

# ***NATIONAL ANNEX***

***TO***

***CYS EN 1991-1-3:2003  
(Including A1:2015  
and AC:2009)***

***Eurocode 1: Actions  
on Structures***

***Part 1-3: General  
Actions – Snow Loads***



**NATIONAL ANNEX**

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**CYS EN 1991-1-3:2003**  
**(Including A1:2015 and AC:2009)**

**Eurocode 1: Actions on Structures**  
**Part 1-3: General Actions – Snow Loads**

**This National Annex has been approved by the Board of Directors of the Cyprus Organisation for Standardisation (CYS) on 24.01.2020.**

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## INTRODUCTION

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

### NA 1.1 SCOPE

This National Annex is to be used together with CYS EN 1991-1-3:2003. Any reference in the rest of this text to CYS EN 1991-1-3:2002 means the above document.

This National Annex gives:

- (a) National determined parameters for the following clauses of CYS EN 1991-1-3:2003 where national choices is allowed (see Section NA2)
- 1.1(2)
  - 1.1 (3)
  - 1.1(4)
  - 2(3)
  - 2(4)
  - 3.3(1)
  - 3.3(2)
  - 3.3(3)
  - 4.1(1)
  - 4.1(2)
  - 4.2(1)
  - 4.3(1)
  - 5.2(2)
  - 5.2(5)
  - 5.2(6)
  - 5.2(7)
  - 5.2(8),
  - 5.3.1(1),
  - Note to Table 5.2,
  - 5.3.2(2)
  - 5.3.3(4)
  - 5.3.4(3)
  - 5.3.4(4)
  - 5.3.5(1)
  - 5.3.5(3)
  - 5.3.6(1)
  - 5.3.6(3)
  - 6.2(2)
  - 6.3(1)
  - 6.3(2)
  - A(1) (through Table A1)
- (b) Guidance on use of the informative Annexes, C, D and E (see Section NA 3)
- (c) References to non-contradictory complementary information applicable to buildings and civil engineering works (see Section NA 4).

## **NA 2 NATIONALLY DETERMINED PARAMETERS**

### **NA 2.1 Clause 1.1(2) General. Treatment of snow load for altitudes above 1500 m**

For altitudes above 1500m a special study must be carried out regarding the snow load. Data regarding snow depth, snow drift and exceptional snow load must be obtained from responsible authority.

### **NA 2.2 Clause 1.1(3) General.**

Annex A shall be used.

### **NA 2.3 Clause 1.1(4) General. Use of Annex B**

Annex B shall be used

### **NA 2.4 Clause 2(3) Classification of actions. Exceptional snow loads**

Exceptional snow loads may be treated as accidental load for locations with altitude above 1000 m.

### **NA 2.5 Clause 2(4) Classification of actions. Exceptional snowdrift**

Exceptional snow drifts may be treated as accidental load for locations with altitude above 1000 m

### **NA 2.6 Clause 3.3(1) Exceptional Conditions-For Locations where exceptional snow falls may occur but not exceptional snow drifts**

The design situations to be considered are persistent/transient.

### **NA 2.7 Clause 3.3(2) Exceptional Conditions-For Locations where exceptional snow falls are unlikely to occur but exceptional snow drifts may occur**

Annex B shall be used

### **NA 2.8 Clause 3.3(3) Define which design situation to apply for a particular local effect**

The design situations to be considered are persistent / transient.

### **NA 2.9 Clause 4.1(1) Snow load on the ground-Characteristic values.**

The characteristic value of snow load ( $s_k$ ) must be obtained from the formula of Annex C Table C.1 for Mediterranean Region. The zone number all over the island must be taken equal  $Z=1$

$$s_k=0.289*\approx 1+(A/452)^2 \dots$$

Where:

$s_k$  is the characteristic snow load on the ground (KN/m<sup>2</sup>)  
A is the site attitude above sea level (m)

**NA 2.10 Clause 4.1(2) Snow load on the ground- Characteristic values.**

No further guidance is available

**NA 2.11 Clause 4.2(1) Snow load on the ground. Other representative values**

Table 4.1 of CYS EN 1991-1-3 should be used

**NA 2.12 Clause 4.3(1) Snow load on the ground. Treatment of exceptional snow load on the ground**

The value of the coefficient and location of its application for exceptional snow loads  $C_{est} = 2.0$

**NA 2.13 Clause 5.2(2) Snow load on the roof. Load Arrangement**

Annex B shall be used.

**NA 2.14 Clause 5.2(5) Snow load on the roof. Load Arrangement**

The snow loads must be arranged in such a way so the strength values to be ultimate.

**NA 2.15 Clause 5.2(6) Snow load on the roof. Load Arrangement**

No further guidance available.

**NA 2.16 Clause 5.2(7) Snow load on the roof. Load Arrangement**

The values of  $C_e$  should be taken from table 5.1 of CYS EN 1991-1-3.

**NA 2.17 Clause 5.2(8) Thermal Coefficient**

The thermal coefficient is  $C_t = 1,0$

**NA 2.18 Clause 5.3. 1(1) Roof shape Coefficients-General**

Annex B shall be used.

**NA 2.19 Note to Table 5.2**

The value of the coefficient  $\mu_1(0^\circ)$  is = 0.8

**NA 2.20 Clause 5.3.2 (2) Monopitch Roofs**

No further guidance available

**NA 2.21 Clause 5.3.3(4) Roof shape coefficients. Drifted load arrangement**

No further guidance available.

**NA 2.22 Clause 5.3.4(3) Roof shape coefficients. Multi span roof**

The Annex B should be used to determine the load case due to drifting.

**NA 2.23 Clause 5.3.4(4) Multi Span Roofs**

No further guidance available.

**NA 2.24 Clause 5.3.5(1) Roof shape coefficients. Cylindrical roofs**

The upper value for  $\mu_4$  is 2,0.

**NA 2.25 Clause 5.3.5(3) Roof shape coefficients. Cylindrical roofs**

No further guidance available.

**NA 2.26 Clause 5.3.6(1) Roof shapes coefficients. Roof abutting and close to taller construction works**

The range for  $\mu_w$  should be  $0.8 < \mu_w < 4$ .

**NA 2.27 Clause 5.3.6(3) Roof shape coefficients. The drifted load arrangement**

Annex B shall be used to determine the load case due to drifting.

**NA 2.28 Clause 6.2(2) Local effects. Drifting at protection and obstructions**

Annex B shall be used to determine the load case due to drifting.

**NA 2.29 Clause 6.3(1) Local effects. Snow overhanging the edge of the roof.**

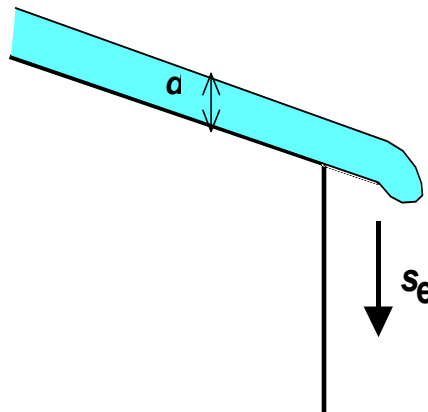
The load of snow overhanging the edge of the roof should be considered for sites above 800 meters above the sea level.

**NA 2.30 Clause 6.3(2) Local effects. Snow overhanging the edge of the roof**

The value of  $k$  is calculated as follows:

$$k=3/d \text{ but } k < d \cdot \gamma.$$

**Where**  $d$  is the depth of the snow layer on the roof, in meters, and  $\gamma$  is the weight density of snow and can be taken as  $3 \text{ KN/m}^2$  (see Figure 6.2 of CYS EN 1991-1-3).



**Figure 6.2 Snow Overhanging the edge of a roof**

**NA 2.31 Annex A Design situation and load arrangements to be used for different locations. (through Table A1)**

Note 1. For exceptional conditions see paragraphs NA2.4 and NA2.5 above

Note 2. For cases B1 and B3 no defined design situations defined to be applied for the particular local effects described in section 6.

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

### **NA 3.1 Annex C**

Annex C may be used

### **NA 3.2 Annex D**

Annex D may be used

### **NA 3.3 Annex E**

Annex E may be used

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

None





**NA to  
CYS EN  
1991-1-3:2003  
(Including  
A1:2015 and  
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