

***NATIONAL ANNEX  
TO  
CYS EN 1999-1-3:2007  
(Including A1:2011)***

***Eurocode 9: Design of  
aluminium structures***

***Part 1-3: Structures  
susceptible to fatigue***



**NATIONAL ANNEX**  
**TO**  
**CYS EN 1999-1-3:2007**  
**(Including A1:2011)**  
**Eurocode 9: Design of aluminium structures**  
**Part 1-3: Structures susceptible to fatigue**

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## INTRODUCTION

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

### NA 1 SCOPE

This National Annex is to be used together with CYS EN 1999-1-3:2007 including A1:2011. Any reference in the rest of this text to CYS EN 1999-1-3:2007 means the above document.

This National Annex gives:

- (a) Nationally determined parameters for the following clauses of CYS EN 1999-1-3:2007 where National choice is allowed (see Section NA 2)
- 2.1.1 (1)
  - 2.2.1 (4)
  - 2.3.1 (2)
  - 2.3.2 (6)
  - 2.4 (1)
  - 3 (1)
  - 4 (2)
  - 5.8.1 (1)
  - 5.8.2 (1)
  - 6.1.3 (1)
  - 6.2.1 (2)
  - 6.2.1 (7)
  - 6.2.1 (11)
  - E (5)
  - E (7)
  - I.2.2 (1)
  - I.2.3.2 (1)
  - I.2.4 (1).
- (b) Decisions on the use of the Informative Annexes B, C, D, E, F, G, H, I, J, K and L (see Section NA 3)
- (c) References to non-contradictory complementary information to assist the user to apply CYS EN 1999-1-3:2007. In this National Annex such information is provided for the following clauses in CYS EN 1999-1-3:2007 (see Section NA 4).

## NA 2 NATIONALLY DETERMINED PARAMETERS

### NA 2.1 Clause 2.1.1 (1) General

No further conditions are specified for the application for the methods of design which are specified in this clause.

### NA 2.2 Clause 2.2.1 (4) Safe life design

Values of  $D_{lim}$  are given in L.4 for use when resistance data in Annex J is adopted.

**NA 2.3 Clause 2.3.1 (2) Source of fatigue loading**

No further rules are given for the determination of the fatigue load for cases not covered by a European standard.

**NA 2.4 Clause 2.3.2 (6) Derivation of fatigue loading**

Values of  $k_F$  and  $k_N$  are defined to be,  $k_F=2$ , and  $k_N=2$ .

**NA 2.5 Clause 2.4 (1) Partial factors for fatigue loads**

Where the fatigue loads  $F_{EK}$  have been derived in accordance with the requirements of CYS EN 1999-1-3:2007 clauses 2.3.1 (2) and 2.3.2, the partial factor for fatigue loads  $\gamma_{Ff}$ , is specified as  $\gamma_{Ff} = 1,0$ .

Where fatigue loads have been based on confidence limits other than those in CYS EN 1999-1-3:2007 clause 2.3.2(6), the values for partial factors on loads are given in Table 2.1. (CYS).

**Table 2.1 (CYS) — Partial factors  $\gamma_{Ff}$  for intensity and number of cycles in the fatigue load spectrum**

$k_F$	$\gamma_{Ff}$	
	$k_N = 0$	$k_N = 2$
0	1,5	1,4
1	1,3	1,2
2	1,1	1,0

**NA 2.6 Clause 3 (1) Materials, constituent products and connecting devices**

No further data for low strength alloys and tempers is provided.

**NA 2.7 Clause 4 (2) Durability**

No further information on durability is provided.

**NA 2.8 Clause 5.8.1 (1) General**

No further information on the use of the nominal stress ranges or modified nominal stress ranges is given.

**NA 2.9 Clause 5.8.2 (1) Design value of stress range**

No further information for the values of  $\lambda_i$  are given

**NA 2.10 Clause 6.1.3 (1) Constructional details**

The set of categories given in Annex J shall be used. No further construction details are provided.

**NA 2.11 Clause 6.2.1 (2) Classified constructional details**

The values of the partial factor  $\gamma_{Mf}$  for a specific constructional detail type, are given in L.4 for use when Annex J resistance data is adopted.

**NA 2.12 Clause 6.2.1 (7) Classified constructional details**

No any additional provisions are given.

**NA 2.13 Clause 6.2.1 (11) Classified constructional details**

The increase in number of categories shall not exceed 2.

**NA 2.14 Clause E (5) Adhesively bonded joints**

The value of the partial factor  $\gamma_{Mf}$  for specific constructional detail types is specified to be  $\gamma_{Mf}=3,0$ .

**NA 2.15 Clause E (7) Adhesively bonded joints**

No other values are defined.

**NA 2.16 Clause I.2.2 (1) Welded material**

Fatigue strength values for welded joints of castings are not defined in the National Annex.

**NA 2.17 Clause I.2.3.2 (1) Pinned joints**

Fatigue strength values for pinned joints of castings are not defined in the National Annex.

**NA 2.18 Clause I.2.4 (1) Adhesively bonded castings**

Fatigue strength values for adhesively bonded joints in castings are not defined in the National Annex.

**NA 3 DECISION ON USE OF THE INFORMATIVE ANNEXES B, C, D, E, F, G, H, I, J, K and L**

**NA 3.1 Annex B**

Annex B may be used

**NA 3.2 Annex C**

Annex C may be used

**NA 3.3 Annex D**

Annex D may be used

**NA 3.4 Annex E**

Annex E may be used

**NA 3.5 Annex F**

Annex F may be used

**NA 3.6 Annex G**

Annex G may be used

**NA 3.7 Annex H**

Annex H may be used

**NA 3.8      Annex I**

Annex I may be used

**NA 3.9      Annex J**

Annex J may be used

**NA 3.10     Annex K**

Annex K may be used

**NA 3.11     Annex L**

Annex L may be used

**NA 4 REFERENCES TO NON-CONTRADICTORY COMPLEMENTARY  
INFORMATION**

None



**NA to CYS EN  
1999-1-3:2007  
(Including  
A1:2011)**

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