COMPANY NAME	Calculation No.
	CALCULATION NO.
CALCULATION SHEET	Project No.
onlinestructuraldesign.com	PROJECT NUMBER

Project Title:	Project Name	Calc. By	Date	Rev.
		Author	Date	0
Subject/Feature	Snow load calculation on monopitch roofs	Checked By	Date	
		Checker	Date	

Snow load calculation per EN 1991-1-3

Input	Output
Roof slope	Snow load on roof (kN / sqm)
Characteristic value of snow on ground	

μ_i - snow load shape coefficient;
C_e - exposure coefficient;
C_t - thermal coefficient;
s_k - characteristic value of snow load on the ground;

Roof type: Monopitch roofs

α = 36 deg roof slope

Characteristic value of snow:

s_k = 2 kN/m^2

The National Annex specifies the characteristic values to be used. To cover unusual local conditions the National Annex may additionally allow the client and the relevant authority to agree upon a different characteristic value from that specified for an individual project.

Exposure and thermal coefficients:

C_e = 1 Normal topography

per EN 1991-1-3
Section 5.2 Table 5.1

The National Annex may give the values of C_e for different topographies.

C_t = 1

per EN 1991-1-3
Section 5.2 (8)

Based on the thermal insulating properties of the material and the shape of the sontruction work, the use of a reduced C_t value may be permitted through the National Annex.

Roof shape coefficients:

For monopitch roof:

$\mu_1(\alpha)$* = 0.640

per EN 1991-1-3
Section 5.2 Table 5.2

*The values given in Table 5.2 apply when the snow is not prevented from sliding off the roof. Where snow fences or other obstructions exist or where the lower edge of the roof is terminated with a parapet, then the snow load shape coefficient should not be reduced below 0.8.

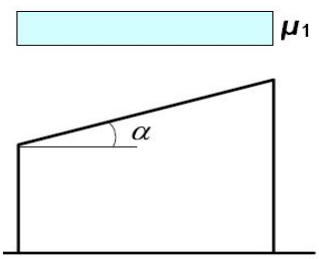
Load on roof (for the persistent/ transient design situation):

$s = \mu_i \times C_e \times C_t \times s_k$

per EN 1991-1-3
Section 5.2.3 (a) eq. 5.1

s = 1.28 kN/m^2

Special consideration should be given to the snow load shape coefficients to be used where the roof has an external geometry which may lead to increases in snow load, that are considered significant in comparison with that of a roof with linear profile.



References:
EN 1991-1-3:2003 - Eurocode 1: Actions on structures - Part 1-3: General actions - Snow loads