

Calculation of stabilization areas according to ČSN EN 1991-1-4

Layout dimensions 31.8m x 8m

high of building $h = 10.8 \text{ m}$

b –layout dimension perpendicular to wind direction

e = lower from values b or $2h$

$$b = 31.8\text{m}, 2h = 21.6 \text{ ---> } e = 21.6$$

$$e/4 = 5.4\text{m}$$

$$e/10 = 2.2\text{m}$$

$$b = 8\text{m}, 2h = 21.6 \text{ ---> } e = 8$$

$$e/4 = 2\text{m}$$

$$e/10 = 0.8\text{m}$$

MIDDLE OF ROOF

	$\rho \text{ [kg/m}^3\text{]}$	$d \text{ [m]}$	$b \text{ [kg/m}^2\text{]}$	$q \text{ [N/m}^2\text{]}$
FRAVEL	1500	0,055	82,5	809,325
required value				750 N/m^2

EDGE

	$\rho \text{ [kg/m}^3\text{]}$	$d \text{ [m]}$	$b \text{ [kg/m}^2\text{]}$	$q \text{ [N/m}^2\text{]}$
FRAVEL	1500	0,07	105	1030,05
TAILS	2300	0,05	115	1128,15
Σ				2158,2 N/m^1
required value				2100 N/m^1

CORNER

	$\rho \text{ [kg/m}^3\text{]}$	$d \text{ [m]}$	$b \text{ [kg/m}^2\text{]}$	$q \text{ [N/m}^2\text{]}$
FRAVEL	1500	0,07	105	1030,05
TAILS	2300	0,15	345	3384,45
Σ				4414,5 N/m^1
required value				3600 N/m^1