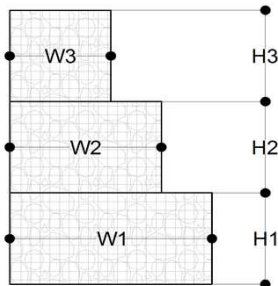
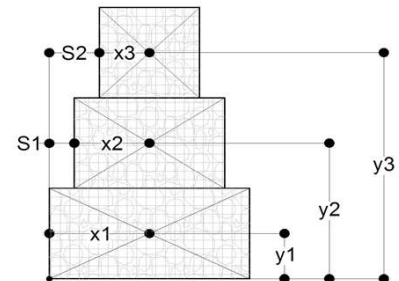


Chapter 2 : Assumed gabion wall section

1. Gabion wall composition :



Course #	Step (m)	Width (m)	Height (m)
10	0	0,457	0
9	0	0,457	0
8	0	0,457	0
7	0	0,457	0
6	0	0,457	0
5	0	0,457	0
4	0	0,457	0
3	0	0,457	0,457
2	0	0,99	0,457
1	0	0,99	0,457



2. Gravity point determination

Weight: 20,046762 kN
Area: 1,113709 m²
Xg: 0,4450244 m
Yg: 0,5855488 m

Adaptation for inclination

R: 0,7354687 m
Angle 1: 37,235287 °
Xg: 0,4450244 m
Yg: 0,5855488 m

Course #	Weight (kN)	Area (m ²)	xg (m)	Area Moment	yg (m)	Area Moment
10	0	0,00	0,229	0,000	1,37	0,000
9	0	0,00	0,229	0,000	1,37	0,000
8	0	0,00	0,229	0,000	1,37	0,000
7	0	0,00	0,229	0,000	1,37	0,000
6	0	0,00	0,229	0,000	1,37	0,000
5	0	0,00	0,229	0,000	1,37	0,000
4	0	0,00	0,229	0,000	1,37	0,000
3	3,759282	0,21	0,229	0,048	1,14	0,239
2	8,14374	0,45	0,495	0,224	0,69	0,310
1	8,14374	0,45	0,495	0,224	0,23	0,103

Coulombs analysis

Effective back angle β : 68,76 °
Coefficient of active trust Ka: 0,518

φ : 30
 ϵ : 0
 δ : 30

$$ka = \frac{\sin^2(\beta + \varphi)}{\sin^2 \beta \sin(\beta - \delta) \times \left[1 + \frac{\sin(\varphi + \delta) \sin(\varphi - \epsilon)}{\sin(\beta - \delta) \sin(\beta + \epsilon)} \right]^2}$$

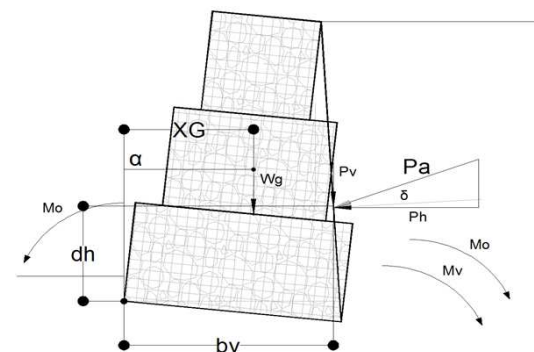
Surcharge: 10 kN/m²
Grain tension σ_k : 27,42 kN/m²

Pure active soil pressure p_a : 9,74 kNm
Pressure Surcharge p_o : 7,11 kNm
Pressure windload: 0,00 kNm

Active soil pressure P_a : 16,85 kNm
Lever P_a from heel: 0,553 m
Adaptation to toe: 0,553 m
Distance toe to P_{av} : 0,775 m

Overturning moment M_o : 5,837 kNm
Resisting moment M_r : 19,10 kNm
Normal force sliding plane N : 33,19 kNm
Tangential forces T : 10,55 kNm

Excentricity: 0,10 m
 σ_{Front} : 52,88 kN/m²
 σ_{Back} : 14,17 kN/m²



Fo: 3,27 OK
Fs: 1,86 OK
Emax: 0,17 OK