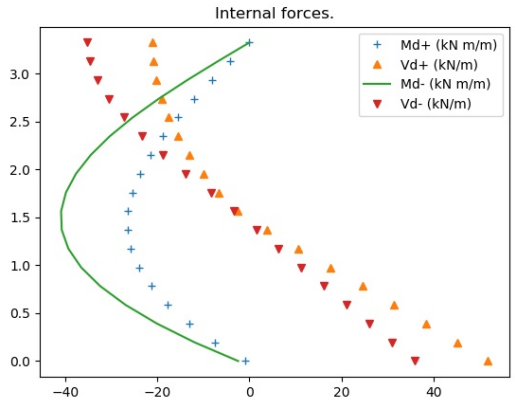
T1	
	WALL GEOMETRY Stem top thickness : $b_{top} = 0.25\ m$ Stem height : $h_{stem} = 3.15\ m$ Stem bottom thickness : $b_{bottom} = 0.25\ m$ Footing thickness : $b_{footing} = 0.36\ m$
MATERIALS Concrete : C3500 Steel : A615G60 Concrete cover : 55 mm	

TABLE 1 – Wall materials and dimensions T1

WALL : T1 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	36.60	1.00	EQ1609A
Sliding :	1.23	1.00	EQ1609A
Bearign capacity :	0.52	1.00	EQ1609A
Adm. pressure :	1.09	1.00	EQ1613B
$F_{avail.}$: available security. F_{req} : required security.			

WALL : T1 ROTATION CHECK		
β_{disp}(‰)	β_{req}(‰)	Combination
-1.40	2.00	ELS00
β_{disp} : wall maximum computed rotation. β_{req} : wall maximum admissible rotation.		

REINFORCEMENTS MUR T1
Reinforcement 1 (outside reinforcement dowels) : RC section dimensions ; b= 1.00 m, h= 0.25 m diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 4.56 cm2/m F(As)= 3.54 OK ! Bending check : Md= 6.89 kN m, MR= 99.62kN m F(M)= 14.46 OK ! Shear check : Vd= 43.11 kN, VR= 186.49 kN F(V)= 4.33 OK ! Stress check : M= 6.89 kN m, σ_s= 18.68 MPa
../..

T1 (suite)

σ_{lim}= 230.00 MPa F(σ_s)= 12.31 OK !
Reinforcement 3 (footing top reinforcement) :
RC section dimensions ; b= 1.00 m, h= 0.36 m
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK !
Bending check : Md= 1.67 kN m, MR= 152.86kN m F(M)= 91.69 OK !
Shear check : Vd= 2.67 kN, VR= 261.09 kN F(V)= 97.65 OK !
Stress check : M= 1.67 kN m, σ_s= 3.23 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 71.23 OK !
Reinforcement 4 (inside reinforcement dowels) :
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).
area : As= 4.73 cm2/m areaMin : 1.72 cm2/m F(As)= 2.75 OK !
Reinforcement 5 (inside stem reinforcement) :
RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
area : As= 6.67 cm2/m areaMin : 4.56 cm2/m F(As)= 1.46 OK !
Bending check : Md= 39.90 kN m, MR= 41.36kN m F(M)= 1.04 OK !
Shear check : Vd= 7.49 kN, VR= 186.49 kN F(V)= 24.88 OK !
Stress check : M= 39.90 kN m, σ_s= 261.83 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 0.88 Error !
Reinforcement 6 (stem top transverse reinforcement) :
RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).
area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK !
Reinforcement 7 (footing bottom transverse reinforcement) :
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).
area : As= 4.73 cm2/m areaMin : 3.23 cm2/m F(As)= 1.47 OK !
Reinforcement 8 (footing bottom longitudinal reinforcement) :
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK !
Reinforcement 9 (footing top longitudinal reinforcement) :
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK !
Reinforcement 10 (footing skin reinforcement) :
–
Reinforcement 11 (stem outside longitudinal reinforcement) :
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).
area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK !
Reinforcement 12 (stem inside longitudinal reinforcement) :
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).
area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK !

../..

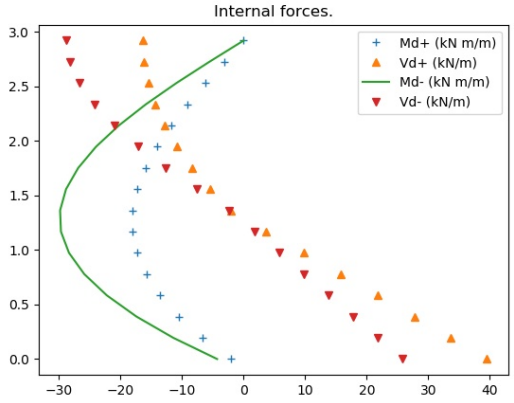
T2	
	WALL GEOMETRY Stem top thickness : $b_{top} = 0.25\ m$ Stem height : $h_{stem} = 2.74\ m$ Stem bottom thickness : $b_{bottom} = 0.25\ m$ Footing thickness : $b_{footing} = 0.36\ m$
MATERIALS Concrete : C3500 Steel : A615G60 Concrete cover : 55 mm	

TABLE 3 – Wall materials and dimensions T2

T1 (SUITE)
Reinforcement 13 (stem top skin reinforcement) : –

TABLE 2 – T1 wall reinforcement

WALL : T2 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	-37.42	1.00	EQ1613B
Sliding :	1.46	1.00	EQ1609A
Bearign capacity :	0.65	1.00	EQ1613B
Adm. pressure :	1.13	1.00	EQ1613B
$F_{avail.}$: available security. F_{req} : required security.			

WALL : T2 ROTATION CHECK		
β_{disp}(‰)	β_{req}(‰)	Combination
-1.42	2.00	ELS00
β_{disp} : wall maximum computed rotation. β_{req} : wall maximum admissible rotation.		

REINFORCEMENTS MUR T2
Reinforcement 1 (outside reinforcement dowels) : RC section dimensions ; b= 1.00 m, h= 0.25 m
../..

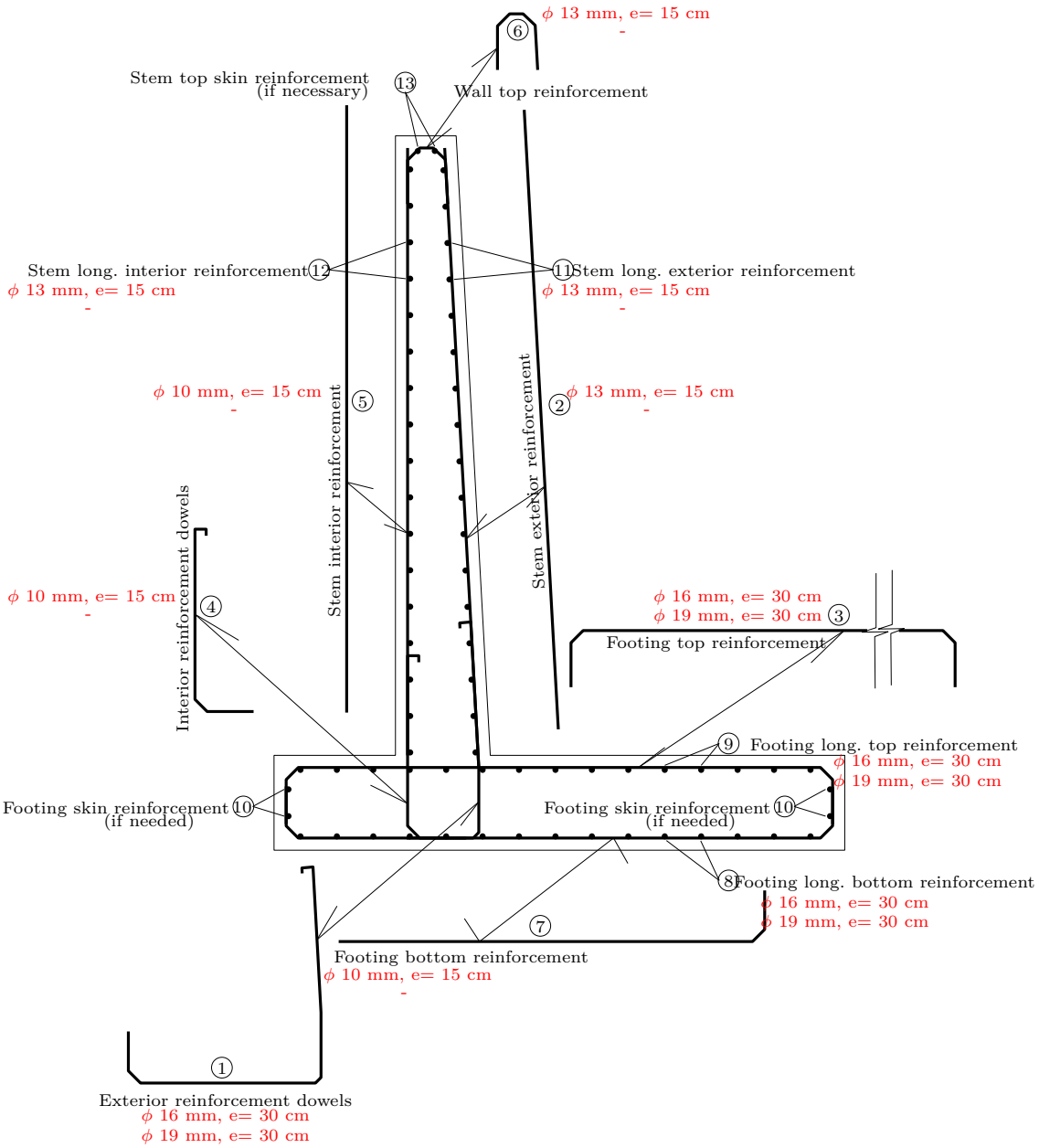


FIGURE 1 – Wall T1 reinforcement scheme

T2 (suite)

diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 4.56 cm2/m F(As)= 3.54 OK !
Bending check : Md= 6.22 kN m, MR= 99.62kN m F(M)= 16.01 OK !
Shear check : Vd= 31.87 kN, VR= 186.49 kN F(V)= 5.85 OK !
Stress check : M= 6.22 kN m, σ_s= 16.88 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 13.63 OK !

Reinforcement 3 (footing top reinforcement) :

RC section dimensions ; b= 1.00 m, h= 0.36 m
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK !
Bending check : Md= 1.81 kN m, MR= 152.86kN m F(M)= 84.50 OK !
Shear check : Vd= 4.32 kN, VR= 261.09 kN F(V)= 60.40 OK !
Stress check : M= 1.81 kN m, σ_s= 3.50 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 65.65 OK !

Reinforcement 4 (inside reinforcement dowels) :

diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).
area : As= 4.73 cm2/m areaMin : 1.72 cm2/m F(As)= 2.75 OK !

Reinforcement 5 (inside stem reinforcement) :

RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 16 mm, spacing : 400 mm reinf. development L=0.37 m (23 diameters).
area : As= 5.00 cm2/m areaMin : 4.56 cm2/m F(As)= 1.10 OK !
Bending check : Md= 28.90 kN m, MR= 31.02kN m F(M)= 1.07 OK !
Shear check : Vd= 6.76 kN, VR= 186.49 kN F(V)= 27.60 OK !
Stress check : M= 28.90 kN m, σ_s= 252.83 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 0.91 Error !

Reinforcement 6 (stem top transverse reinforcement) :

RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).
area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK !

Reinforcement 7 (footing bottom transverse reinforcement) :

diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).
area : As= 4.73 cm2/m areaMin : 3.23 cm2/m F(As)= 1.47 OK !

Reinforcement 8 (footing bottom longitudinal reinforcement) :

diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK !

Reinforcement 9 (footing top longitudinal reinforcement) :

diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK !

Reinforcement 10 (footing skin reinforcement) :

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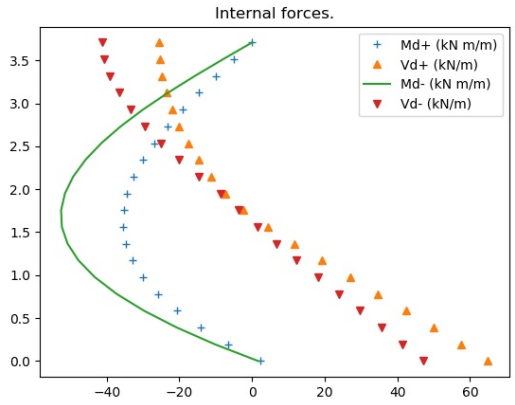
T3	
	WALL GEOMETRY Stem top thickness : $b_{top} = 0.25\ m$ Stem height : $h_{stem} = 3.53\ m$ Stem bottom thickness : $b_{bottom} = 0.25\ m$ Footing thickness : $b_{footing} = 0.36\ m$
MATERIALS Concrete : C3500 Steel : A615G60 Concrete cover : 55 mm	

TABLE 5 – Wall materials and dimensions T3

T2 (SUITE)
Reinforcement 11 (stem outside longitudinal reinforcement) : diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK ! **Reinforcement 12 (stem inside longitudinal reinforcement) :** diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK ! **Reinforcement 13 (stem top skin reinforcement) :** –

TABLE 4 – T2 wall reinforcement

WALL : T3 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	15.35	1.00	EQ1609A
Sliding :	1.13	1.00	EQ1609A
Bearign capacity :	0.49	1.00	EQ1609A
Adm. pressure :	1.12	1.00	EQ1613B
$F_{avail.}$: available security. F_{req} : required security.			

WALL : T3 ROTATION CHECK		
β_{disp}(‰)	β_{req}(‰)	Combination
-0.96	2.00	ELS00
β_{disp} : wall maximum computed rotation. β_{req} : wall maximum admissible rotation.		

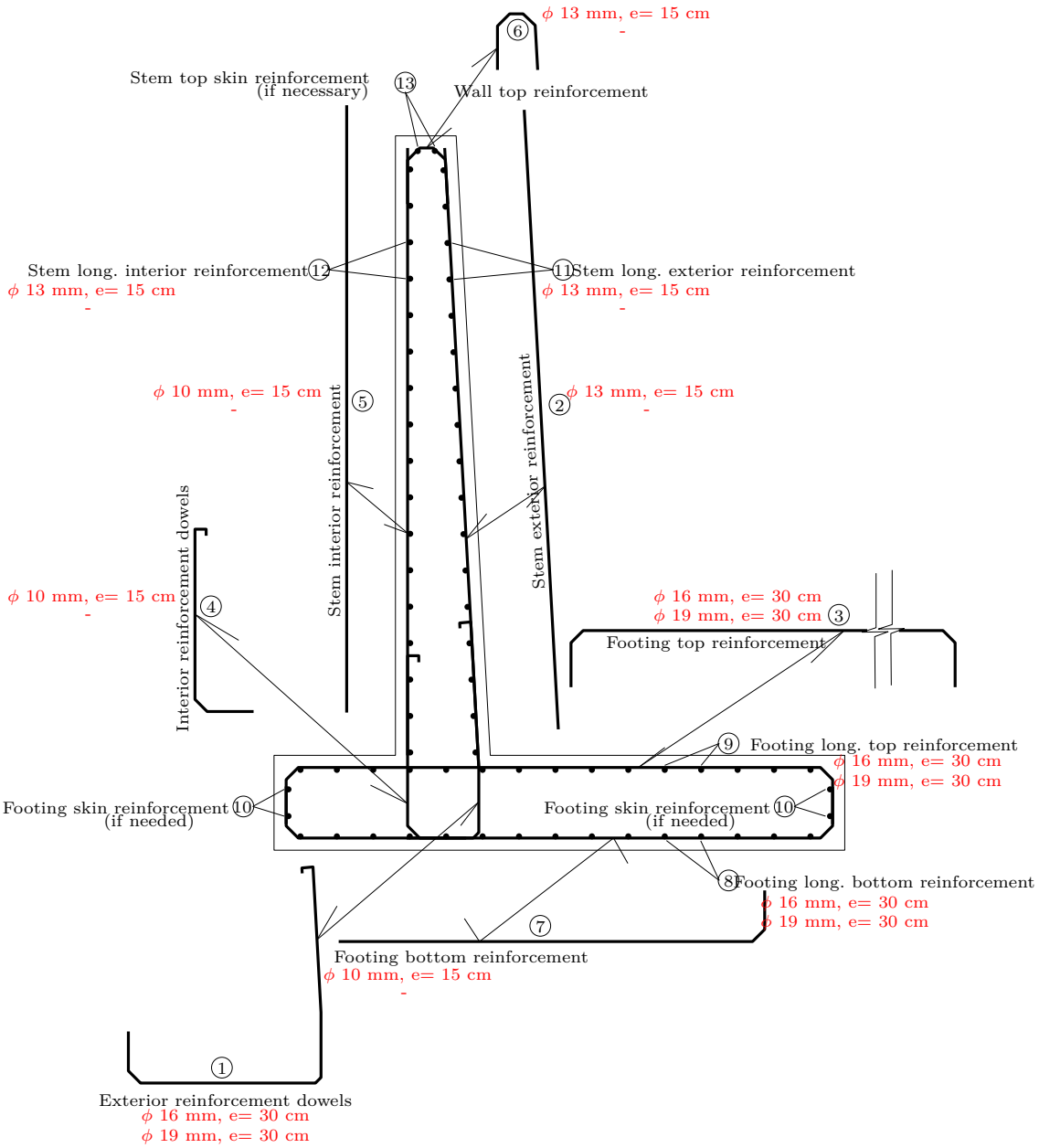


FIGURE 2 – Wall T2 reinforcement scheme

Reinforcements mur T3
Reinforcement 1 (outside reinforcement dowels) :
RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 4.56 cm2/m F(As)= 3.54 OK !
Bending check : Md= 5.86 kN m, MR= 99.62kN m F(M)= 17.00 OK !
Shear check : Vd= 55.20 kN, VR= 186.49 kN F(V)= 3.38 OK !
Stress check : M= 5.86 kN m, σ_s= 15.89 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 14.48 OK !
Reinforcement 3 (footing top reinforcement) :
RC section dimensions ; b= 1.00 m, h= 0.36 m
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK !
Bending check : Md= 1.78 kN m, MR= 152.86kN m F(M)= 85.90 OK !
Shear check : Vd= 3.82 kN, VR= 261.09 kN F(V)= 68.36 OK !
Stress check : M= 1.78 kN m, σ_s= 3.45 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 66.73 OK !
Reinforcement 4 (inside reinforcement dowels) :
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).
area : As= 4.73 cm2/m areaMin : 1.72 cm2/m F(As)= 2.75 OK !
Reinforcement 5 (inside stem reinforcement) :
RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 9.47 cm2/m areaMin : 4.56 cm2/m F(As)= 2.08 OK !
Bending check : Md= 51.53 kN m, MR= 58.26kN m F(M)= 1.13 OK !
Shear check : Vd= 7.83 kN, VR= 186.49 kN F(V)= 23.83 OK !
Stress check : M= 51.53 kN m, σ_s= 238.13 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 0.97 $\sim$ OK !
Reinforcement 6 (stem top transverse reinforcement) :
RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).
area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK !
Reinforcement 7 (footing bottom transverse reinforcement) :
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).
area : As= 4.73 cm2/m areaMin : 3.23 cm2/m F(As)= 1.47 OK !
Reinforcement 8 (footing bottom longitudinal reinforcement) :
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK !
Reinforcement 9 (footing top longitudinal reinforcement) :
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
../..

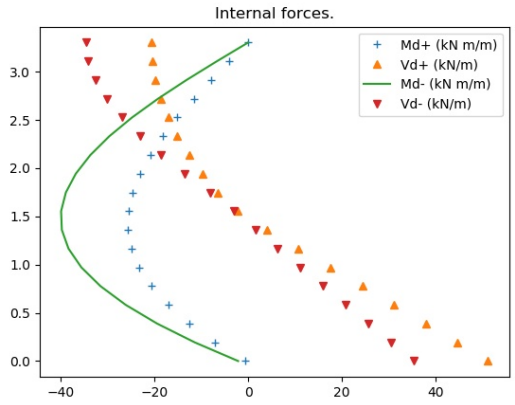
T4	
	WALL GEOMETRY Stem top thickness : $b_{top} = 0.25\ m$ Stem height : $h_{stem} = 3.12\ m$ Stem bottom thickness : $b_{bottom} = 0.25\ m$ Footing thickness : $b_{footing} = 0.36\ m$
MATERIALS Concrete : C3500 Steel : A615G60 Concrete cover : 55 mm	

TABLE 7 – Wall materials and dimensions T4

T3 (SUITE)
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK ! **Reinforcement 10 (footing skin reinforcement) :** – **Reinforcement 11 (stem outside longitudinal reinforcement) :** diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK ! **Reinforcement 12 (stem inside longitudinal reinforcement) :** diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK ! **Reinforcement 13 (stem top skin reinforcement) :** –

TABLE 6 – T3 wall reinforcement

WALL : T4 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	-64.93	1.00	EQ1613A
Sliding :	1.45	1.00	EQ1609A
Bearign capacity :	0.63	1.00	EQ1613A
Adm. pressure :	1.08	1.00	EQ1613B
$F_{avail.}$: available security. F_{req} : required security.			

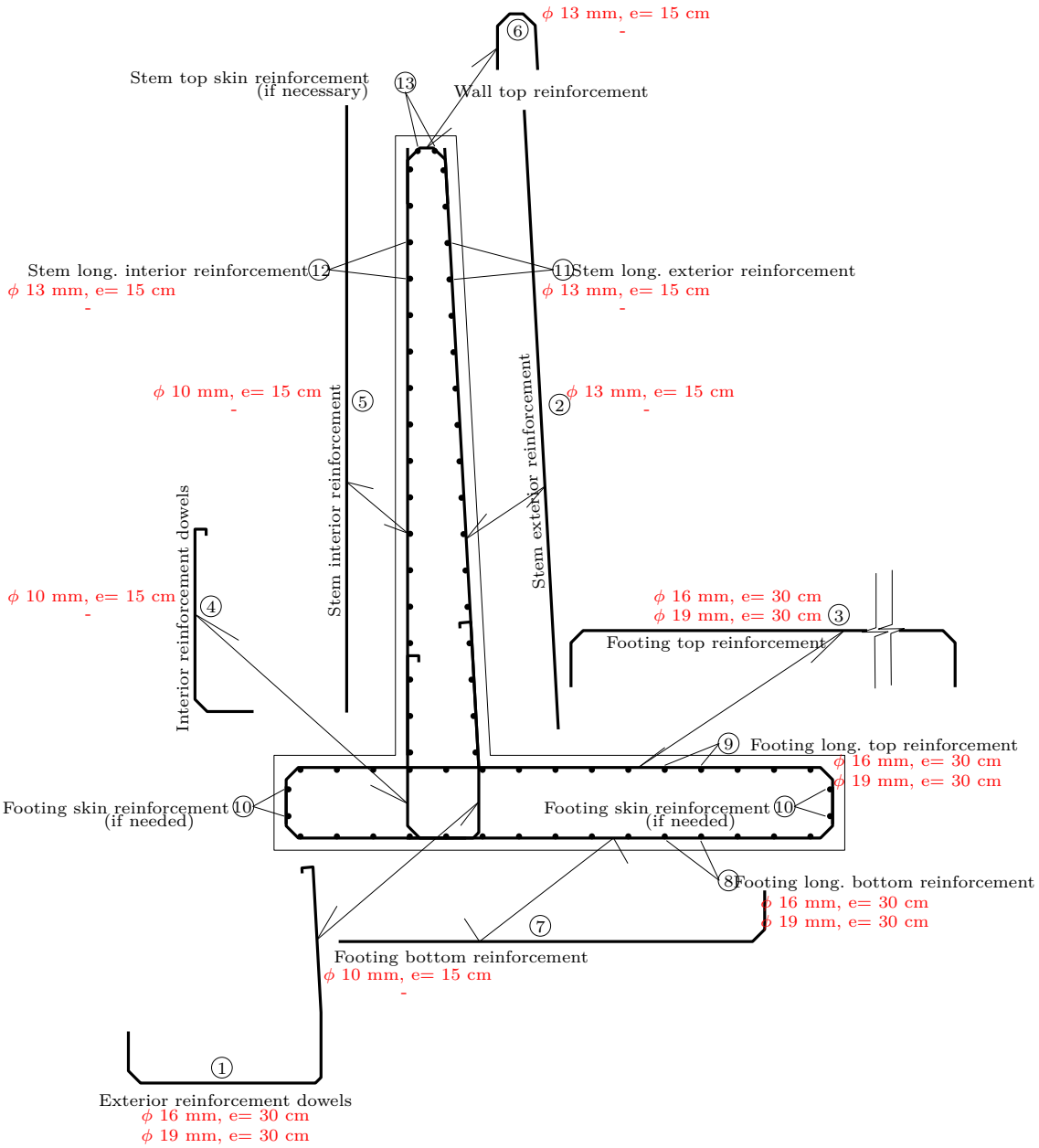


FIGURE 3 – Wall T3 reinforcement scheme

Wall : T4 rotation check		
β_{disp}(‰)	β_{req}(‰)	Combination
-1.12	2.00	ELS00
β_{disp} : wall maximum computed rotation. β_{req} : wall maximum admissible rotation.		

Reinforcements mur T4
Reinforcement 1 (outside reinforcement dowels) :
RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 4.56 cm2/m F(As)= 3.54 OK !
Bending check : Md= 6.45 kN m, MR= 99.62kN m F(M)= 15.43 OK !
Shear check : Vd= 42.50 kN, VR= 186.49 kN F(V)= 4.39 OK !
Stress check : M= 6.45 kN m, σ_s= 17.50 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 13.14 OK !
Reinforcement 3 (footing top reinforcement) :
RC section dimensions ; b= 1.00 m, h= 0.36 m
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK !
Bending check : Md= 2.31 kN m, MR= 152.86kN m F(M)= 66.31 OK !
Shear check : Vd= 3.65 kN, VR= 261.09 kN F(V)= 71.56 OK !
Stress check : M= 2.31 kN m, σ_s= 4.46 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 51.52 OK !
Reinforcement 4 (inside reinforcement dowels) :
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).
area : As= 4.73 cm2/m areaMin : 1.72 cm2/m F(As)= 2.75 OK !
Reinforcement 5 (inside stem reinforcement) :
RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
area : As= 6.67 cm2/m areaMin : 4.56 cm2/m F(As)= 1.46 OK !
Bending check : Md= 38.94 kN m, MR= 41.36kN m F(M)= 1.06 OK !
Shear check : Vd= 7.31 kN, VR= 186.49 kN F(V)= 25.52 OK !
Stress check : M= 38.94 kN m, σ_s= 255.52 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 0.90 Error !
Reinforcement 6 (stem top transverse reinforcement) :
RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).
area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK !
Reinforcement 7 (footing bottom transverse reinforcement) :
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).
area : As= 4.73 cm2/m areaMin : 3.23 cm2/m F(As)= 1.47 OK !
Reinforcement 8 (footing bottom longitudinal reinforcement) :
../..

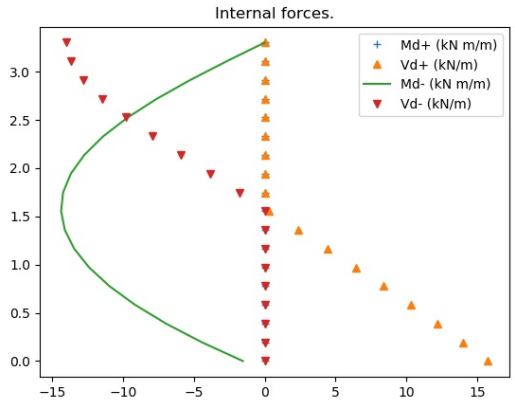
T4ph2	
	Wall geometry Stem top thickness : $b_{top} = 0.25\ m$ Stem height : $h_{stem} = 3.12\ m$ Stem bottom thickness : $b_{bottom} = 0.25\ m$ Footing thickness : $b_{footing} = 0.36\ m$
Materials Concrete : C3500 Steel : A615G60 Concrete cover : 55 mm	

Table 9 – Wall materials and dimensions T4ph2

T4 (suite)
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK ! **Reinforcement 9 (footing top longitudinal reinforcement) :** diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK ! **Reinforcement 10 (footing skin reinforcement) :** – **Reinforcement 11 (stem outside longitudinal reinforcement) :** diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK ! **Reinforcement 12 (stem inside longitudinal reinforcement) :** diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK ! **Reinforcement 13 (stem top skin reinforcement) :** –

Table 8 – T4 wall reinforcement

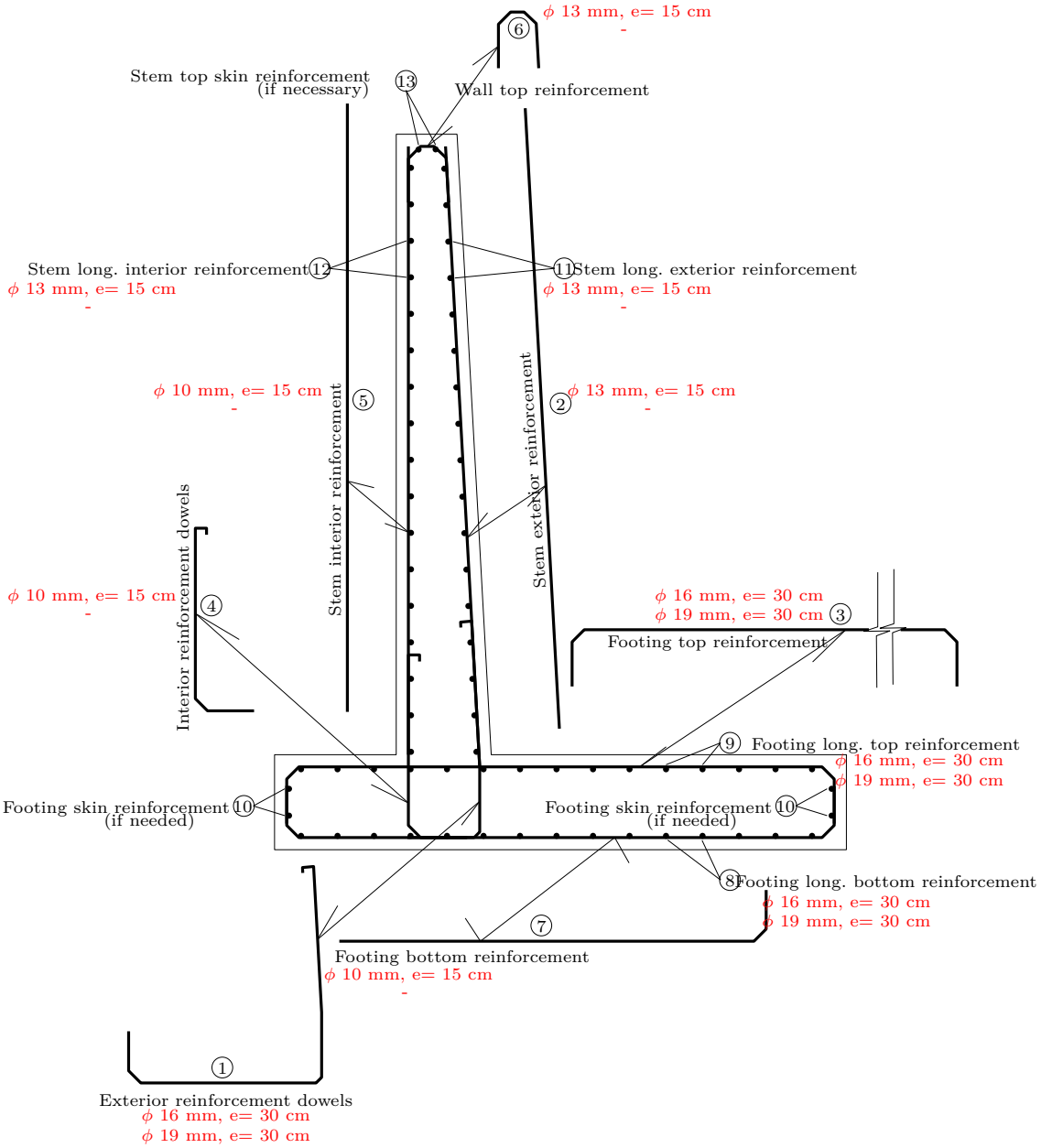


FIGURE 4 – Wall T4 reinforcement scheme

WALL : T4PH2 STABILITY CHECK			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	-133389325114695.69	1.00	EQ1613B
Sliding :	3.64	1.00	EQ1609A
Bearign capacity :	1.17	1.00	EQ1613B
Adm. pressure :	1.53	1.00	EQ1613B
$F_{avail.}$: available security. F_{req} : required security.			

WALL : T4PH2 ROTATION CHECK		
β_{disp}(‰)	β_{req}(‰)	Combination
-0.12	2.00	ELS00
β_{disp} : wall maximum computed rotation. β_{req} : wall maximum admissible rotation.		

REINFORCEMENTS MUR T4PH2

Reinforcement 1 (outside reinforcement dowels) :
RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 4.56 cm2/m F(As)= 3.54 OK !
Bending check : Md= 0.00 kN m, MR= 99.62kN m F(M)= 80582207368608.48 OK !
Shear check : Vd= 13.43 kN, VR= 186.49 kN F(V)= 13.88 OK !
Stress check : M= 0.00 kN m, σ_s= 0.00 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 68614142139413.42 OK !
Reinforcement 3 (footing top reinforcement) :
RC section dimensions ; b= 1.00 m, h= 0.36 m
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK !
Bending check : Md= 2.06 kN m, MR= 152.86kN m F(M)= 74.23 OK !
Shear check : Vd= 9.56 kN, VR= 261.09 kN F(V)= 27.32 OK !
Stress check : M= 2.06 kN m, σ_s= 3.99 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 57.67 OK !
Reinforcement 4 (inside reinforcement dowels) :
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).
area : As= 4.73 cm2/m areaMin : 1.72 cm2/m F(As)= 2.75 OK !
Reinforcement 5 (inside stem reinforcement) :
RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
area : As= 6.67 cm2/m areaMin : 4.56 cm2/m F(As)= 1.46 OK !
Bending check : Md= 14.25 kN m, MR= 41.36kN m F(M)= 2.90 OK !
Shear check : Vd= 1.47 kN, VR= 186.49 kN F(V)= 127.12 OK !
Stress check : M= 14.25 kN m, σ_s= 93.49 MPa
σ_{lim}= 230.00 MPa F(σ_s)= 2.46 OK !

../..

T4ph2 (suite)
Reinforcement 6 (stem top transverse reinforcement) :
RC section dimensions ; b= 1.00 m, h= 0.25 m
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).
area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK !
Reinforcement 7 (footing bottom transverse reinforcement) :
diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters).
area : As= 4.73 cm2/m areaMin : 3.23 cm2/m F(As)= 1.47 OK !
Reinforcement 8 (footing bottom longitudinal reinforcement) :
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK !
Reinforcement 9 (footing top longitudinal reinforcement) :
diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters).
diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters).
area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK !
Reinforcement 10 (footing skin reinforcement) :
–
Reinforcement 11 (stem outside longitudinal reinforcement) :
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).
area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK !
Reinforcement 12 (stem inside longitudinal reinforcement) :
diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters).
area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK !
Reinforcement 13 (stem top skin reinforcement) :
–

Table 10 – T4ph2 wall reinforcement

wall : T5 stability check			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	-23.61	1.00	EQ1613B
Sliding :	1.69	1.00	EQ1609A
Bearign capacity :	0.73	1.00	EQ1613B
Adm. pressure :	1.22	1.00	EQ1613B
$F_{avail.}$: available security. F_{req} : required security.			

Wall : T5 rotation check		
β_{disp}(‰)	β_{req}(‰)	Combination
-1.38	2.00	ELS00
β_{disp} : wall maximum computed rotation. β_{req} : wall maximum admissible rotation.		

Reinforcements mur T5
Reinforcement 1 (outside reinforcement dowels) :
../..

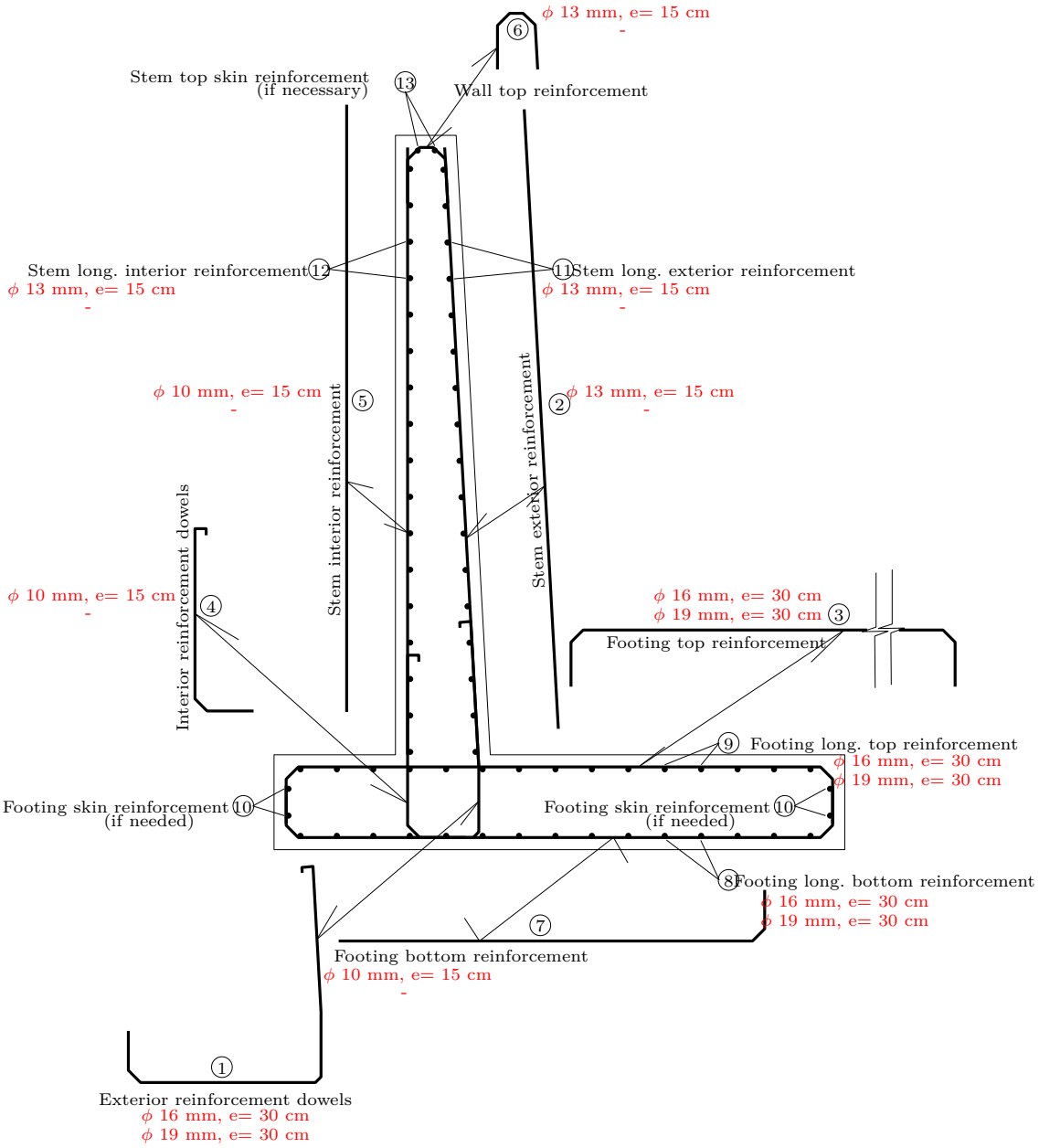


FIGURE 5 – Wall T4ph2 reinforcement scheme

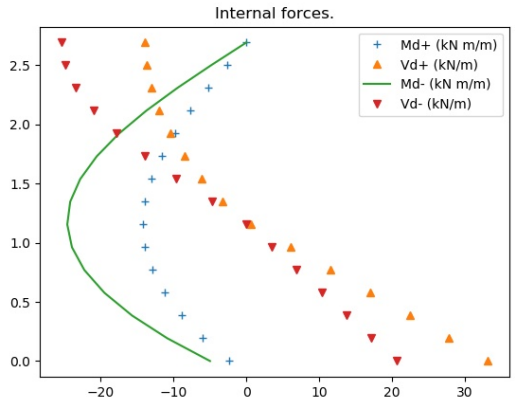
T5	
	WALL GEOMETRY Stem top thickness : $b_{top} = 0.25\ m$ Stem height : $h_{stem} = 2.51\ m$ Stem bottom thickness : $b_{bottom} = 0.25\ m$ Footing thickness : $b_{footing} = 0.36\ m$
MATERIALS Concrete : C3500 Steel : A615G60 Concrete cover : 55 mm	

TABLE 11 – Wall materials and dimensions T5

T5 (SUITE)
RC section dimensions ; b= 1.00 m, h= 0.25 m diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 4.56 cm2/m F(As)= 3.54 OK ! Bending check : Md= 5.66 kN m, MR= 99.62kN m F(M)= 17.59 OK ! Shear check : Vd= 26.10 kN, VR= 186.49 kN F(V)= 7.15 OK ! Stress check : M= 5.66 kN m, σ_s= 15.36 MPa σ_{lim}= 230.00 MPa F(σ_s)= 14.98 OK ! **Reinforcement 3 (footing top reinforcement) :** RC section dimensions ; b= 1.00 m, h= 0.36 m diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK ! Bending check : Md= 1.66 kN m, MR= 152.86kN m F(M)= 91.90 OK ! Shear check : Vd= 3.92 kN, VR= 261.09 kN F(V)= 66.64 OK ! Stress check : M= 1.66 kN m, σ_s= 3.22 MPa σ_{lim}= 230.00 MPa F(σ_s)= 71.40 OK ! **Reinforcement 4 (inside reinforcement dowels) :** diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters). area : As= 4.73 cm2/m areaMin : 1.72 cm2/m F(As)= 2.75 OK ! **Reinforcement 5 (inside stem reinforcement) :** RC section dimensions ; b= 1.00 m, h= 0.25 m
../..

T5 (suite)
diam : 16 mm, spacing : 400 mm reinf. development L=0.37 m (23 diameters). area : As= 5.00 cm2/m areaMin : 4.56 cm2/m F(As)= 1.10 OK ! Bending check : Md= 23.53 kN m, MR= 31.02kN m F(M)= 1.32 OK ! Shear check : Vd= 6.35 kN, VR= 186.49 kN F(V)= 29.38 OK ! Stress check : M= 23.53 kN m, σ_s= 205.88 MPa σ_{lim}= 230.00 MPa F(σ_s)= 1.12 OK ! **Reinforcement 6 (stem top transverse reinforcement) :** RC section dimensions ; b= 1.00 m, h= 0.25 m diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK ! **Reinforcement 7 (footing bottom transverse reinforcement) :** diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters). area : As= 4.73 cm2/m areaMin : 3.23 cm2/m F(As)= 1.47 OK ! **Reinforcement 8 (footing bottom longitudinal reinforcement) :** diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK ! **Reinforcement 9 (footing top longitudinal reinforcement) :** diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK ! **Reinforcement 10 (footing skin reinforcement) :** – **Reinforcement 11 (stem outside longitudinal reinforcement) :** diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK ! **Reinforcement 12 (stem inside longitudinal reinforcement) :** diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK ! **Reinforcement 13 (stem top skin reinforcement) :** –

Table 12 – T5 wall reinforcement

wall : T6 stability check			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	11.85	1.00	EQ1609A
Sliding :	1.10	1.00	EQ1609A
Bearign capacity :	0.42	1.00	EQ1609A
Adm. pressure :	1.03	1.00	EQ1613B
$F_{avail.}$: available security. F_{req} : required security.			

Wall : T6 rotation check		
β_{disp}(‰)	β_{req}(‰)	Combination
-1.31	2.00	ELS00
β_{disp} : wall maximum computed rotation. β_{req} : wall maximum admissible rotation.		

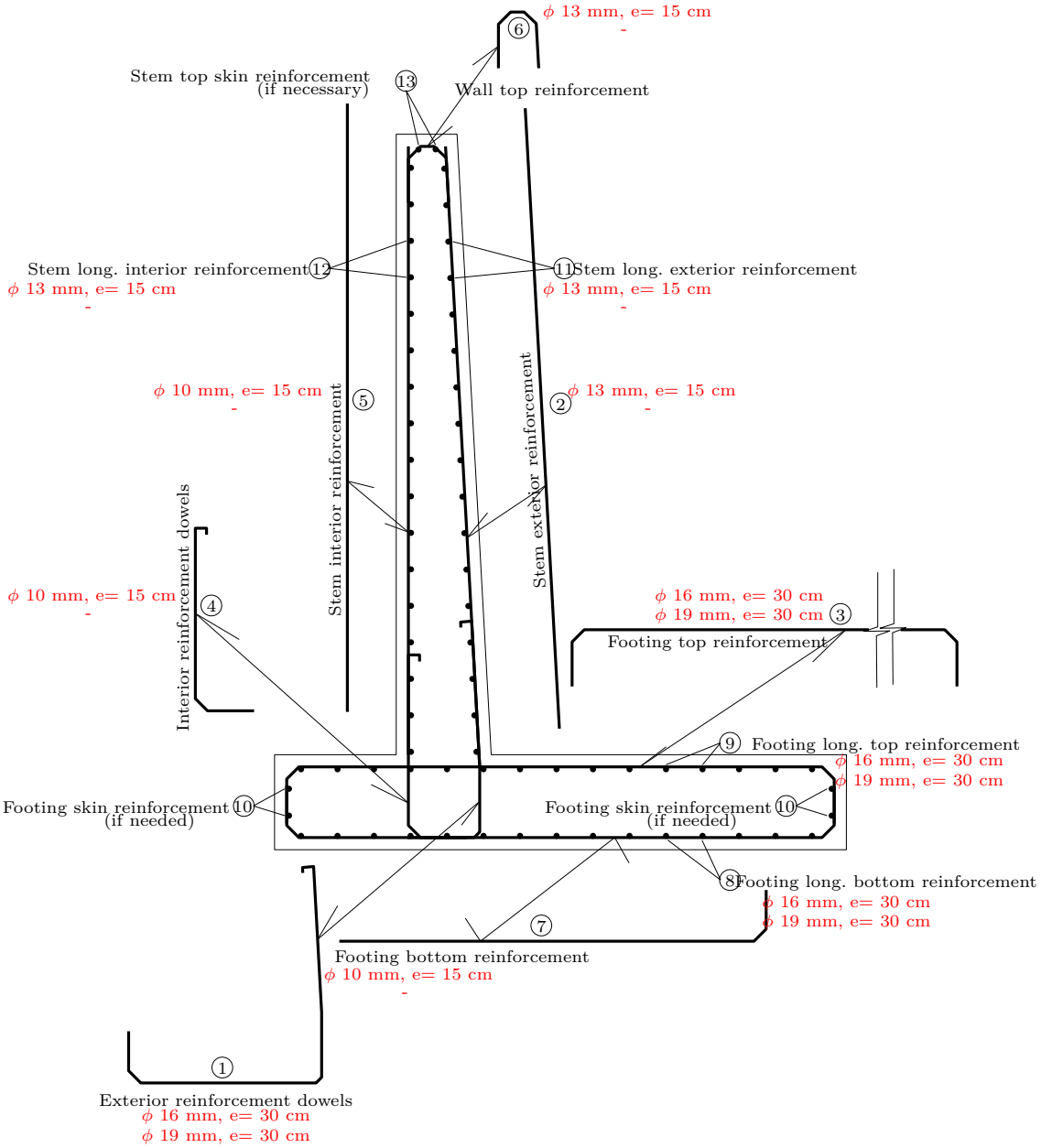


FIGURE 6 – Wall T5 reinforcement scheme

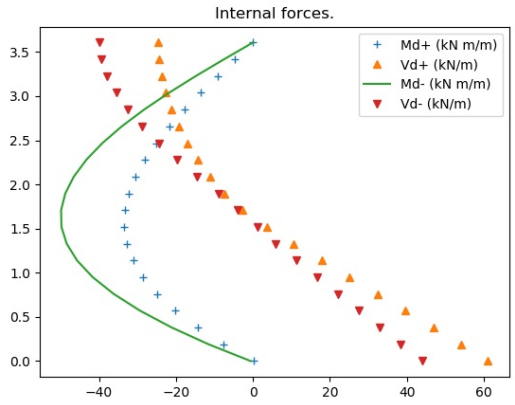
T6	
	WALL GEOMETRY Stem top thickness : $b_{top} = 0.25\ m$ Stem height : $h_{stem} = 3.43\ m$ Stem bottom thickness : $b_{bottom} = 0.25\ m$ Footing thickness : $b_{footing} = 0.36\ m$
MATERIALS Concrete : C3500 Steel : A615G60 Concrete cover : 55 mm	

TABLE 13 – Wall materials and dimensions T6

REINFORCEMENTS MUR T6
Reinforcement 1 (outside reinforcement dowels) : RC section dimensions ; b= 1.00 m, h= 0.25 m diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 4.56 cm2/m F(As)= 3.54 OK ! Bending check : Md= 7.06 kN m, MR= 99.62kN m F(M)= 14.11 OK ! Shear check : Vd= 51.57 kN, VR= 186.49 kN F(V)= 3.62 OK ! Stress check : M= 7.06 kN m, σ_s= 19.15 MPa σ_{lim}= 230.00 MPa F(σ_s)= 12.01 OK ! **Reinforcement 3 (footing top reinforcement) :** RC section dimensions ; b= 1.00 m, h= 0.36 m diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK ! Bending check : Md= 1.62 kN m, MR= 152.86kN m F(M)= 94.19 OK ! Shear check : Vd= 1.85 kN, VR= 261.09 kN F(V)= 140.80 OK ! Stress check : M= 1.62 kN m, σ_s= 3.14 MPa σ_{lim}= 230.00 MPa F(σ_s)= 73.18 OK ! **Reinforcement 4 (inside reinforcement dowels) :** diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters). area : As= 4.73 cm2/m areaMin : 1.72 cm2/m F(As)= 2.75 OK !
../..

T6 (suite)
Reinforcement 5 (inside stem reinforcement) : RC section dimensions ; b= 1.00 m, h= 0.25 m diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 9.47 cm2/m areaMin : 4.56 cm2/m F(As)= 2.08 OK ! Bending check : Md= 48.78 kN m, MR= 58.26kN m F(M)= 1.19 OK ! Shear check : Vd= 7.99 kN, VR= 186.49 kN F(V)= 23.33 OK ! Stress check : M= 48.78 kN m, σ_s= 225.43 MPa σ_{lim}= 230.00 MPa F(σ_s)= 1.02 OK ! **Reinforcement 6 (stem top transverse reinforcement) :** RC section dimensions ; b= 1.00 m, h= 0.25 m diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK ! **Reinforcement 7 (footing bottom transverse reinforcement) :** diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters). area : As= 4.73 cm2/m areaMin : 3.23 cm2/m F(As)= 1.47 OK ! **Reinforcement 8 (footing bottom longitudinal reinforcement) :** diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK ! **Reinforcement 9 (footing top longitudinal reinforcement) :** diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK ! **Reinforcement 10 (footing skin reinforcement) :** – **Reinforcement 11 (stem outside longitudinal reinforcement) :** diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK ! **Reinforcement 12 (stem inside longitudinal reinforcement) :** diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 4.56 cm2/m F(As)= 1.89 OK ! **Reinforcement 13 (stem top skin reinforcement) :** –

Table 14 – T6 wall reinforcement

wall : RW1 stability check			
Vérification :	F_{disp}	F_{req}	Combination
Overturning :	124238531831682.58	1.00	EQ1608
Sliding :	279382653727979.38	1.00	EQ1609B
Bearign capacity :	2.12	1.00	EQ1609B
Adm. pressure :	3.07	1.00	EQ1609B
$F_{avail.}$: available security. F_{req} : required security.			

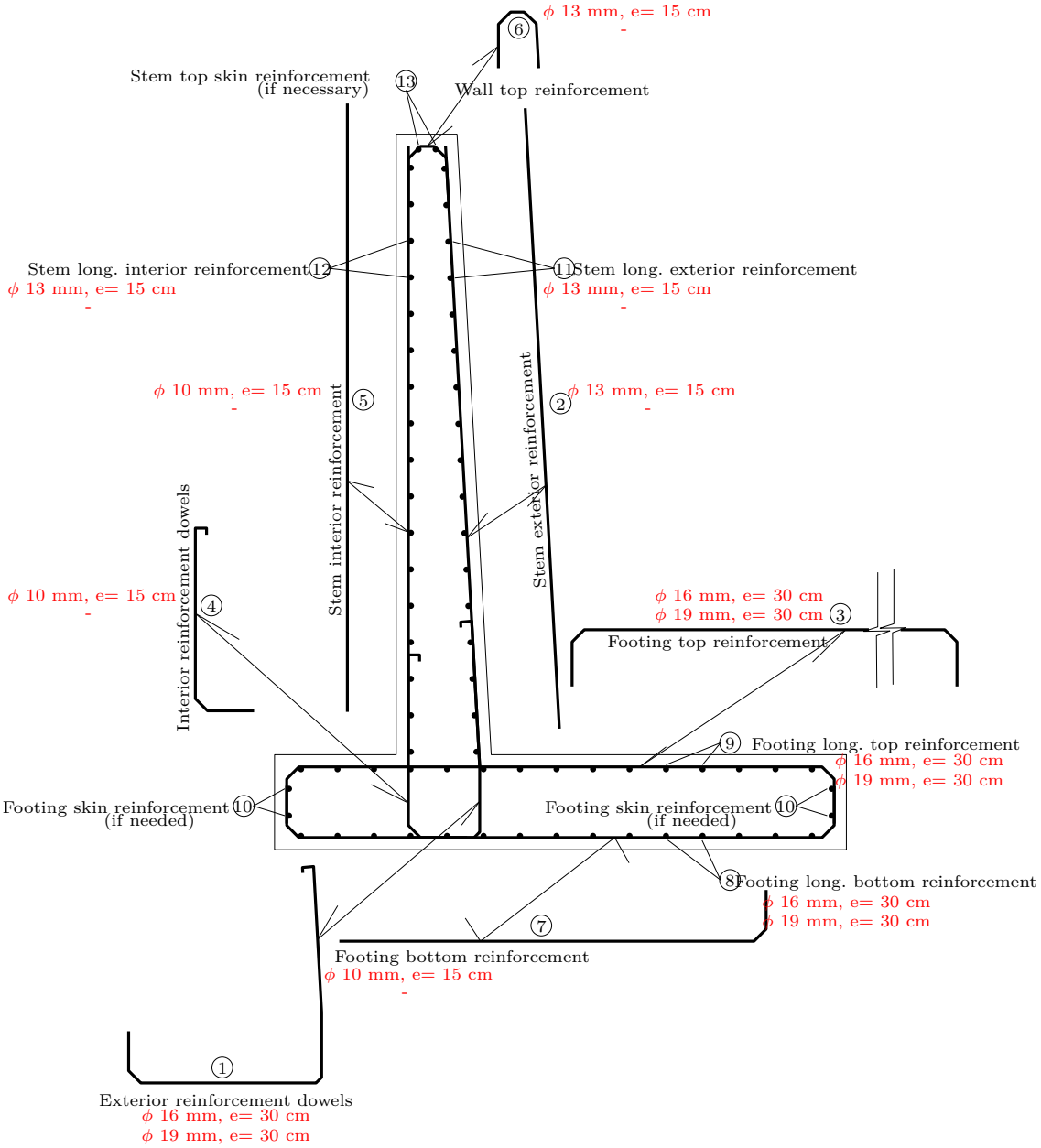


FIGURE 7 – Wall T6 reinforcement scheme

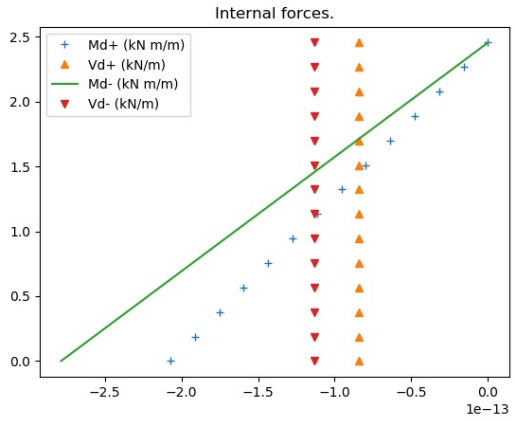
RW1	
	Wall geometry Stem top thickness : $b_{top} = 0.15\ m$ Stem height : $h_{stem} = 2.28\ m$ Stem bottom thickness : $b_{bottom} = 0.15\ m$ Footing thickness : $b_{footing} = 0.36\ m$
Materials Concrete : C3500 Steel : A615G60 Concrete cover : 55 mm	

Table 15 – Wall materials and dimensions RW1

Wall : RW1 rotation check		
β_{disp}(‰)	β_{req}(‰)	Combination
0.00	2.00	ELS00
β_{disp} : wall maximum computed rotation. β_{req} : wall maximum admissible rotation.		

Reinforcements mur RW1
Reinforcement 1 (outside reinforcement dowels) : RC section dimensions ; b= 1.00 m, h= 0.15 m diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 2.73 cm2/m F(As)= 5.90 OK ! Bending check : Md= 0.00 kN m, MR= 46.39kN m F(M)= 241451415745290.31 OK ! Shear check : Vd= 0.00 kN, VR= 111.89 kN F(V)= 1326717195362458.00 OK ! Stress check : M= 0.00 kN m, σ_s= 0.00 MPa σ_{lim}= 230.00 MPa F(σ_s)= 264930244983979.78 OK ! **Reinforcement 3 (footing top reinforcement) :** RC section dimensions ; b= 1.00 m, h= 0.36 m diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK ! Bending check : Md= 0.57 kN m, MR= 152.86kN m F(M)= 266.29 OK ! Shear check : Vd= 2.97 kN, VR= 261.09 kN F(V)= 87.94 OK !
../..

RW1 (suite)
Stress check : M= 0.57 kN m, σ_s= 1.11 MPa σ_{lim}= 230.00 MPa F(σ_s)= 206.88 OK ! **Reinforcement 4 (inside reinforcement dowels) :** diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters). area : As= 4.73 cm2/m areaMin : 1.72 cm2/m F(As)= 2.75 OK ! **Reinforcement 5 (inside stem reinforcement) :** RC section dimensions ; b= 1.00 m, h= 0.15 m diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). area : As= 6.67 cm2/m areaMin : 2.73 cm2/m F(As)= 2.44 OK ! Bending check : Md= 0.00 kN m, MR= 19.36kN m F(M)= 149943658948103.81 OK ! Shear check : Vd= 0.00 kN, VR= 111.89 kN F(V)= 986921399935803.50 OK ! Stress check : M= 0.00 kN m, σ_s= 0.00 MPa σ_{lim}= 230.00 MPa F(σ_s)= 162873481182158.69 OK ! **Reinforcement 6 (stem top transverse reinforcement) :** RC section dimensions ; b= 1.00 m, h= 0.15 m diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 2.73 cm2/m F(As)= 3.14 OK ! **Reinforcement 7 (footing bottom transverse reinforcement) :** diam : 10 mm, spacing : 150 mm reinf. development L=0.30 m (32 diameters). area : As= 4.73 cm2/m areaMin : 3.23 cm2/m F(As)= 1.47 OK ! **Reinforcement 8 (footing bottom longitudinal reinforcement) :** diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK ! **Reinforcement 9 (footing top longitudinal reinforcement) :** diam : 16 mm, spacing : 300 mm reinf. development L=0.37 m (23 diameters). diam : 19 mm, spacing : 300 mm reinf. development L=0.65 m (34 diameters). area : As= 16.13 cm2/m areaMin : 6.38 cm2/m F(As)= 2.53 OK ! **Reinforcement 10 (footing skin reinforcement) :** – **Reinforcement 11 (stem outside longitudinal reinforcement) :** diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 2.73 cm2/m F(As)= 3.14 OK ! **Reinforcement 12 (stem inside longitudinal reinforcement) :** diam : 13 mm, spacing : 150 mm reinf. development L=0.30 m (24 diameters). area : As= 8.60 cm2/m areaMin : 2.73 cm2/m F(As)= 3.14 OK ! **Reinforcement 13 (stem top skin reinforcement) :** –

Table 16 – RW1 wall reinforcement

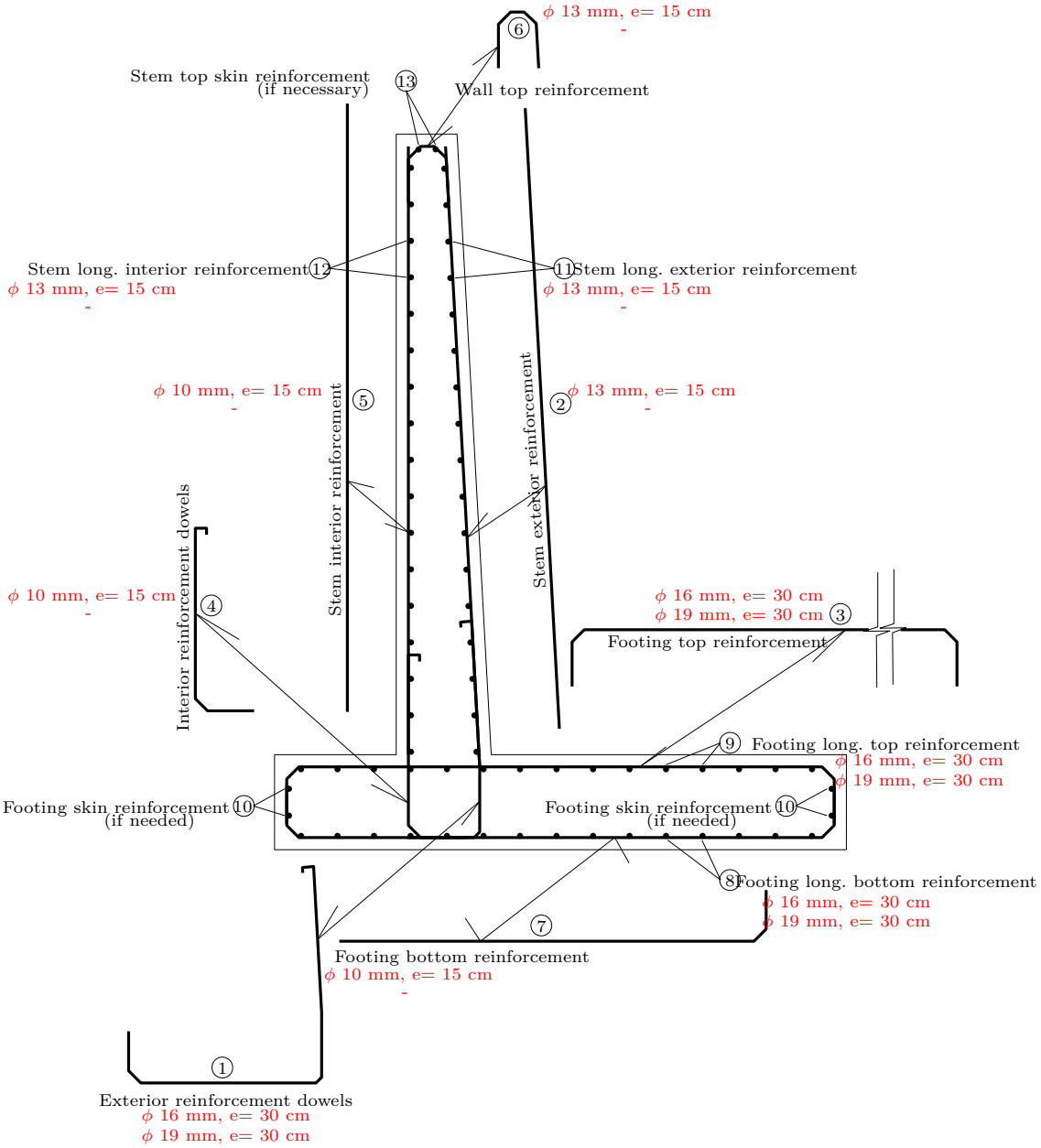


FIGURE 8 – Wall RW1 reinforcement scheme