

**NATIONAL ANNEX**  
**TO**  
**CYS EN 1993-1-11: 2006 Eurocode 3: Design of steel**  
**structures**  
**Part 1-11: Design of structures with tension components**

**Public Enquiry Draft**

**Period of Enquiry**

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**Readers are advised that this is a draft document and subject to change**

**Prepared by: Eurocodes Committee**  
**Ministry of Interior / Technical Chamber of Cyprus**

## PUBLIC ENQUIRY DRAFT

National Annex to CYS EN 1993-1-11: 2006 Eurocode 3: Design of steel structures  
Part 1-11: Design of structures with tension components

## 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 1993-1-11: 2006.

This National Annex gives:

- (a) Nationally determined parameters for the following clauses of CYS EN 1993-1-11: 2006 where National choice is allowed (see Section NA 2):
- 2.3.6(1)
  - 2.3.6(2)
  - 2.4.1(1)
  - 3.1(1)
  - 4.4(2)
  - 4.5(4)
  - 5.2(3)
  - 5.3(2)
  - 6.2(2)
  - 6.3.2(1)
  - 6.3.4(1)
  - 6.4.1(1)P
  - 7.2(2)
  - A.4.5.1(1)
  - A.4.5.2(1)
  - B(6)
- (b) Decisions on the use of informative Annexes A, B and C to CYS EN 1993-1-11: 2006 (see Section NA 3).
- (c) References to non-contradictory complementary information to assist the user to apply CYS EN 1993-1-11: 2006 (see Section NA 4).

## NA 2 NATIONALLY DETERMINED PARAMETERS

### NA 2.1 Clause 2.3.6(1) Replacement and loss of tension components

No further information is given on defining transient loading conditions and partial factors for replacement of at least one tension component.

### NA 2.2 Clause 2.3.6(2) Replacement and loss of tension components

No further information is given where an accidental design situation of the loss of any tension component should apply or of any protection requirements and loading conditions.



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**NA 2.11 Clause 6.3.4(1) Design of saddles**

The recommended value of  $k = 1,10$  shall be used.

**NA 2.12 Clause 6.4.1(1)P Slipping of clamps**

The recommended partial factor value of  $\gamma_{M,fr} = 1,65$  shall be used.

**NA 2.13 Clause 7.2(2) Stress Limits**

The recommended stress limits  $f_{const}$  in Table 2.2 (CYS) for the construction phase and the recommended stress limits  $f_{SLS}$  in Table 2.3 (CYS) of CYS EN 1993-1-11: 2006 for service conditions shall be used.

**Table 2.2 (CYS): Stress limits  $f_{const}$  for the construction phase**

Stage of installation	$f_{const}$
First tension components for only a few hours	$0,60 \sigma_{uk}$
After installment of other tension components	$0,55 \sigma_{uk}$

The stress limits follow from

$$f_{const} = \frac{\sigma_{uk}}{1,50 \gamma_R \gamma_F} = \frac{0,66 \sigma_{uk}}{\gamma_R \gamma_F} \tag{2.1}$$

With  $\gamma_R \times \gamma_F = 1,0 \times 1,10 = 1,10$  for short term situations

$\gamma_R \times \gamma_F = 1,0 \times 1,20 = 1,20$  for long term situations

**Table 2.3 (CYS): Stress limits  $f_{SLS}$  for service conditions**

Loading conditions	$f_{SLS}$
Fatigue design including bending stresses *)	$0,50 \sigma_{uk}$
Fatigue design without bending stresses	$0,45 \sigma_{uk}$
*) Bending stresses may be reduced by detailing measures, see <b>Error!</b> <b>Reference source not found.(4).</b>	

The stress limits follow from

$$f_{SLS} = \frac{\sigma_{uk}}{1,50 \gamma_R \gamma_F} = \frac{0,66 \sigma_{uk}}{\gamma_R \gamma_F} \tag{2.2}$$

with  $\gamma_R \times \gamma_F = 0,9 \times 1,48 = 1,33$  with bending stresses

$\gamma_R \times \gamma_F = 1,0 \times 1,48 = 1,48$  without bending stresses

where  $\gamma_F \approx \gamma_Q = 1,50 \approx 1,48$

The stress limit  $f_{SLS} = 0,45 \sigma_{uk}$  is used for testing, see Annex A of CYS EN 1993-1-11: 2006.

**NA 2.14 Clause A.4.5.1(1) Waterproofing**

No further details are given for tests.

**NA 2.15 Clause A.4.5.2(1) Corrosion protection of barriers**

No further details are given for tests.

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**NA 2.16 Clause B(6) Transport, storage, handling**

No further guidance is given on monitoring and inspections.

**NA 3 DECISION ON THE USE OF INFORMATIVE ANNEXES A, B AND C**

**NA 3.1 Annex A**

Informative Annex A shall be used.

**NA 3.2 Annex B**

Informative Annex B shall be used.

**NA 3.3 Annex C**

Informative Annex C shall be used.

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

None