$R_{CL} = 3{,}15 \times 2920 =$ 9200 kg

$2{,}80 \times 5500 \times 4{,}90/6{,}30 =$ 12000 kg

$R = 4350 \times 3{,}50/6{,}30 =$ 2420 kg

m/l = 3300 kg

$R_{CL} =$ 26920 kg

$R_{CR} = 3{,}40 \times 8920 =$ 26100 kg

S = 4100 kg

$R_{CR} =$ 30200 kg

$R_{C\,tot} = 26920 + 30200 =$ 57120 kg

tgv wind $= \frac{28800}{6{,}30} =$ 4580 kg

$R_C =$ 61700 kg

Eigen gewicht kolom: $0{,}60 \times 60 \times 24 \times 2400 =$ 3500 kg

Kolomsts D.1 (1-0) $R_{C\,max} =$ 65200 kg ; $M_{max} = M_{EC} = 7900 + 1780 =$ 9680 kgm

Alles berekend tot bk beganeprofiel volgen. !

Pekken

Als gewapende betonkolom: K225 φ R40

a/w: 46x46 $e_0 = \frac{9680000}{65200} = 14{,}9$ cm $L_c/h_t = \frac{0{,}7 \times 420}{4600} = 0{,}064$

$e_1 = 0{,}13 \times 46 = 6{,}0$ cm

$e_2 = 6 \times 0{,}064^2 \times 46 = 1{,}13$ cm

$e_t = 22{,}03$ cm

$e_t/h_t = 22{,}03/46 = 0{,}48$

$\frac{M_u}{a\,u\,b\,h_t^2} = \frac{65200}{135 \times 2120} = 0{,}23$ } $\omega_t = 0{,}90 \rightarrow A_s = \omega_t' = 0{,}45 \times 21{,}2 = 9{,}6$ cm² → 4 φ18 ⁸/₁₀

$d/h_t = 4{,}5/46 = 0{,}10$

Als Staalprofiel: Perhat. HE 280B $i_y = i_{min} = 7{,}09$ cm $L_c = 0{,}7 \times 420 = 294$ cm

$L_c/i = 294/7{,}09 = 42 \rightarrow \alpha = 0{,}9$ $F = 131{,}4$ cm² ; $W = 1380$ cm³

$\sigma_{id} = \frac{P}{\alpha F} + \frac{M}{W} = \frac{65200}{0{,}9 \times 131{,}4} + \frac{9680000}{1380} = 550 + 710 = 1260$ kg/cm²

Welke zou moeten worden uitgebouwd met φ10.