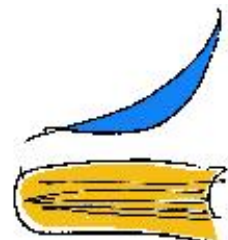


Bearing Capacity (Rectangle Mat) Analysis Report

PEYSANJ 2
geotechnical engineering software

Developed & Designed By: Alireza Afkhami (MSc, MCP)
www.afkhami.com



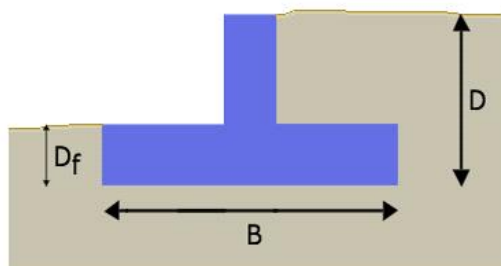
Company name



Project : مجتمع ایستگاهی مترو صادقیه
 Cilent : شرکت سرمایه گذاری فجر شمس آتیه
 Location : ابتدای اتوبان تهران-کرج، ایستگاه مترو صادقیه
 Code : 8704101

Density above foundation (gr/cm ³) : 2.05	سطح آب (متر از زیر پی) :-
:5 (cm) نشست مجاز	Er / Es :3
A x B :1	ضریب ضلبيت پی :1
:3 ضریب اطمینان	Shape :Rectangle Mat
B (m): 80	L (m) :120
Df (m) :15	D (m) :15

$$q_{ult} = C \cdot N_c \cdot S_c \cdot d_c \cdot i_c \cdot g_c \cdot b_c + q \cdot N_q \cdot S_q \cdot d_q \cdot i_q \cdot g_q \cdot b_q + \frac{1}{2} \gamma \cdot B' \cdot N_\gamma \cdot S_\gamma \cdot d_\gamma \cdot i_\gamma \cdot g_\gamma \cdot b_\gamma$$



Layer Descr.	C (kg/cm ²)	Fi (deg)	Es(kg/cm ²)	v	g (gr/cm ³)	Z1 (m)	Z2 (m)	Su (kg/cm ²)	Cc	Cs	Pc(kg/cm ²)	e.	PreCons
GM	0.14	41.5	550	0.3	2.05	0	1000	0	0	0	0	0.4	False

Company name

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Bearing capacity of foundation 80x120 m2
HANSEN : $Q_{ult} = C.N_c.Sc.dc.ic.gc.bc + q'.N_q.Sq.dq.iq.gq.bq + 0.5g.B'.Ng.Sg.dg.ig.gg.bg$
Effective $H=0.5B \tan(45+Fi/2)=8879.68$ cm
Average : $C=0.14$ kg/cm2 , $Fi=41.5$ deg , $g=2.05$ gr/cm3
 $eB=MB/V=0$, $eL=ML/V=0$
 $B'=B-2eB=80$ m , $L'=L-2eL=120$ m
 $Nc=88.61$, $Nq=79.39$, $Ng=104.03$
 $Sc=1.6$, $Sq=1.44$, $Sg=0.73$
 $Df/B < 1$: $K=Df/B=0.19$
 $dc=1.08$, $dq=1.04$, $dq=1$
 $Ca \sim 0.8C=0.112$ kg/cm2 , $Af=B*L'=9600$ m2
 $Ic=1$, $Iq=1$, $Ig=1$
 $bc=1$, $bq=1$, $bg=1$
 $gc=1$, $gq=1$, $gg=1$
 $q'=Df*(soil density above foundation)=1500*0.00205=3.075$ kg/cm2
 $Rb=1 - 0.25 \log(B/2)=0.599$
Shear Failure $Q_u = 21.3+365.26+625.58*0.599=761.59$ kg/cm2

.....
Q=0 kg/cm2
Total $S=(0+0)*1=0$ cm

.....
Q=0.1 kg/cm2

~
Elastic Settlement for Center of Foundation 80 x 120 m2
GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-v2).Is.If/Es\}$
for center, $B'=B/2=4000$ cm
Er/Es is used? True
average $Es=550$ kg/cm2 , $v=0.3$
 $i1=0.457$, $i2=0.054$: $Is=0.488$
 $Df/B=0.19$, $L/B=1.5$: $If=0.862$
Stress (Q)=0.1 kg/cm2
 $H=162$ m (based on $dP=15\%$ of 'Footing stress' {you've chosen in Peysanj preferences})
 $m = L'/B'=1.5$, $n=H/B'=4.05$
Settlement (Se)=0.371 cm
Consolidation Settlement For Foundation 80x120 m2
~~~~~  
Settlement (Sc)=0 cm  
Total  $S=(0.371+0)*1=0.371$  cm

.....  
Q=0.2 kg/cm2

~  
Elastic Settlement for Center of Foundation 80 x 120 m2  
GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$   
for center,  $B'=B/2=4000$  cm  
Er/Es is used? True  
average  $Es=550$  kg/cm2 ,  $v=0.3$   
 $i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$   
 $Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$   
Stress (Q)=0.2 kg/cm2  
 $H=162$  m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})  
 $m = L'/B'=1.5$  ,  $n=H/B'=4.05$   
Settlement (Se)=0.742 cm  
Consolidation Settlement For Foundation 80x120 m2  
~~~~~  
Settlement (Sc)=0 cm
Total $S=(0.742+0)*1=0.742$ cm

.....
Q=0.3 kg/cm2

~
Elastic Settlement for Center of Foundation 80 x 120 m2
GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-v2).Is.If/Es\}$
for center, $B'=B/2=4000$ cm
Er/Es is used? True
average $Es=550$ kg/cm2 , $v=0.3$
 $i1=0.457$, $i2=0.054$: $Is=0.488$
 $Df/B=0.19$, $L/B=1.5$: $If=0.862$
Stress (Q)=0.3 kg/cm2
 $H=162$ m (based on $dP=15\%$ of 'Footing stress' {you've chosen in Peysanj preferences})
 $m = L'/B'=1.5$, $n=H/B'=4.05$
Settlement (Se)=1.113 cm
Consolidation Settlement For Foundation 80x120 m2
~~~~~  
Settlement (Sc)=0 cm



## Company name



Project : مجتمع ایستگاهی مترو صادقیه  
Client : شرکت سرمایه گذاری فجر شمس آتیه  
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Code : 8704101

Total S=(1.113+0)\*1=1.113 cm

Q=0.4 kg/cm2

Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center,  $B'=B/2= 4000$  cm

Er/Es is used? True

average  $Es=550$  kg/cm2 ,  $v=0.3$

$i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$

$Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$

Stress (Q)=0.4 kg/cm2

H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$  ,  $n=H/B'=4.05$

Settlement (Se)=1.485 cm

Consolidation Settlement For Foundation 80x120 m2

Settlement (Sc)=0 cm

Total S=(1.485+0)\*1=1.485 cm

Q=0.5 kg/cm2

Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center,  $B'=B/2= 4000$  cm

Er/Es is used? True

average  $Es=550$  kg/cm2 ,  $v=0.3$

$i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$

$Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$

Stress (Q)=0.5 kg/cm2

H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$  ,  $n=H/B'=4.05$

Settlement (Se)=1.856 cm

Consolidation Settlement For Foundation 80x120 m2

Settlement (Sc)=0 cm

Total S=(1.856+0)\*1=1.856 cm

Q=0.6 kg/cm2

Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center,  $B'=B/2= 4000$  cm

Er/Es is used? True

average  $Es=550$  kg/cm2 ,  $v=0.3$

$i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$

$Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$

Stress (Q)=0.6 kg/cm2

H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$  ,  $n=H/B'=4.05$

Settlement (Se)=2.227 cm

Consolidation Settlement For Foundation 80x120 m2

Settlement (Sc)=0 cm

Total S=(2.227+0)\*1=2.227 cm

Q=0.7 kg/cm2

Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center,  $B'=B/2= 4000$  cm

Er/Es is used? True

average  $Es=550$  kg/cm2 ,  $v=0.3$

$i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$

$Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$

Stress (Q)=0.7 kg/cm2

H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$  ,  $n=H/B'=4.05$

Settlement (Se)=2.598 cm

Consolidation Settlement For Foundation 80x120 m2

Settlement (Sc)=0 cm

Total S=(2.598+0)\*1=2.598 cm



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Project : مجتمع ایستگاهی مترو صادقیه  
Cilent : شرکت سرمایه گذاری فجر شمس آتیه  
Location : ابتدای اتوبان تهران-کرج، ایستگاه مترو صادقیه  
Code : 8704101

Q=0.8 kg/cm2

~

Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center,  $B'=B/2= 4000$  cm

Er/Es is used? True

average  $Es=550$  kg/cm2 ,  $v=0.3$

$i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$

$Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$

Stress (Q)=0.8 kg/cm2

H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$  ,  $n=H/B'=4.05$

Settlement (Se)=2.969 cm

Consolidation Settlement For Foundation 80x120 m2

~~~~~

Settlement (Sc)=0 cm

Total $S=(2.969+0)*1=2.969$ cm

Q=0.9 kg/cm2

~

Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center, $B'=B/2= 4000$ cm

Er/Es is used? True

average $Es=550$ kg/cm2 , $v=0.3$

$i1=0.457$, $i2=0.054$: $Is=0.488$

$Df/B=0.19$, $L/B=1.5$: $If=0.862$

Stress (Q)=0.9 kg/cm2

H=162 m (based on $dP=15\%$ of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$, $n=H/B'=4.05$

Settlement (Se)=3.34 cm

Consolidation Settlement For Foundation 80x120 m2

~~~~~

Settlement (Sc)=0 cm

Total  $S=(3.34+0)*1=3.34$  cm

Q=1 kg/cm2

~

Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center,  $B'=B/2= 4000$  cm

Er/Es is used? True

average  $Es=550$  kg/cm2 ,  $v=0.3$

$i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$

$Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$

Stress (Q)=1 kg/cm2

H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$  ,  $n=H/B'=4.05$

Settlement (Se)=3.711 cm

Consolidation Settlement For Foundation 80x120 m2

~~~~~

Settlement (Sc)=0 cm

Total $S=(3.711+0)*1=3.711$ cm

Q=1.1 kg/cm2

~

Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center, $B'=B/2= 4000$ cm

Er/Es is used? True

average $Es=550$ kg/cm2 , $v=0.3$

$i1=0.457$, $i2=0.054$: $Is=0.488$

$Df/B=0.19$, $L/B=1.5$: $If=0.862$

Stress (Q)=1.1 kg/cm2

H=162 m (based on $dP=15\%$ of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$, $n=H/B'=4.05$

Settlement (Se)=4.083 cm

Consolidation Settlement For Foundation 80x120 m2

~~~~~

Settlement (Sc)=0 cm

Total  $S=(4.083+0)*1=4.083$  cm

Q=1.2 kg/cm2

~

## Company name



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Client : شرکت سرمایه گذاری فجر شمس آتیه  
Location : ابتدای اتوبان تهران-کرج، ایستگاه مترو صادقیه  
Code : 8704101

Elastic Settlement for Center of Foundation 80 x 120 m2  
GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$   
for center,  $B'=B/2= 4000$  cm  
Er/E<sub>s</sub> is used? True  
average  $E_s=550$  kg/cm<sup>2</sup> ,  $\nu=0.3$   
 $i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$   
 $Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$   
Stress (Q)=1.2 kg/cm<sup>2</sup>  
H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})  
 $m = L'/B'=1.5$  ,  $n=H/B'=4.05$   
Settlement (Se)=4.454 cm  
Consolidation Settlement For Foundation 80x120 m2  
~~~~~  
Settlement (Sc)=0 cm
Total $S=(4.454+0)*1=4.454$ cm

Q=1.3 kg/cm²

Elastic Settlement for Center of Foundation 80 x 120 m2
GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-v2).Is.If/Es\}$
for center, $B'=B/2= 4000$ cm
Er/E_s is used? True
average $E_s=550$ kg/cm² , $\nu=0.3$
 $i1=0.457$, $i2=0.054$: $Is=0.488$
 $Df/B=0.19$, $L/B=1.5$: $If=0.862$
Stress (Q)=1.3 kg/cm²
H=162 m (based on $dP=15\%$ of 'Footing stress' {you've chosen in Peysanj preferences})
 $m = L'/B'=1.5$, $n=H/B'=4.05$
Settlement (Se)=4.825 cm
Consolidation Settlement For Foundation 80x120 m2
~~~~~  
Settlement (Sc)=0 cm  
Total  $S=(4.825+0)*1=4.825$  cm

Q=1.4 kg/cm<sup>2</sup>

Elastic Settlement for Center of Foundation 80 x 120 m2  
GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$   
for center,  $B'=B/2= 4000$  cm  
Er/E<sub>s</sub> is used? True  
average  $E_s=550$  kg/cm<sup>2</sup> ,  $\nu=0.3$   
 $i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$   
 $Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$   
Stress (Q)=1.4 kg/cm<sup>2</sup>  
H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})  
 $m = L'/B'=1.5$  ,  $n=H/B'=4.05$   
Settlement (Se)=5.196 cm  
Consolidation Settlement For Foundation 80x120 m2  
~~~~~  
Settlement (Sc)=0 cm
Total $S=(5.196+0)*1=5.196$ cm

Q=1.5 kg/cm²

Elastic Settlement for Center of Foundation 80 x 120 m2
GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-v2).Is.If/Es\}$
for center, $B'=B/2= 4000$ cm
Er/E_s is used? True
average $E_s=550$ kg/cm² , $\nu=0.3$
 $i1=0.457$, $i2=0.054$: $Is=0.488$
 $Df/B=0.19$, $L/B=1.5$: $If=0.862$
Stress (Q)=1.5 kg/cm²
H=162 m (based on $dP=15\%$ of 'Footing stress' {you've chosen in Peysanj preferences})
 $m = L'/B'=1.5$, $n=H/B'=4.05$
Settlement (Se)=5.567 cm
Consolidation Settlement For Foundation 80x120 m2
~~~~~  
Settlement (Sc)=0 cm  
Total  $S=(5.567+0)*1=5.567$  cm

Q=1.6 kg/cm<sup>2</sup>

Elastic Settlement for Center of Foundation 80 x 120 m2  
GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$



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Project : مجتمع ایستگاهی مترو صادقیه  
Cilent : شرکت سرمایه گذاری فجر شمس آتیه  
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Code : 8704101

for center,  $B'=B/2=4000$  cm  
Er/Es is used? True  
average  $E_s=550$  kg/cm<sup>2</sup> ,  $\nu=0.3$   
 $i_1=0.457$  ,  $i_2=0.054$  :  $I_s=0.488$   
 $D_f/B=0.19$  ,  $L/B=1.5$  :  $I_f=0.862$   
Stress (Q)=1.6 kg/cm<sup>2</sup>  
H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})  
 $m = L'/B'=1.5$  ,  $n=H/B'=4.05$   
Settlement (Se)=5.938 cm  
Consolidation Settlement For Foundation 80x120 m2  
~~~~~  
Settlement (Sc)=0 cm
Total S=(5.938+0)*1=5.938 cm

.....
Q=1.7 kg/cm²

~
Elastic Settlement for Center of Foundation 80 x 120 m2
GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-\nu^2).I_s.I_f/E_s\}$
for center, $B'=B/2=4000$ cm
Er/Es is used? True
average $E_s=550$ kg/cm² , $\nu=0.3$
 $i_1=0.457$, $i_2=0.054$: $I_s=0.488$
 $D_f/B=0.19$, $L/B=1.5$: $I_f=0.862$
Stress (Q)=1.7 kg/cm²
H=162 m (based on $dP=15\%$ of 'Footing stress' {you've chosen in Peysanj preferences})
 $m = L'/B'=1.5$, $n=H/B'=4.05$
Settlement (Se)=6.309 cm
Consolidation Settlement For Foundation 80x120 m2
~~~~~  
Settlement (Sc)=0 cm  
Total S=(6.309+0)\*1=6.309 cm

.....  
Q=1.8 kg/cm<sup>2</sup>

~  
Elastic Settlement for Center of Foundation 80 x 120 m2  
GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-\nu^2).I_s.I_f/E_s\}$   
for center,  $B'=B/2=4000$  cm  
Er/Es is used? True  
average  $E_s=550$  kg/cm<sup>2</sup> ,  $\nu=0.3$   
 $i_1=0.457$  ,  $i_2=0.054$  :  $I_s=0.488$   
 $D_f/B=0.19$  ,  $L/B=1.5$  :  $I_f=0.862$   
Stress (Q)=1.8 kg/cm<sup>2</sup>  
H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})  
 $m = L'/B'=1.5$  ,  $n=H/B'=4.05$   
Settlement (Se)=6.681 cm  
Consolidation Settlement For Foundation 80x120 m2  
~~~~~  
Settlement (Sc)=0 cm
Total S=(6.681+0)*1=6.681 cm

.....
Q=1.9 kg/cm²

~
Elastic Settlement for Center of Foundation 80 x 120 m2
GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-\nu^2).I_s.I_f/E_s\}$
for center, $B'=B/2=4000$ cm
Er/Es is used? True
average $E_s=550$ kg/cm² , $\nu=0.3$
 $i_1=0.457$, $i_2=0.054$: $I_s=0.488$
 $D_f/B=0.19$, $L/B=1.5$: $I_f=0.862$
Stress (Q)=1.9 kg/cm²
H=162 m (based on $dP=15\%$ of 'Footing stress' {you've chosen in Peysanj preferences})
 $m = L'/B'=1.5$, $n=H/B'=4.05$
Settlement (Se)=7.052 cm
Consolidation Settlement For Foundation 80x120 m2
~~~~~  
Settlement (Sc)=0 cm  
Total S=(7.052+0)\*1=7.052 cm

.....  
Q=2 kg/cm<sup>2</sup>

~  
Elastic Settlement for Center of Foundation 80 x 120 m2  
GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-\nu^2).I_s.I_f/E_s\}$   
for center,  $B'=B/2=4000$  cm  
Er/Es is used? True



## Company name



Project : مجتمع ایستگاهی مترو صادقیه  
Client : شرکت سرمایه گذاری فجر شمس آتیه  
Location : ابتدای اتوبان تهران-کرج، ایستگاه مترو صادقیه  
Code : 8704101

average  $E_s=550$  kg/cm<sup>2</sup> ,  $\nu=0.3$   
 $i_1=0.457$  ,  $i_2=0.054$  :  $I_s=0.488$   
 $D_f/B=0.19$  ,  $L/B=1.5$  :  $I_f=0.862$   
Stress (Q)=2 kg/cm<sup>2</sup>  
H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})  
 $m = L'/B'=1.5$  ,  $n=H/B'=4.05$   
Settlement (Se)=7.423 cm  
Consolidation Settlement For Foundation 80x120 m2  
~~~~~  
Settlement (Sc)=0 cm
Total S=(7.423+0)*1=7.423 cm

.....
Q=2.1 kg/cm²

~
Elastic Settlement for Center of Foundation 80 x 120 m2
GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-\nu_2).I_s.I_f/E_s\}$
for center, $B'=B/2=4000$ cm
Er/Es is used? True
average $E_s=550$ kg/cm² , $\nu=0.3$
 $i_1=0.457$, $i_2=0.054$: $I_s=0.488$
 $D_f/B=0.19$, $L/B=1.5$: $I_f=0.862$
Stress (Q)=2.1 kg/cm²
H=162 m (based on $dP=15\%$ of 'Footing stress' {you've chosen in Peysanj preferences})
 $m = L'/B'=1.5$, $n=H/B'=4.05$
Settlement (Se)=7.794 cm
Consolidation Settlement For Foundation 80x120 m2
~~~~~  
Settlement (Sc)=0 cm  
Total S=(7.794+0)\*1=7.794 cm

.....  
Q=2.2 kg/cm<sup>2</sup>

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Elastic Settlement for Center of Foundation 80 x 120 m2  
GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-\nu_2).I_s.I_f/E_s\}$   
for center,  $B'=B/2=4000$  cm  
Er/Es is used? True  
average  $E_s=550$  kg/cm<sup>2</sup> ,  $\nu=0.3$   
 $i_1=0.457$  ,  $i_2=0.054$  :  $I_s=0.488$   
 $D_f/B=0.19$  ,  $L/B=1.5$  :  $I_f=0.862$   
Stress (Q)=2.2 kg/cm<sup>2</sup>  
H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})  
 $m = L'/B'=1.5$  ,  $n=H/B'=4.05$   
Settlement (Se)=8.165 cm  
Consolidation Settlement For Foundation 80x120 m2  
~~~~~  
Settlement (Sc)=0 cm
Total S=(8.165+0)*1=8.165 cm

.....
Q=2.3 kg/cm²

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Elastic Settlement for Center of Foundation 80 x 120 m2
GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-\nu_2).I_s.I_f/E_s\}$
for center, $B'=B/2=4000$ cm
Er/Es is used? True
average $E_s=550$ kg/cm² , $\nu=0.3$
 $i_1=0.457$, $i_2=0.054$: $I_s=0.488$
 $D_f/B=0.19$, $L/B=1.5$: $I_f=0.862$
Stress (Q)=2.3 kg/cm²
H=162 m (based on $dP=15\%$ of 'Footing stress' {you've chosen in Peysanj preferences})
 $m = L'/B'=1.5$, $n=H/B'=4.05$
Settlement (Se)=8.536 cm
Consolidation Settlement For Foundation 80x120 m2
~~~~~  
Settlement (Sc)=0 cm  
Total S=(8.536+0)\*1=8.536 cm

.....  
Q=2.4 kg/cm<sup>2</sup>

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Elastic Settlement for Center of Foundation 80 x 120 m2  
GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-\nu_2).I_s.I_f/E_s\}$   
for center,  $B'=B/2=4000$  cm  
Er/Es is used? True  
average  $E_s=550$  kg/cm<sup>2</sup> ,  $\nu=0.3$   
 $i_1=0.457$  ,  $i_2=0.054$  :  $I_s=0.488$



## Company name



Project : مجتمع ایستگاهی مترو صادقیه  
Client : شرکت سرمایه گذاری فجر شمس آتیه  
Location : ابتدای اتوبان تهران-کرج، ایستگاه مترو صادقیه  
Code : 8704101

Df/B=0.19 , L/B=1.5 : If=0.862  
Stress (Q)=2.4 kg/cm2  
H=162 m (based on dP=15 % of 'Footing stress' {you've chosen in Peysanj preferences})  
m = L'/B'=1.5 , n=H/B'=4.05  
Settlement (Se)=8.907 cm  
Consolidation Settlement For Foundation 80x120 m2  
~~~~~  
Settlement (Sc)=0 cm
Total S=(8.907+0)*1=8.907 cm

Q=2.5 kg/cm2

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Elastic Settlement for Center of Foundation 80 x 120 m2
GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-v2).Is.If/Es\}$
for center, B'=B/2= 4000 cm
Er/Es is used? True
average Es=550 kg/cm2 , v=0.3
i1=0.457 , i2=0.054 : Is=0.488
Df/B=0.19 , L/B=1.5 : If=0.862
Stress (Q)=2.5 kg/cm2
H=162 m (based on dP=15 % of 'Footing stress' {you've chosen in Peysanj preferences})
m = L'/B'=1.5 , n=H/B'=4.05
Settlement (Se)=9.279 cm
Consolidation Settlement For Foundation 80x120 m2
~~~~~  
Settlement (Sc)=0 cm  
Total S=(9.279+0)\*1=9.279 cm

Q=2.6 kg/cm2

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Elastic Settlement for Center of Foundation 80 x 120 m2  
GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$   
for center, B'=B/2= 4000 cm  
Er/Es is used? True  
average Es=550 kg/cm2 , v=0.3  
i1=0.457 , i2=0.054 : Is=0.488  
Df/B=0.19 , L/B=1.5 : If=0.862  
Stress (Q)=2.6 kg/cm2  
H=162 m (based on dP=15 % of 'Footing stress' {you've chosen in Peysanj preferences})  
m = L'/B'=1.5 , n=H/B'=4.05  
Settlement (Se)=9.65 cm  
Consolidation Settlement For Foundation 80x120 m2  
~~~~~  
Settlement (Sc)=0 cm
Total S=(9.65+0)*1=9.65 cm

Q=2.7 kg/cm2

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Elastic Settlement for Center of Foundation 80 x 120 m2
GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-v2).Is.If/Es\}$
for center, B'=B/2= 4000 cm
Er/Es is used? True
average Es=550 kg/cm2 , v=0.3
i1=0.457 , i2=0.054 : Is=0.488
Df/B=0.19 , L/B=1.5 : If=0.862
Stress (Q)=2.7 kg/cm2
H=162 m (based on dP=15 % of 'Footing stress' {you've chosen in Peysanj preferences})
m = L'/B'=1.5 , n=H/B'=4.05
Settlement (Se)=10.021 cm
Consolidation Settlement For Foundation 80x120 m2
~~~~~  
Settlement (Sc)=0 cm  
Total S=(10.021+0)\*1=10.021 cm

Q=2.8 kg/cm2

~

Elastic Settlement for Center of Foundation 80 x 120 m2  
GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$   
for center, B'=B/2= 4000 cm  
Er/Es is used? True  
average Es=550 kg/cm2 , v=0.3  
i1=0.457 , i2=0.054 : Is=0.488  
Df/B=0.19 , L/B=1.5 : If=0.862  
Stress (Q)=2.8 kg/cm2



## Company name



Project : مجتمع ایستگاهی مترو صادقیه  
Client : شرکت سرمایه گذاری فجر شمس آتیه  
Location : ابتدای اتوبان تهران-کرج، ایستگاه مترو صادقیه  
Code : 8704101

H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})  
 $m = L'/B'=1.5$  ,  $n=H/B'=4.05$

Settlement (Se)=10.392 cm

Consolidation Settlement For Foundation 80x120 m2

~~~~~

Settlement (Sc)=0 cm

Total S=(10.392+0)*1=10.392 cm

Q=2.9 kg/cm2

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Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center, $B'=B/2=4000$ cm

Er/Es is used? True

average $Es=550$ kg/cm2 , $v=0.3$

$i1=0.457$, $i2=0.054$: $Is=0.488$

$Df/B=0.19$, $L/B=1.5$: $If=0.862$

Stress (Q)=2.9 kg/cm2

H=162 m (based on $dP=15\%$ of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$, $n=H/B'=4.05$

Settlement (Se)=10.763 cm

Consolidation Settlement For Foundation 80x120 m2

~~~~~

Settlement (Sc)=0 cm

Total S=(10.763+0)\*1=10.763 cm

Q=3 kg/cm2

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Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center,  $B'=B/2=4000$  cm

Er/Es is used? True

average  $Es=550$  kg/cm2 ,  $v=0.3$

$i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$

$Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$

Stress (Q)=3 kg/cm2

H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$  ,  $n=H/B'=4.05$

Settlement (Se)=11.134 cm

Consolidation Settlement For Foundation 80x120 m2

~~~~~

Settlement (Sc)=0 cm

Total S=(11.134+0)*1=11.134 cm

Q=3.1 kg/cm2

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Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) : $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center, $B'=B/2=4000$ cm

Er/Es is used? True

average $Es=550$ kg/cm2 , $v=0.3$

$i1=0.457$, $i2=0.054$: $Is=0.488$

$Df/B=0.19$, $L/B=1.5$: $If=0.862$

Stress (Q)=3.1 kg/cm2

H=162 m (based on $dP=15\%$ of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$, $n=H/B'=4.05$

Settlement (Se)=11.691 cm

Consolidation Settlement For Foundation 80x120 m2

~~~~~

Settlement (Sc)=0 cm

Total S=(11.691+0)\*1=11.691 cm

Q=3.2 kg/cm2

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Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center,  $B'=B/2=4000$  cm

Er/Es is used? True

average  $Es=550$  kg/cm2 ,  $v=0.3$

$i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$

$Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$

Stress (Q)=3.2 kg/cm2

H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$  ,  $n=H/B'=4.05$



## Company name



Project : مجتمع ایستگاهی مترو صادقیه  
Cilent : شرکت سرمایه گذاری فجر شمس آتیه  
Location : ابتدای اتوبان تهران-کرج، ایستگاه مترو صادقیه  
Code : 8704101

Settlement (Se)=12.804 cm

Consolidation Settlement For Foundation 80x120 m2

Settlement (Sc)=0 cm

Total S=(12.804+0)\*1=12.804 cm

Q=3.3 kg/cm2

Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center,  $B'=B/2= 4000$  cm

Er/Es is used? True

average  $Es=550$  kg/cm2 ,  $v=0.3$

$i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$

$Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$

Stress (Q)=3.3 kg/cm2

H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$  ,  $n=H/B'=4.05$

Settlement (Se)=13.918 cm

Consolidation Settlement For Foundation 80x120 m2

Settlement (Sc)=0 cm

Total S=(13.918+0)\*1=13.918 cm

Q=3.4 kg/cm2

Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center,  $B'=B/2= 4000$  cm

Er/Es is used? True

average  $Es=550$  kg/cm2 ,  $v=0.3$

$i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$

$Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$

Stress (Q)=3.4 kg/cm2

H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$  ,  $n=H/B'=4.05$

Settlement (Se)=15.031 cm

Consolidation Settlement For Foundation 80x120 m2

Settlement (Sc)=0 cm

Total S=(15.031+0)\*1=15.031 cm

Q=3.5 kg/cm2

Elastic Settlement for Center of Foundation 80 x 120 m2

GOODIER & TIMOSHENKO (1951) :  $S=4\{q.B'.(1-v2).Is.If/Es\}$

for center,  $B'=B/2= 4000$  cm

Er/Es is used? True

average  $Es=550$  kg/cm2 ,  $v=0.3$

$i1=0.457$  ,  $i2=0.054$  :  $Is=0.488$

$Df/B=0.19$  ,  $L/B=1.5$  :  $If=0.862$

Stress (Q)=3.5 kg/cm2

H=162 m (based on  $dP=15\%$  of 'Footing stress' {you've chosen in Peysanj preferences})

$m = L'/B'=1.5$  ,  $n=H/B'=4.05$

Settlement (Se)=16.145 cm

Consolidation Settlement For Foundation 80x120 m2

Settlement (Sc)=0 cm

Total S=(16.145+0)\*1=16.145 cm



# Company name



Project : مجتمع ایستگاهی مترو صادقیه  
Client : شرکت سرمایه گذاری فجر شمس آتیه  
Location : ابتدای اتوبان تهران-کرج، ایستگاه مترو صادقیه  
Code : 8704101

