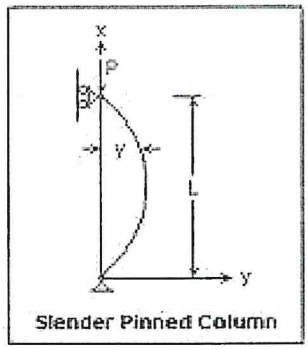
DC columns
architectural ornaments

The results presented in the individual documents and the summary table are based on the following assumptions:

- The loaded column is a freestanding column with hinged head and foot connections and only charged by a vertical pressure force, where the trailers cannot move horizontally.

- The buckling loads of the columns are calculated using **buckling curve a** of Eurocode 3- EN 1993-1-1 (Design of steel structure: General rules and rules for buildings). This means that the buckling length used in the calculations is equal to the column length. The column length in turn can be considered as the centre-to-centre distance between the column foot and the column head.



buckling curve a

- The column header and the column base are detailed in a way that the load is applied **centric**. If the load grips eccentric and/or if there is a horizontal load applied on the column, the table is not sufficient. An additional calculation must then be made.

- The design philosophy adhered to in the Eurocodes is known as the border state method. The values that can be found in the table are the maximum allowable **serviceability limits** for the columns. If this value is violated, there is a risk of excessive deformation of the column, unacceptable cracking and local damage due to exfoliation and corrosion. In short: if the number shown in the table is 12 tons, then the designer/user of the column may place a weight of 12 tons on it.

- The **safety factor** applied is 1.4. According to Eurocode 3 EN 1993-1-1 it shall be between 1,35 and 1,5. This factor depends on the type of load placed on the structure. If you want to know the **ultimate limit**, multiply the value given in the table by 1.4.

- The values in the table are expressed in **metric tons** (1 metric tons = 1 tonne = 1000kg). Strength calculations, however, will often be expressed in Newton. Here 1 N = 1 Kg * 9,81 m/s2

- The **concrete strength class** applied in the calculations for the columns filled with concrete is C20/25.

Maximum admissible axial charges for our columns (in metric tons)
Charges axiales maximales admissibles pour nos colonnes (en tonnes métriques)
Maximaal toelaatbare axiale ladingen voor onze kolommen (in metrische ton)

ALUMINIUM

diameters (mm)	Ø 100	
	standard	standard
Wall thickness/ épaiss. Paroi/ Wanddikte (mm)	DC-100 P1 (100 X 5)	DC-100 P2 (100 X 9-3)
heights / hauteurs/ lengte (mm)	plain/lisse	fluted / cannelé
inside diameter/diamètre interieur/ binnendiameter (mm)	90 mm	82 mm
2000	10.7	11.8
2500	8.8	9.2
3000	6.8	7.0
3500	5.3	5.4
4000	4.2	4.3

	non-standard
Wall thickness/ épaiss. Paroi/ Wanddikte (mm)	DC-100 P1 (100 X 10)
heights / hauteurs/ lengte (mm)	plain/lisse
inside diameter/diamètre interieur/ binnendiameter (mm)	80 mm
2000	19.5
2500	15.6
3000	11.9
3500	9.2
4000	7.3

	non-standard	non-standard	
Wall thickness/ épaiss. Paroi/ Wanddikte (mm)	DC-100 P1 (100 X 5)+concrete	DC-100 P1 (100 X 10)+doncrete	
heights / hauteurs/ lengte (mm)	plain/lisse	plain/lisse	
inside diameter/diamètre interieur/ binnendiameter (mm)	90 mm	80 mm	
2000	29.6	34.9	alu faalt voor knikken
2500	18.9	22.3	beton faalt voor knikken
3000	13.1	15.5	
3500	9.7	11.4	
4000	7.4	8.7	