

***NATIONAL ANNEX  
TO  
CYS EN 1998-5:2004***

***Eurocode 8: Design of  
structures for  
earthquake resistance***

***Part 5: Foundations,  
retaining structures  
and geotechnical  
aspects***



**NATIONAL ANNEX  
TO  
CYS EN 1998-5:2004**

**Eurocode 8: Design of structures for earthquake resistance Part 5:  
Foundations, retaining structures and geotechnical aspects**

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## INTRODUCTION

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

### NA 1 SCOPE

This National Annex is to be used together with CYS EN 1998-5:2004

This National Annex gives:

- (a) Nationally determined parameters for the following clauses of CYS EN 1998-5:2004 where National choice is allowed (see Section NA 2)
- 1.1(4)
  - 3.1(3)
  - 4.1.4(11)
  - 5.2(2)c)
- (b) Decisions on the use of the Informative Annexes A, C, D, and F (see Section NA 3)
- (c) References to non-contradictory complementary information to assist the user to apply CYS EN 1998-5:2004. In this National Annex such information is provided for the following clauses in CYS EN 1998-5:2004 (see Section NA 4)

## NA 2 NATIONALLY DETERMINED PARAMETERS

### NA 2.1 Clause 1.1 (4) Scope of CYS EN 1998-5:2004

Annexes A, C, D and F are informative and may be used in the design of geotechnical aspects.

### NA 2.2 Clause 3.1 (3) Partial factors for materials

All limit state checks for geotechnical problems shall follow the Design Approaches of CYS EN 1997-1:2004 (Clause 2.4.7.3.4) in accordance to the National Annex to CYS EN 1997-1:2004, Clauses NA 2.5 & NA 2.9.

The partial factors for soil parameters and resistances shall be taken equal to those required for persistent and transient situations, except for overall stability, equilibrium limit state (EQU) and uplift limit state (UPL) calculations, where the partial factors of the following soil strength parameters for the seismic design situation are:

1. Undrained shear strength  $c_u$  is  $\gamma_{cu} = 1,23$ .
2. Cyclic undrained shear strength  $\tau_{cy,u}$  is  $\gamma_{tcy} = 1,25$ .
3. Unconfined compressive strength  $q_u$  is  $\gamma_{qu} = 1,23$ .
4. The tangent of the angle of shearing resistance in terms of effective stress  $\tan\phi'$  is  $\gamma_{\phi'} = 1,1$ .

### NA 2.3 Clause 4.1.4 (11) Reduction factor at damage limitation state

To achieve a safety factor of 1,25, the earthquake induced shear must not exceed  $\lambda = 0,8$  of the critical stress known to have caused liquefaction in previous earthquakes.

### NA 2.4 Clause 5.2 (2)c) Reduction of peak ground acceleration

If it is justified by an appropriate study, the value of the peak ground acceleration  $\alpha \cdot S$  can be decreased to  $p \cdot \alpha \cdot S$ . The value of  $p$  can not be lower than  $p = 0,65$ .

## **NA 3 DECISION ON USE OF THE INFORMATIVE ANNEXES A, B, C, D, E AND F**

### **NA 3.1 Annex A**

Annex A 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 F**

Annex F may be used.

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

None



**NA to  
CYS EN  
1998-5:2004**

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