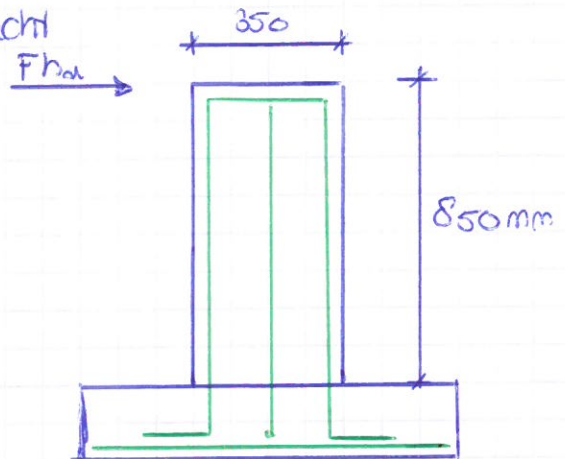


2021044

Berekening wapening opstortingen.

Maximaal optredende horizontaal kracht

$F_{hd} = 29,1 \text{ kN}$ (windbok as 2/9)
h 5.3.2 pag. 26



$M = F \cdot a = 29,1 \cdot 0,85 = 24,74 \text{ kNm}$.

Opstorting = $350 \times 350 \text{ mm}$.

$d = 275 \text{ mm}$

As benodigd = $\frac{M_{ed}}{0,9 \cdot d \cdot f_{yd}} = \frac{24,74 \cdot 10^6}{0,9 \cdot 275 \cdot 435} = 229 \text{ mm}^2$

As bew = $1,25 \cdot 229 \text{ mm}^2 = 287 \text{ mm}^2$

As toegepast = $3 \phi 12$ (339 mm^2)

Optredende dakschijf krachten.

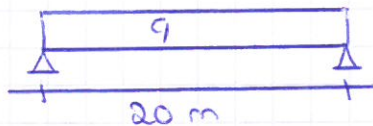
Dak tussen as 2 t/m 10.

$N_d = M / h$

$h = 18,7 \text{ m}$ (houten balken as B en F)

$N_d = 102 / 18,7 = 5,45 \text{ kN}$
(druk / en trek)

Schema



Windbelasting.

Druk en zuiging

$0,5 \cdot 3,7 \cdot (0,85 \cdot (0,8 + 0,5) \cdot 0,48) = 0,98 \text{ kN/m}$

wrijving dak

$20 \cdot 0,04 \cdot 0,48 = 0,38 \text{ kN/m}$

$q = 0,98 + 0,38 = 1,36 \text{ kN/m}$

$q_d = 1,5 \cdot 1,36 = 2,04 \text{ kN/m}$

$M_d = 1/8 \cdot 2,04 \cdot 20^2 = 102 \text{ kNm}$

$V_d = 1/2 \cdot 2,04 \cdot 20 = 20,4 \text{ kN}$

M-GN



V-GN

