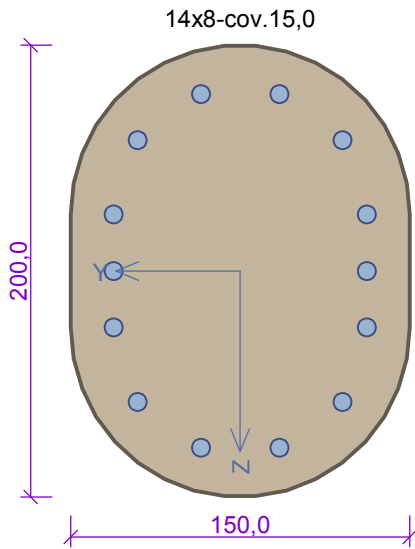


Column C1



Member type: column
 Environment: X0
Concrete : C 25/30
 $f_{ck} = 25,0 \text{ MPa}$; $f_{ctm} = 2,6 \text{ MPa}$; $E_{cm} = 30500 \text{ MPa}$
Longitudinal steel : B500 (cust.) ($f_{yk} = 500,0 \text{ MPa}$; $E_s = 200000 \text{ MPa}$)
Transverse steel : B500 ($f_{yk} = 500,0 \text{ MPa}$; $E_s = 200000 \text{ MPa}$)
Buckling
 Length Y for buckling calculation: $l_y = 2,00 \text{ m}$
 Buckling length perpendicular to axis Y: $l_{ef,y} = 2,00 \text{ m}$
 Buckling perpendicular to axis Z prevented
 Reinforcement in compression not considered.
 Section without shear reinforcement.

Calculation in prescribed fire resistance time $t = 90,0 \text{ min}$
 Isotherm 500 method

Check of min and max reinforcement level

Column (total reinforcement):

$\rho_s = 0,0281 \geq \rho_{s,min} = 0,002 \Rightarrow$ **Pass**

$\rho_s = 0,0281 \leq \rho_{s,max} = 0,04 \Rightarrow$ **Pass**

Check of ultimate limit state

no.	Name	N_{Ed}	V_{Edz}	V_{Edy}	M_{Edy}	M_{Edz}	T_{Ed}	Check
		N_{Rd} [kN]	V_{Rdz} [kN]	V_{Rdy} [kN]	M_{Rdy} [kNm]	M_{Rdz} [kNm]	T_{Rd} [kNm]	
1	Load 1	-126,57	0,00	0,00	2,30 → 3,33	0,00	0,00	Pass
		-224,61	0,00	0,00	3,63	0,00	0,00	
2	Load 2	-95,20	0,00	0,00	0,00	1,96 → 2,44	0,00	Pass
		-224,61	0,00	0,00	0,00	3,10	0,00	
3	Load 3	-98,00	0,00	0,00	2,94 → 3,78	0,44 → 0,51	0,00	Pass
		-224,61	0,00	0,00	4,12	0,56	0,00	

Ultimate limit state PASS

91,8 % PASS