Ministry of the Environment, Finland
Unofficial translation. Legally binding only in Finnish and Swedish

6/16

Ministry of the Environment Decree

concerning national choices for snow loads, when applying standard SFS-EN 1991-1-3

By decision of the Ministry of the Environment, the following is laid down under Section 117a of the Land Use and Building Act (132/1999), as it stands in Act 958/2012:

Section 1

Scope

This Decree is applied in the selection of snow loads and is used in conjunction with the latest version of standard SFS-EN 1991-1-3.

Section 2

Snow load on the ground

The characteristic values for snow load on the ground, in accordance with clause 4.1(1) of the standard, are given in Figure 1. The values given in the figure are minimum values.
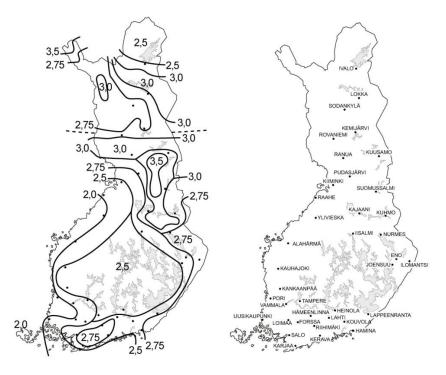
Figure 1. Characteristic values for snow load on the ground, in units of kN/m2. If the construction site is located in an area where the value is not constant, the intermediate values are obtained by linear interpolation in proportion to distances from the closest curves.

Section 3

Snow load on roofs

For different topography the value of exposure coefficients given in table 5.1 clause 5.2(7) of the standard, shall be used. For large roofs, where the smaller horizontal dimension of the roof is 50 m or more, and the topograhhy is windswept, the value of the exposure coefficient shall be at least 1.

For different topographies, where the smaller horizontal dimension of the roof is at least 50 m, the exposure coefficient shall be increased based on the smaller horizontal dimension and side ratio, according to the factors in Table 1.

Table 1. Factors to be used for increasing the exposure coefficient for snow load on roofs, where the smaller horizontal dimension is at least 50 m.

Smaller dimension (m)	Ratio of larger to smaller dimension	
	1	2
50	1.0	1.1
75	1.1	1.2
100	1.2	1.25

2

In determining the snow load, in accordance with clause 5.2(8) of the standard, when the thermal insulating properties of the roof structure are insignificant, the thermal coefficient C_t may be reduced on the basis of a more exact study. The value to be used for snow load s, however, is at least 0.5 kN/m^2.

Section 4

Multi-span roofs

When the slope of the roof is greater than 60° as given in clause 5.3.4(4) of the standard, the value $\mu_3 = 1.6$ shall be used.

Section 5

Cylindrical roofs

For cylindrical roofs in clause 5.3.5(3) of the standard, the drifted snow load arrangement to be used is shown in Figure 2, Case (ii).

Figure 2. Snow load shape coefficients for cylindrical roofs.

Section 6

Roof abutting and close to taller construction works

The range of the snow load shape coefficient due to wind μ_w, in clause 5.3.6(1) of the standard, is:

$0.8 \leq \mu_w \leq 2.5$, if the area of the lower roof is ≥ 6 m^2;
$0.8 \leq \mu_w \leq 1.5$, if the area of the lower roof is 2 m^2; or
$\mu_w = 0.8$, if the area of the lower roof is ≤ 1 m^2.

Intermediate upper values for factor μ_w are obtained by linear interpolation when the area of the lower roof is less than 6 m^2.
The range of drift length l_s is 2 m $\leq l_s \leq 6$ m.

Section 7

Drifting at projections and obstructions

The range of drift length l_s, given in clause 6.2(2) of the standard, is $2\text{ m} \le l_s \le 6\text{ m}$.

Section 8

Annex A: Design situations and load arrangements to be used for different locations

For Annex A, only normal conditions according to clause 3.2(1) of the standard are applied, with the value $\mu_i C_e C_t s_k$ to be used in persistent/transient design situations for undrifted and drifted snow.

The exceptional conditions Case B1, Case B2 and Case B3 do not apply to Finland.

Section 9

Annex B: Snow load shape coefficients for exceptional snow drifts

Annex B is not applied.

Section 10

Annex C: European ground snow load maps

Annex C is not applied.

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This Decree enters into force on 1 January 2017.

This Decree shall apply to projects initiated after the Decree enters into force.

This Decree repeals the National Annex to standard SFS-EN 1991-1-3 concerning the application of Eurocodes in building construction, issued by the Ministry of the Environment on 5 November 2010.

In Helsinki on 7 November 2016

The Minister of Agriculture and the Environment Kimmo Tiilikainen

Senior Engineer Jukka Bergman