Houten gordingen dak achterbouw [redacted]

Gegevens:

Sterkteklasse	C24
Afmetingen	4000mm x 170mm x 70mm
Hoh afstand	600mm

Belastingen:

Permanent	0,65 kN/m2	(eigen gewicht dak + afwerking)
Veranderlijk	1,00 kN/m2	(sneeuwbelasting + evt mensen)
	1 kN	(evt persoon midden op de balk)

$$q_d = \left(\left(1{,}2 \times 0{,}65\frac{kN}{m^2}\right) + \left(1{,}5 \times 1\frac{kN}{m^2}\right)\right) \times 0{,}6\ m \approx\ 1{,}37\frac{kN}{m} = 1{,}37\ N/mm$$

$$N_d = 1{,}5 \times 1\ kN = 1{,}5\ kN = 1500\ N$$

Controle op Sterkte ULS (uiterste grenstoestand)

$$f_{m,0,rep} = 24\frac{N}{mm^2}$$

$$f_{m,0,d} = f_{m,0,rep} \times k_{mod}/\gamma_M$$

$$f_{m,0,d} = 24\frac{N}{mm^2} \times \frac{0{,}9}{1{,}3} = 16{,}62\ N/mm^2$$

$$M_{d,max} = \left(\frac{1}{8} \times q_d \times l^2\right) + \left(\frac{1}{4} \times N_d \times l\right)$$

$$M_{d,max} = \left(\frac{1}{8} \times 1{,}37\frac{N}{mm} \times 4000^2 mm\right) + \left(\frac{1}{4} \times 1500\ N \times 4000\ mm\right)$$

$$M_{d,max} = 4240000\ Nmm = 4{,}24\ kNm$$

$$\sigma_{max} = \frac{M_{d,max}}{W} = \frac{4240000\ Nmm}{\frac{1}{6} \times 70\ mm \times 170^2\ mm} = 12{,}58\frac{N}{mm^2} <\ 16{,}62\ N/mm^2$$

Voldoet

CB-02
Behoort bij beschikking met
Olo-nummer [redacted]
d.d. 14 april 2015