1 SCOPE

This National Annex is to be used together with CYS EN 1991-3:2006

This National Annex gives:

- (a) Nationally determined parameters for the following clauses of CYS EN 1991-3:2006 where National choice is allowed (see Section NA 2)
 - 2.1 (2)
 - 2.5.2.1 (2)
 - 2.5.3 (2)
 - 2.7.3 (3)
 - A2.2 (1)
 - A2.2 (2)
 - A2.3 (1)
- (b) Decisions on the use of the Informative Annex B (see Section NA 3)
- (c) References to non-contradictory complementary information to assist the user to apply CYS EN 1991-3:2006. In this National Annex such information is provided for the following clauses in CYS EN 1991-3:2006 (see Section NA 4)

NA 2 NATIONALLY DETERMINED PARAMETERS

NA 2.1 Clause 2.1 (2) Field of application

Where the crane supplier is known at the time of design of the crane runway, more accurate data may be applied for the individual project. No information is given in this National Annex on the procedure to facilitate the exchange of data with crane suppliers in order to apply more accurate data for the individual project.

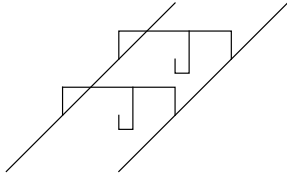
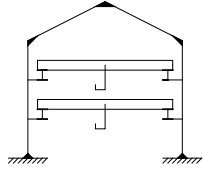
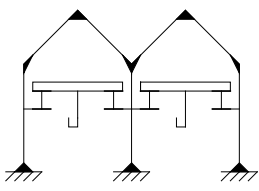
NA 2.2 Clause 2.5.2.1 (2) Vertical loads – eccentricity of wheel loads

The adopted value of the eccentricity of application of wheel load to a rail is $e = 0,25 b_r$.

NA 2.3 Clause 2.5.3 (2) Multiple crane action

The maximum number of cranes to be considered in the most unfavourable position is given in Table 2.3 (CYS)

Table 2.3 (CYS) —Maximum number of cranes to be considered in the most unfavourable position

| | Cranes to each runway | Cranes in each shop bay | Cranes in multi – bay buildings | |
|-------------------------|---|--|---|---|
| |  |  |  | |
| Vertical crane action | 3 | 4 | 4 | 2 |
| Horizontal crane action | 2 | 2 | 2 | 2 |

NA 2.4 Clause 2.7.3 (3) Drive force K – value of friction factor

The values of the friction factor are:

$$\mu = 0,2 \text{ for steel – steel}$$

$$\mu = 0,5 \text{ for steel - rubber}$$

NA 2.5 Clause A.2.2 (1) Partial factors – definition of γ -values for cases STR and GEO

The adopted γ -values are given in Table A.1(CYS) and they cover cases STR and GEO specified for buildings in 6.4.1(1) of EN 1990.

Table A.1(CYS) — Recommended values of γ -factors

| Action | Symbol | Situation | |
|--------------------------------|------------------------|-----------|------|
| | | P/T | A |
| Permanent crane actions | | | |
| - unfavourable | $\gamma_{G\text{sup}}$ | 1,35 | 1,00 |
| - favourable | $\gamma_{G\text{inf}}$ | 1,00 | 1,00 |
| Variable crane actions | | | |
| - unfavourable | $\gamma_{Q\text{sup}}$ | 1,35 | 1,00 |
| - favourable | $\gamma_{Q\text{inf}}$ | | |
| crane present | | 1,00 | 1,00 |
| crane not present | | 0,00 | 0,00 |
| Other variable actions | γ_Q | | |
| - unfavourable | | 1,50 | 1,00 |
| - favourable | | 0,00 | 0,00 |
| Accidental actions | γ_A | | 1,00 |

P - Persistent situation T - Transient situation A - Accidental situation

NA 2.6 Clause A.2.2 (2) Partial factors – definition of γ -values for case EQU

The γ -values to be used for verifications with regard to loss of static equilibrium and uplift of bearings are:

$$\gamma_{G \text{ sup}} = 1,05$$

$$\gamma_{G \text{ inf}} = 0,95$$

NA 2.7 Clause A.2.3 (1) ψ -factors for crane loads – definition of ψ -values

The following ψ -factors are adopted:

$$\psi_0 = 1,0$$

$$\psi_1 = 0,9$$

$$\psi_2 = \text{ratio between the permanent crane action and the total crane action.}$$

NA 3 DECISION ON USE OF THE ANNEXES

NA 3.1 Annex B

Annex B is informative and may be used

NA 4 REFERENCES TO NON-CONTRADICTORY COMPLEMENTARY INFORMATION

None

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