

ملفوظات آیت الله العظمیٰ الخلیفہ المسیح الخامس اچھارہ، باب اول، صفحہ ۱۱۱

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عندئذٍ علم الناس ما كان الحق (النبوة)

على العشر (الزيت)

مكتبه الأستاذ

مفهوم المذبح المذبح

(ب) محمد حسینی کاشانی

۴۱ / فصلی کویت

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في عصر النهضة

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ملحق 2: مسودة القانون

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Company : Sun Rise Construction

Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (6)
- Alamein to Foka
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements
Test Location : (450+700 to 450+825)
Test Date : 21/06/2023
Report Date : 26/07/2023
Type of soil : —
Test level : Sub ballast .
Report No. : 285:289

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 600 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton
8. Calibration certificates are attached

Test Procedure

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 600 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 600 mm loading plate, the limit values are 2.5 kg/cm²
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 % , 25 % , and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads



Report

1. Evaluation and representation of results
2. Load Settlement curve
3. The test report content the following:-
 - location of test site - Dimension of loading plate
 - Measuring device used - Type of soil
 - Type of Bedding material below the plate -Weathering condition
 - Time and date of measurements - Unusual observation made during test
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve
 - Description of the soil condition below the plate after testing

Report

Type of soil: Sub ballast.

- Job requirement: $E_{v2} > 1200 \text{ Kg/cm}^2$ (120 MPa) $E_{v2}/E_{v1} \leq 2.2$.

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Sunny
- Plate Diameter (mm)	600
- date of measurement	21/06/2023
- Unusual observation made during test	NO
- Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		First Cycle	Second Cycle	E_{v2}/E_{v1} Ratio
	From	To	$E_{v1} \text{ (kg/cm}^2\text{)}$	$E_{v2} \text{ (kg/cm}^2\text{)}$	
1	450+700	450+725	1516	1257	0.8
2	450+725	450+750	1690	1436	0.9
3	450+750	450+775	1806	1250	0.8
4	450+775	450+800	1568	1391	0.9
5	450+800	450+825	830	1744	2.1



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Namein to Foka
 Test Date : 21/06/2023
 report date : 26/07/2023
 Location : Station 450+700 to 450+725
 Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.91	0.09	19.87	0.13	19.72	0.28	0.17
2	0.83	19.80	0.20	19.73	0.27	19.61	0.39	0.29
3	1.25	19.67	0.33	19.60	0.40	19.50	0.50	0.41
4	1.67	19.53	0.47	19.49	0.51	19.38	0.62	0.53
5	2.08	19.39	0.61	19.34	0.66	19.26	0.74	0.67
6	2.50	19.28	0.72	19.20	0.80	19.10	0.90	0.81

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.28	0.72	19.20	0.80	19.10	0.90	0.81
2	1.25	19.34	0.66	19.30	0.70	19.19	0.81	0.72
3	0.625	19.42	0.58	19.46	0.54	19.38	0.62	0.58
4	0.01	19.60	0.20	19.78	0.22	19.65	0.35	0.26

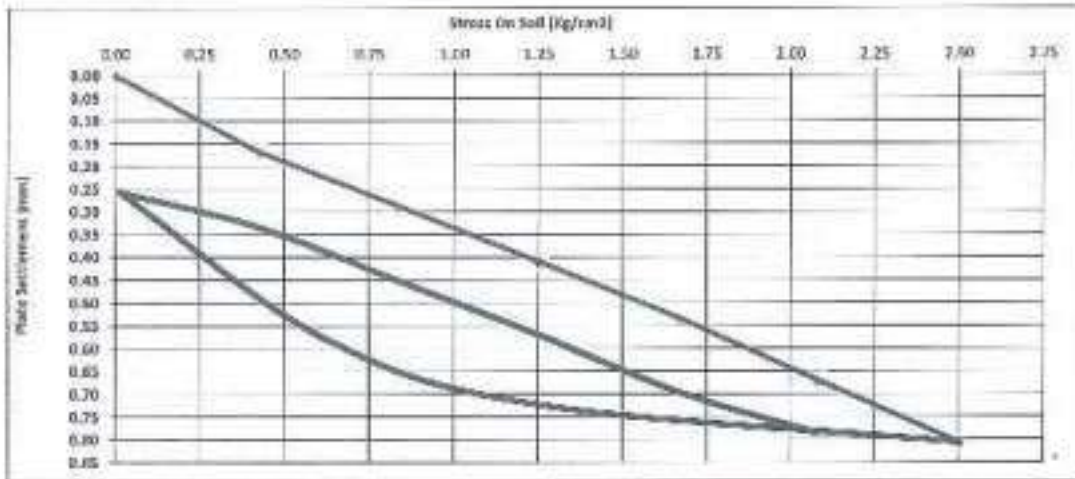
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.72	0.28	19.69	0.31	19.59	0.41	0.33
1	0.83	19.61	0.39	19.54	0.46	19.50	0.50	0.45
2	1.25	19.49	0.51	19.41	0.59	19.39	0.61	0.57
3	1.67	19.36	0.64	19.31	0.69	19.24	0.76	0.70
4	2.08	19.27	0.73	19.22	0.78	19.15	0.85	0.79



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Souda to Marsa Matrouh Priority Sector (6) -- Alamein to Foka
Test Date : 21/06/2023
report date : 26/07/2023
Location : Station 450+700 to 450+725
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (t)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.17	0.29	0.41	0.53	0.67	0.81

UnLoading (t)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.81	0.72	0.58	0.26

D (mm) = 600	S1 (mm) = 0.28	S2 (mm) = 0.16	ΔS = 0.30
Ev1 (kg/cm²) = (0.75 * D² * Δσ) / ΔS	1518		

Ev2/Ev1 = 0.8

Loading (t)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.26	0.33	0.45	0.57	0.70	0.79

D (mm) = 600	S1 (mm) = 0.56	S2 (mm) = 0.71	ΔS = 0.36
Ev2 (kg/cm²) = (0.75 * D² * Δσ) / ΔS	1257		

Ev1 = Modules of deformation during the loading stage.

Ev2 = Modules of deformation during the Reloading stage.

D = Plate diameter (mm)

Δs = The difference between 0.3 and 0.7 from the maximum loading (σmax) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



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Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Solihna to Mersa Matrouh Priority Sector (8) – Alamein to Foka
 Test Date : 21/06/2023
 report date : 26/07/2023
 Location : Station 450+725 to 450+750
 Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.84	0.16	19.64	0.36	19.56	0.44	0.32
2	0.83	19.68	0.32	19.54	0.46	19.46	0.54	0.44
3	1.25	19.54	0.46	19.41	0.59	19.38	0.62	0.56
4	1.67	19.41	0.59	19.30	0.70	19.29	0.71	0.67
5	2.08	19.30	0.70	19.24	0.76	19.21	0.79	0.75
6	2.50	19.15	0.85	19.10	0.90	19.09	0.91	0.89

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.15	0.85	19.10	0.90	19.09	0.91	0.89
2	1.25	19.24	0.76	19.20	0.80	19.18	0.82	0.79
3	0.625	19.36	0.64	19.35	0.65	19.33	0.67	0.65
4	0.01	19.64	0.36	19.71	0.29	19.62	0.38	0.34

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.52	0.48	19.60	0.40	19.51	0.49	0.46
1	0.83	19.40	0.60	19.51	0.49	19.42	0.58	0.56
2	1.25	19.29	0.71	19.40	0.60	19.29	0.71	0.67
3	1.67	19.18	0.82	19.31	0.69	19.20	0.80	0.77
4	2.08	19.10	0.90	19.20	0.80	19.09	0.91	0.87



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamaia to Foka
Test Date : 21/06/2023
report date : 26/07/2023
Location : Station 450+725 to 450+750
Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.32	0.44	0.56	0.67	0.75	0.89

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.89	0.79	0.65	0.34

D (mm) =	600	S1 (mm) =	0.42	S2(mm) =	0.89	ΔS =	0.27
Ev1 (kg/cm²) = $(0.75 \cdot D \cdot \Delta \sigma) / \Delta S$			1690				

Ev2/Ev1 = 0.9

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.34	0.46	0.56	0.67	0.77	0.87

D (mm) =	600	S1 (mm) =	0.48	S2(mm) =	6.73	ΔS =	0.31
Ev2 (kg/cm²) = $(0.75 \cdot D \cdot \Delta \sigma) / \Delta S$			1436				

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the reloading stage.
D = Plate diameter (mm)
Δσ = The difference between 0.3 and 0.7 from the maximum loading (σmax) (kg/cm²)
ΔS = Difference in settlements corresponding in 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) - Alamein to Foka
 Test Date : 21/06/2023
 report date : 26/07/2023
 Location : Station 450+750 to 450+775
 Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.81	0.19	19.87	0.13	19.73	0.27	0.20
2	0.83	19.68	0.32	19.75	0.25	19.62	0.38	0.32
3	1.25	19.56	0.44	19.62	0.38	19.50	0.50	0.44
4	1.67	19.45	0.55	19.51	0.49	19.39	0.61	0.55
5	2.08	19.32	0.68	19.40	0.60	19.27	0.73	0.67
6	2.50	19.18	0.82	19.28	0.72	19.11	0.89	0.81

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.18	0.82	19.28	0.72	19.11	0.89	0.81
2	1.25	19.29	0.71	19.36	0.64	19.18	0.82	0.72
3	0.625	19.46	0.54	19.50	0.50	19.36	0.64	0.56
4	0.01	19.78	0.22	19.82	0.18	19.68	0.32	0.24

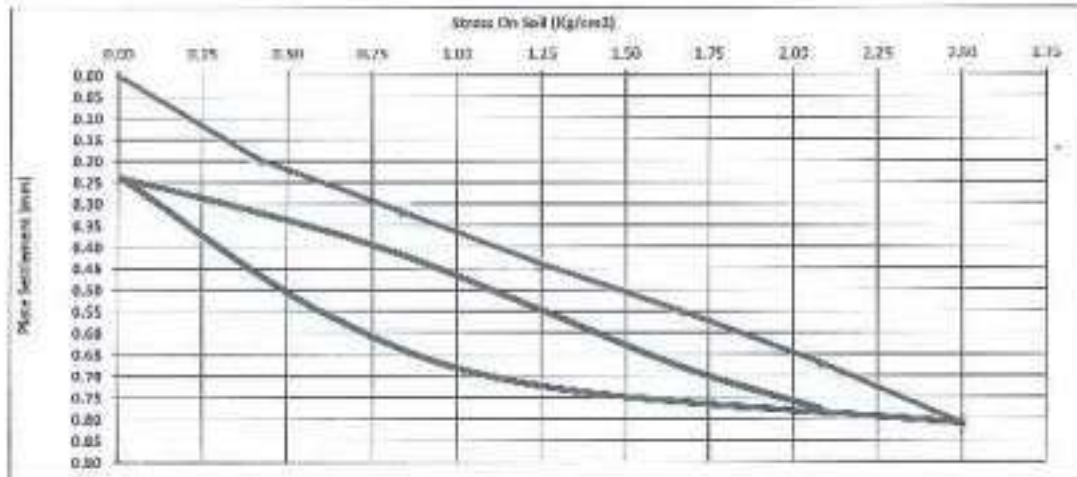
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.70	0.30	19.73	0.27	19.61	0.39	0.32
1	0.83	19.59	0.41	19.64	0.36	19.52	0.48	0.42
2	1.25	19.46	0.54	19.52	0.48	19.38	0.62	0.55
3	1.67	19.31	0.69	19.40	0.60	19.25	0.75	0.68
4	2.08	19.20	0.80	19.31	0.69	19.16	0.84	0.78



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (B) – Adamsin to Foka
Test Date : 21/06/2023
report date : 26/07/2023
Location : Station 450+750 to 450+775
Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1188.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.20	0.32	0.44	0.55	0.67	0.81

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.81	0.72	0.58	0.24

D (mm) = 600	S1 (mm) = 0.29	S2 (mm) = 0.57	ΔS = 0.28
Ev1 (kg/cm²) = $(0.75 \cdot D^2 \cdot \Delta\sigma) / \Delta S$	1606		

Ev2/Ev1 = 0.8

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1188.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.24	0.32	0.42	0.55	0.68	0.78

D (mm) = 800	S1 (mm) = 0.34	S2 (mm) = 0.70	ΔS = 0.36
Ev2 (kg/cm²) = $(0.75 \cdot D^2 \cdot \Delta\sigma) / \Delta S$	1250		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the ReLoading stage.

D = Plate diameter (mm)

Δs = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
 Test Date : 21/06/2023
 report date : 26/07/2023
 Location : Station 450+775 to 450+800
 Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.90	0.10	19.84	0.16	19.81	0.19	0.15
2	0.83	19.79	0.21	19.73	0.27	19.70	0.30	0.26
3	1.25	19.67	0.33	19.62	0.38	19.58	0.42	0.38
4	1.67	19.53	0.47	19.49	0.51	19.47	0.53	0.50
5	2.08	19.45	0.55	19.36	0.64	19.34	0.66	0.62
6	2.50	19.29	0.71	19.21	0.79	19.19	0.81	0.77

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.29	0.71	19.21	0.79	19.19	0.81	0.77
2	1.25	19.29	0.71	19.25	0.75	19.22	0.78	0.75
3	0.625	19.36	0.64	19.37	0.63	19.36	0.64	0.64
4	0.01	19.72	0.28	19.74	0.26	19.71	0.29	0.28

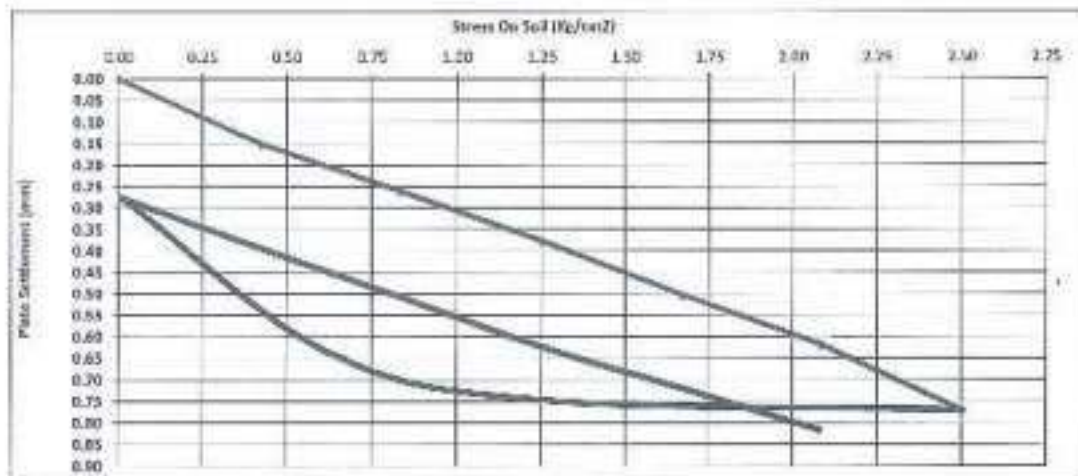
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.61	0.39	19.62	0.38	19.59	0.41	0.39
1	0.83	19.50	0.50	19.50	0.50	19.48	0.52	0.51
2	1.25	19.39	0.61	19.38	0.62	19.36	0.64	0.62
3	1.67	19.28	0.72	19.29	0.71	19.27	0.73	0.72
4	2.08	19.20	0.80	19.18	0.82	19.17	0.83	0.82



Company Name : Sun Rise Construction
Project : Electric Express Trains, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 21/06/2023
report date : 26/07/2023
Location : Station 450+775 to 450+800
Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.15	0.28	0.38	0.50	0.62	0.77

Unloading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.825	0.01
Settlement (mm)	0.77	0.75	0.64	0.28

D (mm) = 600	S1 (mm) = 0.24	S2 (mm) = 0.53	ΔS = 0.29
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS	1568		

$$Ev2/Ev1 = 0.9$$

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.28	0.38	0.51	0.62	0.72	0.82

D (mm) = 600	S1 (mm) = 0.42	S2 (mm) = 0.74	ΔS = 0.32
Ev2 (kg/cm2) = (0.75*D*Δσ)/ΔS	1291		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Δσ = The difference between 0.3 and 0.7 from the maximum loading (σmax) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Almain to Foka
 Test Date : 21/06/2023
 report date : 26/07/2023
 Location : Station 450+800 to 450+825
 Test No. : 05

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.90	0.10	19.80	0.20	19.75	0.25	0.18
2	0.83	19.79	0.21	19.58	0.42	19.50	0.50	0.38
3	1.25	19.56	0.44	19.24	0.76	19.28	0.72	0.64
4	1.67	19.46	0.54	18.95	1.05	19.30	0.90	0.83
5	2.08	19.08	0.92	18.66	1.34	18.98	1.02	1.09
6	2.50	18.83	1.17	18.44	1.56	18.90	1.10	1.28

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	18.83	1.17	18.44	1.56	18.90	1.10	1.28
2	1.25	18.85	1.15	18.50	1.50	18.98	1.02	1.22
3	0.625	18.88	1.12	18.60	1.40	19.08	0.92	1.15
4	0.01	19.02	0.98	18.86	1.14	19.25	0.75	0.96

Loading Stage (2)

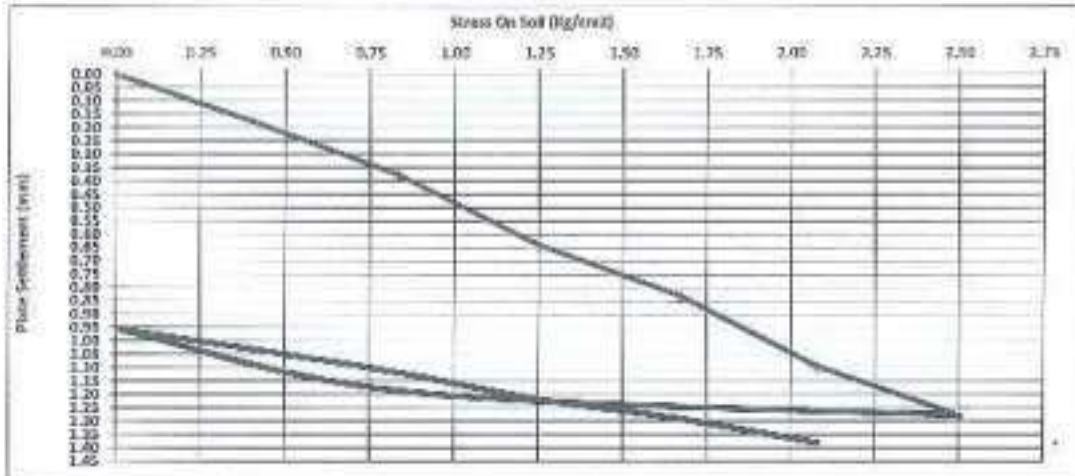
Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	18.95	1.05	18.75	1.25	19.20	0.80	1.03
1	0.83	18.88	1.12	18.63	1.37	19.14	0.86	1.12
2	1.25	18.80	1.20	18.55	1.45	19.00	1.00	1.22
3	1.67	18.72	1.28	18.48	1.52	18.93	1.07	1.29
4	2.08	18.60	1.40	18.41	1.59	18.85	1.15	1.38



Company Name
Project
Test Date
report date
Location
Test No.

: Sun Rise Construction
: Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (6) - Alamein to Foka
: 21/06/2023
: 26/07/2023
: Station 450+800 to 450+825
: 05

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.60
Settlement (mm)	0.00	0.18	0.36	0.64	0.83	1.09	1.28

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.60	1.25	0.625	0.01
Settlement (mm)	1.28	1.22	1.15	0.96

D (mm) =	600	S1 (mm) =	0.34	S2 (mm) =	0.88	ΔS =	0.54
Ev1 (kg/cm²) = (0.75 * D * Δσ) / ΔS			0.30				

Ev2/Ev1 =	2.1
-----------	-----

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.96	1.03	1.12	1.22	1.29	1.38

D (mm) =	600	S1 (mm) =	1.06	S2 (mm) =	1.31	ΔS =	0.26
Ev2 (kg/cm²) = (0.75 * D * Δσ) / ΔS			1744				

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Δσ = The difference between 0.3 and 0.7 from the maximum loading (σmax) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax : 27367231 - 27363093



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الزمالك - القاهرة
تليفون - فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣
www.cel-egypt.com

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (448+600) : (449+600)
Delivery Date : 26/03/2023
Reporting Date : 03/04/2023
Reporting No. : 60
Sample No. : 02

Dear Gentleman,

Attached here with the Sub-Ballast delivered on 26/03/2023

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Proctor test according to ASTM D-1557.
5. Specific Gravity & Absorption according to ASTM C-127 & D 6473.
6. CBR according to ASTM D-1883
7. Los Anglos according to ASTM C-131.

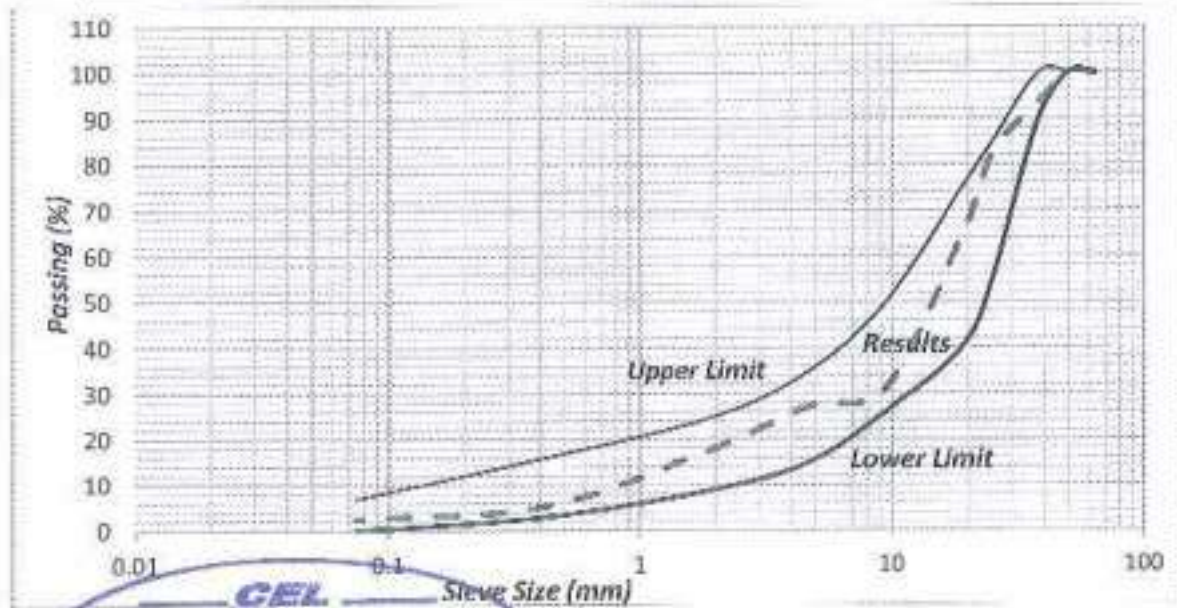
Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken

CEL
مكتب معامل الاستشارات الهندسية
الساحل الشمالي
Signature /
ر.م. حسن محمد
المراقب الرئيسي : د. طارق كمال - المهندس
المراقب : د. محمد كمال - المهندس

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (448+600) : (449+600)
Delivery Date : 26/03/2023
Reporting Date : 03/04/2023
Reporting No. : 60
Sample No. : 02

Results of sieve analysis according to ASTM D-422.

Sieve Size (mm)	Passing %	Job specification limits (ASTM D-422)	
		Min.	Max.
63.5	100	100	100
50	100	100	100
38	93.6	90	100
25	82.3	55	85
19	64.6	40	75
12.5	35.6	--	--
9.5	31.2	26	50
4.75	27.2	15	35
2.00	18.1	9	25
0.425	5.4	3	16
0.075	2.5	0	7



The test results are (☒ Comply - ☐ Not Comply) with specifications limits.

Signature :

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (448+600) : (449+600)
Delivery Date : 26/03/2023
Reporting Date : 03/04/2023
Reporting No. : 60
Sample No. : 02

**Materials finer than 75 μ m (no.200) sieve
by washing ASTM D-1140.**

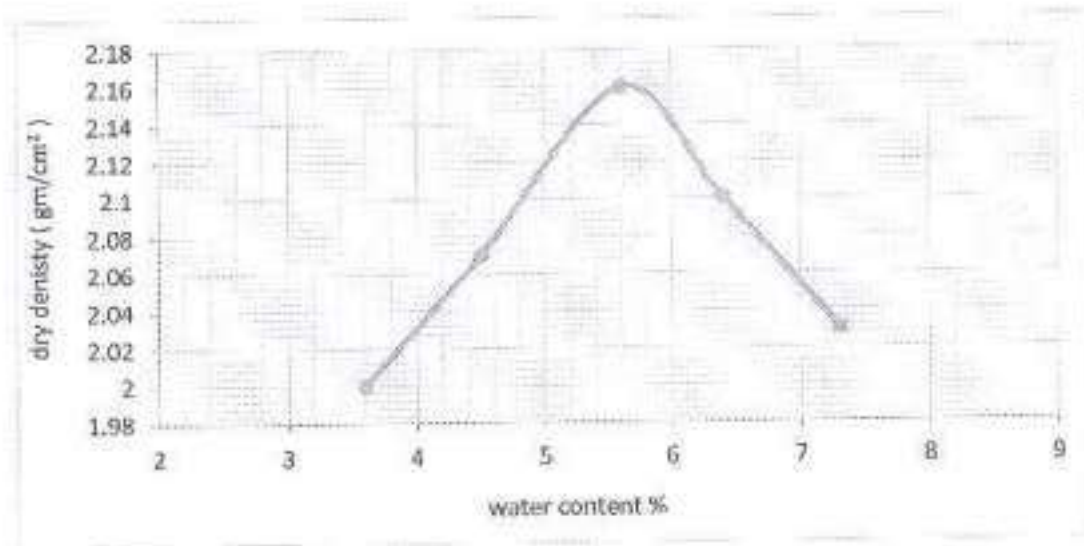
Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	2.5

Signature /

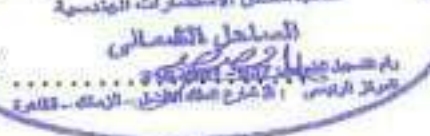
مكتب معامل الاستشارات الهندسية
الزمالك - القاهرة
رقم تسجيل المهندسين : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣
البريد الإلكتروني : cel@cel-egypt.com

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (448+600) : (449+600)
Delivery Date : 26/03/2023
Reporting Date : 03/04/2023
Reporting No. : 60
Sample No. : 02

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm³) : 2.16
- Optimum moisture content % : 5.6

Signature / 

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (448+600) : (449+600)
Delivery Date : 26/03/2023
Reporting Date : 03/04/2023
Reporting No. : 60
Sample No. : 02

Results of Specific Gravity and Absorption
of Course Aggregate
ASTM C127 & D 6473

Test	Results
Bulk Specific Gravity (OD)	2.51
Bulk Specific Gravity (SSD)	2.53
Apparent Specific Gravity.	2.61
Absorption %	4.2

Note:

- (OD) Refer to Oven Dry.
- (SSD) Refer to Saturated Surface Dry.

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شركة المساهمة

Signature /

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (448+600) : (449+600)
Delivery Date : 26/03/2023
Reporting Date : 03/04/2023
Reporting No. : 60
Sample No. : 02

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	4.10
1.27	0.050	4.64
1.91	0.075	5.20
2.54	0.100	5.76
3.18	0.125	6.36
3.81	0.150	6.82
4.45	0.175	7.38
5.08	0.200	7.94
5.71	0.225	8.51
6.35	0.250	9.07

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	83.4
	6.90	5.76	

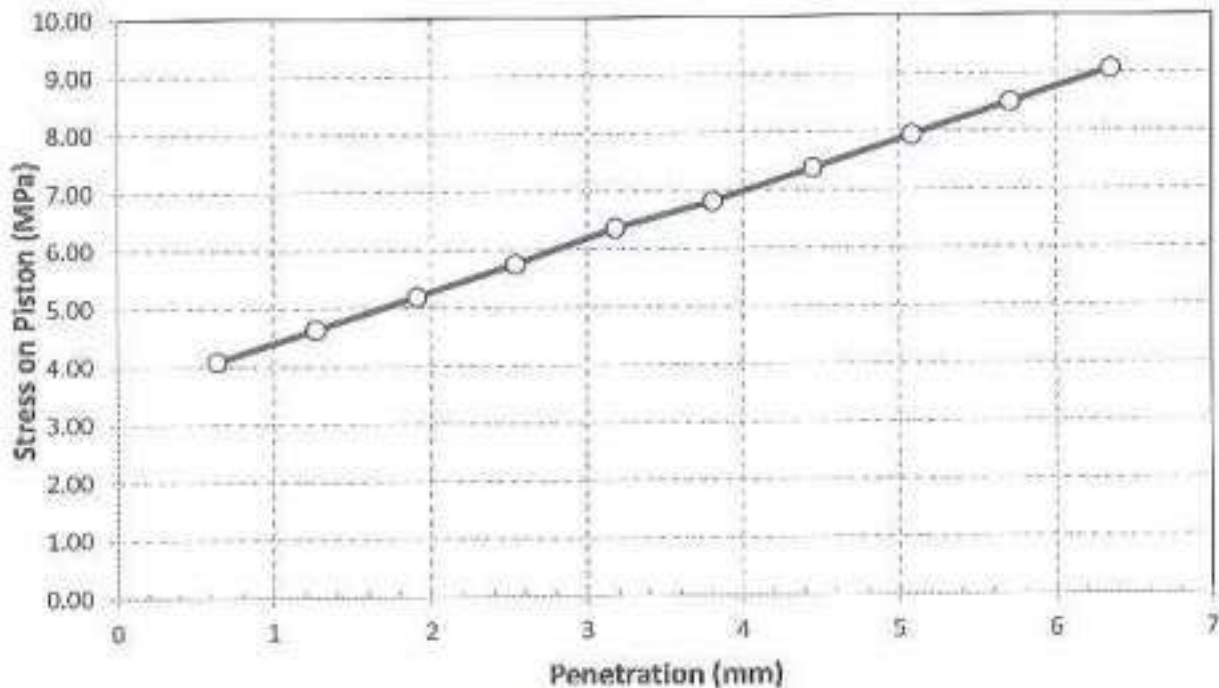
Notes :

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of 2.16 (gm/cm³) at 5.6 % optimum water content.
- 3- Surcharge load 4.50 kg.

Signature

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St. (448+600) : (449+600)
Delivery Date : 26/03/2023
Reporting Date : 03/04/2023
Reporting No. : 60
Sample No. : 02

Load Penetration Curve of CBR Test
ASTM D-1883



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البريد الإلكتروني: info@cel-egypt.com
رقم التسجيل: ٢٧٣١٧٢٣١ - ٢٧٣١٧٢٣٢
العنوان: ٣ شارع الملك الأفندي - القاهرة

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St (449+600) : (451+100)
Delivery Date : 26/03/2023
Reporting Date : 03/04/2023
Reporting No. : 62
Sample No. : 04

Dear Gentleman,

Attached here with the Sub-Ballast delivered on 26/03/2023

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Proctor test according to ASTM D-1557.
5. Specific Gravity & Absorption according to ASTM C-127 & D 6473.
6. CBR according to ASTM D-1883
7. Los Anglos according to ASTM C-131.

Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken

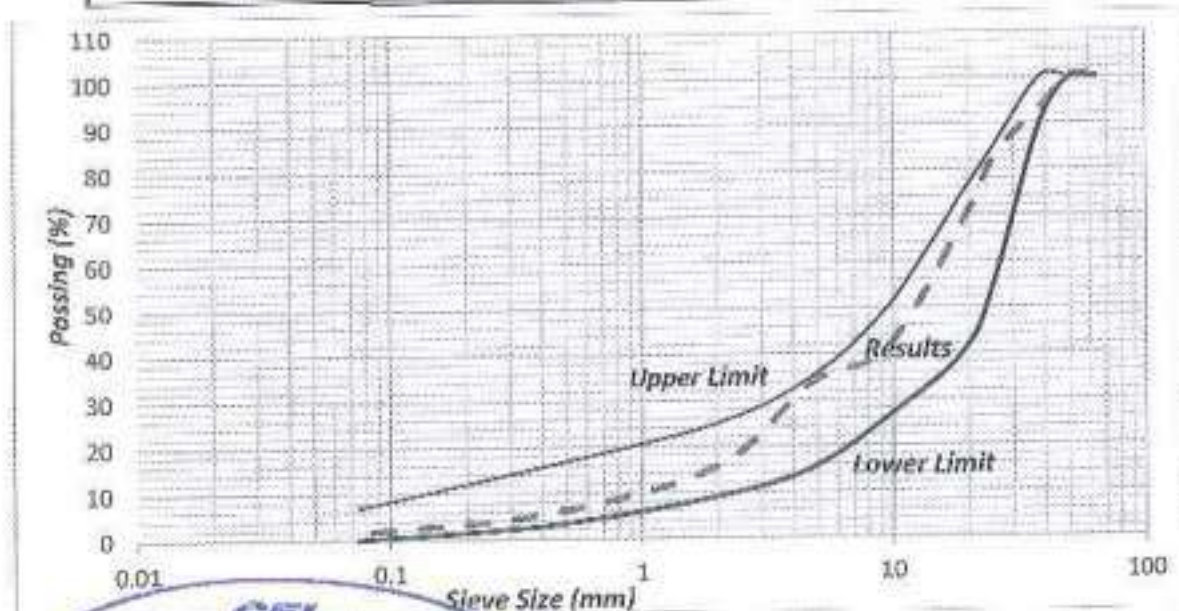
CEL
مكتب معامل الاستشارات الهندسية
البريد الإلكتروني: cel@cel-egypt.com
رقم الترخيص: ٢٧٣١٧٢٢١ - ٢٧٣١٣٠٩٣
شعاع الملك الأفصل - القاهرة

Signature /

Company Name : Sun Rise
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
 Type of sample : Sub-Ballast
 Location : St (449+600) : (451+100)
 Delivery Date : 26/03/2023
 Reporting Date : 03/04/2023
 Reporting No. : 62
 Sample No. : 04

Results of sieve analysis according to ASTM D-422.

Sieve Size (mm)	Passing %	Job specification limits (ASTM D-422)	
		Min.	Max.
63.5	100	100	100
50	100	100	100
38	93.2	90	100
25	82.4	55	85
19	72.3	40	75
12.5	50.2	--	--
9.5	41.2	26	50
4.75	33.6	15	35
2.00	15.6	9	25
0.425	5.6	3	16
0.075	1.5	0	7



The test results are ☒ Comply - ☐ Not Comply) with specifications limits.

Signature :

Company Name : Sun Rise
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
 Type of sample : Sub-Ballast
 Location : St (449+600) : (451+100)
 Delivery Date : 26/03/2023
 Reporting Date : 03/04/2023
 Reporting No. : 62
 Sample No. : 04

Materials finer than 75 μ m (no.200) sieve
by washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	1.5


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 Signature / 
 د. محمد العناني
 رقم الترخيص: 637 - 601
 شارع النيل - القاهرة

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St (449+600) : (451+100)
Delivery Date : 26/03/2023
Reporting Date : 03/04/2023
Reporting No. : 62
Sample No. : 04

Results of liquid limit and plasticity index
of soils according to ASTM D-4318

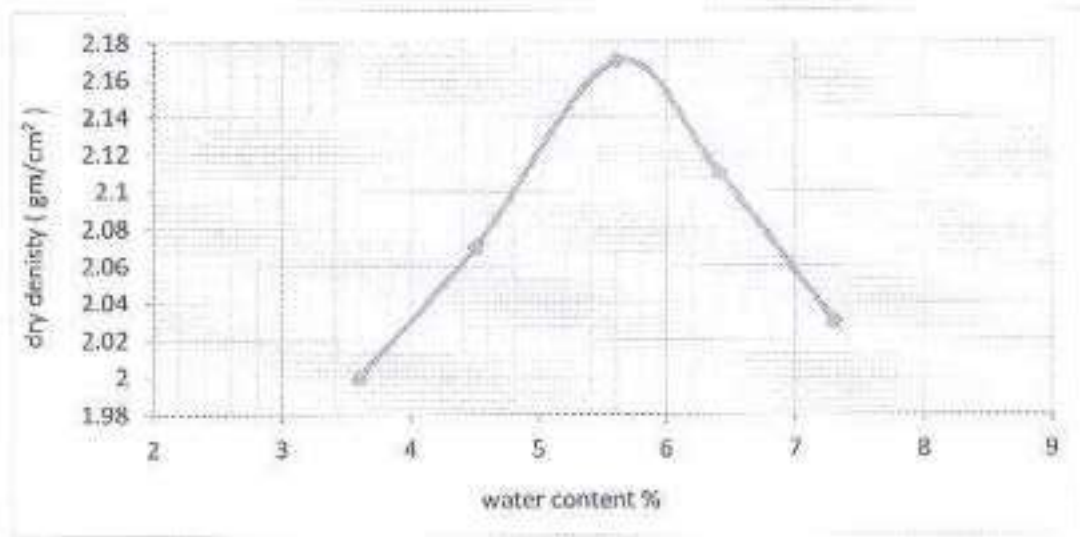
Test	Results (%)
Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

Signature /

مكتب معامل الإستشارات الهندسية
المنطقه الشماليه
رقم التسجيل رقم 229 - 091 - 210
عنوان الرئيس : شارع الملك الفضل - الزمالك - القاهرة

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St (449+600) : (451+100)
Delivery Date : 26/03/2023
Reporting Date : 03/04/2023
Reporting No. : 62
Sample No. : 04

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm³) : 2.17
- Optimum moisture content % : 5.6

Signature / 

Company Name : Sun Rise
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
 Type of sample : Sub-Ballast
 Location : St (449+600) : (451+100)
 Delivery Date : 26/03/2023
 Reporting Date : 03/04/2023
 Reporting No. : 62
 Sample No. : 04

Results of Specific Gravity and Absorption
of Course Aggregate
ASTM C127 & D 6473

Test	Results
Bulk Specific Gravity (OD)	2.53
Bulk Specific Gravity (SSD)	2.55
Apparent Specific Gravity.	2.60
Absorption %	2.9

Note:

- (OD) Refer to Oven Dry.
- (SSD) Refer to Saturated Surface Dry.

Signature /


Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh
Type of sample : Sub-Ballast
Location : St (449+600) : (451+100)
Delivery Date : 26/03/2023
Reporting Date : 03/04/2023
Reporting No. : 62
Sample No. : 04

Test Results of California Bearing Ratio on Base Materials ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	4.06
1.27	0.050	4.69
1.91	0.075	5.25
2.54	0.100	5.81
3.18	0.125	6.42
3.81	0.150	6.98
4.45	0.175	7.55
5.08	0.200	8.11
5.71	0.225	8.67
6.35	0.250	9.23

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	84.2
	6.90	5.81	

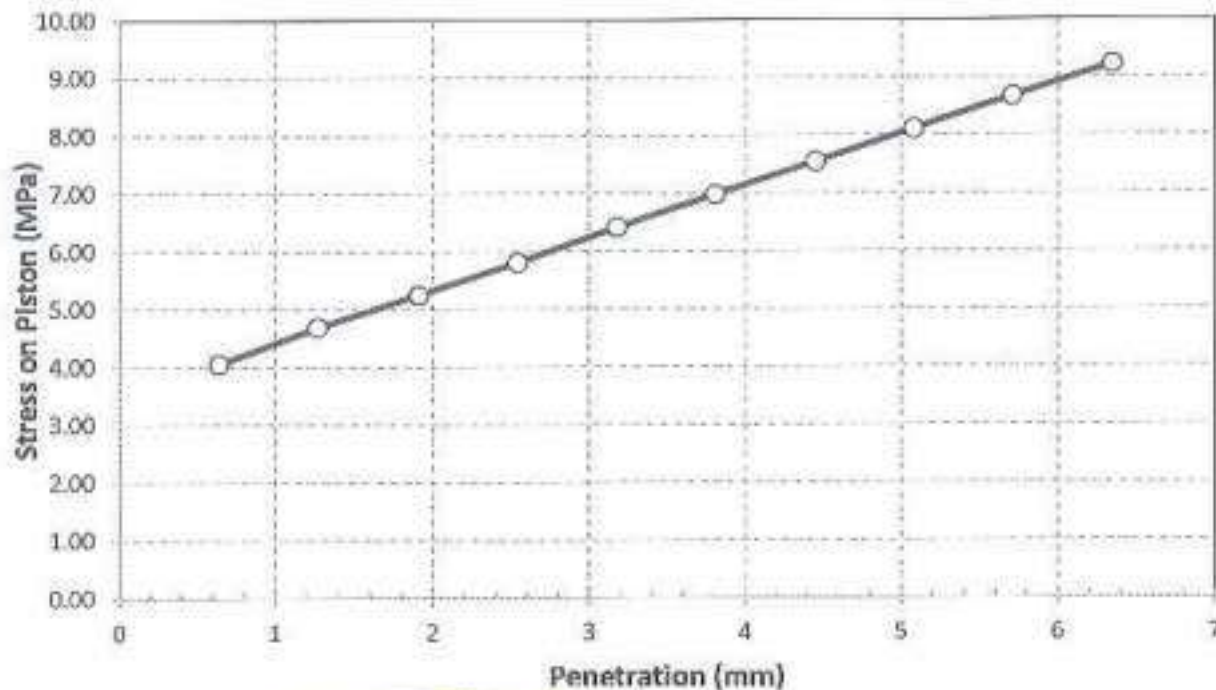
Notes :

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of 2.17 (gm/cm³) at 5.6% optimum water content.
- 3- Surcharge load 4.50 Kg.

Signature: _____

Company Name : Sun Rise
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Type of sample : Sub-Ballast
Location : St (449+600) : (451+100)
Delivery Date : 26/03/2023
Reporting Date : 03/04/2023
Reporting No. : 62
Sample No. : 04

Load Penetration Curve of CBR Test
ASTM D-1883



Signature



Report

1. Evaluation and representation of results
2. Load Settlement curve
3. The test report content the following:-
 - location of test site - Dimension of loading plate
 - Measuring device used - Type of soil
 - Type of Bedding material below the plate -Weathering condition
 - Time and date of measurements - Unusual observation made during test
 - Dial gauge reading and corresponding nominal stress - Loading-settlement curve
 - Description of the soil condition below the plate after testing

Report

Type of soil: Sub ballast.

- Job requirement: $E_{v2} > 1200 \text{ Kg/cm}^2$ (120 MPa) $E_{v2}/E_{v1} \leq 2.2$.

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Sunny
- Plate Diameter (mm)	600
- date of measurement	05/08/2023
- Unusual observation made during test	NO
- Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		First Cycle	Second Cycle	E_{v2}/E_{v1} Ratio
	From	To	$E_{v1} \text{ (kg/cm}^2\text{)}$	$E_{v2} \text{ (kg/cm}^2\text{)}$	
1	448+850	448+875	1097	1559	1.1
2	448+875	448+900	1319	1352	1.0
3	448+900	448+925	1442	1395	1.0
4	448+925	448+950	1397	1715	1.2
5	448+950	448+975	1547	1436	0.9
6	448+975	449+000	1152	1487	1.3
7	449+000	449+025	1534	1446	0.9
8	449+025	449+050	1458	1272	0.9
9	449+050	449+075	1329	1360	1.0
10	449+075	449+100	1480	1442	1.0

Signature / 



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مكتب معمل الاستشارات الهندسية

Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sekhna to Marsa Matruh Priority Sector (6) - Alamein to Foka
Test Date : 05/06/2023
report date : 06/06/2023
Location : Station 448+850 to 448+876
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.85	0.15	19.78	0.22	19.55	0.45	0.27
2	0.83	19.80	0.20	19.62	0.38	19.19	0.81	0.46
3	1.25	19.78	0.22	19.45	0.51	18.81	1.19	0.64
4	1.67	19.66	0.34	19.38	0.62	18.54	1.46	0.81
5	2.08	19.46	0.54	19.26	0.74	18.40	1.60	0.96
6	2.50	19.14	0.86	19.14	0.86	18.35	1.65	1.12

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.14	0.86	19.14	0.86	18.35	1.65	1.12
2	1.25	19.20	0.80	19.23	0.77	18.59	1.41	0.99
3	0.625	19.30	0.70	19.38	0.62	18.84	1.16	0.83
4	0.01	19.58	0.42	19.55	0.45	19.03	1.00	0.62

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.35	0.65	19.46	0.54	18.95	1.05	0.75
1	0.83	19.21	0.79	19.32	0.68	18.85	1.15	0.87
2	1.25	19.15	0.85	19.26	0.74	18.71	1.20	0.96
3	1.67	19.10	0.90	19.20	0.80	18.59	1.41	1.04
4	2.08	19.00	1.00	19.12	0.88	18.41	1.59	1.16



Company Name:

Project:

Test Date:

report date:

Location:

Test No.:

: Sun Rise Construction

: Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (6) - Alamin to Fika

: 06/05/2023

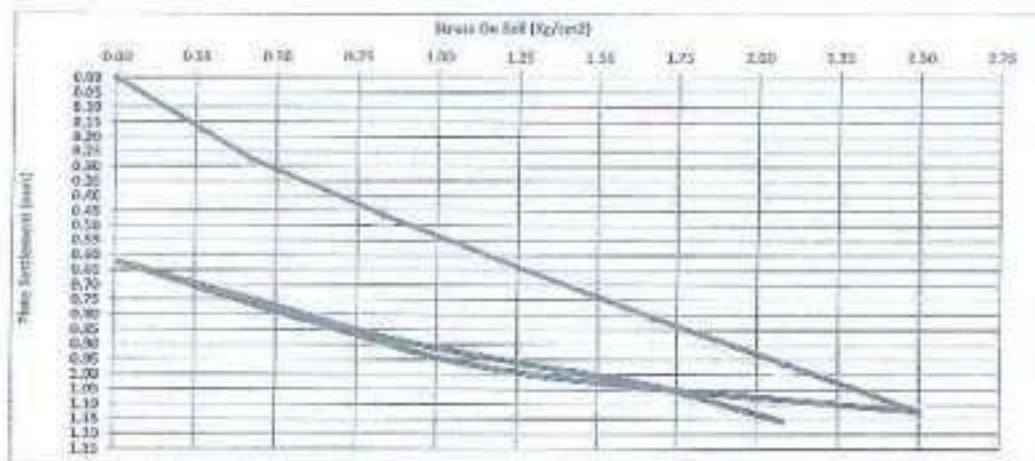
: 06/05/2023

: Station 448+050 to 448+875

: 01

Nonrepetitive Static Plate Load Tests of Soils

DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1188.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.27	0.46	0.64	0.81	0.96	1.12

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.828	0.01
Settlement (mm)	1.12	0.99	0.83	0.82

D (mm) = 600	S1 (mm) = 0.43	S2 (mm) = 0.81	ΔS = 0.41
Ev1 (kg/cm²) = $(0.75 \cdot D^2 \cdot \Delta\sigma) / \Delta S$	1097		

$$Ev2/Ev1 = 1.4$$

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1188.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.02	0.75	0.87	0.96	1.04	1.18

D (mm) = 600	S1 (mm) = 0.77	S2 (mm) = 1.06	ΔS = 0.29
Ev2 (kg/cm²) = $(0.75 \cdot D^2 \cdot \Delta\sigma) / \Delta S$	1558		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the reloading stage.

D = Plate diameter (mm)

ΔS = The difference between 0.3 and 0.7 from the maximum loading (mm)

ΔS = Difference in settlement corresponding to 0.3 and 0.7 from the maximum loading (mm)





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مكتب محامل الاستشارات الهندسية

Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (6) - Alamein to Foka
Test Date : 05/06/2023
report date : 06/06/2023
Location : Station 448+875 to 448+900
Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils

DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.90	0.10	19.73	0.27	19.91	0.09	0.15
2	0.83	19.81	0.19	19.68	0.32	19.64	0.36	0.36
3	1.25	19.73	0.27	19.21	0.79	19.48	0.52	0.53
4	1.67	19.65	0.34	19.03	0.97	19.40	0.60	0.64
5	2.08	19.59	0.41	18.88	1.12	19.29	0.71	0.75
6	2.50	19.49	0.51	18.72	1.28	19.18	0.82	0.87

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.49	0.51	18.72	1.28	19.18	0.82	0.87
2	1.25	19.55	0.45	18.87	1.13	19.32	0.68	0.75
3	0.625	19.67	0.33	19.05	0.95	19.41	0.59	0.62
4	0.01	19.84	0.16	19.45	0.55	19.62	0.38	0.36

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.74	0.26	19.31	0.69	19.51	0.49	0.48
1	0.83	19.65	0.35	19.14	0.86	19.43	0.57	0.59
2	1.25	19.52	0.48	19.01	0.99	19.35	0.65	0.71
3	1.87	19.39	0.61	18.90	1.10	19.26	0.74	0.82
4	2.08	19.40	0.70	18.87	1.18	19.15	0.85	0.91



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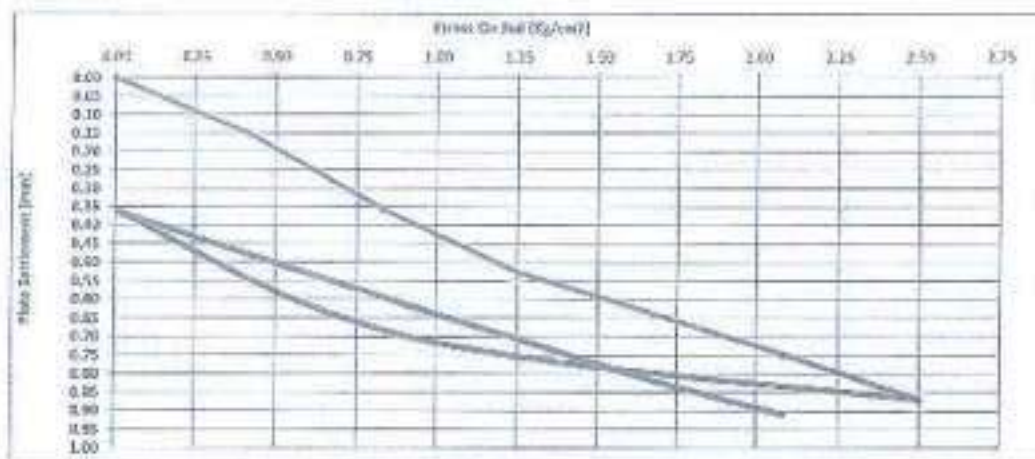


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Company Name
Project
Test Date
report date
Location
Test No.

: Sun Rise Construction
: Electric Express Train, from Al Ain Sokhna to Mersa Matruh Priority Sector (6) - Alamein to Foka
: 05/06/2023
: 06/06/2023
: Station 448+875 to 448+900
: 02

Nonresistive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1180.92	2345.0	3532.5	4719.4	5878.1	7085
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.15	0.30	0.53	0.64	0.75	0.87

Unloading (1)	1	2	3	4
Stage(Kg)	7085	3533	1760	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.87	0.70	0.62	0.35

D (mm) = 600	S1 (mm) = 0.22	S2 (mm) = 0.64	ΔS = 0.34
Ev1 (kg/cm²) = (0.75*D*Δσ)/ΔS	1319		

Ev2/Ev1 =	1.0
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Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1180.92	2345.0	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.35	0.48	0.60	0.71	0.82	0.91

D (mm) = 500	S1 (mm) = 0.69	S2 (mm) = 0.83	ΔS = 0.33
Ev2 (kg/cm²) = (0.75*D*Δσ)/ΔS	1352		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the unloading stage.

D = Plate diameter (mm)

Δσ = The difference between 0.3 and 0.7 from the maximum loading (mm) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)





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مكتب معامل الإستشارات الهندسية

Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (S) - Alamein to Foka
Test Date : 05/06/2023
report date : 06/06/2023
Location : Station 448+900 to 448+925
Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.74	0.26	19.81	0.19	19.68	0.32	0.26
2	0.83	19.60	0.40	19.68	0.32	19.52	0.48	0.40
3	1.25	19.48	0.52	19.52	0.48	19.40	0.60	0.53
4	1.67	19.32	0.68	19.40	0.60	19.30	0.70	0.66
5	2.08	19.21	0.79	19.27	0.73	19.17	0.83	0.78
6	2.50	19.06	0.94	19.14	0.86	19.03	0.97	0.92

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.06	0.94	19.14	0.86	19.03	0.97	0.92
2	1.25	19.15	0.85	19.22	0.78	19.30	0.90	0.84
3	0.625	19.35	0.65	19.44	0.56	19.26	0.74	0.65
4	0.01	19.64	0.36	19.76	0.24	19.58	0.42	0.34

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.53	0.47	19.67	0.33	19.49	0.51	0.44
1	0.83	19.42	0.58	19.56	0.44	19.38	0.62	0.56
2	1.25	19.30	0.70	19.46	0.54	19.27	0.73	0.68
3	1.67	19.19	0.81	19.37	0.63	19.17	0.83	0.76
4	2.08	19.10	0.90	19.20	0.80	19.06	0.94	0.88



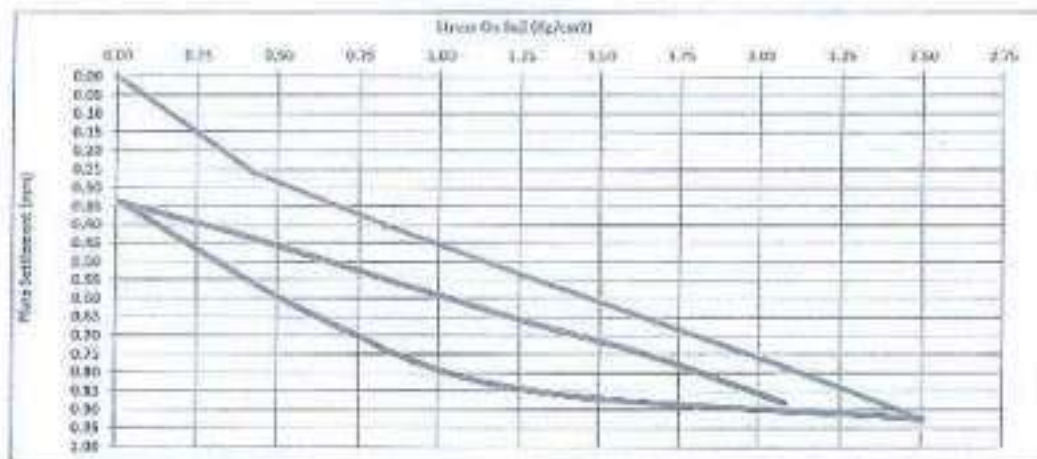
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Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sidiya to Marsa Matruh Priority Sector (6) - Afameh to Foka
Test Date : 05/06/2023
report date : 06/06/2023
Location : Station 440+000 to 440+025
Test No. : 103

Nonrepetitive Static Plate Load Test of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7005
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.05	2.50
Settlement (mm)	0.00	0.26	0.40	0.53	0.65	0.76	0.92

UnLoading (1)	1	2	3	4
Stage(Kg)	7005	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.92	0.64	0.65	0.34

D (mm) = 500	S1 (mm) = 0.37	S2 (mm) = 0.68	ΔS = 0.31
Ev1 (kg/cm²) = (0.75*D³ΔS)/AS	1402		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.05
Settlement (mm)	0.34	0.44	0.65	0.68	0.76	0.85

Ev2/Ev1 =	1.0
-----------	-----

D (mm) = 600	S1 (mm) = 0.66	S2 (mm) = 0.76	ΔS = 0.32
Ev2 (kg/cm²) = (0.75*D³ΔS)/AS	1395		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the reloading stage.

D = Plate diameter (mm)

ΔS = The difference between S2 and S1 from the maximum loading (stage) (mm)

AS = Difference in settlements corresponding to 0.2 and 0.7 from the maximum loading (mm)





Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (B) – Alamein to Foka
Test Date : 05/06/2023
report date : 06/06/2023
Location : Station 448+925 to 448+950
Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.83	0.17	19.81	0.19	19.85	0.15	0.17
2	0.83	19.71	0.29	19.70	0.30	19.73	0.27	0.29
3	1.25	19.54	0.46	19.56	0.44	19.61	0.39	0.43
4	1.67	19.46	0.54	19.40	0.60	19.46	0.54	0.56
5	2.08	19.35	0.65	19.26	0.74	19.31	0.69	0.69
6	2.50	19.24	0.76	19.14	0.86	19.19	0.81	0.81

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.24	0.76	19.14	0.86	19.15	0.81	0.81
2	1.25	19.28	0.72	19.09	0.91	19.23	0.77	0.80
3	0.625	19.34	0.66	19.16	0.84	19.28	0.72	0.74
4	0.01	19.61	0.39	19.40	0.60	19.59	0.41	0.47

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.53	0.47	19.30	0.70	19.51	0.49	0.55
1	0.83	19.45	0.55	19.26	0.74	19.43	0.57	0.62
2	1.25	19.37	0.63	19.19	0.81	19.32	0.68	0.71
3	1.67	19.28	0.72	19.11	0.89	19.19	0.81	0.81
4	2.08	19.19	0.81	19.02	0.98	19.03	0.97	0.92



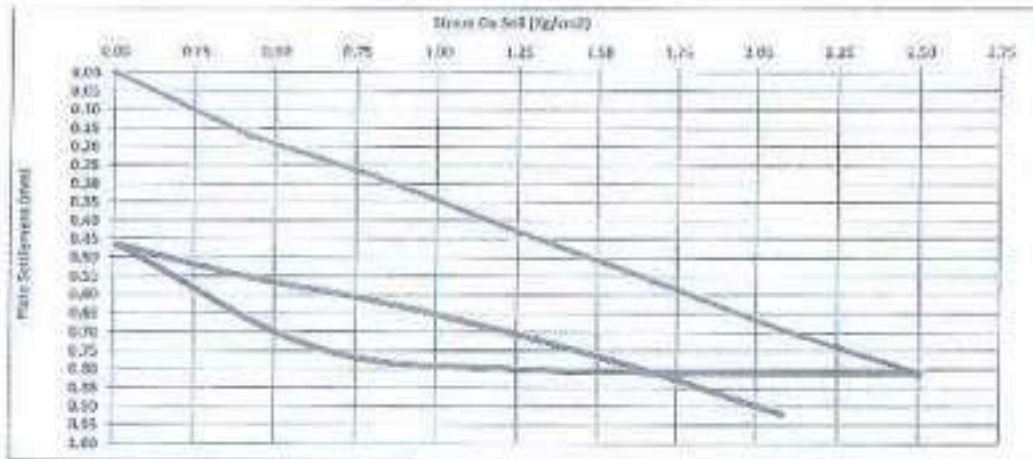
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Company Name: Sun Rise Construction
Project: Electric Express Train, from Al Ain Sidiya to Marsa Matruh Priority Sector (9) - Ahmed to Fala
Test Date: 05/06/2023
Report Date: 06/06/2023
Location: Station 448+925 to 448+958
Test No.: 04

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1185.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.09	2.50
Settlement (mm)	0.00	0.17	0.29	0.40	0.55	0.89	0.31

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.81	0.80	0.74	0.47

D (mm) = 600	S1 (mm) = 0.26	S2 (mm) = 0.59	ΔS = 0.32
Ev1 (kg/cm²) = (0.75 * D * ΔS) / ΔS	1397		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1185.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.09
Settlement (mm)	0.47	0.55	0.62	0.71	0.81	0.82

Ev2/Ev1 =	1.2
-----------	-----

D (mm) = 600	S1 (mm) = 0.57	S2 (mm) = 0.83	ΔS = 0.26
Ev2 (kg/cm²) = (0.75 * D * ΔS) / ΔS	1715		

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the unloading stage.
D = Plate diameter (mm)
Ds = The difference between S2 and S1 from the maximum loading (mm)
ΔS = Difference in settlements corresponding to S2 and S1 from the maximum loading (mm)





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مكتب معامل الإستشارات الهندسية

Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (8) - Abmein to Foka
Test Date : 05/06/2023
report date : 06/06/2023
Location : Station 448+950 to 448+975
Test No. : 05

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.80	0.20	19.65	0.35	19.64	0.36	0.30
2	0.83	19.68	0.32	19.54	0.46	19.50	0.50	0.43
3	1.25	19.54	0.46	19.43	0.59	19.38	0.62	0.56
4	1.67	19.42	0.58	19.30	0.70	19.27	0.73	0.67
5	2.08	19.30	0.70	19.15	0.85	19.18	0.82	0.79
6	2.50	19.14	0.86	19.00	1.00	19.03	0.97	0.94

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.14	0.86	19.00	1.00	19.03	0.97	0.94
2	1.25	19.24	0.76	19.09	0.91	19.12	0.88	0.85
3	0.625	19.42	0.58	19.30	0.70	19.26	0.74	0.67
4	0.01	19.75	0.25	19.62	0.38	19.58	0.42	0.35

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.56	0.34	19.52	0.46	19.47	0.53	0.45
1	0.83	19.54	0.46	19.41	0.59	19.36	0.64	0.56
2	1.25	19.42	0.58	19.30	0.70	19.27	0.73	0.67
3	1.67	19.31	0.69	19.22	0.78	19.18	0.82	0.78
4	2.08	19.20	0.80	19.10	0.90	19.07	0.93	0.88



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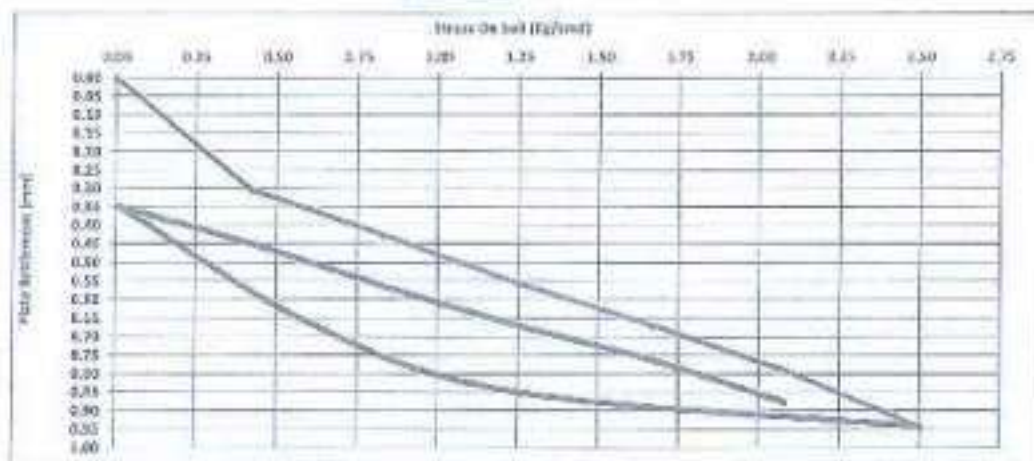


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مكتب معامل الاستشارات الهندسية

Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (B) – Alamein to Fuka
Test Date : 05/06/2023
report date : 06/06/2023
Location : Station 448+950 to 448+975
Test No. : 05

Nonrepertive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.0	3532.5	4719.4	5878.1	7005
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.30	0.43	0.56	0.67	0.78	0.94

D (mm) = 600	E1 (mm) = 0.40	E2 (mm) = 0.49	ΔS = 0.29
Ev1 (kg/cm²) = $(0.75 \cdot D^2 \cdot \Delta S) / \Delta S$	1547		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.0	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.35	0.45	0.56	0.67	0.78	0.88

D (mm) = 600	E1 (mm) = 0.47	E2 (mm) = 0.78	ΔS = 0.31
Ev2 (kg/cm²) = $(0.75 \cdot D^2 \cdot \Delta S) / \Delta S$	1430		

UnLoading (1)	1	2	3	4
Stage(Kg)	7005	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.94	0.85	0.67	0.35

Ev2/Ev1 =	0.9
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E1 = Modulus of deformation during the loading stage.
E2 = Modulus of deformation during the reloading stage.
D = Plate diameter (mm)
Ds = The difference between E1 and E2 from the maximum loading (mm)
ΔS = Difference in settlements corresponding to E1 and E2 from the maximum loading (mm)



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مكتب معامل الاستشارات الهندسية

Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) - Alamein to Foka
Test Date : 05/06/2023
report date : 06/06/2023
Location : Station 448+975 to 449+000
Test No. : 06

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.84	0.16	19.77	0.23	19.79	0.21	0.20
2	0.83	19.69	0.31	19.65	0.35	19.61	0.39	0.35
3	1.25	19.52	0.48	19.47	0.53	19.48	0.52	0.51
4	1.67	19.33	0.67	19.29	0.71	19.31	0.68	0.69
5	2.08	19.21	0.79	19.17	0.83	19.22	0.78	0.80
6	2.50	19.08	0.92	19.03	0.97	19.06	0.94	0.94

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.08	0.92	19.03	0.97	19.06	0.94	0.94
2	1.25	19.13	0.87	19.09	0.91	19.11	0.89	0.89
3	0.825	19.25	0.75	19.18	0.82	19.20	0.80	0.79
4	0.01	19.60	0.40	19.53	0.47	19.55	0.45	0.46

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.55	0.45	19.47	0.53	19.46	0.54	0.51
1	0.83	19.43	0.57	19.35	0.65	19.39	0.61	0.61
2	1.25	19.32	0.68	19.26	0.74	19.31	0.69	0.70
3	1.67	19.23	0.77	19.14	0.86	19.20	0.80	0.81
4	2.08	19.11	0.89	19.05	0.95	19.11	0.89	0.91



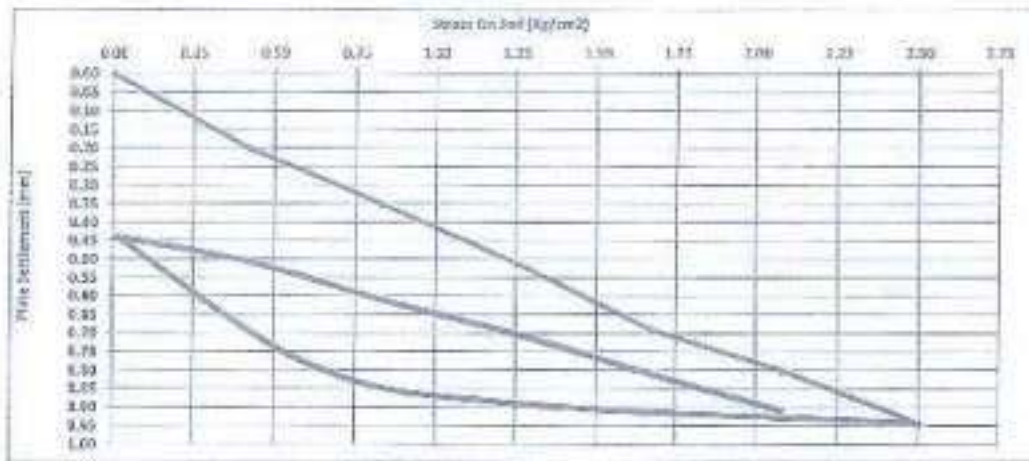
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Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Aio Sidiya to Marsa Matruh Priority Sector (S) - Alamin in Foka
 Test Date : 05/06/2023
 report date : 08/06/2023
 Location : Station 448+9/5 to 449+000
 Test No. : 06

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.8	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.20	0.35	0.51	0.69	0.80	0.94

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.825	0.01
Settlement (mm)	0.94	0.89	0.79	0.44

D (mm) = 600	S1 (mm) = 0.32	S2 (mm) = 0.71	ΔS = 0.39
Ev1 (kg/cm²) = $(6.75 \cdot D^2 \cdot \Delta S) / \Delta S$	1482		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.8	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.44	0.51	0.61	0.70	0.81	0.91

Ev2/Ev1 =	1.3
-----------	-----

D (mm) = 600	S1 (mm) = 0.53	S2 (mm) = 0.83	ΔS = 0.30
Ev2 (kg/cm²) = $(0.75 \cdot D^2 \cdot \Delta S) / \Delta S$	1487		

Ev1 = Modulus of deformation during the loading stage.
 Ev2 = Modulus of deformation during the Reloading stage.
 D = Plate diameter (mm)
 ΔS = The difference between S2 and S1 from the maximum loading (mm)
 ΔS = Difference in settlements corresponding to S2 and S1 from the maximum loading (mm)





Consulting Engineering Bureau & Laboratories

مكتب محامل الإستشارات الهندسية

Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (6) - Alamein to Foka
Test Date : 05/06/2023
report date : 06/06/2023
Location : Station 449+000 to 449+025
Test No. : 07

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.88	0.12	19.75	0.25	19.82	0.18	0.18
2	0.83	19.72	0.28	19.61	0.39	19.68	0.32	0.33
3	1.25	19.60	0.40	19.49	0.51	19.56	0.44	0.45
4	1.67	19.48	0.52	19.37	0.63	19.44	0.56	0.57
5	2.08	19.35	0.65	19.25	0.75	19.31	0.69	0.70
6	2.50	19.22	0.78	19.12	0.88	19.16	0.84	0.83

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.22	0.78	19.12	0.88	19.16	0.84	0.83
2	1.25	19.31	0.69	19.23	0.77	19.25	0.75	0.74
3	0.825	19.46	0.54	19.33	0.67	19.41	0.59	0.60
4	0.01	19.78	0.22	19.65	0.35	19.74	0.26	0.28

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.70	0.30	19.56	0.44	19.66	0.34	0.36
1	0.83	19.60	0.40	19.47	0.53	19.58	0.42	0.45
2	1.25	19.49	0.51	19.36	0.64	19.47	0.53	0.56
3	1.67	19.38	0.62	19.26	0.74	19.35	0.65	0.67
4	2.08	19.29	0.71	19.15	0.85	19.26	0.74	0.77



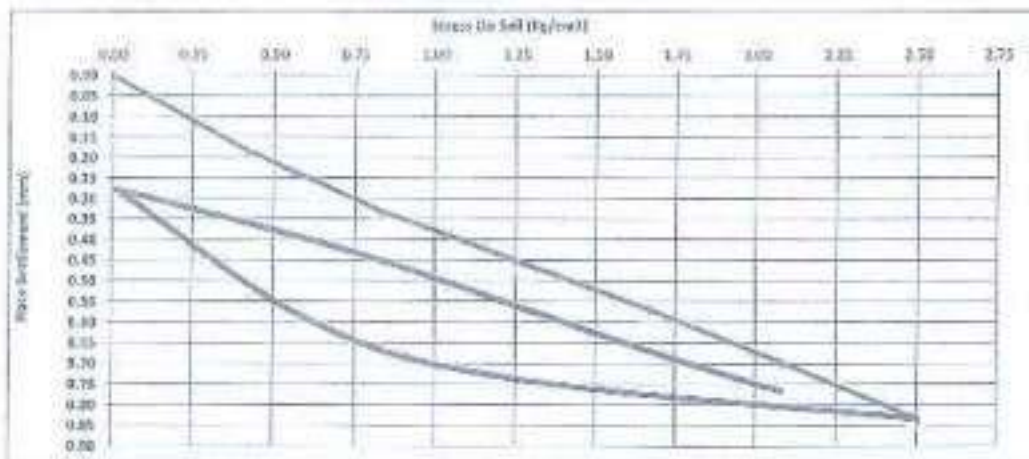
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Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sakhna to Marsa Matruh Priority Sector (6) - Alamein to Fekk
 Test Date : 05/06/2023
 report date : 06/06/2023
 Location : Station 449+000 to 449+025
 Test No. : 07

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7005
Stress (Kg/cm²)	0.00	0.42	0.63	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.10	0.33	0.45	0.57	0.70	0.83

UnLoading (1)	1	2	3	4
Stage(Kg)	7005	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.83	0.74	0.60	0.28

D (mm) = 600	S1 (mm) = 0.33	S2 (mm) = 0.59	ΔS = 0.26
Ev1 (kg/cm²) = $(0.75 \cdot D^2 \cdot \Delta S) / \Delta S$	1534		

$$Ev2/Ev1 = 0.9$$

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.63	1.25	1.67	2.08
Settlement (mm)	0.25	0.36	0.45	0.56	0.67	0.77

D (mm) = 500	S1 (mm) = 0.36	S2 (mm) = 0.69	ΔS = 0.31
Ev2 (kg/cm²) = $(0.75 \cdot D^2 \cdot \Delta S) / \Delta S$	1446		

Ev1 = Modulus of deformation during the loading stage.
 Ev2 = Modulus of deformation during the reloading stage.
 D = Plate diameter (mm)
 ΔS = The difference between 0.5 and 0.7 from the maximum loading (stress) (kg/cm²)
 ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



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مكتب معامل الاستشارات الهندسية

Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (S) - Alemeln to Foka
Test Date : 05/06/2023
report date : 06/06/2023
Location : Station 449+025 to 449+050
Test No. : 08

Nonrepettive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.64	0.36	19.72	0.28	19.79	0.21	0.28
2	0.83	19.50	0.50	19.57	0.43	19.66	0.34	0.42
3	1.25	19.38	0.62	19.44	0.56	19.52	0.48	0.55
4	1.67	19.25	0.75	19.31	0.69	19.41	0.59	0.68
5	2.08	19.12	0.88	19.15	0.85	19.27	0.73	0.82
6	2.50	19.00	1.00	19.04	0.96	19.15	0.85	0.94

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.00	1.00	19.04	0.96	19.15	0.85	0.94
2	1.25	19.10	0.90	19.12	0.88	19.24	0.76	0.85
3	0.625	19.25	0.75	19.25	0.75	19.37	0.63	0.71
4	0.01	19.58	0.42	19.60	0.40	19.69	0.31	0.38

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.49	0.51	19.57	0.43	19.54	0.46	0.47
1	0.83	19.31	0.69	19.41	0.59	19.39	0.61	0.63
2	1.25	19.21	0.79	19.30	0.70	19.26	0.74	0.74
3	1.67	19.16	0.84	19.21	0.79	19.13	0.87	0.83
4	2.08	19.05	0.95	19.10	0.90	19.06	0.94	0.93



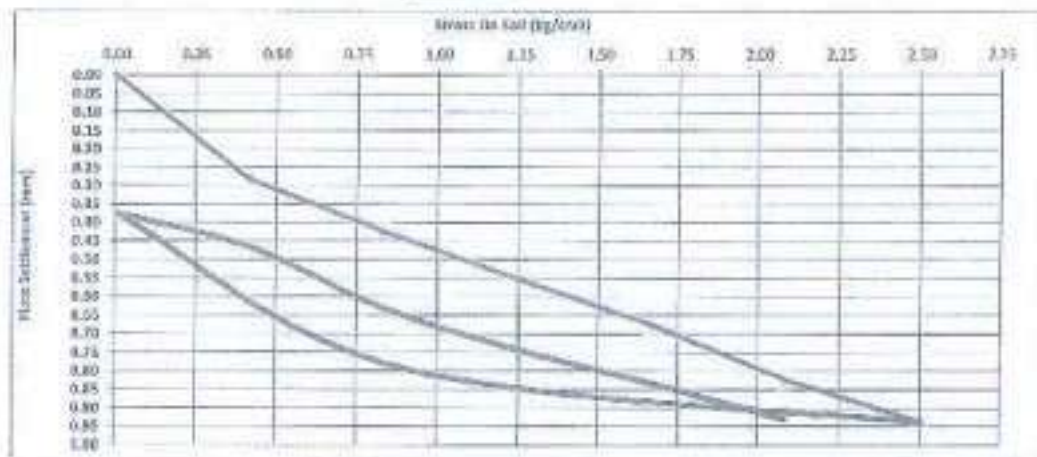
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Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (B) – Alamein to Foien
 Test Date : 05/06/2023
 report date : 06/06/2023
 Location : Station 448+035 to 448+050
 Test No. : 00

Nonrepulsive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5876.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.28	0.42	0.55	0.68	0.82	0.94

D (mm) = 600	S1 (mm) = 0.40	S2(mm) = 0.75	ΔS = 0.34
Ev1 (kg/cm²) = $(0.75 \cdot D \cdot \Delta S) / \Delta S$	1650		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5876.1
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.36	0.47	0.63	0.74	0.83	0.93

D (mm) = 600	S1 (mm) = 0.60	S2(mm) = 1.45	ΔS = 0.35
Ev2 (kg/cm²) = $(0.75 \cdot D \cdot \Delta S) / \Delta S$	1272		

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.04	0.80	0.71	0.33

Ev2/Ev1 =	0.9
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Ev1 = Modulus of deformation during the loading stage.
 Ev2 = Modulus of deformation during the Re-loading stage.
 D = Plate diameter (mm)
 ΔS = The difference between S1 and S2 from the maximum loading (mm) (kg/cm²)
 ΔS = Difference in settlements corresponding to S1 and S2 from the maximum loading (mm)





Consulting Engineering Bureau & Laboratories

مكتب محامل الإستشارات الهندسية

Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (B) -/ Alsmeln to Foka
Test Date : 05/06/2023
report date : 06/06/2023
Location : Station 449+050 to 449+075
Test No. : 09

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.79	0.21	19.84	0.16	19.58	0.42	0.26
2	0.83	19.64	0.36	19.69	0.31	19.43	0.57	0.41
3	1.25	19.50	0.50	19.55	0.45	19.29	0.71	0.55
4	1.57	19.36	0.64	19.41	0.59	19.15	0.85	0.69
5	2.08	19.21	0.79	19.26	0.74	19.00	1.00	0.84
6	2.50	19.08	0.92	19.14	0.86	18.84	1.16	0.98

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.08	0.92	19.14	0.86	18.84	1.16	0.98
2	1.25	19.18	0.82	19.24	0.76	19.00	1.00	0.86
3	0.625	19.33	0.67	19.38	0.62	19.16	0.84	0.71
4	0.01	19.66	0.34	19.70	0.30	19.57	0.43	0.37

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.57	0.43	19.65	0.35	19.42	0.58	0.45
1	0.83	19.43	0.57	19.51	0.49	19.31	0.69	0.58
2	1.25	19.32	0.68	19.42	0.58	19.22	0.78	0.68
3	1.67	19.22	0.78	19.34	0.66	19.07	0.93	0.79
4	2.08	19.13	0.87	19.24	0.76	18.96	1.04	0.80



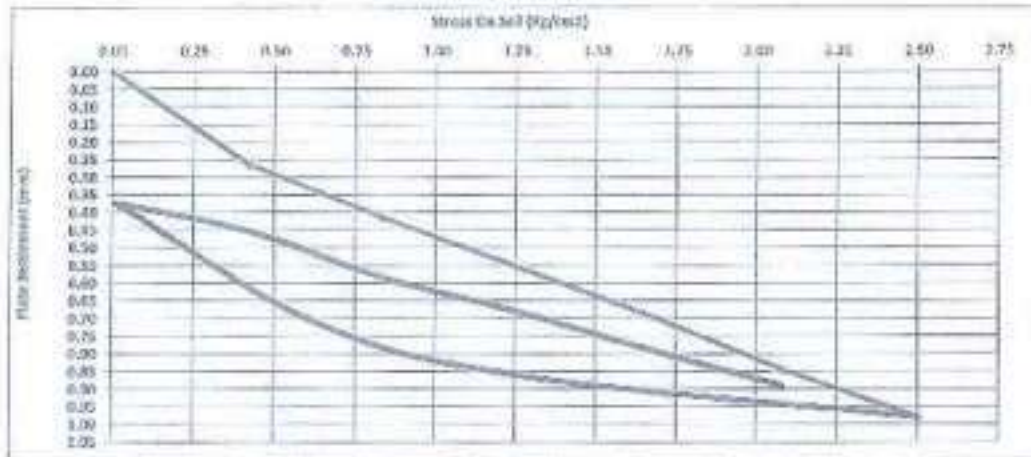
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Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Eshams to Mersa Matruh Priority Sector (6) - Alamein to Foka
Test Date : 05/06/2023
report date : 08/06/2023
Location : Station 449+050 to 449+075
Test No. : 08

Nonrepetitive Static Plate Load Tests of Gells
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.26	0.41	0.55	0.69	0.84	0.98

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.98	0.86	0.71	0.37

D (mm) = 600	S1 (mm) = 0.26	S2 (mm) = 0.72	ΔS = 0.34
Ev1 (kg/cm²) = (0.75 * D * ΔS) / ΔS	1329		

Ev2/Ev1 = 1.0

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.37	0.48	0.58	0.65	0.70	0.89

D (mm) = 600	S1 (mm) = 0.48	S2 (mm) = 0.81	ΔS = 0.33
Ev2 (kg/cm²) = (0.75 * D * ΔS) / ΔS	1380		

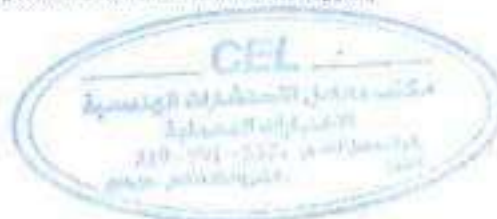
Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the reloading stage.

D = Plate diameter (mm)

ΔS = The difference between 0.3 and 0.7 from the maximum loading (stress) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)





Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (8) – Alamein to Foka
Test Date : 05/06/2023
report date : 06/06/2023
Location : Station 448+075 to 449+100
Test No. : 10

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.85	0.14	19.70	0.30	19.77	0.23	0.22
2	0.83	19.70	0.30	19.57	0.43	19.62	0.38	0.37
3	1.25	19.58	0.42	19.41	0.59	19.50	0.50	0.50
4	1.67	19.46	0.54	19.30	0.70	19.38	0.62	0.62
5	2.08	19.32	0.68	19.18	0.82	19.25	0.75	0.75
6	2.50	19.19	0.81	19.00	1.00	19.12	0.88	0.90

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.19	0.81	19.00	1.00	19.12	0.88	0.90
2	1.25	19.27	0.73	19.10	0.90	19.23	0.77	0.80
3	0.625	19.45	0.55	19.25	0.75	19.32	0.68	0.66
4	0.01	19.74	0.26	19.58	0.42	19.63	0.37	0.35

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.53	0.35	19.47	0.53	19.51	0.49	0.48
1	0.83	19.53	0.47	19.38	0.62	19.40	0.60	0.55
2	1.25	19.42	0.58	19.26	0.74	19.30	0.70	0.67
3	1.67	19.33	0.67	19.15	0.85	19.21	0.79	0.77
4	2.08	19.24	0.76	19.05	0.95	19.10	0.90	0.87



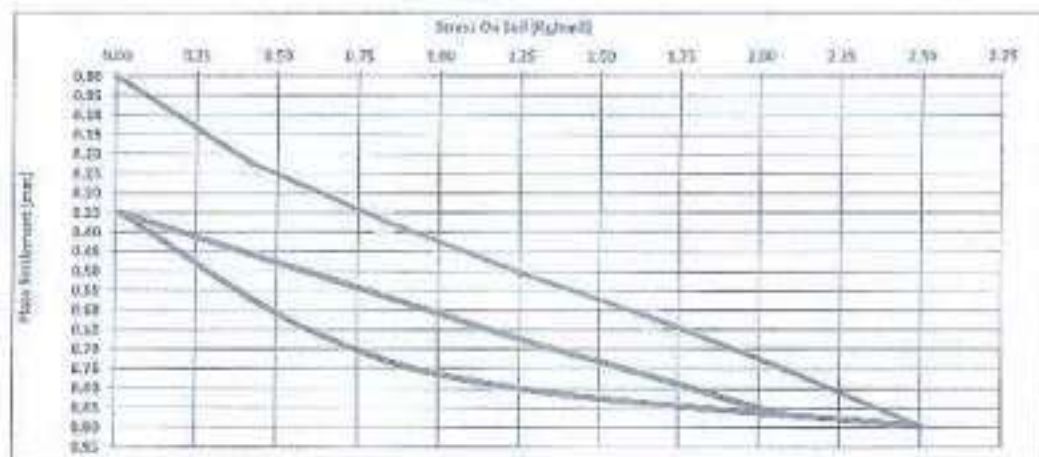
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Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Solihia to Mersa Matruh Priority Sector (C) – Alamein to Foka
 Test Date : 06/06/2023
 report date : 06/06/2023
 Location : Station 449+076 to 449+100
 Test No. : 10

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1188.92	2345.6	3532.0	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.22	0.37	0.50	0.62	0.75	0.90

D (mm) = 600	S1 (mm) = 0.34	S2 (mm) = 0.80	ΔS = 0.30
Ev1 (kg/cm²) = $(0.75 \cdot D \cdot \Delta s) / \Delta S$	1400		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1188.92	2345.6	3532.0	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.35	0.46	0.56	0.62	0.77	0.87

D (mm) = 600	S1 (mm) = 0.48	S2 (mm) = 0.78	ΔS = 0.31
Ev2 (kg/cm²) = $(0.75 \cdot D \cdot \Delta s) / \Delta S$	1442		

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.825	0.01
Settlement (mm)	0.90	0.80	0.65	0.35

Ev2/Ev1 =	1.0
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Ev1 = Modulus of deformation during the loading stage.
 Ev2 = Modulus of deformation during the unloading stage.
 D = Plate diameter (mm)
 Δs = The difference between 0.3 and 0.7 from the maximum loading (mm) (kg/cm²)
 ΔS = difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company : Sun Rise Construction

Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (6)
- Alamein to Foka
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications- DIN 18134:2012-04 and project requirements
Test Location : (450+125 to 450+425)
Test Date : 18/06/2023
Report Date : 26/06/2023
Type of soil : —
Test level : Sub ballast .
Report No. : 277:248

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 600 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton
8. Calibration certificates are attached

Test Procedure

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 600 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds
4. The strain gauge and the dial gauge shall be set to zero
5. For a 600 mm loading plate, the limit values are 2,5 kg/cm²
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 % , 25 % , and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min
11. Remove the loads



Report

1. Evaluation and representation of results
2. Load Settlement curve
3. The test report content the following:-
 - location of test site - Dimension of loading plate
 - Measuring device used - Type of soil
 - Type of Bedding material below the plate - Weathering condition
 - Time and date of measurements - Unusual observation made during test
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve
 - Description of the soil condition below the plate after testing

Report

Type of soil: Sub ballast.

- Job requirement: $E_{v2} > (120 \text{ MPa})$, $E_{v2} \leq (300 \text{ Mpa})$ and $(E_{v2}/E_{v1} \leq 2.2)$.

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Sunny
- Plate Diameter (mm)	600
- date of measurement	18/06/2023
- Unusual observation made during test	NO
- Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		First Cycle	Second Cycle	E_{v2}/E_{v1} Ratio
	From	To	$E_{v1} \text{ (kg/cm}^2\text{)}$	$E_{v2} \text{ (kg/cm}^2\text{)}$	
1	450+125	450+150	2151	2085	1.0
2	450+150	450+175	1021	1915	1.9
3	450+175	450+200	915	1602	1.8
4	450+200	450+225	1397	2029	1.5
5	450+225	450+250	1273	1326	1.0
6	450+350	450+375	1152	1878	1.6
7	450+375	450+400	1483	1568	1.1
8	450+400	450+425	1179	1792	1.5



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 18/06/2023
report date : 26/07/2023
Location : Station 450+125 to 450+150
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.90	0.10	19.80	0.20	19.75	0.25	0.18
2	0.83	19.79	0.21	19.58	0.42	19.50	0.50	0.38
3	1.25	19.56	0.44	19.14	0.86	19.28	0.72	0.67
4	1.67	19.40	0.60	18.95	1.05	19.10	0.90	0.85
5	2.08	19.08	0.92	18.66	1.34	18.98	1.02	1.09
6	2.50	18.83	1.17	18.44	1.56	18.90	1.10	1.28

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	18.83	1.17	18.44	1.56	18.90	1.10	1.28
2	1.25	18.85	1.15	18.50	1.50	18.98	1.02	1.22
3	0.625	18.88	1.12	18.60	1.40	19.08	0.92	1.15
4	0.01	19.02	0.98	18.86	1.14	19.25	0.75	0.96

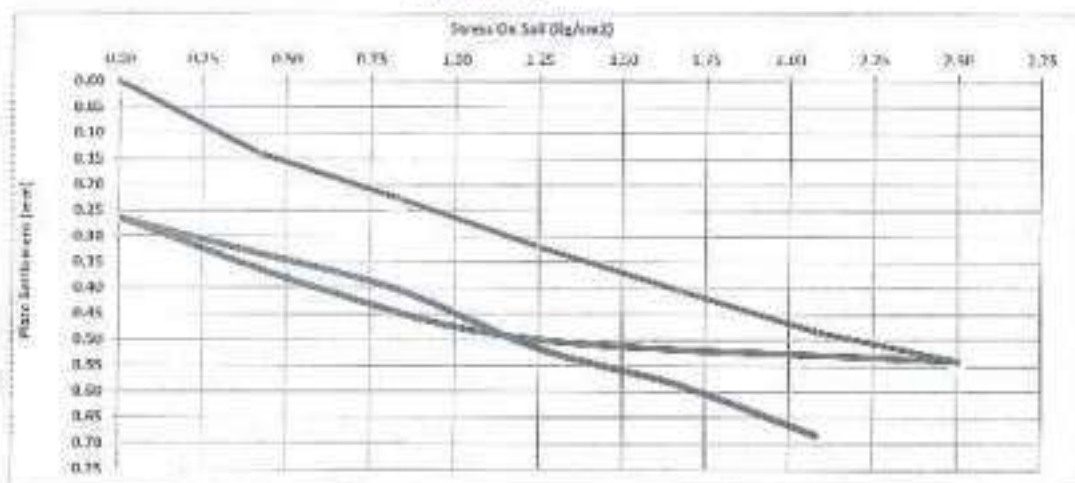
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	18.95	1.05	18.75	1.25	19.20	0.80	1.03
1	0.83	18.88	1.12	18.63	1.37	19.14	0.86	1.12
2	1.25	18.80	1.20	18.55	1.45	19.00	1.00	1.22
3	1.67	18.72	1.28	18.48	1.52	18.93	1.07	1.29
4	2.08	18.60	1.40	18.41	1.59	18.85	1.15	1.38



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (6) - Alamein to Foka
Test Date : 18/06/2023
report date : 26/07/2023
Location : Station 450+125 to 450+150
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (T)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.14	0.23	0.32	0.40	0.48	0.54

UnLoading (T)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.825	0.01
Settlement (mm)	0.54	0.50	0.41	0.27

D (mm) = 600	S1 (mm) = 0.31	S2 (mm) = 0.42	ΔS = 0.21
Ev1 (kg/cm²) = $(0.75 \cdot D \cdot \Delta \sigma / \Delta S)$	2151		

Ev2/Ev1 = 1.0

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.27	0.33	0.40	0.52	0.59	0.68

D (mm) = 600	S1 (mm) = 0.39	S2 (mm) = 0.61	ΔS = 0.22
Ev2 (kg/cm²) = $(0.75 \cdot D \cdot \Delta \sigma / \Delta S)$	2085		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Δσ = The difference between 0.3 and 0.7 from the maximum loading (σmax) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
 Test Date :18/06/2023
 report date :26/07/2023
 Location : Station 450+150 to 450+175
 Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.83	0.17	19.79	0.21	19.60	0.40	0.26
2	0.83	19.72	0.28	19.26	0.74	19.51	0.49	0.50
3	1.25	19.56	0.44	19.00	1.00	19.35	0.65	0.70
4	1.67	19.42	0.58	18.76	1.24	19.21	0.79	0.87
5	2.08	19.26	0.74	18.61	1.39	19.11	0.89	1.01
6	2.50	19.10	0.90	18.49	1.51	18.99	1.01	1.14

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.10	0.90	18.49	1.51	18.99	1.01	1.14
2	1.25	19.19	0.81	18.55	1.45	19.08	0.92	1.06
3	0.625	19.33	0.67	18.63	1.37	19.25	0.75	0.93
4	0.01	19.54	0.46	18.78	1.22	19.86	0.14	0.61

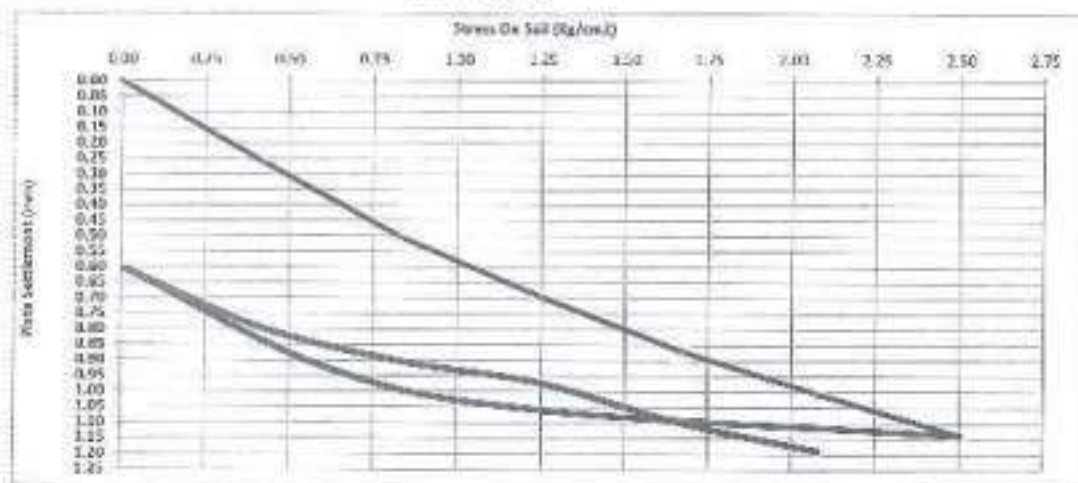
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.40	0.60	18.70	1.30	19.51	0.49	0.80
1	0.83	19.34	0.66	18.65	1.35	19.30	0.70	0.90
2	1.25	19.28	0.72	18.60	1.40	19.20	0.80	0.97
3	1.67	19.09	0.91	18.54	1.46	19.07	0.93	1.10
4	2.08	18.92	1.08	18.48	1.52	19.03	0.97	1.19



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) - Alamain to Foka
Test Date : 18/06/2023
report date : 26/07/2023
Location : Station 450+150 to 450+175
Test No. : 02

**Nonrepetitive Static Plate Load Tests of Soils
DIN 18134**



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5876.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.26	0.50	0.70	0.87	1.01	1.14

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	1.14	1.06	0.93	0.61

D (mm) = 600	S1 (mm) = 0.46	S2 (mm) = 0.90	ΔS = 0.44
Ev1 (kg/cm²) = (0.75*D*Δσ)/ΔS	1021		

Ev2/Ev1 = 1.9

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5876.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.01	0.80	0.80	0.97	1.10	1.19

D (mm) = 600	S1 (mm) = 0.58	S2 (mm) = 1.12	ΔS = 0.24
Ev2 (kg/cm²) = (0.75*D*Δσ)/ΔS	1915		

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)

Dσ = The difference between 0.3 and 0.7 from the maximum loading (σmax) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (8) – Alamein to Foka
 Test Date : 18/06/2023
 report date : 26/07/2023
 Location : Station 450+175 to 449+200
 Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.78	0.22	19.63	0.37	19.72	0.28	0.29
2	0.83	19.59	0.41	19.23	0.77	19.45	0.55	0.58
3	1.25	19.50	0.50	19.00	1.00	19.22	0.78	0.76
4	1.67	19.33	0.67	18.77	1.23	18.94	1.06	0.99
5	2.08	19.24	0.76	18.62	1.38	18.78	1.22	1.12
6	2.50	19.13	0.87	18.46	1.54	18.64	1.36	1.26

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.13	0.87	18.46	1.54	18.64	1.36	1.26
2	1.25	19.20	0.80	18.51	1.49	18.75	1.25	1.18
3	0.625	19.28	0.72	18.59	1.41	18.86	1.14	1.09
4	0.01	19.44	0.56	18.86	1.14	19.26	0.74	0.81

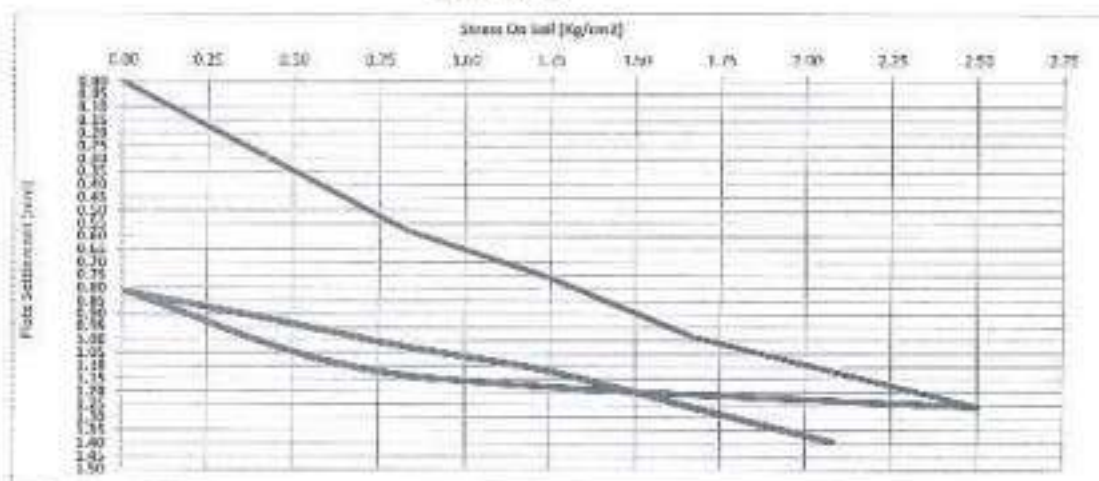
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.38	0.62	18.74	1.26	19.13	0.87	0.92
1	0.83	19.30	0.70	18.64	1.36	18.98	1.02	1.03
2	1.25	19.19	0.81	18.57	1.43	18.88	1.12	1.12
3	1.67	19.04	0.96	18.43	1.57	18.75	1.25	1.26
4	2.08	18.89	1.11	18.31	1.69	18.62	1.38	1.39



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 18/06/2023
report date : 26/07/2023
Location : Station 450+175 to 449+200
Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (t)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.29	0.58	0.78	0.99	1.12	1.25

UnLoading (t)	1	2	3	4
Stage(Kg)	7065	3533	1758	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	1.28	1.16	1.00	0.81

D (mm) = 600	S1 (mm) = 0.52	S2 (mm) = 1.01	ΔS = 0.49
Ev1 (kg/cm²) = $(0.75 \cdot D \cdot \Delta \sigma) / \Delta S$	915		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.81	0.92	1.03	1.12	1.28	1.30

Ev2/Ev1 =	1.0
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D (mm) = 600	S1 (mm) = 1.81	S2 (mm) = 1.29	ΔS = 0.28
Ev2 (kg/cm²) = $(0.75 \cdot D \cdot \Delta \sigma) / \Delta S$	1602		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Re-loading stage.

D = Plate diameter (mm)

Δσ = The difference between 0.3 and 0.7 from the maximum loading (mmx) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
 Test Date : 18/06/2023
 report date : 26/07/2023
 Location : Station 450+200 to 450+225
 Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.83	0.17	19.81	0.19	19.85	0.15	0.17
2	0.83	19.71	0.29	19.70	0.30	19.73	0.27	0.29
3	1.25	19.54	0.46	19.56	0.44	19.61	0.39	0.43
4	1.67	19.46	0.54	19.40	0.60	19.46	0.54	0.56
5	2.08	19.35	0.65	19.26	0.74	19.31	0.69	0.69
6	2.50	19.24	0.76	19.14	0.86	19.19	0.81	0.81

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.24	0.76	19.14	0.86	19.19	0.81	0.81
2	1.25	19.28	0.72	19.09	0.91	19.23	0.77	0.80
3	0.625	19.34	0.66	19.16	0.84	19.28	0.72	0.74
4	0.01	19.61	0.39	19.40	0.60	19.59	0.41	0.47

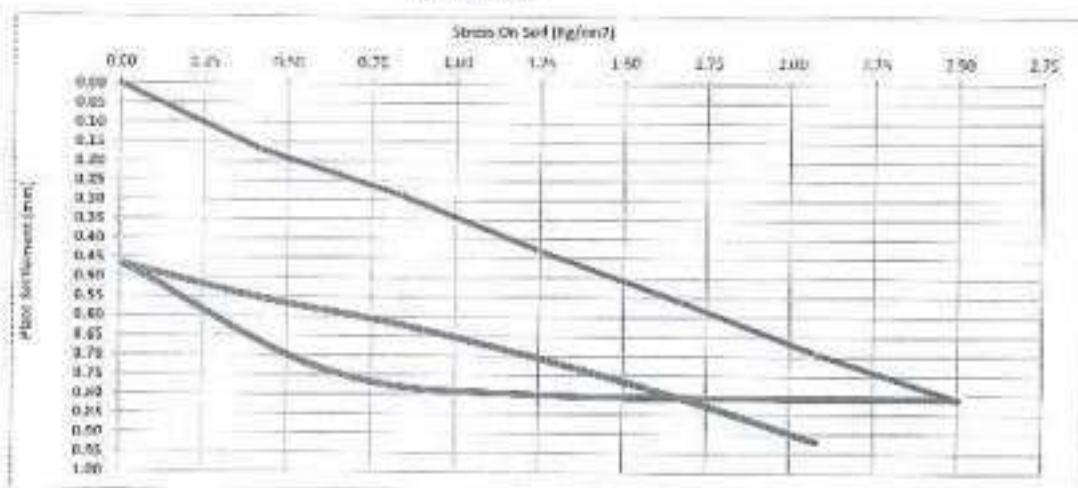
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.53	0.47	19.30	0.70	19.51	0.49	0.55
1	0.83	19.45	0.55	19.26	0.74	19.43	0.57	0.62
2	1.25	19.37	0.63	19.19	0.81	19.32	0.68	0.71
3	1.67	19.28	0.72	19.11	0.89	19.19	0.81	0.81
4	2.08	19.19	0.81	19.02	0.98	19.03	0.97	0.92



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (B) – Alamein to Foka
 Test Date : 18/06/2023
 report date : 26/07/2023
 Location : Station 450+200 to 450+225
 Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.17	0.29	0.43	0.56	0.69	0.81

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.828	0.01
Settlement (mm)	0.81	0.80	0.74	0.47

D (mm) = 600	S1 (mm) = 0.26	S2 (mm) = 0.50	ΔS = 0.32
Ev1 (kg/cm²) = (0.75*D*Δσ)/ΔS	1397		

$$Ev2/Ev1 = 1.5$$

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.47	0.55	0.62	0.71	0.81	0.92

D (mm) = 600	S1 (mm) = 0.61	S2 (mm) = 0.83	ΔS = 0.22
Ev2 (kg/cm²) = (0.75*D*Δσ)/ΔS	2029		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Δs = The difference between S2 and S1 from the maximum loading (amax) (kg/cm²)

ΔS = Difference in settlements corresponding to S2 and S1 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (8) – Alamein to Foka
 Test Date : 18/06/2023
 report date : 26/07/2023
 Location : Station 450+225 to 450+250
 Test No. : 05

Nonrepetitive Static Plate Load Tests of Soils

DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.90	0.10	19.90	0.10	19.87	0.13	0.11
2	0.83	19.78	0.22	19.82	0.18	19.40	0.60	0.33
3	1.25	19.61	0.39	19.67	0.33	19.29	0.71	0.48
4	1.67	19.46	0.54	19.57	0.43	19.13	0.87	0.61
5	2.08	19.30	0.70	19.38	0.62	19.02	0.98	0.77
6	2.50	19.16	0.84	19.21	0.79	18.84	1.16	0.93

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.16	0.84	19.21	0.79	18.84	1.16	0.93
2	1.25	19.20	0.80	19.26	0.74	18.90	1.10	0.88
3	0.825	19.26	0.74	19.35	0.65	18.98	1.02	0.80
4	0.01	19.47	0.53	19.52	0.48	19.21	0.79	0.60

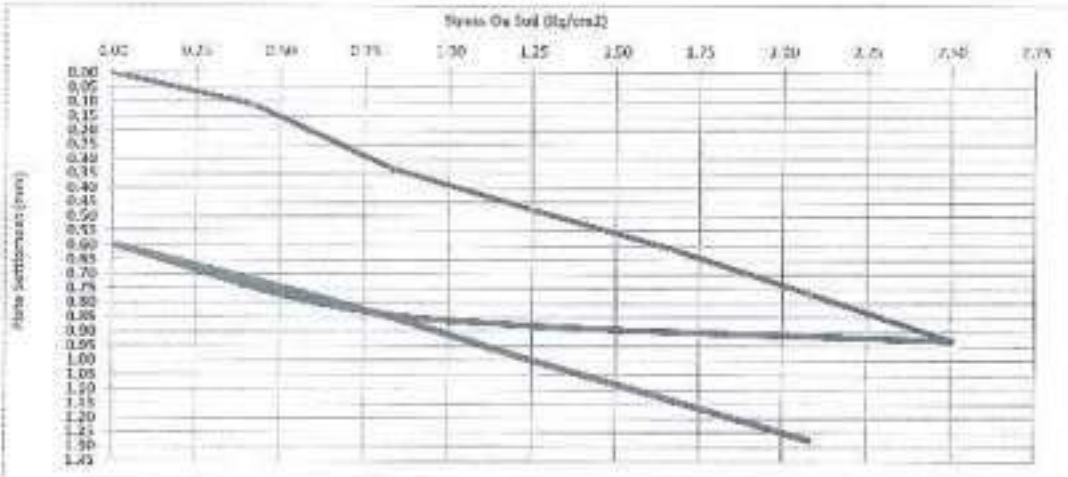
Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.34	0.66	19.41	0.50	19.09	0.91	0.72
1	0.83	19.20	0.80	19.29	0.71	18.96	1.04	0.85
2	1.25	19.06	0.94	19.12	0.88	18.82	1.18	1.00
3	1.67	18.91	1.09	18.98	1.02	18.70	1.30	1.14
4	2.08	18.78	1.22	18.81	1.19	18.58	1.42	1.28



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (B) - Alamein to Folta
 Test Date : 18/06/2023
 report date : 26/07/2023
 Location : Station 450+225 to 450+250
 Test No. : 05

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.11	0.33	0.48	0.61	0.77	0.93

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.93	0.88	0.80	0.60

Q (mm) = 600	$S1$ (mm) = 0.29	$S2$ (mm) = 0.64	ΔS = 0.35
$Ev1$ (kg/cm2) = $(0.75 \cdot D^2 \cdot \Delta \sigma) / \Delta S$	1273		

$Ev2/Ev1$ =	1.0
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Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.80	0.72	0.85	1.00	1.14	1.28

Q (mm) = 600	$S1$ (mm) = 0.82	$S2$ (mm) = 1.16	ΔS = 0.34
$Ev2$ (kg/cm2) = $(0.75 \cdot D^2 \cdot \Delta \sigma) / \Delta S$	1326		

$Ev1$ = Modulus of deformation during the loading stage.
 $Ev2$ = Modulus of deformation during the reloading stage.
 Q = Plate diameter (mm)
 $\Delta \sigma$ = The difference between 0.5 and 0.7 from the maximum loading (stress) (kg/cm²)
 ΔS = Difference in settlements corresponding to 0.5 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sakhna to Marsa Matrouh Priority Sector (0) -- Alamein to Foka
 Test Date : 18/06/2023
 report date : 26/07/2023
 Location : Station 450+350 to 450+375
 Test No. : 06

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.84	0.16	19.77	0.23	19.79	0.21	0.20
2	0.83	19.69	0.31	19.65	0.35	19.61	0.39	0.35
3	1.25	19.52	0.48	19.47	0.53	19.48	0.52	0.51
4	1.67	19.33	0.67	19.29	0.71	19.31	0.69	0.69
5	2.08	19.21	0.79	19.17	0.83	19.22	0.78	0.80
6	2.50	19.08	0.92	19.03	0.97	19.06	0.94	0.94

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.08	0.92	19.03	0.97	19.06	0.94	0.94
2	1.25	19.13	0.87	19.09	0.91	19.11	0.89	0.89
3	0.625	19.25	0.75	19.18	0.82	19.20	0.80	0.79
4	0.01	19.60	0.40	19.53	0.47	19.55	0.45	0.44

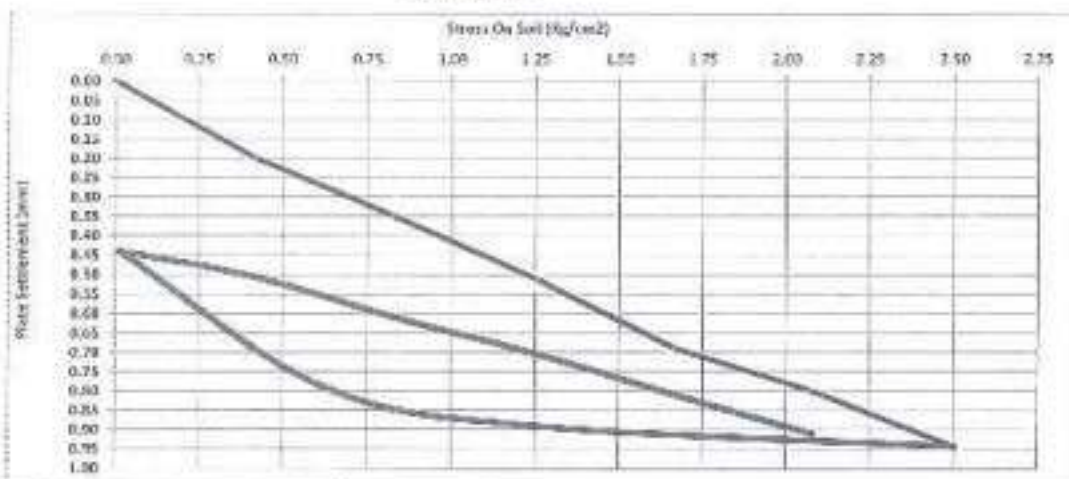
Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.55	0.45	19.47	0.53	19.46	0.54	0.51
1	0.83	19.43	0.57	19.35	0.65	19.39	0.61	0.61
2	1.25	19.32	0.68	19.26	0.74	19.31	0.69	0.70
3	1.67	19.23	0.77	19.14	0.86	19.20	0.80	0.81
4	2.08	19.11	0.89	19.05	0.95	19.11	0.89	0.91



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (6) - Alamein to Folx
Test Date : 18/06/2023
report date : 26/07/2023
Location : Station 450+350 to 450+375
Test No. : 06

**Nonrepetitive Static Plate Load Tests of Soils
DIN 18134**



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.20	0.35	0.51	0.69	0.80	0.94

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.94	0.89	0.79	0.44

D (mm) = 600	S1 (mm) = 0.33	S2(mm) = 0.71	ΔS = 0.38
Ev1 (kg/cm2) = $(0.75 \cdot D^2 \cdot \Delta\sigma) / \Delta S$	1152		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.44	0.51	0.61	0.70	0.81	0.91

Ev2/Ev1 = 1.6

D (mm) = 600	S1 (mm) = 0.58	S2(mm) = 0.83	ΔS = 0.24
Ev2 (kg/cm2) = $(0.75 \cdot D^2 \cdot \Delta\sigma) / \Delta S$	1878		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Δs = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (B) – Alamein to Foka
 Test Date : 18/06/2023
 report date : 26/07/2023
 Location : Station 450+375 to 450+400
 Test No. : 07

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.78	0.22	19.73	0.27	19.80	0.20	0.23
2	0.83	19.64	0.36	19.57	0.43	19.67	0.33	0.37
3	1.25	19.51	0.49	19.43	0.57	19.52	0.48	0.51
4	1.67	19.39	0.61	19.30	0.70	19.43	0.57	0.63
5	2.08	19.27	0.73	19.21	0.79	19.30	0.70	0.74
6	2.50	19.15	0.85	19.09	0.91	19.19	0.81	0.86

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.15	0.85	19.09	0.91	19.19	0.81	0.86
2	1.25	19.24	0.76	19.18	0.82	19.27	0.73	0.77
3	0.625	19.37	0.63	19.30	0.70	19.40	0.60	0.64
4	0.01	19.65	0.35	19.60	0.40	19.69	0.31	0.35

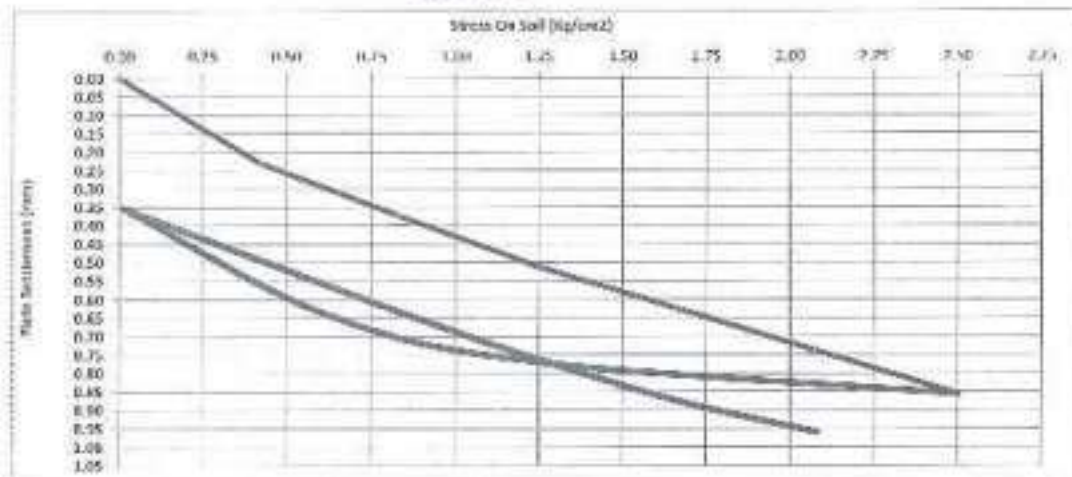
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.51	0.49	19.46	0.54	19.55	0.45	0.49
1	0.83	19.38	0.62	19.31	0.69	19.41	0.59	0.63
2	1.25	19.24	0.76	19.19	0.81	19.28	0.72	0.76
3	1.67	19.12	0.88	19.10	0.90	19.15	0.85	0.88
4	2.08	19.04	0.96	19.00	1.00	19.08	0.92	0.96



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 18/06/2023
report date : 26/07/2023
Location : Station 450+375 to 450+400
Test No. : 07

**Nonrepetitive Static Plate Load Tests of Soils
DIN 18134**



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.23	0.37	0.51	0.63	0.74	0.85

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.85	0.77	0.64	0.35

D (mm) = 600	S1 (mm) = 0.33	S2(mm) = 0.65	ΔS = 0.30
Ev1 (kg/cm2) = (0.75'D³Δσ)/ΔS	1483		

Ev2/Ev1 = 1.1

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.35	0.49	0.63	0.76	0.88	0.96

D (mm) = 600	S1 (mm) = 0.61	S2(mm) = 0.89	ΔS = 0.29
Ev2 (kg/cm2) = (0.75'D³Δσ)/ΔS	1568		

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the reloading stage.
D = Plate diameter (mm)
Δσ = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (5) – Alamein to Foka
 Test Date : 18/06/2023
 report date : 26/07/2023
 Location : Station 450+400 to 450+425
 Test No. : 08

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.63	0.37	19.65	0.35	19.67	0.33	0.35
2	0.83	19.41	0.59	19.46	0.54	19.53	0.47	0.53
3	1.25	19.19	0.81	19.28	0.72	19.39	0.61	0.71
4	1.67	19.06	0.94	19.14	0.86	19.26	0.74	0.85
5	2.08	18.89	1.11	18.98	1.02	19.09	0.91	1.01
6	2.50	18.74	1.26	18.85	1.15	18.94	1.06	1.16

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	18.74	1.26	18.85	1.15	18.94	1.06	1.16
2	1.25	18.78	1.22	18.90	1.10	19.03	0.97	1.10
3	0.625	18.86	1.14	18.98	1.02	19.17	0.83	1.00
4	0.01	19.23	0.77	19.29	0.71	19.49	0.51	0.66

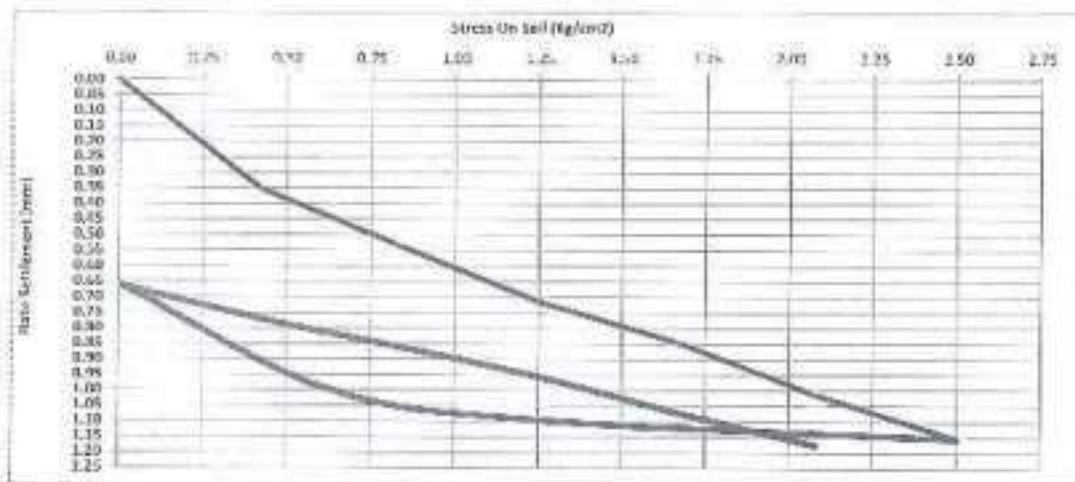
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.11	0.89	19.18	0.82	19.40	0.60	0.77
1	0.83	19.02	0.98	19.11	0.89	19.29	0.71	0.86
2	1.25	18.93	1.07	19.03	0.97	19.17	0.83	0.96
3	1.67	18.81	1.19	18.94	1.06	19.03	0.97	1.07
4	2.08	18.73	1.27	18.82	1.18	18.92	1.08	1.18



Company Name : Sam Riso Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (6) – Alamein to Foka
 Test Date : 18/06/2023
 report date : 26/07/2023
 Location : Station 450+400 to 450+425
 Test No. : 05

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.35	0.53	0.71	0.85	1.01	1.16

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	1.16	1.10	1.00	0.86

D (mm) = 500	S1 (mm) = 0.58	S2 (mm) = 0.88	ΔS = 0.30
Ev1 (kg/cm²) = (0.75'D'Δσ)/ΔS	1179		

Ev2/Ev1 =	1.5
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Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.66	0.77	0.88	0.98	1.07	1.18

D (mm) = 600	S1 (mm) = 0.84	S2 (mm) = 1.09	ΔS = 0.25
Ev2 (kg/cm²) = (0.75'D'Δσ)/ΔS	1792		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Δσ = The difference between 0.3 and 0.7 from the maximum loading (σmax) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company : Sun Rise Construction

Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (6)
- Alamein to Foka

Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements.

Test Location : (450+500 to 450+600)

Test Date : 19/07/2023

Report Date : 20/07/2023

Type of soil : —

Test level : Sub ballast .

Report No. : 263:266

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 600 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton
8. Calibration certificates are attached

Test Procedure

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 600 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 600 mm loading plate, the limit values are 2.5 kg/cm²
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 % , 25 % , and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads



Report

1. Evaluation and representation of results
2. Load Settlement curve
3. The test report content the following:-
 - location of test site - Dimension of loading plate
 - Measuring device used - Type of soil
 - Type of Bedding material below the plate -Weathering condition
 - Time and date of measurements - Unusual observation made during test
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve
 - Description of the soil condition below the plate after testing

Report

Type of soil: Sub ballast

- Job requirement: $E_{v2} > (120 \text{ MPa})$, $E_{v2} \leq (300 \text{ Mpa})$ and $(E_{v2}/E_{v1} \leq 2.2)$.

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Sunny
- Plate Diameter (mm)	600
- date of measurement	19/07/2023
- Unusual observation made during test	NO
- Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		First Cycle	Second	E_{v2}/E_{v1} Ratio
	From	To	E_{v1} (kg/cm ²)	E_{v2} (kg/cm ²)	
1	450+500	450+525	740	1609	2.2
2	450+525	450+550	1372	1555	1.1
3	450+550	450+575	1427	1451	1.0
4	450+575	450+600	1436	1288	0.9

Signature /



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marass Matrouh Priority Sector (6) - Alamein to Foka
 Test Date : 19/07/2023
 report date : 20/07/2023
 Location : Station 450+500 to 450+525
 Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.90	0.10	19.81	0.19	19.65	0.35	0.21
2	0.83	19.75	0.25	19.60	0.40	19.32	0.68	0.44
3	1.25	19.59	0.41	19.37	0.63	18.90	1.10	0.71
4	1.67	19.44	0.56	19.11	0.89	18.56	1.44	0.98
5	2.08	19.30	0.70	18.97	1.13	18.27	1.73	1.19
6	2.50	19.16	0.84	18.67	1.33	18.00	2.00	1.39

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.16	0.84	18.67	1.33	18.00	2.00	1.39
2	1.25	19.20	0.80	18.73	1.27	18.04	1.96	1.34
3	0.625	19.27	0.73	18.86	1.14	18.15	1.85	1.24
4	0.01	19.43	0.57	19.13	0.87	18.64	1.36	0.93

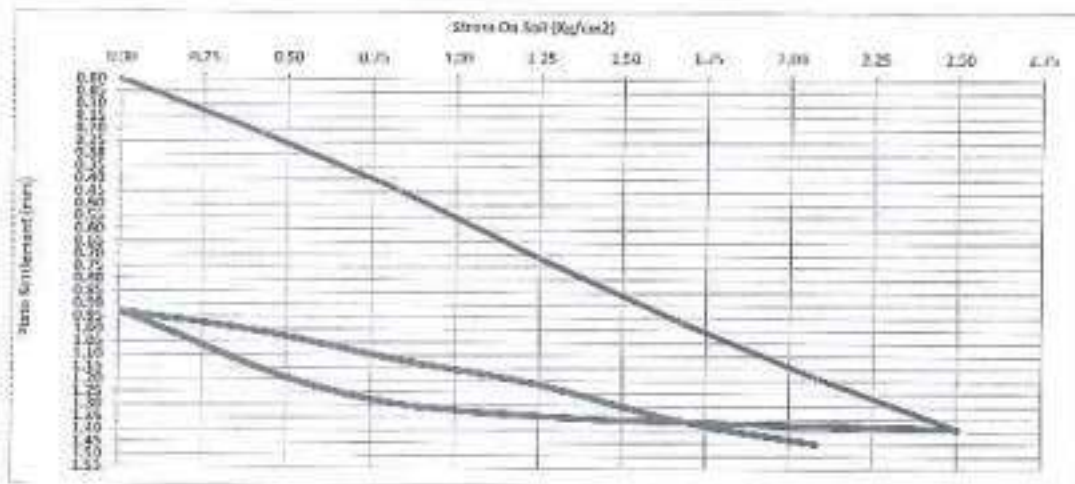
Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.38	0.62	19.06	0.94	18.54	1.46	1.01
1	0.83	19.31	0.69	18.95	1.05	18.38	1.62	1.12
2	1.25	19.22	0.78	18.84	1.16	18.29	1.71	1.22
3	1.67	19.10	0.90	18.70	1.30	18.12	1.88	1.36
4	2.08	19.02	0.98	18.61	1.39	18.02	1.98	1.45



Company Name : Sen Riae Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 19/07/2023
report date : 20/07/2023
Location : Station 450+500 to 450+525
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (t)	0	1	2	3	4	5	6
Stage(Kg)	0	1188.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.87	2.08	2.50
Settlement (mm)	0.00	0.21	0.44	0.71	0.96	1.19	1.39

UnLoading (t)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	1.39	1.34	1.24	0.93

D (mm) = 600	S1 (mm) = 0.40	S2 (mm) = 1.01	ΔS = 0.61
Ev1 (kg/cm2) = (0.75 * D * Δσ) / ΔS	740		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1188.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.93	1.01	1.12	1.22	1.38	1.45

Ev2/Ev1 = 2.2

D (mm) = 600	S1 (mm) = 1.18	S2 (mm) = 1.38	ΔS = 0.20
Ev2 (kg/cm2) = (0.75 * D * Δσ) / ΔS	1609		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the reloading stage.

D = Plate diameter (mm).

Δσ = The difference between 0.3 and 0.7 from the maximum loading (σmax) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 19/07/2023
report date : 20/07/2023
Location : Station 450+525 to 450+550
Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.87	0.13	19.88	0.12	19.79	0.21	0.15
2	0.83	19.73	0.27	19.72	0.28	19.62	0.38	0.31
3	1.25	19.60	0.40	19.58	0.42	19.48	0.52	0.45
4	1.67	19.48	0.52	19.43	0.57	19.35	0.65	0.58
5	2.08	19.34	0.66	19.29	0.71	19.21	0.79	0.72
6	2.50	19.20	0.80	19.12	0.88	19.04	0.96	0.88

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.20	0.80	19.12	0.88	19.04	0.96	0.88
2	1.25	19.26	0.74	19.15	0.85	19.07	0.93	0.84
3	0.625	19.37	0.63	19.24	0.76	19.16	0.84	0.74
4	0.01	19.54	0.46	19.43	0.57	19.36	0.64	0.56

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.41	0.59	19.31	0.69	19.21	0.79	0.69
1	0.83	19.32	0.68	19.18	0.82	19.02	0.98	0.83
2	1.25	19.19	0.81	19.04	0.96	18.93	1.07	0.95
3	1.67	19.08	0.92	18.92	1.06	18.80	1.20	1.07
4	2.08	18.96	1.04	18.80	1.20	18.69	1.31	1.18



٣ ش الملك الأفضل
الزمالك - القاهرة
تليفون + فاكس : ٢٧٢٦٧٢٣١ - ٢٧٢٦٣٠٩٣
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Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
 Test Date : 19/07/2023
 report date : 20/07/2023
 Location : Station 450+550 to 450+575
 Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.88	0.12	19.89	0.11	19.93	0.07	0.10
2	0.83	19.67	0.33	19.79	0.21	19.81	0.19	0.24
3	1.25	19.60	0.40	19.65	0.35	19.64	0.36	0.37
4	1.67	19.46	0.54	19.52	0.48	19.51	0.49	0.50
5	2.08	19.31	0.69	19.38	0.62	19.38	0.62	0.64
6	2.50	19.16	0.84	19.27	0.73	19.26	0.74	0.77

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.16	0.84	19.27	0.73	19.26	0.74	0.77
2	1.25	19.20	0.80	19.30	0.70	19.30	0.70	0.73
3	0.625	19.28	0.72	19.38	0.62	19.42	0.58	0.64
4	0.01	19.54	0.46	19.62	0.38	19.68	0.32	0.39

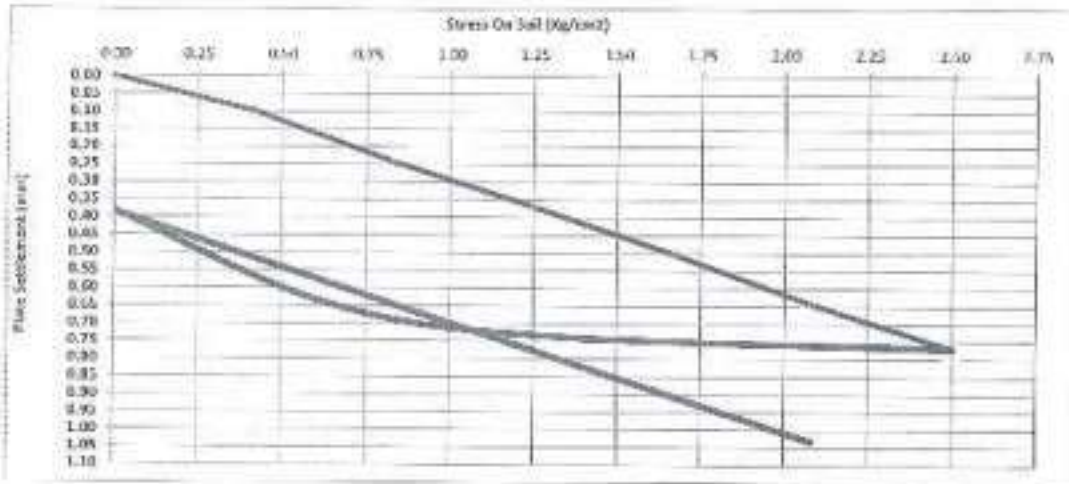
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.41	0.59	19.50	0.50	19.54	0.46	0.52
1	0.83	19.28	0.72	19.38	0.62	19.40	0.60	0.65
2	1.25	19.15	0.85	19.24	0.76	19.28	0.72	0.78
3	1.67	19.03	0.97	19.11	0.89	19.14	0.86	0.91
4	2.08	18.88	1.12	18.97	1.03	19.05	0.95	1.03



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (6) – Alamein to Foka
 Test Date : 19/07/2023
 report date : 20/07/2023
 Location : Station 450+550 to 450+575
 Test No. : 03

Nonrepelitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.87	2.08	2.50
Settlement (mm)	0.00	0.10	0.24	0.37	0.50	0.64	0.77

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.77	0.73	0.64	0.39

D (mm) = 600	S1 (mm) = 4.22	S2(mm) = 0.53	ΔS = 0.32
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS	1427		

Ev2/Ev1 = 1.0

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.87	2.08
Settlement (mm)	0.39	0.52	0.65	0.78	0.91	1.03

D (mm) = 600	S1 (mm) = 0.62	S2(mm) = 8.95	ΔS = 0.31
Ev2 (kg/cm2) = (0.75*D*Δσ)/ΔS	1451		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Δσ = The difference between 0.3 and 0.7 from the maximum loading (sigma) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
 Test Date : 19/07/2023
 report date : 20/07/2023
 Location : Station 450+575 to 450+600
 Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.90	0.10	19.91	0.09	19.86	0.14	0.11
2	0.83	19.76	0.24	19.80	0.20	19.72	0.28	0.24
3	1.25	19.60	0.40	19.68	0.32	19.62	0.38	0.37
4	1.67	19.46	0.54	19.54	0.46	19.50	0.50	0.50
5	2.08	19.31	0.69	19.41	0.59	19.35	0.65	0.64
6	2.50	19.14	0.86	19.28	0.72	19.21	0.79	0.79

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.14	0.86	19.28	0.72	19.21	0.79	0.79
2	1.25	19.20	0.80	19.35	0.65	19.25	0.75	0.73
3	0.625	19.29	0.71	19.47	0.53	19.36	0.64	0.63
4	0.01	19.58	0.42	19.78	0.22	19.59	0.41	0.35

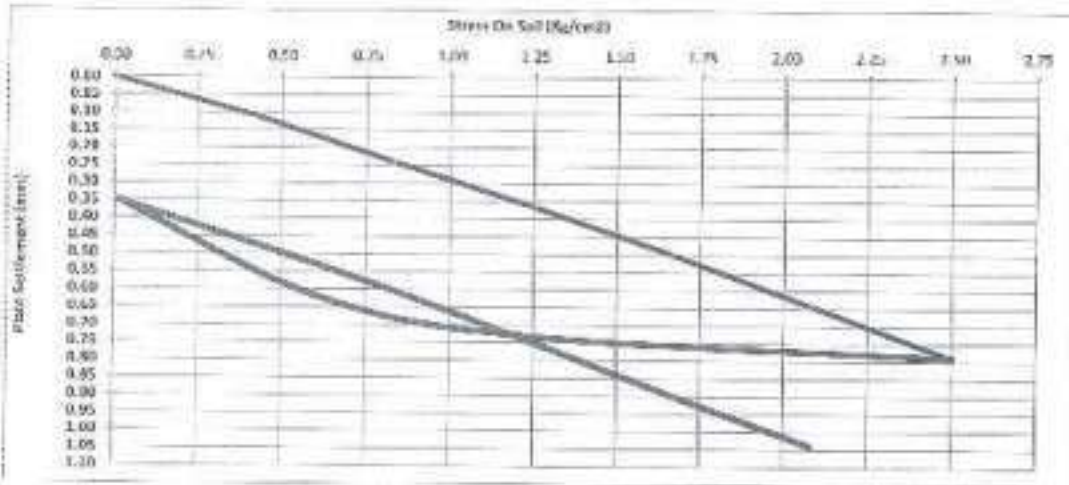
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.50	0.50	19.62	0.38	19.46	0.54	0.47
1	0.83	19.39	0.61	19.48	0.52	19.32	0.68	0.60
2	1.25	19.26	0.74	19.32	0.68	19.17	0.83	0.75
3	1.67	19.12	0.88	19.16	0.84	19.02	0.98	0.90
4	2.08	18.96	1.04	19.02	0.98	18.90	1.10	1.04



Company Name : Sam Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamiola to Foka
Test Date : 19/07/2023
Report Date : 20/07/2023
Location : Station 450+575 to 450+600
Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils / IN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm2)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.11	0.24	0.37	0.50	0.64	0.79

D (mm) = 600	S1 (mm) = 0.21	S2 (mm) = 0.33	ΔS = 0.31
Ev1 (kg/cm2) = (0.75*D*Δσ)/ΔS	1436		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm2)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.35	0.47	0.60	0.75	0.90	1.04

D (mm) = 600	S1 (mm) = 0.66	S2 (mm) = 0.93	ΔS = 0.35
Ev2 (kg/cm2) = (0.75*D*Δσ)/ΔS	1288		

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm2)	2.50	1.25	0.625	0.01
Settlement (mm)	0.79	0.73	0.63	0.35

Ev2/Ev1 =	0.9
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Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Δσ = The difference between 0.3 and 0.7 from the maximum loading (σmax) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

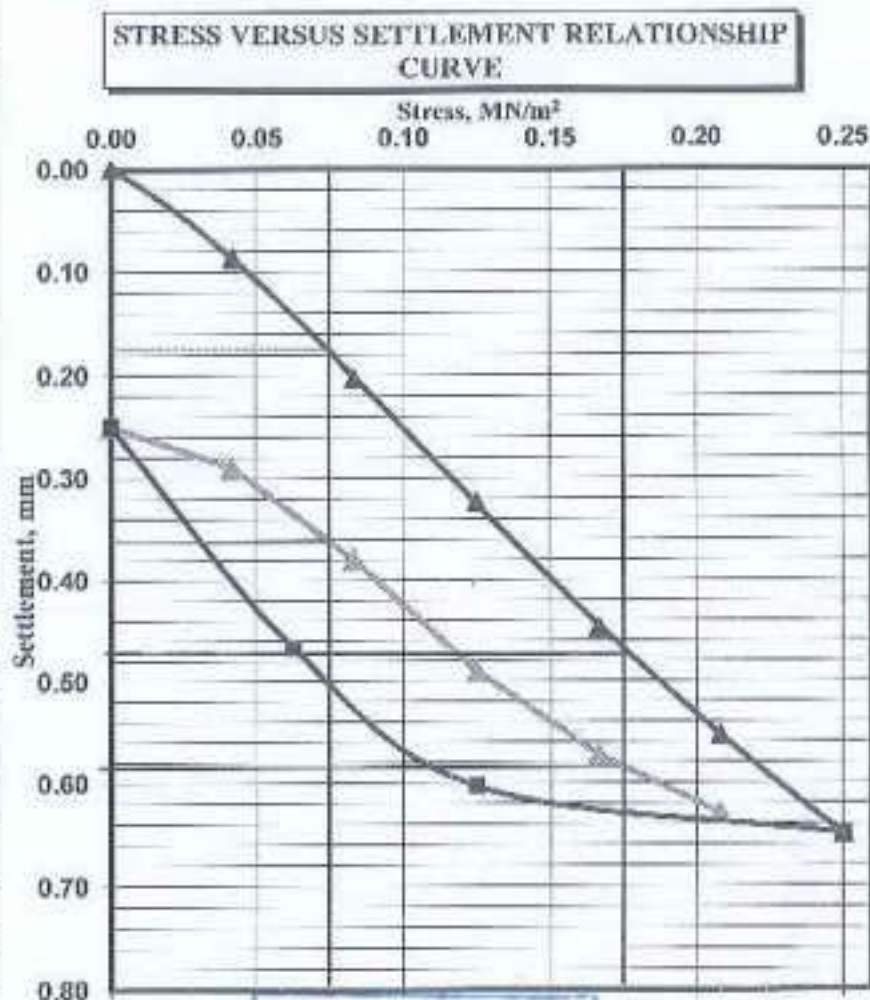


Plate Load Tests of Soils DIN 18134

CLIENT	SunRise	TYPE OF SOIL	Sub-ballast
PROJECT	Electric Express Train	TIME START:	6:00 AM
LOCATION	Al-Daba (450+825) to (450+850) (level +0.90m)	TIME FINISH:	7:30 AM
PLATE LOAD NO.	PLT- 57	DATE	5-Aug-23
PLATE DIAMETER (cm)	60.00	LAB. REF.	11031

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.09
0.08	0.20
0.13	0.32
0.17	0.45
0.21	0.55
0.25	0.65
0.13	0.60
0.06	0.47
0.00	0.25
0.04	0.29
0.08	0.38
0.13	0.49
0.17	0.57
0.21	0.63
0.25	0.69

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.175
S2 at 0.3* σ_{0max}	0.360
S1 at 0.7* σ_{0max}	0.470
S2 at 0.7* σ_{0max}	0.580



STRAIN MODULUS, E_v

E_{v1} [MN/m ²]	152.54
E_{v2} [MN/m ²]	204.55
E_{v2}/E_{v1}	1.34

Apparatus

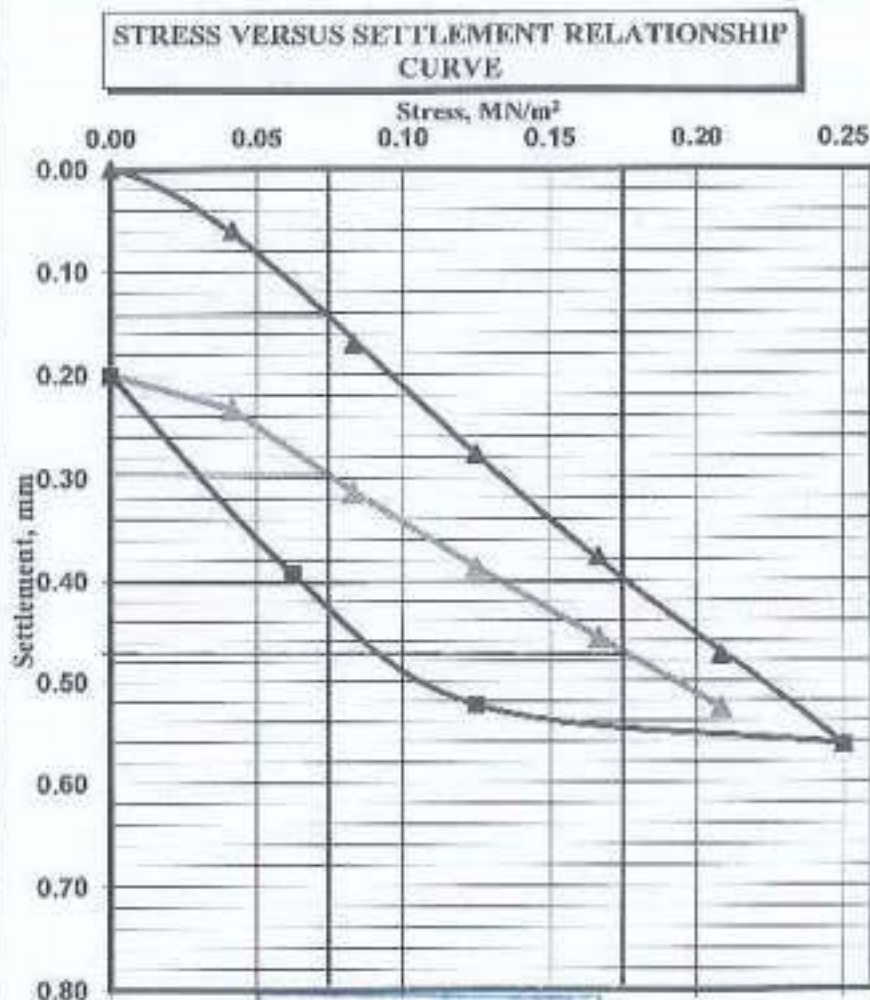
1. Loading plates consists of 600 mm, The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

Plate Load Tests of Soils DIN 18134

CLIENT	SunRise	TYPE OF SOIL	Sub-ballast
PROJECT	Electric Express Train	TIME START:	7:30 AM
LOCATION	Al-Dahan (450+850) to (450+875) (level +0.90m)	TIME FINISH:	9:00 AM
PLATE LOAD NO.	PL1- 58	DATE	5-Aug-23
PLATE DIAMETER (cm)	60.00	LAB. REF.	11031

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.06
0.08	0.17
0.13	0.28
0.17	0.38
0.21	0.47
0.25	0.58
0.13	0.52
0.06	0.39
0.00	0.20
0.04	0.23
0.08	0.31
0.13	0.39
0.17	0.46
0.21	0.53
0.25	0.60

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.140
S2 at 0.3* σ_{0max}	0.295
S1 at 0.7* σ_{0max}	0.400
S2 at 0.7* σ_{0max}	0.470



STRAIN MODULUS, E_v

E_{v1} [MN/m ²]	173.08
E_{v2} [MN/m ²]	257.14
E_{v2}/E_{v1}	1.49

Apparatus

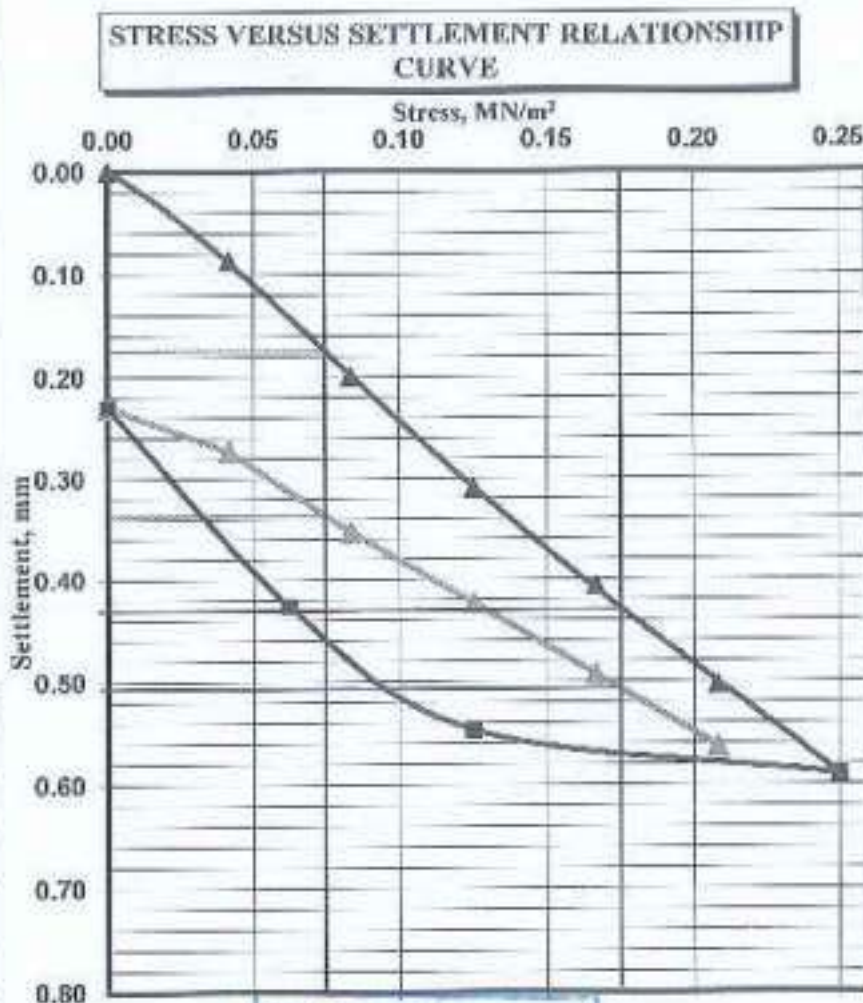
1. Loading plates consists of 600 mm. The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

Plate Load Tests of Soils DIN 18134

CLIENT	SunRise	TYPE OF SOIL	Sub-ballast
PROJECT	Electric Express Train	TIME START:	9:00 AM
LOCATION	Al-Daba (450+875) to (450+900) (level +0.90m)	TIME FINISH:	10:30 AM
PLATE LOAD NO.	PLT- 59	DATE	5-Aug-23
PLATE DIAMETER (cm)	60.00	LAB. REF.	11031

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.09
0.08	0.20
0.13	0.31
0.17	0.41
0.21	0.50
0.25	0.59
0.13	0.55
0.08	0.43
0.00	0.23
0.04	0.27
0.08	0.35
0.13	0.42
0.17	0.49
0.21	0.56
0.25	0.63

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.175
S2 at 0.3* σ_{0max}	0.335
S1 at 0.7* σ_{0max}	0.410
S2 at 0.7* σ_{0max}	0.505



STRAIN MODULUS, E_v

E_{v1} [MN/m ²]	191.49
E_{v2} [MN/m ²]	264.71
E_{v2}/E_{v1}	1.38

Apparatus

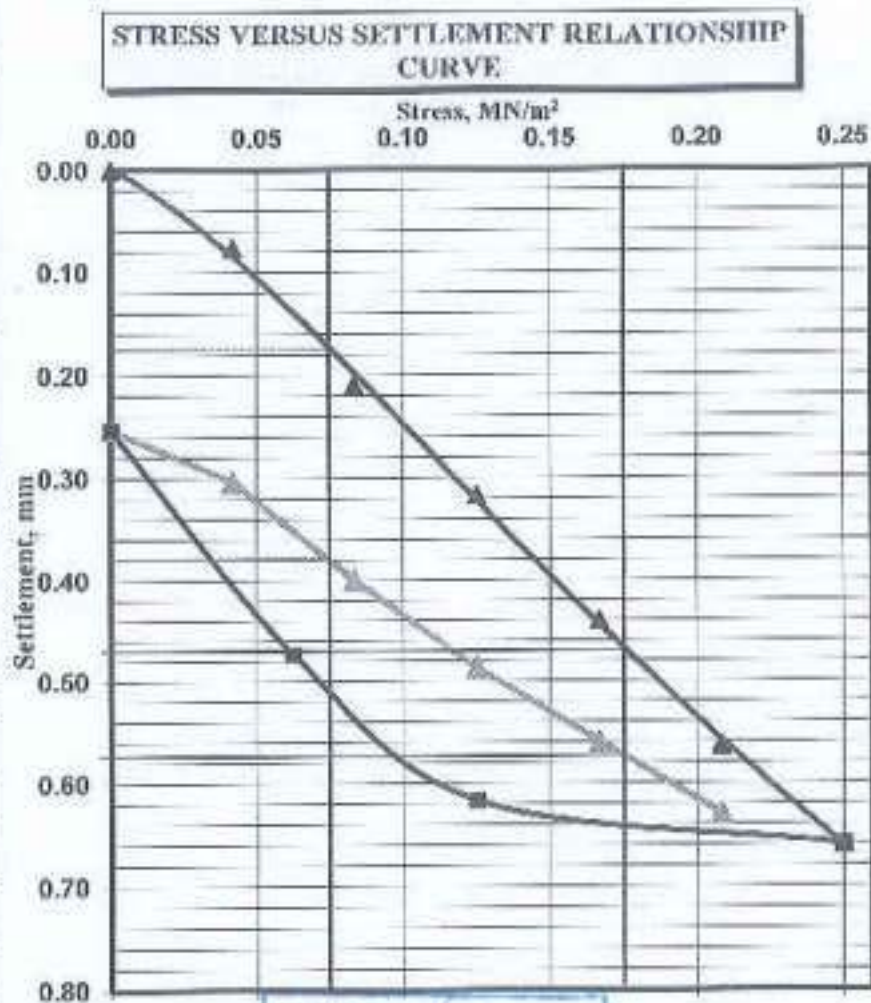
1. Loading plates consists of 600 mm, The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

Plate Load Tests of Soils DIN 18134

CLIENT	SunRise	TYPE OF SOIL	Sub-ballast
PROJECT	Electric Express Train	TIME START:	10:30 AM
LOCATION	Al-Dabas (450+900) to (450+925) (level +0.90m)	TIME FINISH:	12:00 AM
PLATE LOAD NO.	PLT- 60	DATE	5-Aug-23
PLATE DIAMETER (cm)	60.00	LAB. REF.	11031

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.08
0.08	0.21
0.13	0.32
0.17	0.44
0.21	0.56
0.25	0.66
0.13	0.62
0.06	0.47
0.00	0.25
0.04	0.30
0.08	0.40
0.13	0.49
0.17	0.56
0.21	0.63
0.25	0.70

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.175
S2 at 0.3* σ_{0max}	0.380
S1 at 0.7* σ_{0max}	0.465
S2 at 0.7* σ_{0max}	0.570



STRAIN MODULUS, E_v

E_{v1} [MN/m ²]	155.17
E_{v2} [MN/m ²]	236.84
E_{v2}/E_{v1}	1.53

Apparatus

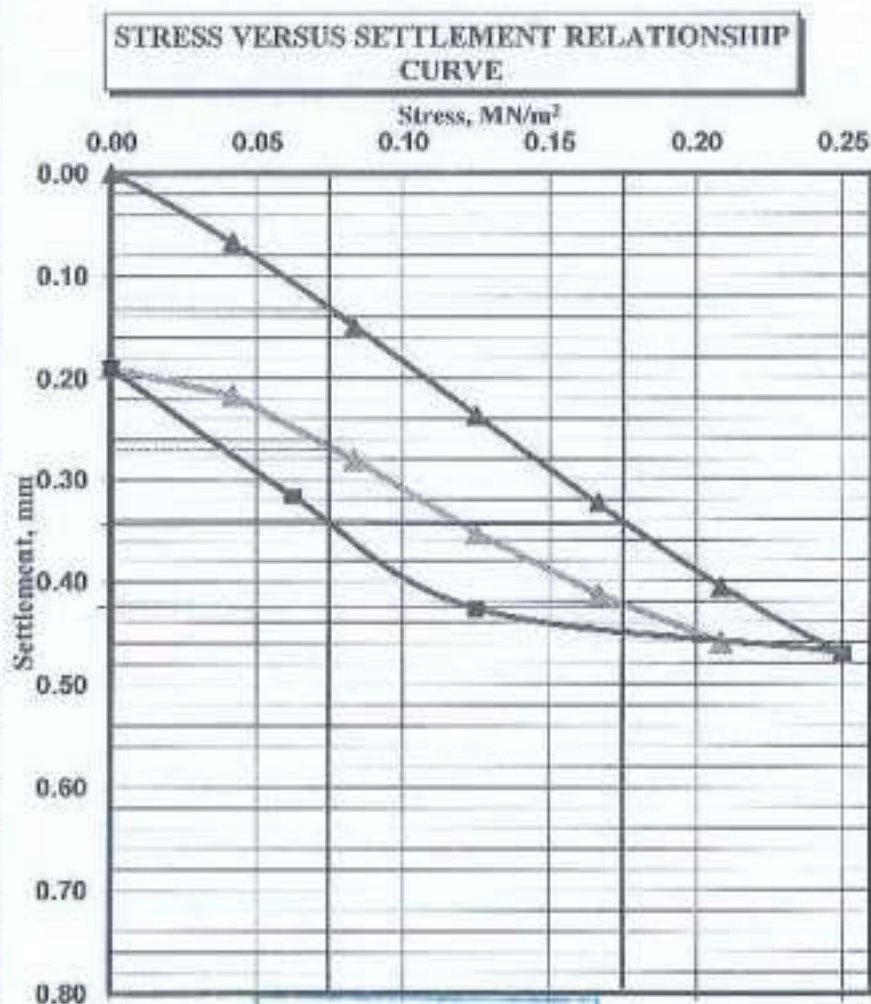
1. Loading plates consists of 600 mm. The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250-KN

Plate Load Tests of Soils DIN 18134

CLIENT	SunRise	TYPE OF SOIL	Sub-ballast
PROJECT	Electric Express Train	TIME START:	12:00 PM
LOCATION	Al-Dabaa (450+925) to (450+950) (level +0.90m)	TIME FINISH:	1:30 PM
PLATE LOAD NO.	PLT- 61	DATE	5-Aug-23
PLATE DIAMETER (cm)	60.00	LAB. REF.	11031

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.07
0.08	0.15
0.13	0.24
0.17	0.32
0.21	0.41
0.25	0.47
0.13	0.43
0.06	0.32
0.00	0.19
0.04	0.22
0.08	0.28
0.13	0.35
0.17	0.41
0.21	0.46
0.25	0.49

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.130
S2 at 0.3* σ_{0max}	0.270
S1 at 0.7* σ_{0max}	0.340
S2 at 0.7* σ_{0max}	0.420



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STRAIN MODULUS, E_v

E_{v1} [MN/m ²]	214.29
E_{v2} [MN/m ²]	300.00
E_{v2}/E_{v1}	1.40

Apparatus

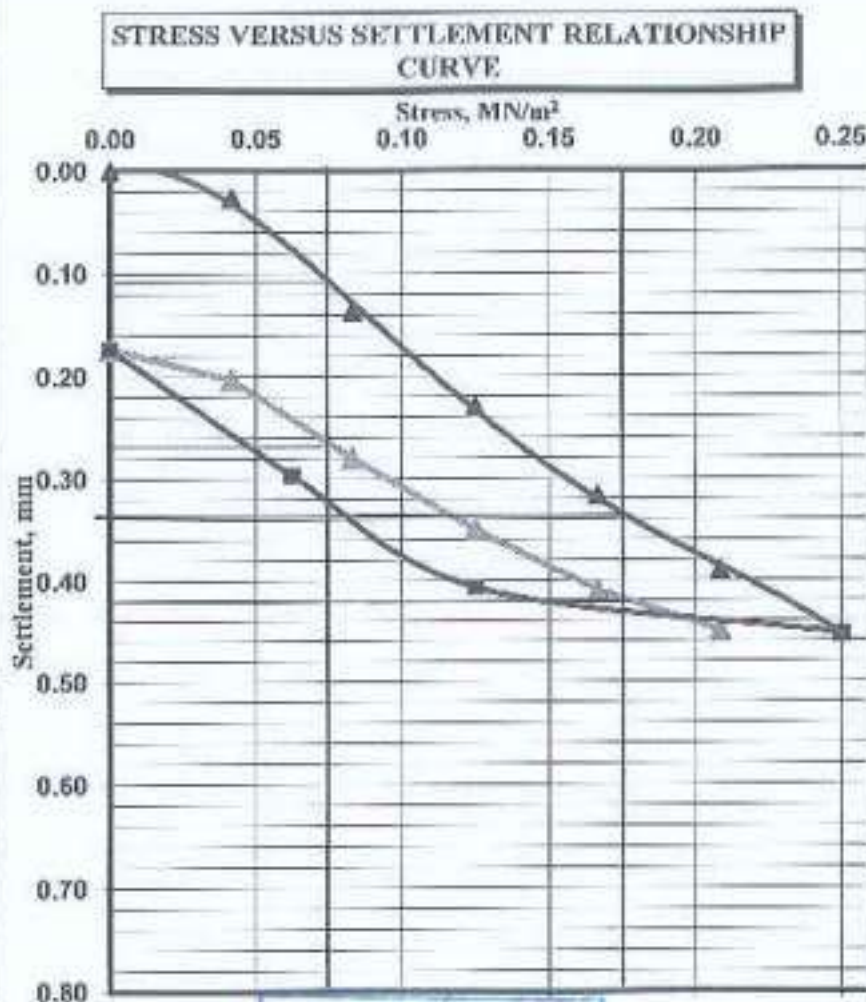
1. Loading plates consists of 600 mm, The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

Plate Load Tests of Soils
DIN 18134

CLIENT	SunRise	TYPE OF SOIL	Sub-ballast
PROJECT	Electric Express Train	TIME START:	1:30 PM
LOCATION	Al-Dabaia (450+950) to (450+975) (level +0.90m)	TIME FINISH:	3:00 PM
PLATE LOAD NO.	PLT- 62	DATE	5-Aug-23
PLATE DIAMETER (cm)	60.00	LAB. REF.	11031

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.03
0.08	0.14
0.13	0.23
0.17	0.32
0.21	0.39
0.25	0.45
0.13	0.41
0.06	0.30
0.00	0.17
0.04	0.20
0.08	0.28
0.13	0.35
0.17	0.41
0.21	0.45
0.25	0.47

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.105
S2 at 0.3* σ_{0max}	0.265
S1 at 0.7* σ_{0max}	0.335
S2 at 0.7* σ_{0max}	0.420



STRAIN MODULUS, E_v

E_{v1} [MN/m ²]	195.65
E_{v2} [MN/m ²]	290.32
E_{v2}/E_{v1}	1.48

Apparatus

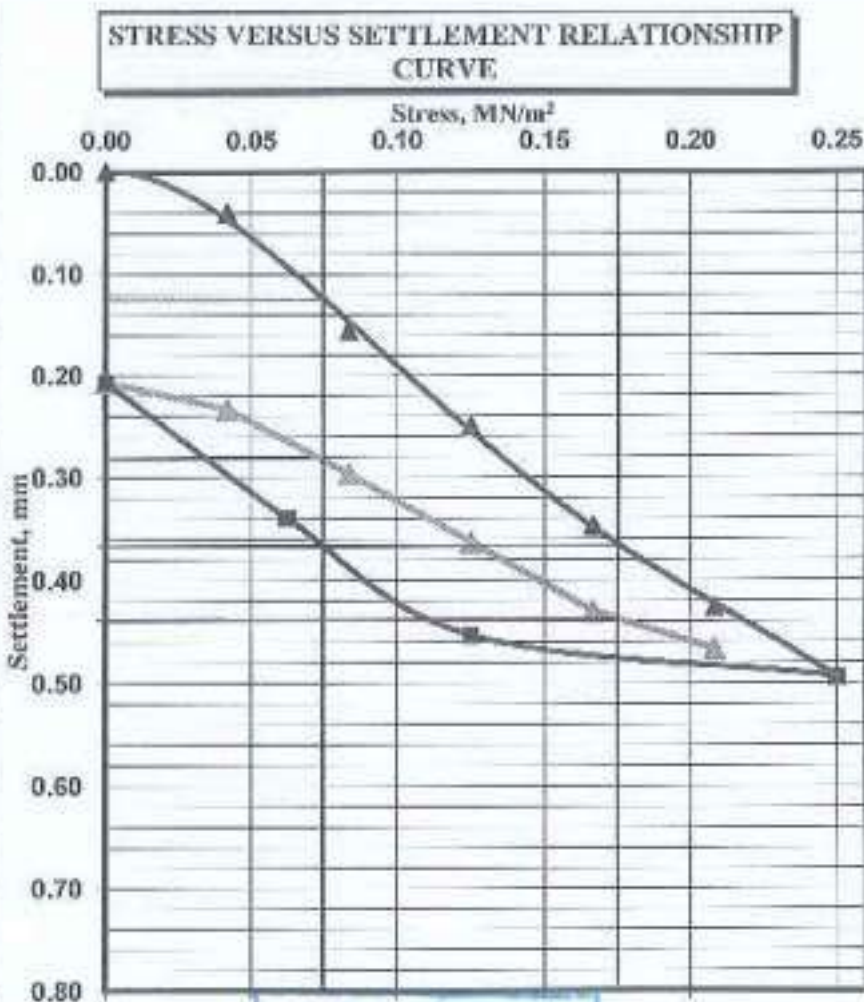
1. Loading plates consists of 600 mm ,The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

Plate Load Tests of Soils DIN 18134

CLIENT	SunRise	TYPE OF SOIL	Sub-ballast
PROJECT	Electric Express Train	TIME START:	3:00 PM
LOCATION	Al-Dabaia (450+975) to (451+000) (level +0.90m)	TIME FINISH:	4:30 PM
PLATE LOAD NO.	PL.T- 63	DATE	5-Aug-23
PLATE DIAMETER (cm)	60.00	LAB. REF.	11031

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.04
0.08	0.16
0.13	0.25
0.17	0.35
0.21	0.43
0.25	0.49
0.13	0.45
0.08	0.34
0.00	0.21
0.04	0.23
0.08	0.30
0.13	0.36
0.17	0.43
0.21	0.47
0.25	0.50

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.120
S2 at 0.3* σ_{0max}	0.280
S1 at 0.7* σ_{0max}	0.365
S2 at 0.7* σ_{0max}	0.435



STRAIN MODULUS, E_v

E_{v1} [MN/m ²]	183.67
E_{v2} [MN/m ²]	290.32
E_{v2}/E_{v1}	1.58

Apparatus

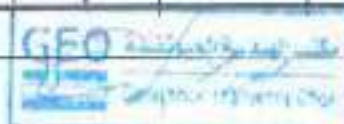
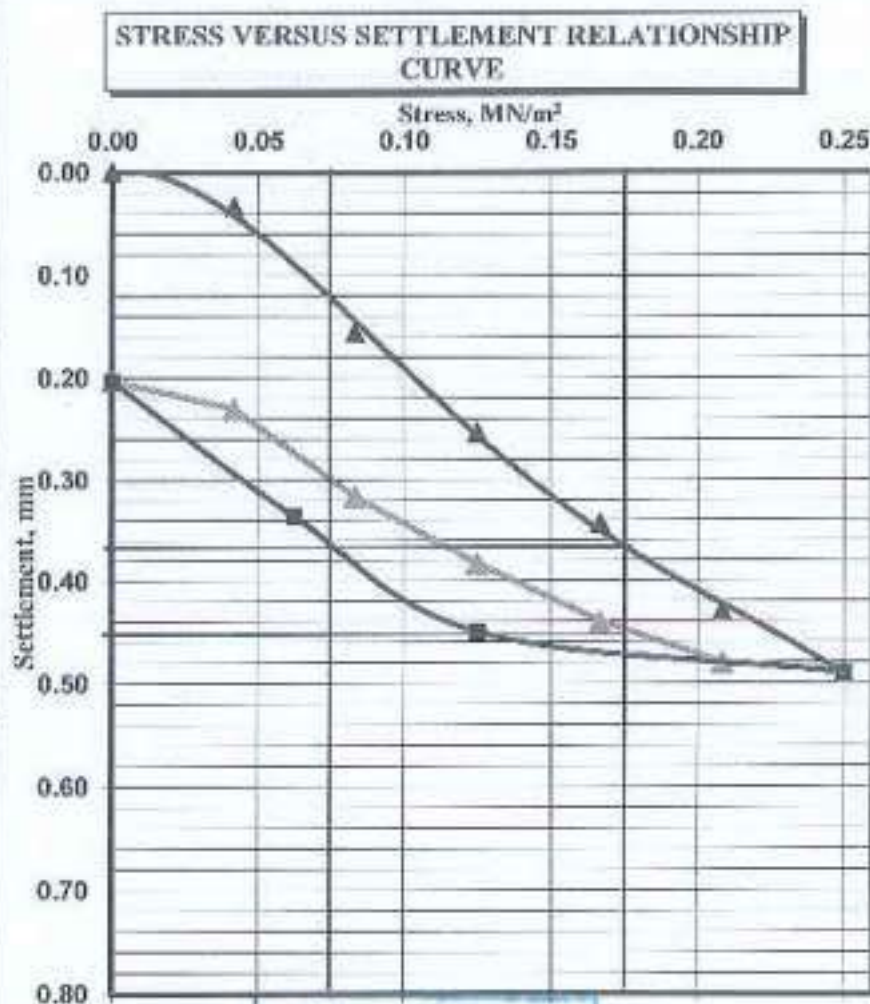
1. Loading plates consists of 600 mm .The thickness of plates 25 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

Plate Load Tests of Soils DIN 18134

CLIENT	SunRise	TYPE OF SOIL	Sub-ballast
PROJECT	Electric Express Train	TIME START:	4:30 PM
LOCATION	Al-Dabaa (451+000) to (451+025) (level +0.90m)	TIME FINISH:	6:00 PM
PLATE LOAD NO.	PLT- 6/1	DATE	5-Aug-23
PLATE DIAMETER (cm)	60.00	LAB. REF.	11031

Stress MN/m ²	Settlement mm
0.00	0.00
0.04	0.03
0.08	0.16
0.13	0.25
0.17	0.34
0.21	0.43
0.25	0.49
0.13	0.45
0.06	0.34
0.00	0.20
0.04	0.23
0.08	0.32
0.13	0.38
0.17	0.44
0.21	0.48
0.25	0.51

0.3* σ_{0max}	0.075
0.7* σ_{0max}	0.175
S1 at 0.3* σ_{0max}	0.120
S2 at 0.3* σ_{0max}	0.300
S1 at 0.7* σ_{0max}	0.365
S2 at 0.7* σ_{0max}	0.450



STRAIN MODULUS, E_v

E_{v1} [MN/m ²]	183.67
E_{v2} [MN/m ²]	300.00
E_{v2}/E_{v1}	1.63

Apparatus

1. Loading plates consists of 600 mm. The thickness of plates 26 mm
2. Dial gauges with accuracy 0.01 mm to measuring the settlement
3. Steel straightedges with magnetic supports to fixed the dial gauges
4. Hydraulic jack with pump to transfer reactive loads to the loading plates
5. Proving Ring for plate load 250 KN

Company : Sun Rise Construction

Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (6)
- Alamein to Foka
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements.
Test Location : (449+775 to 449+900)
Test Date : 17/06/2023
Report Date : 26/07/2023
Type of soil : —
Test level : Sub ballast .
Report No. : 271:276

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 600 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton
8. Calibration certificates are attached

Test Procedure

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 600 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 600 mm loading plate, the limit values are 2.5 kg/cm²
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 % , 25 % , and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads



Report

1. Evaluation and representation of results
2. Load Settlement curve
3. The test report content the following:-
 - location of test site - Dimension of loading plate
 - Measuring device used - Type of soil
 - Type of Bedding material below the plate -Weathering condition
 - Time and date of measurements - Unusual observation made during test
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve
 - Description of the soil condition below the plate after testing

Report

Type of soil: Sub ballast.

- Job requirement: $E_{v2} > (120 \text{ MPa})$, $E_{v2} \leq (300 \text{ Mpa})$ and $(E_{v2}/E_{v1} \leq 2.2)$.

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Sunny
- Plate Diameter (mm)	600
- date of measurement	17/06/2023
- Unusual observation made during test	NO
- Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		First Cycle	Second Cycle	E_{v2}/E_{v1} Ratio
	From	To	$E_{v1} (\text{kg/cm}^2)$	$E_{v2} (\text{kg/cm}^2)$	
1	449+775	449+800	1375	2059	1.5
2	449+750	449+775	1367	1698	1.2
3	449+800	449+825	1327	1761	1.3
4	449+825	449+850	1568	1770	1.1
5	449+850	449+875	1341	1344	1.0
6	449+875	449+900	1183	2444	2.1



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
 Test Date : 17/06/2023
 report date : 26/07/2023
 Location : Station 449+775 to 449+800
 Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.82	0.18	19.80	0.20	19.74	0.26	0.21
2	0.83	19.67	0.33	19.58	0.42	19.49	0.51	0.42
3	1.25	19.55	0.45	19.40	0.60	19.30	0.70	0.58
4	1.67	19.41	0.59	19.22	0.78	19.10	0.90	0.76
5	2.08	19.32	0.68	19.10	0.90	18.98	1.02	0.87
6	2.50	19.19	0.81	18.93	1.07	18.84	1.16	1.01

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.19	0.81	18.93	1.07	18.84	1.16	1.01
2	1.25	19.24	0.76	18.96	1.04	18.91	1.09	0.96
3	0.625	19.33	0.67	19.04	0.96	19.00	1.00	0.88
4	0.01	19.53	0.47	19.32	0.68	19.29	0.71	0.62

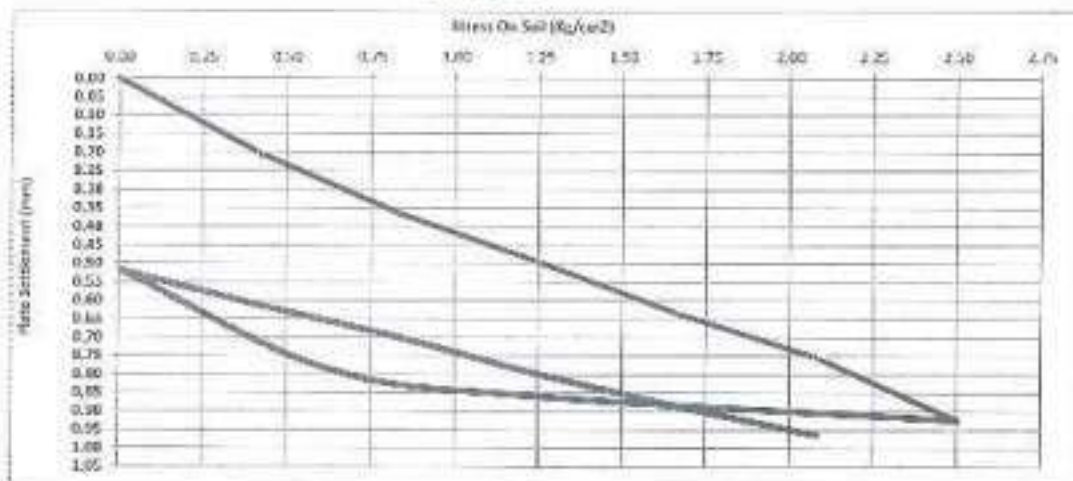
Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.46	0.54	19.24	0.76	19.22	0.78	0.69
1	0.83	19.38	0.62	19.18	0.82	19.16	0.84	0.76
2	1.25	19.31	0.69	19.11	0.89	19.08	0.92	0.83
3	1.67	19.23	0.77	19.05	0.95	19.00	1.00	0.91
4	2.08	19.16	0.84	18.94	1.06	18.92	1.08	0.99



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (S) - Alamein to Foka
Test Date : 17/06/2023
report date : 26/07/2023
Location : Station 449+775 to 449+800
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm ²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.20	0.36	0.50	0.64	0.75	0.92

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm ²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.92	0.86	0.79	0.52

D (mm) = 600	S1 (mm) = 0.39	S2 (mm) = 0.56	ΔS = 0.33
Ev1 (kg/cm ²) = (0.75*D ² Δσ/ΔS)	1375		

Ev2/Ev1 = 1.5

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm ²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.52	0.61	0.70	0.80	0.89	0.96

D (mm) = 600	S1 (mm) = 0.66	S2 (mm) = 0.90	ΔS = 0.22
Ev2 (kg/cm ²) = (0.75*D ² Δσ/ΔS)	2099		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Δσ = The difference between 0.3 and 0.7 from the maximum loading (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Seldina to Marsa Mabrouh Priority Sector (6) – Alamaia to Foka
 Test Date : 17/06/2023
 report date : 26/07/2023
 Location : Station 449+750 to 449+775
 Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.85	0.15	19.79	0.21	19.87	0.13	0.16
2	0.83	19.71	0.29	19.66	0.34	19.69	0.31	0.31
3	1.25	19.57	0.43	19.52	0.48	19.62	0.38	0.43
4	1.67	19.41	0.59	19.37	0.63	19.46	0.54	0.59
5	2.08	19.23	0.77	19.26	0.74	19.34	0.66	0.72
6	2.50	19.09	0.91	19.11	0.89	19.22	0.78	0.86

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.09	0.91	19.11	0.89	19.22	0.78	0.86
2	1.25	19.14	0.86	19.19	0.81	19.29	0.71	0.79
3	0.625	19.21	0.79	19.30	0.70	19.36	0.64	0.71
4	0.01	19.54	0.46	19.62	0.38	19.68	0.32	0.39

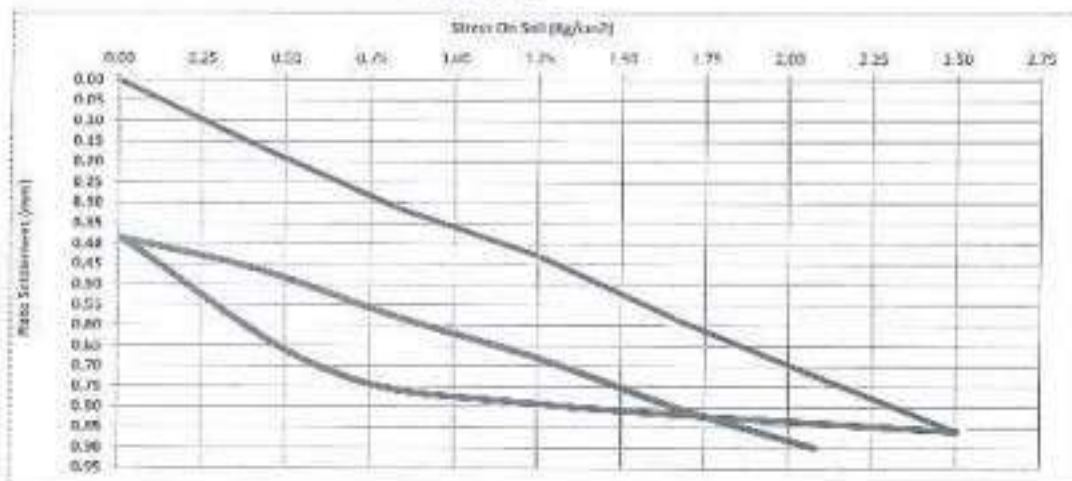
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.44	0.56	19.58	0.42	19.59	0.41	0.46
1	0.83	19.37	0.63	19.45	0.55	19.44	0.56	0.58
2	1.25	19.29	0.71	19.32	0.68	19.35	0.65	0.68
3	1.67	19.21	0.79	19.17	0.83	19.21	0.79	0.80
4	2.08	19.13	0.87	19.06	0.94	19.11	0.89	0.90



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (6) - Alamein to Foka
Test Date : 17/06/2023
report date : 26/07/2023
Location : Station 449+750 to 449+775
Test No. : 02

**Nonrepetitive Static Plate Load Tests of Soils
DIN 18134**



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.16	0.31	0.43	0.59	0.72	0.86

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.86	0.79	0.71	0.39

D (mm) = 600	S1 (mm) = 0.26	S2 (mm) = 0.07	ΔS = 0.33
Ev1 (kg/cm²) = (0.75*D*Δσ)/ΔS	1367		

Ev2/Ev1 = 1.2

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.39	0.46	0.58	0.68	0.80	0.90

D (mm) = 600	S1 (mm) = 0.58	S2 (mm) = 0.82	ΔS = 0.26
Ev2 (kg/cm²) = (0.75*D*Δσ)/ΔS	1608		

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the reloading stage.
D = Plate diameter (mm)
Δσ = The difference between 0.3 and 0.7 from the maximum loading (σmax) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (5) - Alamein to Foka
 Test Date : 17/06/2023
 report date : 26/07/2023
 Location : Station 449+800 to 449+825
 Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.78	0.22	19.89	0.11	19.87	0.13	0.15
2	0.83	19.60	0.40	19.68	0.32	19.76	0.24	0.32
3	1.25	19.48	0.52	19.52	0.48	19.62	0.38	0.48
4	1.67	19.32	0.68	19.40	0.60	19.49	0.51	0.60
5	2.08	19.21	0.79	19.27	0.73	19.27	0.73	0.75
6	2.50	19.06	0.94	19.14	0.86	19.18	0.82	0.87

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.06	0.94	19.14	0.86	19.18	0.82	0.87
2	1.25	19.15	0.85	19.22	0.78	19.20	0.80	0.81
3	0.625	19.35	0.65	19.44	0.56	19.30	0.70	0.64
4	0.01	19.64	0.36	19.76	0.24	19.58	0.42	0.34

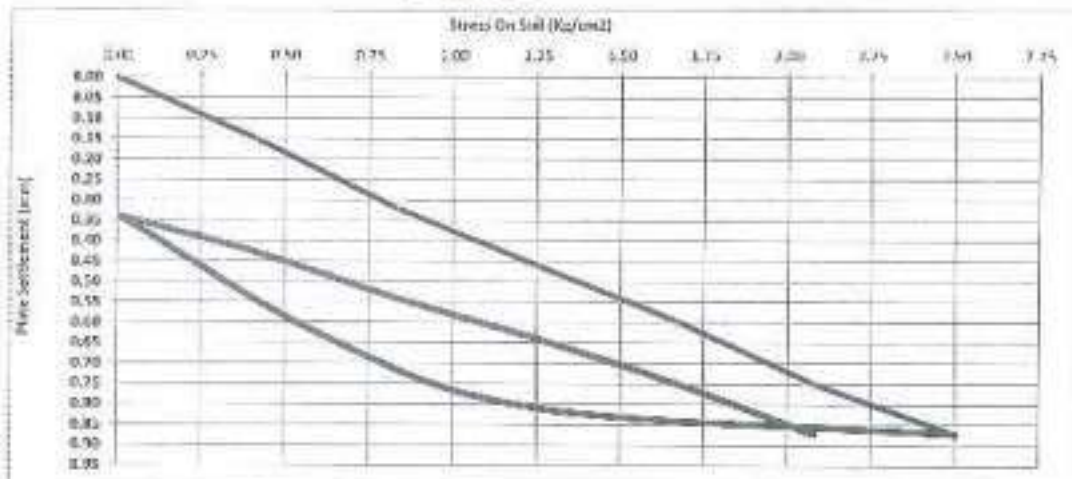
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.53	0.47	19.67	0.33	19.51	0.49	0.43
1	0.83	19.42	0.58	19.56	0.44	19.40	0.60	0.54
2	1.25	19.30	0.70	19.46	0.54	19.32	0.68	0.64
3	1.67	19.19	0.81	19.37	0.63	19.19	0.81	0.75
4	2.08	19.10	0.90	19.20	0.80	19.08	0.92	0.87



Company Name : San Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (6) – Alamein to Foka
Test Date : 17/06/2023
report date : 26/07/2023
Location : Station 449+800 to 449+825
Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm ²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.15	0.32	0.46	0.60	0.75	0.87

Unloading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm ²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.87	0.81	0.64	0.34

D (mm) = 600	S1 (mm) = 0.28	S2 (mm) = 0.63	ΔS = 0.34
Ev1 (kg/cm ²) = (0.75*D*Δσ)/ΔS	1327		

Ev2/Ev1 = 1.3

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm ²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.34	0.43	0.54	0.64	0.75	0.87

D (mm) = 600	S1 (mm) = 0.62	S2 (mm) = 0.77	ΔS = 0.20
Ev2 (kg/cm ²) = (0.75*D*Δσ)/ΔS	1761		

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the reloading stage.
D = Plate diameter (mm)

Δσ = The difference between 0.3 and 0.7 from the maximum loading (mm) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sokhea to Marsa Matrouh Priority Sector (6) – Alamein to Foka
 Test Date : 17/06/2023
 report date : 26/07/2023
 Location : Station 449+825 to 449+850
 Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.90	0.10	19.84	0.16	19.81	0.19	0.15
2	0.83	19.79	0.21	19.73	0.27	19.70	0.30	0.26
3	1.25	19.67	0.33	19.62	0.38	19.58	0.42	0.38
4	1.67	19.53	0.47	19.49	0.51	19.47	0.53	0.50
5	2.08	19.45	0.55	19.36	0.64	19.34	0.66	0.62
6	2.50	19.29	0.71	19.21	0.79	19.19	0.81	0.77

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.29	0.71	19.21	0.79	19.19	0.81	0.77
2	1.25	19.29	0.71	19.25	0.75	19.22	0.78	0.75
3	0.625	19.36	0.64	19.37	0.63	19.36	0.64	0.64
4	0.01	19.72	0.28	19.74	0.26	19.71	0.29	0.28

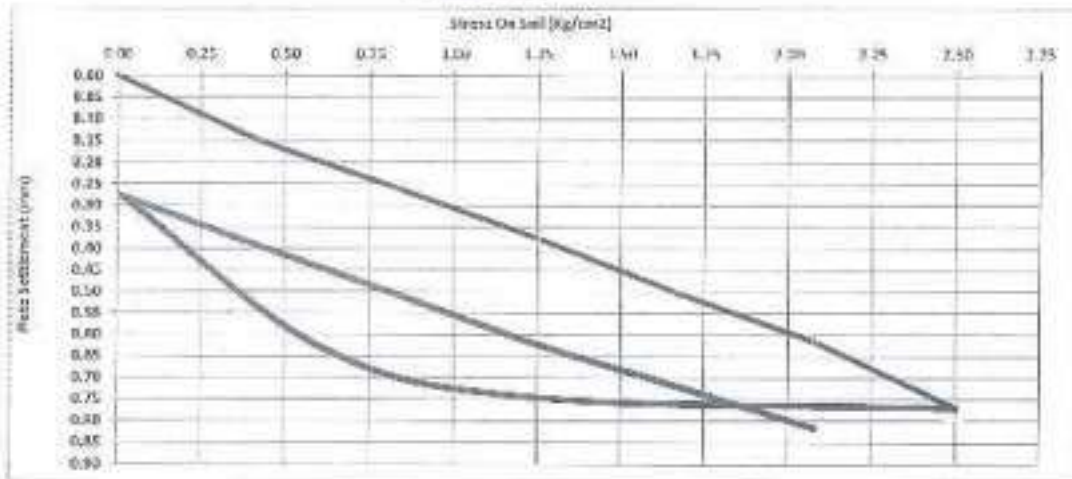
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.61	0.39	19.62	0.38	19.59	0.41	0.39
1	0.83	19.50	0.50	19.50	0.50	19.48	0.52	0.51
2	1.25	19.39	0.61	19.38	0.62	19.36	0.64	0.62
3	1.67	19.28	0.72	19.29	0.71	19.27	0.73	0.72
4	2.08	19.20	0.80	19.18	0.82	19.17	0.83	0.82



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (6) – Alameda to Foka
Test Date : 17/06/2023
report date : 26/07/2023
Location : Station 449+825 to 449+850
Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.15	0.28	0.35	0.50	0.62	0.77

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1766	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.77	0.75	0.64	0.28

D (mm) = 600	S1 (mm) = 0.24	S2 (mm) = 0.53	ΔS = 0.29
Ev1 (kg/cm²) = $(0.75 \cdot D^2 \cdot \Delta \sigma) / \Delta S$	1568		

Ev2/Ev1 = 1.1

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.28	0.39	0.61	0.62	0.72	0.82

D (mm) = 600	S1 (mm) = 0.48	S2 (mm) = 0.74	ΔS = 0.26
Ev2 (kg/cm²) = $(0.75 \cdot D^2 \cdot \Delta \sigma) / \Delta S$	1770		

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)
Δs = The difference between S3 and S7 from the maximum loading (smax) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Solhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
 Test Date : 17/06/2023
 report date : 26/07/2023
 Location : Station 449+850 to 449+875
 Test No. : 05

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.80	0.20	19.71	0.29	19.75	0.25	0.25
2	0.83	19.66	0.34	19.58	0.42	19.64	0.36	0.37
3	1.25	19.54	0.46	19.43	0.57	19.50	0.50	0.51
4	1.67	19.39	0.61	19.27	0.73	19.35	0.65	0.66
5	2.08	19.28	0.72	19.17	0.83	19.24	0.76	0.77
6	2.50	19.16	0.84	19.03	0.97	19.11	0.89	0.90

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	19.16	0.84	19.03	0.97	19.11	0.89	0.90
2	1.25	19.25	0.75	19.13	0.67	19.21	0.79	0.80
3	0.625	19.39	0.61	19.26	0.74	19.36	0.64	0.66
4	0.01	19.70	0.30	19.61	0.39	19.67	0.33	0.34

Loading Stage (2)

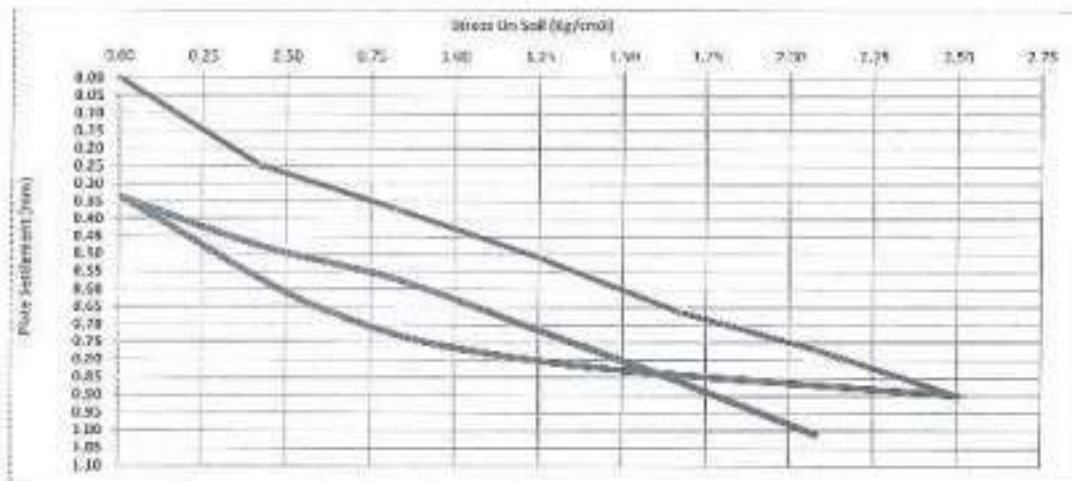
Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.55	0.45	19.50	0.50	19.52	0.48	0.48
1	0.83	19.46	0.54	19.40	0.60	19.42	0.58	0.57
2	1.25	19.33	0.67	19.23	0.77	19.29	0.71	0.72
3	1.67	19.18	0.82	19.09	0.91	19.15	0.86	0.86
4	2.08	19.00	1.00	18.95	1.05	19.02	0.98	1.01



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Priority Sector (6) – Alamein to Foka
Test Date : 17/06/2023
report date : 26/07/2023
Location : Station 449+850 to 449+875
Test No. : 05

Nonrepetitive Static Plate Load Tests of Soils

DIN 18134



Loading (t)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.25	0.37	0.61	0.66	0.77	0.90

UnLoading (t)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.80	0.80	0.60	0.34

D (mm) = 600	S1 (mm) = 0.35	S2 (mm) = 0.68	ΔS = 0.34
Ev1 (kg/cm²) = (0.75*D*Δσ)/ΔS	1341		

Ev2/Ev1 =	1.0
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Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.34	0.48	0.57	0.72	0.86	1.01

D (mm) = 600	S1 (mm) = 0.55	S2 (mm) = 0.88	ΔS = 0.33
Ev2 (kg/cm²) = (0.75*D*Δσ)/ΔS	1344		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the reloading stage.

D = Plate diameter (mm)

Δσ = The difference between 0.3 and 0.7 from the maximum loading (kmax) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

Company Name : Sun Rise Construction
 Project : Electric Express Train, from Al Ain Sakhna to Marsa Matrouh Priority Sector (6) - Alamein to Foka
 Test Date : 17/06/2023
 report date : 26/07/2023
 Location : Station 449+875 to 449+900
 Test No. : 06

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	0.42	19.75	0.25	19.84	0.16	19.72	0.28	0.23
2	0.83	19.43	0.57	19.70	0.30	19.45	0.55	0.47
3	1.25	19.27	0.73	19.55	0.45	19.24	0.76	0.66
4	1.67	19.15	0.85	19.36	0.64	19.13	0.87	0.79
5	2.08	19.04	0.96	19.28	0.72	19.02	0.98	0.89
6	2.50	18.93	1.07	19.18	0.82	18.95	1.05	0.98

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	2.50	18.93	1.07	19.18	0.82	18.95	1.05	0.98
2	1.25	18.98	1.02	19.25	0.75	19.04	0.96	0.91
3	0.625	19.09	0.91	19.36	0.64	19.17	0.83	0.79
4	0.01	19.43	0.57	19.65	0.35	19.41	0.59	0.50

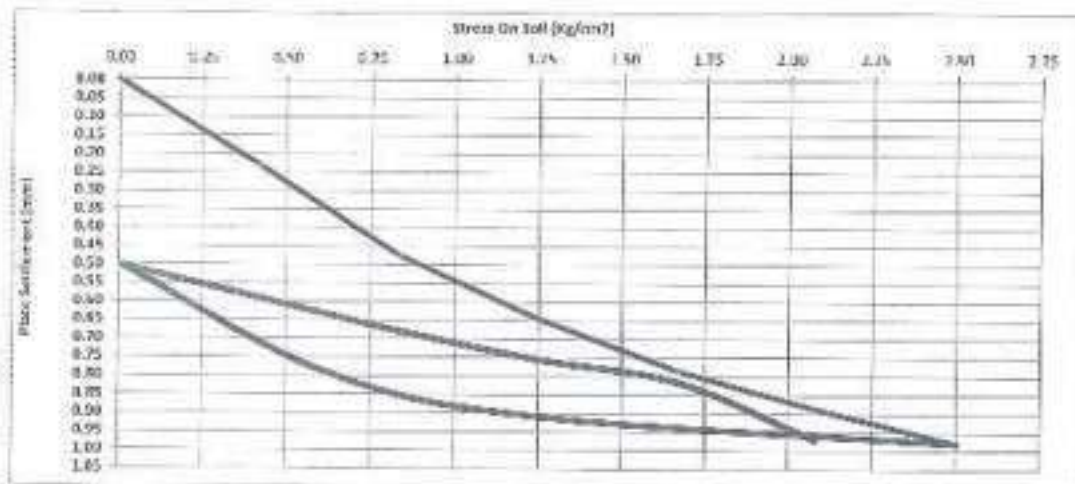
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.42	19.37	0.63	19.54	0.46	19.32	0.68	0.59
1	0.83	19.31	0.69	19.42	0.58	19.23	0.77	0.68
2	1.25	19.25	0.75	19.34	0.66	19.14	0.86	0.76
3	1.67	19.18	0.82	19.29	0.71	19.08	0.92	0.82
4	2.08	18.90	1.10	19.18	0.82	19.01	0.99	0.97



Company Name : Sun Rise Construction
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (6) - Alameda to Foka
Test Date : 17/06/2023
report date : 26/07/2023
Location : Station 449+875 to 449+900
Test No. : 06

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1	7065
Stress (Kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08	2.50
Settlement (mm)	0.00	0.23	0.47	0.65	0.79	0.89	0.98

UnLoading (1)	1	2	3	4
Stage(Kg)	7065	3533	1768	0
Stress (Kg/cm²)	2.50	1.25	0.625	0.01
Settlement (mm)	0.98	0.81	0.79	0.50

D (mm) = 600	S1 (mm) = 0.43	S2 (mm) = 0.81	ΔS = 0.38
Ev1 (kg/cm²) = (0.75*D*ΔS)/ΔS	1183		

Ev2/Ev1 = 2.1

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	1186.92	2345.6	3532.5	4719.4	5878.1
Stress (Kg/cm²)	0.01	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.50	0.59	0.68	0.76	0.82	0.97

D (mm) = 600	S1 (mm) = 0.66	S2 (mm) = 0.85	ΔS = 0.18
Ev2 (kg/cm²) = (0.75*D*ΔS)/ΔS	2444		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

S1 = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)

ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



التحليل الكيميائي لعينات SUBBALLAST

تاريخ ورود العينة: ٢٠٢٣/٩/١٢

الجهة الواردة منها العينات : شركة من رايز للمقاولات العمومية

مشروع القطار الكهربائي السريع (العلمين - فوكة) من كم 446+600 الى 451+100

نوع العينات : عينة ٣

SUBBALLAST (448+600 الى 449+600)

نتائج التحليل الكيميائي :

م	التحليل	%
١	فقد الحرق عند ٩٥٠ م°	٣١,١٥
٢	السيليكا الكلية	٢٥,٢٠
٣	الأملاح القابلة للذوبان	٠,٠٤٦
٤	الكلوريدات	٠,٠٢٨
٥	الكبريتات الذائبة	٠,٠٠٤
٦	الكبريتات الكلية	٠,١٩
٧	الأكاسيد الثلاثية	١,٩١
٨	أكسيد كالسيوم	٣٨,٦٧
٩	أكسيد مغنسيوم	٢,٠٠

• وذلك دون أدنى مسئولية على المعمل من حيث الطريقة التي أخذت بها العينة او الكلية التي ارسلت بها

المشرف على التحليل

القائم بالتحليل



د. دينا عيد المنعم كامل

مدير معمل التحاليل الكيميائية

أ.د. يحيى محمد صبرى الشاذلى



التحليل الكيميائي لعينات SUBBALLAST

تاريخ ورود العينة: ٢٠٢٣/٩/١٢

الجهة الواردة منها العينات : شركة صن رايز للمقاولات العمومية

مشروع القطار الكهربائي السريع (العلمين - فوكة) من كم 446+600 الى 451+100

نوع العينات : عينة ٧

SUBBALLAST (449+600 الى 450+600)

نتائج التحليل الكيميائي :

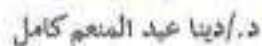
م	التحليل	%
١	فاقد الحرق عند ٩٥٠ م°	٣٣,٨٠
٢	السيليكا الكلية	٢٢,٧٤
٣	الأملاح القابلة للذوبان	٠,٠٥
٤	الكلووريدات	٠,٠٢٥
٥	الكبريتات الذاتية	٠,٠٠٧
٦	الكبريتات الكلية	٠,٢٩
٧	الأكاسيد الثلاثية	٢,١٠
٨	أكسيد كالسيوم	٣٨,٣٣
٩	أكسيد ماغنسيوم	٢,٥٠

• وذلك دون أدنى مسئولية على المعمل من حيث الطريقة التي أخذت بها العينة او الكيفية التي ارسلت بها

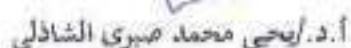
المشرف على التحليل

القائم بالتحليل

أ.د. أحمد أمين زعزوع


د. دينا عيد المنعم كامل


مدير معمل التحاليل الكيميائية

أ.د. يحيى محمد صبرى الشاذلي




التحليل الكيميائي لعينات SUBBALLAST

تاريخ ورود العينة: ٢٠٢٣/٩/١٢

الجهة الواردة منها العينات : شركة صن رايز للمقاولات العمومية

مشروع القطار الكهربائي السريع (العلمين - فوكة) من كم 446+600 الى 451+100

نوع العينات : عينة ١

SUBBALLAST (451+100 الى 450+600)

نتائج التحليل الكيميائي :

م	التحليل	%
١	خاقد المحرق عند ٩٥٠ م°	٣٤,٣٥
٢	السيليكا الكلية	٢١,٢٧
٣	الأملاح القابلة للذوبان	٠,٠٤
٤	الكلوريدات	٠,٠٢٥
٥	الكبريتات الذائبة	٠,٠٠٤
٦	الكبريتات الكلية	٠,١٤
٧	الأكاسيد الثلاثية	١,٦٥
٨	أكسيد كالسيوم	٤٠,٦٠
٩	أكسيد مغنسيوم	١,٠٠

• وذلك دون أدنى مسئولية على المعمل من حيث الطريقة التي أخذت بها العينة او الكيفية التي ارسلت بها

المشرف على التحليل

د.أ. أحمد أمين زعوط



القائم بالتحليل

د.أ. دينا عبد المنعم كامل

مدير معمل التحاليل الكيميائية

د.أ. يحيى محمد صبرى الشاذلى



التحليل الكيميائي لعينات من

تاريخ ورود العينة: ٢٠٢٣/٦/١٣

اسم المشروع: مشروع القطار الكهربائي السريع - موقع (٤٤٧+٦٠٠ الى ٤٥١+٦٠٠)

الشركة المتفلة: شركة صن رايز للمقاولات العمومية

نوع العينات : سن - عينة ١ - من كم ٤٤٩+٠٠٠ الى ٤٥١+٠٠٠

نتائج التحليل الكيميائي :

م	التحليل	%
١	فقد الحرق عند ٩٥٠ م°	٣٣,٧٠
٢	السيليكا الكلية	٢٦,٣٢
٣	الأملاح القابلة للفلوئيد	٠,٠٣٥
٤	الكلوريدات	٠,٠١٦
٥	الكبريتات الذاتية	٠,٠٠٤
٦	الكبريتات الكلية	٠,٢٠
٧	الأكاسيد الثلاثة	١,٤٠
٨	أكسيد كالسيوم	٣٥,٧٠
٩	أكسيد ماغنسيوم	١,٦٧

• وذلك دون أدنى مسئولية على المعمل من حيث الطريقة التي أخذت بها العينة او الكيفية التي أرسلت بها

المشرف على التحليل

د.د. أحمد أمين زعزوط

القائم بالتحليل

د.د. دينا عيد المنعم كامل

مدير معمل التحاليل الكيميائية

د.د. أيحيى محمد صبرى الشاذلى





التحليل الكيميائي لعينات من

تاريخ ورود العينة: ٢٠٢٣/٦/١٣

اسم المشروع: مشروع القطار الكهربائي السريع - موقع (٤٤٧+٦٠٠ الى ٤٥١+١٠٠)

الشركة المنفذة: شركة صن رايز للمقاولات العمومية

نوع العينات : سن - عينة ١ - من كم ٤٤٩+٠٠٠ الى ٤٥١+٠٠٠

نتائج التحليل الكيميائي :

م	التحليل	%
١	فقد الحرق عند ٩٥٠ م°	٣٣,٧٠
٢	السيليكا الكلية	٢٦,٣٢
٣	الأملاح القابلة للذوبان	٠,٠٣٥
٤	الكلوريدات	٠,٠١٦
٥	الكبريتات الذائبة	٠,٠٠٤
٦	الكبريتات الكلية	٠,٢٠
٧	الأكاسيد الثلاثية	١,٤٠
٨	أكسيد كالسيوم	٣٥,٧٠
٩	أكسيد مغنسيوم	١,٦٧

• وذلك دون أدنى مسئولية على المعمل من حيث العارضة التي أخذت بها العينة او الكيفية التي ارسلت بها

المشرف على التحليل

(د.أ. أحمد أمين زعطوط)

القائم بالتحليل

(د.أ. دينا عبد المنعم كامل)

د.أ. أحمد أمين زعطوط

د.أ. دينا عبد المنعم كامل

مدير معمل التحاليل الكيميائية

(د.أ. محمد صبرى الشاذلى)

د.أ. محمد صبرى الشاذلى





التحليل الكيميائي لعينات من

تاريخ ورود العينة: ٢٠٢٣/٦/١٣

اسم المشروع: مشروع القطار الكهربائي السريع - موقع (٤٤٧٠٦٠٠ الى ٤٥١٠١٠٠)

الشركة المنفذة: شركة من رايز للمقاولات العمومية

نوع العينات : سن - عينة ١ - من كم ٤٤٩٠٠٠٠ الى ٤٥١٠٠٠٠

نتائج التحليل الكيميائي :

م	التحليل	%
١	فقد الحرق عند ٩٥٠ م°	٣٣,٧٠
٢	السيليكا الكلية	٢٦,٣٢
٣	الأملاح القابلة للذوبان	٠,٠٣٥
٤	الكلوريدات	٠,٠١٦
٥	الكبريتات الذائبة	٠,٠٠٤
٦	الكبريتات الكلية	٠,٢٠
٧	الإكاسيد الثلاثية	١,٤٠
٨	أكسيد كالسيوم	٣٥,٧٠
٩	أكسيد ماغنسيوم	١,٦٧

• وذلك دون أدلى مسئولية على المعمل من حيث الطريقة التي أخذت بها العينة او الكيفية التي أرسلت بها

المشرف على التحليل

أ.د. أحمد أمين زعزوع

القائم بالتحليل

د. / دينا عبد المنعم كامل

مدير معمل التحاليل الكيميائية

أ.د. / يحيى محمد صبرى الشاذلى



مشروع القطار السريع (العلمين - فوكة)

شركة صن رايز للمقاولات العامة - من المحطة ٦٠٠+٤٤٨ الى المحطة ١٠٠+٤٥١

محضر تحديد مسافة نقل

(نقل السن SUB BALLAST)

انه في يوم الاحد الموافق :- ٢٠٢٢/١٢/١٨

- بناء على طلب المقاول شركة صن رايز للمقاولات العامة لتحديد مسافة نقل السن SUB BALLAST من كساره (الماسه ياسين) على طريق وادي النطرون العلمين للمشروع المذكور اعلاه

تم زيارة الموقع من قبل:-

- | | |
|------------------------------------|------------------------------------|
| ١- السيد المهندس / ابراهيم الحناوي | ممثل الهيئة العامة للطرق والكباري |
| ٢- السيد المهندس / مصطفى نجم | ممثل الاستشاري مكتب د. سعد الجيوشي |
| ٣- السيد المهندس / محمد خليل | ممثل استشاري المساحة مكتب (XYZ) |
| ٤- السيد المهندس / مصطفى نبيل | استشاري مكتب د. سعد الجيوشي |
| ٥- السيد المهندس / سعيد رجب | ممثل شركة صن رايز للمقاولات العامة |

وتبين ان الكساره على مسافة ١٨٢ كم من منتصف القطاع الشركة صن رايز للمقاولات العامة

احداثي كساره (الماسه ياسين) $N 30^{\circ} 31' 44.778''$ $E 29^{\circ} 58' 30.158''$

احداثي منتصف القطاع $N 30^{\circ} 59' 46.05''$ $E 28^{\circ} 28' 15.052''$

وعلى ذلك تم توقيع،،

٥- 

٤- 

٣- 

٢- 

١- 

محضر استلام موقع

مشروع: اعمال الجسر الترابي لمشروع القطار الكهربائي السريع
(العين السخنة - العاصمة الإدارية - العلمين - مطروح)
قطاع العلمين / فوكة
في المسافة من كم ٨٥٠+٤٤٩ الي كم ١٠٠+٤٥١ بطول ١,٢٥ كم
(المنطقة الخامسة - غرب الدلتا)

تنفيذ: شركة صن رايز للمقاولات العمومية
إشراف : المنطقة الخامسة - منطقة غرب الدلتا

طبقاً للعقد رقم (٢٠٢٤/٢٠٢٣/٤٢٠) بتاريخ ٢٠٢٣/٩/٢٠

إنه في يوم الاربعاء الموافق ٢٠٢٣/٩/٢٠ حضر كل من:

- ١- السيد المهندس /محمد حسني فياض مدير عام مشروعات - الهيئة العامة للطرق والكباري
- ٢- السيد المهندس /إبراهيم عبد الله الحناوي مهندس العملية - الهيئة العامة للطرق والكباري
- ٣- السيد المهندس / سعيد رجب سعيد مدير مشروع - شركة صن رايز للمقاولات العمومية

وذلك للمرور على مسار العملية المذكورة عالية لاستلام الموقع :-
وقد تبين أن الموقع خالياً من العوائق الظاهرية ويسمح بالبدء في التنفيذ وبناء عليه يعتبر
تاريخ ٢٠٢٣/٩/٢٠ هو تاريخ استلام الموقع وبدء الأعمال بالعملية
واقفل المحضر على ذلك ووقع الحضور

التوقيعات

٣- السيد محمد حسني فياض

٢- السيد إبراهيم عبد الله الحناوي

١- السيد سعيد رجب سعيد

رئيس الإدارة المركزية

منطقة غرب الدلتا

الاسكندرية - مرسى مطروح

عبد . مهندس /

"هاني محمد محمود طه"

1314760

وثيقة تأمين جميع اخطار المقاولين

بموجب هذه الوثيقة تم الاتفاق بين شركة وثائق التأمين التكملي (المتوعد عنها فيما بعد بالشاركة) والمشتراك في شركة التأمين على أن تتحدد الشركة وفقاً لشروط هذه الوثيقة ومقابل تمام مبداء الاشتراك التأميني بموجب الوثيقة بتعويض المشتراك من الخسائر والأضرار التي تحدث بسبب تقطع أي من الأغسل المغطاة الواردة بالوثيقة وذلك خلال السنة المالية لهذه الوثيقة أو أي ملاحق لها وذلك في حدود الشروط والأحكام والاستثناءات الواردة بهذه الوثيقة.

جدول الوثيقة		رقم الوثيقة :
اسم المستفيد :	شركة من رايز للخدمات الهندسية	2188/2023
اسم المقاول :	شركة من رايز للخدمات الهندسية	اسم المقاول :
موقع العمل :	الجهة العامة للطرق والكباري	اسم المقاول :
مدة التنفيذ :	شامكا على حد رقم (2024/2023/420) أصل الجسر القوي والاعمال الصغرية لمسار القطار الكهربائي السريع الخط الاول (المنطقة - العاصمة الإدارية - العلمين - مطروح) قطاع (العلمين - فوكا) مراحل أصل الأسفلت والاعمال الترميمية المسافة من الكم 449,850 إلى الكم 451,100 بطول 1.250 كم قطاع (العلمين - فوكا)	اسم المقاول :
أ. بالنسبة للأعمال :	يبدأ التنفيذ في : 2023/09/20	اسم المقاول :
ب. بالنسبة لأعمال الصيانة :	ويعتبر في : 2024/09/19	اسم المقاول :
مبلغ التأمين :	18,164,486.00	اسم المقاول :
القسم الأول :	الاعمال المدنية	اسم المقاول :
القسم الثاني :	المسؤولية المدنية قبل التسليم	اسم المقاول :



20/09/2023	تموز افي
هاني عطف	اسم المستخدم
23697	كود المنتج

مصطفى محمد مصطفى

HIGH SCHOOL 2750 South St., Doris 5128
Madison Avenue Branch 27 North St., Madison 5128
New City Branch 27 North St., New City 5128
Albany Branch 27 North St., Albany 5128
Staten Island Branch 27 North St., Staten Island 5128
NY University Branch 27 North St., NY University 5128
Rock and Roll Branch 27 North St., Rock and Roll 5128
Yonkers Branch 27 North St., Yonkers 5128
Port Jervis Branch 27 North St., Port Jervis 5128
Watkins Branch 27 North St., Watkins 5128

أولئك الذين هم	74	شركاء سعدى - الحلى - العبد
أولئك الذين هم	75	شركاء التلى - أولادى - العبد
أولئك الذين هم	76	شركاء العبد - العبد
أولئك الذين هم	77	شركاء العبد - العبد
أولئك الذين هم	78	شركاء العبد - العبد
أولئك الذين هم	79	شركاء العبد - العبد
أولئك الذين هم	80	شركاء العبد - العبد
أولئك الذين هم	81	شركاء العبد - العبد
أولئك الذين هم	82	شركاء العبد - العبد
أولئك الذين هم	83	شركاء العبد - العبد
أولئك الذين هم	84	شركاء العبد - العبد
أولئك الذين هم	85	شركاء العبد - العبد
أولئك الذين هم	86	شركاء العبد - العبد
أولئك الذين هم	87	شركاء العبد - العبد
أولئك الذين هم	88	شركاء العبد - العبد
أولئك الذين هم	89	شركاء العبد - العبد
أولئك الذين هم	90	شركاء العبد - العبد
أولئك الذين هم	91	شركاء العبد - العبد
أولئك الذين هم	92	شركاء العبد - العبد
أولئك الذين هم	93	شركاء العبد - العبد
أولئك الذين هم	94	شركاء العبد - العبد
أولئك الذين هم	95	شركاء العبد - العبد
أولئك الذين هم	96	شركاء العبد - العبد
أولئك الذين هم	97	شركاء العبد - العبد
أولئك الذين هم	98	شركاء العبد - العبد
أولئك الذين هم	99	شركاء العبد - العبد
أولئك الذين هم	100	شركاء العبد - العبد

الشروط والتقطعات

يجب تخزين الأتواح العشبية بما في ذلك السماعات وخلافة - في حالة استخدامها في أعمال الحراسة بعيدا عن الجيش أو المدني ومساكن كاثية
يجب الاحتفاظ بالجزء مقاومة الحريق في الموقع وفي تكون جاهزة للاستعمال الفوري ومساعدة للاستخدام
يجب تزيين جلد كافي من العمل تدريجيا كاملا - على استخدام المعدات ويشترط تواجدهم باستمرار للفصل الفوري
يجب تجنب استخدام عمويات الطعام والتطعيم في الأماكن المظلمة أو التي يكون بها مواد قابلة للاشتعال
من العلوم و الملقح عليه لا تعرضي خطره الممتد أو السرقة بالاكراه على العدد والتسويات واليمن عليها إلا داخل المخابر فقط وبالاختفاء المصالح على
المقراء أو أفراد الأمن الملقحين بالحراسة
يشترط تعيين حراسة مسلحة بسبعة دالمة طوال 24 ساعة على المخابر والأ - فقط حق المشتري في التعويض
من المعلوم والسائق عليه وبناء على الشروط العامة لوثيقه جميع اخطار المشتريين ان الوثيقة تغطي خسري الحريق والسرقة
شروط الامتلاخ
يقر المشتري بأنه عالم على كافة شروط وثيقة استثناءها بعناية للتأكد من أنها تلي باحتياجاته التأمينية قبل سدادها الذي يعتبر أولا منه بكافة الشروط والاستثناءات
فه في حالة وقوع حادث تعالجه هذه الوثيقة تكفي كافة التعويضات المستحقة لمصالح الجهة العامة للطرق والكبارى
فه لا يجوز إجراء أي تعديل أو تغيير أو إلغاء على هذه الوثيقة إلا بعد أخذ موافقة كتابية من الجهة العامة للطرق والكبارى
استثناء للعنف السياسي والإرهاب والتخريب والتشغب والاضطرابات الأهلية والاضطرابات العمالية والاختلال الطبيهية
استثناء للمساكنات القديمة والمحيطه بالمشروع وإزالة الانقاض و الحطام
استثناء فيروس كورونا (مرفق)
استثناء الأمراض المعدية (مرفق)
شروط:
لا يعد الوثيقة بدون وجود رمز الاستجابة السريع "QR-CODE"
ملحق رقم 009 استثناء الخسارة والضرر أو للمسؤولية الناتجة عن الزلازل (مرفق)
ملحق رقم 010 استثناء الخسارة أو الضرر أو المسؤولية الناشئة عن الفيضانات أو غير بالمياه (مرفق)
ملحق رقم 012 استثناء الخسارة أو الضرر أو التلف أو المسؤولية الناتجة عن العواصف أو الرياح المحملة بالمياه (مرفق)
ملحق رقم 106 التعويض الخاص بالموت والأسلم المتفد (مرفق)

20/09/2023
اسم المستخدم
عائى عارف



— 299 —

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مرفقات وثيقة تأمين جميع أخطار المقاتلين 2188/2023 اصناف

المرفقات

- * تعتبر الشروط المبينة مستمدة من البينة العامة للرقابة المالية لوثيقة جميع أخطار المقاتلين والملاحق التالية المرفقة جزء لا يتجزأ من هذه الوثيقة.
- * شروط استثناء فيروس كورونا
هذا التأمين لا يغطي أية مطالبات بالتعويض بأي حال من أي ضرر وقع بسبب أو نتج عن:
(أ) فيروس كورونا (COVID-19)
(ب) فيروس من كورونا المرتبط بالمتلازمة التنفسية الحادة الشديدة النوع (SARS-COV-2)
(ج) أي تحيزات أو تغيرات أو سلالة تنشأ عن فيروس من كورونا المرتبط بالمتلازمة التنفسية الحادة الشديدة النوع (SARS-COV-2)
(د) أي خسائر مالية نتيجة خوف وباء تهديد من جراء ما سبق اعلاه .
- * شروط استثناء الأمراض المعدية
من المعلوم والمتفق عليه انه بغض النظر عن أي من الشروط والاستثناءات والأحكام والاشتراطات المنصوص عليها في هذه الوثيقة أو أي من ملاحظاتها فإنه يستثنى كافة الخسائر والأضرار وفقد الأيراد والإفقد الأيراد المتكاثرة والمتكاثرة الناتجة بشكل مباشر أو بشكل غير مباشر من تفشي عنوي وباء أو أمراض معدية بما في ذلك حالات التلوث وباء أو أصل التطهير وباء أو أعمال التعقيم أو أي قرارات سارية من سلطات قانونية فيما يتعلق بالاحتلال وباء أو التقييد وباء أو منع الوصول عند التعامل مع تفشي هذه الأمراض المعدية .
- * ملحق رقم 009 استثناء الخسارة والضرر أو المسؤولية الناتجة عن الزلازل
من المعلوم والمتفق عليه ، ومع عدم الإخلال بالشروط والاستثناءات والأحكام والاشتراطات المنصوص عليها في الوثيقة أو الملحق بها ، أن الشركة ليست مسئولة عن تمويض المشترك عن الخسارة أو الضرر أو المسؤولية المباشرة أو غير المباشرة الناجمة من أو نتيجة عن الزلازل .
- * ملحق رقم 010 استثناء الخسارة أو الضرر أو المسؤولية الناتجة عن الفيضان أو غمر المياه
من المعلوم والمتفق عليه ، ومع عدم الإخلال بالشروط والاستثناءات والأحكام والاشتراطات المنصوص عليها في الوثيقة أو الملحق بها ، أن الشركة ليست مسئولة عن تمويض المشترك عن الخسارة أو التلف أو المصروف المباشرة أو غير المباشرة الناجمة من أو نتيجة عن الفيضان أو غمر المياه .
- * ملحق رقم 012 استثناء الخسارة أو الضرر أو تلف أو المسؤولية الناتجة عن العواصف أو الرياح المحملة بالمياه
من المعلوم والمتفق عليه أن الشركة لن تعويض المشترك عن الخسارة أو التلف أو المسؤولية المباشرة أو غير المباشرة الناتجة من أو نتيجة عن العواصف التي تعطل أو تزيد عن 8 درجات على مقياس بورغفورت (بمعنى أن تتجاوز سرعة الرياح على 62 كم/ساعة) أو أي خسارة أو تلف بسبب المياه المصاحبة أو الناتجة عن تلك العواصف .
- * ملحق رقم 106 تنويض الخاص بأحوال الأقسام المنك
من المعلوم والمتفق عليه ، ومع عدم الإخلال بالشروط والاستثناءات والأحكام والاشتراطات المنصوص عليها في الوثيقة أو الملحق بها ، فإن الشركة سوف تقوم بتعويض المشترك فقط عن أي تلف أو خسارة أو مسؤولية تحدث مباشرة أو غير مباشرة للضرر والاربع والتلف والتمسك والتلف وأصل التلوث قد نشأت على أقسام لا تنتمي في مجموعها لأقسام المعهدة لذلك . وذلك بغض النظر عن حالة العمل المعمل عليها ، ويكون التعويض عن أي حادث محدوداً

شركة وثاق للتأمين التكافلي - مصر

20/09/2023

تمويلا في

عفي عائل

لم المستخدم

H/A



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19685

Head Office: 23 Mansour El-Ghary - Giza
 Mohamed El-Sayed - Giza
 New City Branch: 8 Amro El-Sayed - New City - Giza
 Alexandria Branch: 25 El-Sayed El-Sayed - Alexandria
 Suez Branch: 20 El-Sayed El-Sayed - Suez
 Port Said Branch: 20 El-Sayed El-Sayed - Port Said
 Matruh Branch: 20 El-Sayed El-Sayed - Matruh
 Damietta Branch: 20 El-Sayed El-Sayed - Damietta
 Tanta Branch: 20 El-Sayed El-Sayed - Tanta
 Assiut Branch: 20 El-Sayed El-Sayed - Assiut
 Sohag Branch: 20 El-Sayed El-Sayed - Sohag
 Luxor Branch: 20 El-Sayed El-Sayed - Luxor
 Aswan Branch: 20 El-Sayed El-Sayed - Aswan
 Red Sea Branch: 20 El-Sayed El-Sayed - Red Sea
 Sinai Branch: 20 El-Sayed El-Sayed - Sinai

الوثاق للتأمين التكافلي - مصر
 فرع القاهرة - 23 منصر الغاري - الجيزة
 فرع مدينة نصر - 8 أمرو السيد - مدينة نصر - القاهرة
 فرع الإسكندرية - 25 السيد السيد - الإسكندرية
 فرع السويس - 20 السيد السيد - السويس
 فرع بورسعيد - 20 السيد السيد - بورسعيد
 فرع مطروح - 20 السيد السيد - مطروح
 فرع دمياط - 20 السيد السيد - دمياط
 فرع طنطا - 20 السيد السيد - طنطا
 فرع أسيوط - 20 السيد السيد - أسيوط
 فرع سوهاج - 20 السيد السيد - سوهاج
 فرع الأقصر - 20 السيد السيد - الأقصر
 فرع أسوان - 20 السيد السيد - أسوان
 فرع البحر الأحمر - 20 السيد السيد - البحر الأحمر
 فرع سيناء - 20 السيد السيد - سيناء

1314767

مرفقات وثيقة تأمين جميع الخطوط المقاولين

القيمة لكل وحدة تخزين : 125,000 ج.م.

اسم المصلح



Worhead

19685 9 1/2 8

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مسئله سداد

1314768

المصادر

نوع الاصطناع أخطار الهندسة

نوع الثامن : جميع الخطوط المقنونة

رقم وثيقة: 2188/2023

ملحوظ رہے:

الفريق المركز الرئيسي

اسم المشتري : شركة صن رايز للمقاولات العمومية

العنوان : شارع الحجاز القطره غرب الاسماعيليه

لصالح : الهيئة العامة للطرق والكبارى

عدد التامرين : عن : 20/09/2023

19/09/2024

المجلة

18,164,486.00 : مبلغ التأمين

فقط ثمانية عشر مليوناً ومائة وأربعة وستون ألفاً وأربعمئة وستة وثمانون ألفاً مئزرى

١	١,714.00	:	الاشتراك
٢	94.27	:	نصف الدفعة للنسبة
٣	50.20	:	مصاريف الأصدار
٤	26.10	:	الضريبة النوعية
٥	10.28	:	رسم الاشتراك و الرقابة / سنة في الألف
٦	3.43	:	اشتراك صندوق حملة الوثائق / اثنين في الألف
٧	1.71	:	مقابل خدمات مراجعة و اعتماد / واحد في الألف
٨	1,900.00	:	إجمالي الاشتراك

(الفصل الف و تسعة عشر في حق مسري)



20/09/2023 تحرير اقي

اسم المستخدم: حتى عطف

كود المنتج 23697 مصطفي محمد مصطفى

قيمة العمولات الأساسية قبل الاستقطاعات

5%	85.70
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 Wintandine Branch: 21 West 1st St., Wintandine, Ark.
 Maer City Branch: 4 Adams St., Maer City, Ark.
 Alexandria Branch: 101 East St., Alexandria, Ark.
 Sennel Branch: 101 West Main St., Sennel, Ark.
 St. Matthews Branch: 101 West Main St., St. Matthews, Ark.
 Port St. Branch: 101 West Main St., Port St., Ark.
 Sennel Branch: 101 West Main St., Sennel, Ark.
 Port St. Branch: 101 West Main St., Port St., Ark.
 Sennel Branch: 101 West Main St., Sennel, Ark.

[illegible]

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جدول وثيقة تأمين الحوادث الشخصية

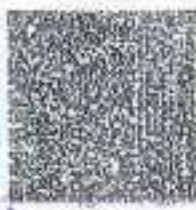
رقم الوثيقة	تاريخ الإصدار : المركز الرئيسي
اسم المشترك :	شركة صن وإيز العقارات المصرية
المستوفى :	شارع محمد القنطرة غرب، الاحمادية
التمثيل :	البنية العامة للطريق والفيلاري
التعليق التكميلية :	تأهلاً على حد 4 أفراد غير محطوي الأبناء مقسدين كالآتي : عدد إميليس + حد وإسماعيل ميليس + حد إسحاق مده + حد إميل (مطلوبين في الشركة ، يليهم مبلغ شيف وقرض 130,000 جم (مائة وثلاثون ألف جنيه مصري فقط لا غير) يواقع 75,000 جم جم (خمسائة ومائتين ألف جنيه مصري لا غير) للمهندس 30,000 جم (ثلاثون ألف جنيه مصري لا غير) لمساعد المهندس، 15,000 جم (خمسة عشر ألف جنيه مصري لا غير) إسحاق المده 10,000 جم (عشرة آلاف جنيه مصري لا غير) للمعلم وذلك عند حضور الوكيل الممثل الثاني والجزئي المستقيم كشيجة حدث وقتئذ لئلا وسبب قبلهم بأخبارهم بذلك موقع العمل فقد تم "من تلوية أصل مشروع حد رقم الألايه - المعلم - مطروح) قطاع (الطالبين - فوكة) مراحل أعمال الإنشاء وأصل الخريطة المساحة من لكم 449,860 إلى رقم 451,100 بطول 1,250 كم. والشخص عليه بموجب وثيقة جميع أفعال المقاولين رقم 2023/2188 وللمستورة من شركة وثائق التأمين الشكلى - مصرات
مدة التأمين	حساب الإشراف الك
من : 20/09/2023	الإشتراك العالى :
إلى : 19/09/2024	أصل القيمة الفنية :
	المصرية العربية :
	مصاريف الإسطار :
	ومع الآخر ق و الرعاية / مدة في الآلاف :
	لشركات مستوفى حصة قوائم / ثمان في الآلاف :
	مقابل خدمات مراجعة واعتماد أو تولد في الآلاف :
	أعمال التأمين ك :
	فقط بمساهمة دولة مصري

^a $\chi^2_{(1)} = 1.1$, $p = .30$.

الحدود للفرد	التغطية
طبقاً لحدود التغطية الواردة بالتأمينية لكل فرد	قوة تغطية حادث
طبقاً لحدود التأمينية الواردة بالتغطية التأمينية لكل فرد	الميز التكملي المستفيد بقيمة حادث
طبقاً لنسبة الواردة بالتشريع العامة بالتغطية	الميز التكملي المستفيد بقيمة حادث
غير مفصل	الميز التكملي الموفات بقيمة حادث
غير مفصل	أرجاع التكاليف الطبية بقيمة حادث

130,000.00	م	قسط مائة وثلاثون ألفاً وخمسة مئتي دينار
130,000.00	م	قسط مائة وثلاثون ألفاً وخمسة مئتي دينار

فقد الألفبي فني الزوم به للفرقة عن فمشت الزامد (مهما باع جند الأسطوري) :-
فقد الألفبي فني الزوم به للفرقة خلال هذا الطريق :-



20/09/2023	الغريزياتي
21/09/2023	الفرع الصناعي
لغز مفضل اليوم	الغريزياتي

مکتوبہ نمبر: 23897 مصطفیٰ احمد مصطفیٰ

Head Office
Wakarusa Street
Near City Branch
Alexandria Branch
Salem Branch
Elmore Branch
Fort Cold Spring
Lima Branch
Fort Cold Spring
Charlotte Branch

1968

[illegible]

1339015

اسد

تاريخ جدول وثيقة تأمين الحوادث الشخصية رقم 1848/2023

الشروط والتغطيات

الشروط العامة

- يشترط ألا يقل عمر المؤمن عليهم عن 18 عام ولا يزيد عن 65 عام.
- ونحن على المشترك الاعتراف على كافة شروط الوثيقة واستثناءاتها بما فيها تلك التي لها نفع بالمشيئة التأمينية قبل مداتها ويعمل بمقتضى الوثيقة بما لا يتعارض مع كافة شروط ولوائح الوثيقة.
- يشترط أن يكون عدد الأفراد الفعلي داخل موقع العمل لا يتعدى عدد الأفراد المؤمن عليهم بالوثيقة وإلا سقط حق المشترك في التعويض.
- تقتصر القسمة القابلة للتأمين على المؤمن عليهم داخل موقع العمل فقط أثناء توقيت العمل المشار إليه ولمنصوص تخفيضه بموجب الوثيقة.
- يتعين أن يتخذ المشترك كافة الاحتياطات والاشتراطات لضمان سلامة أرواح المؤمن عليهم.
- في حالة الوفاة نتيجة حادث مغلي تلحق كافة التعويضات لصالح الورثة الشرعيين.
- يشترط وجود علاقة عمل تربط بين القسمة المؤمن عليهم والمشارك.
- لا يتم بالوثيقة بدون وجود رمز الاستجابة السريع "QR-CODE".

الاستثناءات

- استثناء الأخطار الطبيعية.
- استثناء فيروس كورونا (مرفق)
- استثناء الأمراض المعدية (مرفق)



تحريرا في: 20/09/2023

تاريخ الشهادة: 21/09/2023

إعداد: شذى محمد فهم احمد

موظف محمد مصطفى 23697

2 من 4



www.wethaq-egypt.com Email: wethaq@wethaq-egypt.com www.facebook.com/wethaq

19685

Head Office: 25 Mawada St., Dokki, Giza
 Helwan Branch: 21 Piret el-Helwan, Helwan
 New City Branch: 6 Abbasi el-Agha St., New City, Cairo
 Alexandria Branch: 60 Fouad St., (50 Huda Road) - Helwan
 Assiut Branch: 51 Fouad el-Helwan, Assiut
 El Mansoura Branch: Assiut el-Helwan, Assiut
 Port Said Branch: 21 el-Helwan, Port Said
 Ismailia Branch: 21 el-Helwan, Ismailia
 Suez Branch: 21 el-Helwan, Suez
 Damietta Branch: 21 el-Helwan, Damietta

الوكلاء الرسميون: شركة وثاق للتأمين التكاfulي - مصر
 فرع القاهرة: 25 مودة شارع - الدقي - الجيزة
 فرع مدينة نصر: 21 بيرة هيلوان - هيلوان
 فرع مدينة نصر: 6 عباسي العجا - مدينة نصر - القاهرة
 فرع الإسكندرية: 60 فؤاد - (50 هودا ريد) - هيلوان
 فرع المنصورة: 51 فؤاد هيلوان - المنصورة
 فرع بورسعيد: 21 فؤاد هيلوان - بورسعيد
 فرع دمياط: 21 فؤاد هيلوان - دمياط
 فرع السويس: 21 فؤاد هيلوان - السويس
 فرع الشبراخية: 21 فؤاد هيلوان - الشبراخية
 فرع الزقازيق: 21 فؤاد هيلوان - الزقازيق
 فرع سيدي باري: 21 فؤاد هيلوان - سيدي باري

نوع الأصناف : حواشي علمية

الفرع : المركز الرئيسي

المادة : ١٠٠ : جالية مصر

430.00	:	الإشتراك العائلي
4.30	:	أصناف الدفعة التجمعية
11.60	:	المنشورية النوعية
50.23	:	مصاريف الإصدار
2.58	:	رسم الإطراف و الرقابة / ستة في الألف
0.86	:	إشتراك صندوق حملة الوثائق / اثنتان في الألف
0.43	:	مقابل خدمات مراجعة و اعتماد / واحد في الألف
500.00	:	إجمالي الاشتراك
		قطعة خمسمائة جنيه مصري

كود المنتج : 23697 مصطفي محمد مصطفى

قيمة المعولات الأساسية قبل الاستطلاعات

شركة وثائق التأمين الوطني - مصر

10%

43.00

424

مشروع القطار السريع (العلمين - فوكة)

شركة صن رايز للمقاولات العامة - من المحطة ٦٠٠ + ٤٤٨ الى المحطة ١٠٠ + ٤٥١

محضر تحديد مسافة نقل

(نقل السن SUB BALLAST)

انه في يوم الاحد الموافق :- ٢٠٢٢/١٢/١٨

- بناء علي طلب المقاول شركة صن رايز للمقاولات العامة لتحديد مسافة نقل السن SUB BALLAST من كساره (الماسه ياسين) علي طريق وادي النطرون العلمين للمشروع المذكور اعلاه

تم زيارة الموقع من قبل:-

- | | |
|-------------------------------------|------------------------------------|
| ١ - السيد المهندس / ابراهيم الحناوي | ممثل الهيئة العامة للطرق والكباري |
| ٢ - السيد المهندس / مصطفى نجم | ممثل الاستشاري مكتب د سعد الجيوشي |
| ٣ - السيد المهندس / محمد خليل | ممثل استشاري المساحة مكتب (Xyz) |
| ٤ - السيد المهندس / مصطفى نبيل | استشاري مكتب د. سعد الجيوشي |
| ٥ - السيد المهندس / سعيد رجب | ممثل شركة صن رايز للمقاولات العامة |

وتبين ان الكساره علي مسافة ١٨٢ كم من منتصف القطاع الشركة صن رايز للمقاولات العامة

احداثي كساره (الماسه ياسين) $N 30^{\circ} 31' 44.778''$ $E 29^{\circ} 58' 30.158''$

احداثي منتصف القطاع $N 30^{\circ} 59' 46.05''$ $E 28^{\circ} 28' 15.052''$

وعلي ذلك تم توقيع،،

٥ - 

٤ - 

٣ - 

٢ - 

١ - 