

**NATIONAL ANNEX**  
**TO**  
**CYS EN 1998-5:2004 Eurocode 8: Design of structures for**  
**earthquake resistance**  
**Part 5: Foundations, retaining structures and**  
**geotechnical aspects**

**Public Enquiry Draft**

**Period of Enquiry**

**November 19<sup>th</sup> 2007 to January 14<sup>th</sup> 2008**

**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 1998-5:2004 Eurocode 8: Design of Structures for Earthquake Resistance  
Part 5: Foundation, retaining structures and geotechnical aspects

## 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 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 to 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 can be used in the design of geotechnical aspects.

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

The partial factors for the following soil strength parameters are:

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

### 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  $p = 0,65$ .

**PUBLIC ENQUIRY DRAFT**

National Annex to CYS EN 1998-5:2004 Eurocode 8: Design of Structures for Earthquake Resistance  
Part 5: Foundation, retaining structures and geotechnical aspects

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

**NA 3.1 Annex A**

Annex A is informative and may be used.

**NA 3.2 Annex B**

Annex B is normative and shall be used.

**NA 3.3 Annex C**

Annex C is informative and may be used.

**NA 3.4 Annex D**

Annex D is informative and may be used.

**NA 3.5 Annex E**

Annex E is normative and shall be used.

**NA 3.6 Annex F**

Annex F is informative and may be used.

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

None