

قائمة الكميات الواردة بالمستخلص جاري (2)

اسناد أعمال الجسر الترابي والأعمال الصناعية للخط الأول لمسار القطر الكهربائي السريع
(العين السخنة - العاصمة الإدارية - العلمين - مطروح)
قطاع (وادي النطرون - برج العرب) أعمال سن الفلتر
لتنفيذ المسافة من الكم 309.750 إلى الكم 310.000 بطول 0.250 كم (بالأمر المباشر)

بند (1-1):

بالمتر المكعب اعمال توريد وفرش طبقة فلتر من الأحجار الصلبة المتدرجة ناتج تكسير كسارات والمطابقة للمواصفات واقصي حجم حبيبي ما بين 20مم الي 75 مم والا يزيد نسبة المار من منخل 200 عن 5% والتدرج الوارد بالاشتراطات الخاصة بالمشروع وهي احجار مقاس سن 1: سن 2: سن 4 او سن 6 بنسبة 1:1:1 والا يقل معامل المرونة EV2 من تجربة لوح التحميل عن 50 ميجاباسكال والا يزيد نسبة الفاقد بجهاز لوس انجلوس عن 45% والفئة تشمل اعمال التجارب المعملية والبند يشمل اجراء التجارب المعملية والحقلية طبقا لاصول الصناعة الممتازة وتقرير الاستشاري وتعليمات المهندس المشرف .
- لمسافة نقل 20 كم .
- الفئة شاملة قيمة المادة المحجربة .
- يتم احتساب 1.3 جنية لكل 1 كم بالزيادة او النقصان .

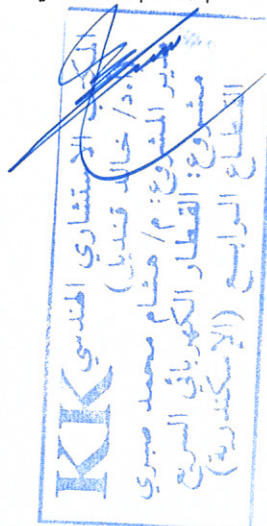
السعر خلال شهر أبريل 2023 طبقاً للمفاوضة بتاريخ 2023-12-18

تنفيذ : "شركة أورانج للاستيراد والتصدير"
عقد رقم (2024/2023/1016)

مقدار العمل السابق :		931.25	3م
مسلسل	الموقع الكيلومري		الكمية (م3)
	من الكم	الى الكم	
1	309+750	310+000	7400.17
2	(309+985) بربخ		214.90
اجمالي الكمية الهندسي (م3)			7615.07
اجمالي الكمية بعد احتساب نسبة غرز 25% (م3)			9518.84
الاجمالي خلال فترة المستخلص الحالية (م3)			10450.09

مهندس الهيئة
م / أحمد جلال عبد السلام
أحمد جلال

مهندس الاستشاري
مكتب أ.د/ خالد قنديل
م / هشام محمد صبري



مهندس الاستشاري
مكتب XYZ
م / محمد خليل



مهندس الشركة
م / محمد فتحي الغول



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اسناد أعمال الجسر الترابي والأعمال الصناعية للخط الأول لمسار القطار الكهربائي السريع
(العين السخنة - العاصمة الإدارية - العلمين - مطروح)
قطاع (وادي النطرون - برج العرب) أعمال سن الفلتر
لتنفيذ المسافة من الكم 309.750 إلى الكم 310.000 بطول 0.250 كم (بالأمر المباشر)

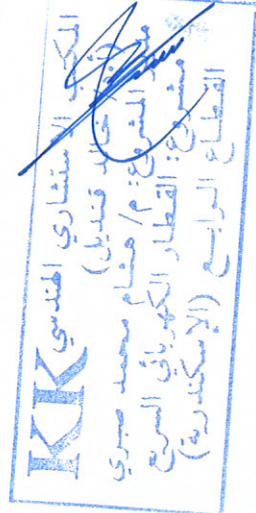
علاوة بند (1-1) علاوة مسافة النقل 162 كم .

تنفيذ : "شركة أورانج للاستيراد والتصدير"
عقد رقم (2024/2023/1016)

مقدار العمل السابق :		8191.44	3م
مسلسل	الموقع الكيلومتری		الكمية (م3)
	من الكم	الى الكم	
1	309+750	310+000	1592.02
2	(309+985) بريخ		214.90
اجمالي الكمية الهندسي (م3)		1806.92	
اجمالي الكمية بعد احتساب نسبة غرز 25% (م3)		2258.65	
الاجمالي خلال فترة المستخلص الحالية (م3)		10450.09	

مهندس الهيئة
م / أحمد جلال عبد السلام

مهندس الاستشاري
مكتب أ.د/ خالد قنديل
م / هشام محمد صبري



مهندس الاستشاري
مكتب XYZ
م / محمد خليل



مهندس الشركة
م / محمد فتحي الغول



قائمة الكميات الواردة بالمستخلص جاري (2)

اسناد أعمال الجسر الترابي والأعمال الصناعية للخط الأول لمسار القطار الكهربائي السريع
(العين السخنة - العاصمة الإدارية - العلمين - مطروح)
قطاع (وادي النطرون - برج العرب) أعمال سن الفلتر
لتنفيذ المسافة من الكم 309.750 إلى الكم 310.000 بطول 0.250 كم (بالأمر المباشر)

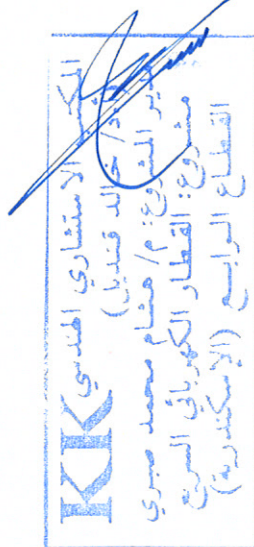
علاوة بند (1-1) علاوة تحصيل رسوم الكارثة والموازن طبقا للائحه الشركة الوطنية.

تنفيذ : "شركة أورانج للاستيراد والتصدير"
عقد رقم (2024/2023/1016)

مقدار العمل السابق :			8191.44	3م
مسلسل	الموقع الكيلومטري		الكمية (م3)	الطول (متر)
	من الكم	الى الكم		
1	309+750	310+000	250.00	1592.02
2	(309+985) بربخ		54.00	214.90
اجمالي الكمية الهندسي (3م)				
1806.92				
اجمالي الكمية بعد احتساب نسبة غرز 25% (3م)				
2258.65				
الاجمالي خلال فترة المستخلص الحالية (3م)				
10450.09				

مهندس الهيئة
م / أحمد جلال عبد السلام
أحمد جلال

مهندس الاستشاري
مكتب أ.د/ خالد قنديل
م / هشام محمد صبري



مهندس الاستشاري
مكتب XYZ
م / محمد خليل



مهندس الشركة
م / محمد فتحي الغول





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AGGREGATE REPORTS FOR ELECTRIC EXPRESS TRAIN PROJECT

Contractor : شركة أورنج للإستيراد والتصدير والمقاولات العامة

Date of report : 20-09-2023

٢٠٢٣ - ٢٠٢٣

QC : 1954-1

Kilo 23 Alexandria - Cairo Desert Road - Merghem

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Report no.	1954-1
Date of report	20-09-2023

I-Introduction

General Consultant :	SYSTRA
Consultant :	DR/ Khaled Kandil
Contractor :	شركة أورنج للإستيراد والتصدير والمقاولات العامة
Sample :	Coarse Aggregate Filter layer.
Station :	St(309+800) .
Date of Test :	12-09-2023

II- Sample description:

Coarse Aggregate mix

III- Required tests and Results:

Required tests		Results
1- Specific gravity (SG), absorption and degradation.	SSD	2.503
	Absorption	1.85%
	Degradation	0.3%
2- Grain size analysis	Grain size analysis	As shown in figuers
3- Los Angeles test	Abrasion ratio	29.8%
4- Percentage of flakiness Aggregate.	Total Percentage of flakiness portion	4.00%
5- Percentage of Elongation Aggregate.	Total Percentage of Elongation portion	7.80%
6- Percentage of natural aggregate.	Total Percentage of natural aggregate	7.93%

IV- Notes

- 1- Samples were brought by : Contractor.
- 2- Samples are responsible from the Person who brought it.
- 3- The results are applying only for the present report
- 4-

LAB DIRECTOR

Eng / Eman kandil

Eman



Geotechnical consultant

For. DR. M.
Dr. Mohamed Mostafa Badry

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APPENDIX

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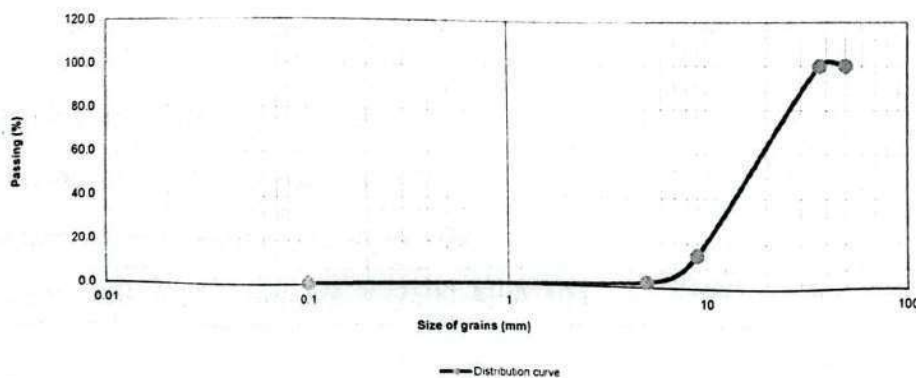
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PARTICLE SIZE DISTRIBUTION ANALYSIS ASTM C-136 / AASHTO T27

Sieve size (mm)	WEIGHT	CUMULATIVE	CUMULATIVE	CUMULATIVE	STANDURD	
	RETAINED	WEIGHT	PERCENTAGE	PERCENTAGE	SPECIFICATION	
	(gm)	RETAINED (gm)	RETAINED (%)	PASSING (%)	LIMITS	
75	0.00	0.00	0.00	100.0	100	100
50	0.00	0.00	0.00	100.0	75	90
10	5742.00	5742.00	85.13	14.9	15	25
No.4	843.00	6585.00	97.63	2.37	0	10
No.200	115.00	115.00	71.88	0.67	0	5

Total sample weight = 6745.00 pass No.4 = 160.0 Total fine aggregates weight = 160 gm
%

Size analysis distribution curve



Coarse Agg.



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Absorption and specific gravity for Coarse Aggregate ASTM C 127 - AASHTO T 85

Weight of sample	2500
Weight of saturated - dry surface sample (B)	2538
Weight of saturated sample in water (C)	1524
Weight of dry sample aftr heating (A)	2492

Results:-

Saturation surface dry spcific gravity = $B / (B-C)$	2.503
Bulk spcific gravity = $A / (B-C)$	2.46
Apparent spcific gravity = $A / (A-C)$	2.57
Absorbtion of water = $(B-A)/A*100$	1.85
Degradation of aggregate = $(2500-A)/ A*100$	0.3



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ABRASION AND IMPACT " LOS ANGELES " TEST (For small size coarse aggregate) ASTM- C 131-96 / AASHTO-T-96

Results

Speed	Rotate at 30 to 33 Rpm For 500 Revolution
Trial Grading	A
Intitial Weight (W1) gms	5000
Weight of tested sample (W2) gms Retained on sieve No.12	3508
% Wear By Weight Passing on Sieve No.12	29.8%



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percentage of flakiness aggregate
ASTM D-4791

Flakiness Determination

Sieve size "inch"		Mass test portion (gm)	Mass of flakiness (gm)	Percentage of flakiness portion %
Passing	Retained			
1.5	1	3455	36	1.04
1	3/4	1476	0	0.00
3/4	1/2	1420	5	0.35
1/2	3/8	115	3	2.61
Total Percentage of flakiness portion %				4.00
Standard Spsciffitncation				≤ 10%

Elongated Determination

Sieve size "inch"		Mass test portion (gm)	Mass elongated (gm)	Percentage of elongated portion %
Passing	Retained			
1.5	1	3455	80	2.32
1	3/4	1476	55	3.73
3/4	1/2	1420	25	1.76
1/2	3/8	115	0	0.00
Total Percentage of Elongated portion %				7.80
Standard Spsciffitncation				≤ 10%



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Percentage of crushed aggregate

Crushed Determination

Sieve size "inch"		Mass test portion (gm)	Mass natural (gm)	Percentage of crushed portion %
Passing	Retained			
1 1/2	1	3455	18	99.48
1	3/4	1476	190	87.13
3/4	1/2	1420	260	81.69
1/2	3/8	115	45	60.87
Total		6466.00	513	92.07

Percentage of cruched =	<u>92.07</u>	<u>%</u>
Percentage of natural =	<u>7.93</u>	<u>%</u>
Standard specification	<u>≤ 10</u>	<u>%</u>



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Report :	728 - 1 - Center
Date :	20/09/2023

CHEMICAL ANALYSIS

General Consultant : SYSTRA
Consultant : DR/ Khaied Kandil
Contractor : شركة اورانج للاستيراد والتصدير والمقاولات العامة
Project : Electric express train
Sample : Coarse Aggregate Filtter Layer
Station : ST (309 + 800)
Date of Test : 12/09/2023

Temperature : 28 °C

Humidity : 45%

ANALYSIS	RESULTS	METHOD REFERENCE
CHLORIDE (CL)	0.0025%	ASTM D 2974
SULPHATE (SO3)	0.0036%	
ORGANIG MATTER	NEGATIVE	



LAB DIRECTOR
CH/ Mostafa Asker

Mostafa



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Report no.	1954-2
Date of report	20-09-2023

I-Introduction

General Consultant :	SYSTRA
Consultant :	DR/ Khaled Kandil
Contractor :	شركة أورنج للإستيراد والتصدير والمقاولات العامة
Sample :	Coarse Aggregate Filter layer.
Station :	St(309+800).
Date of Test :	12-09-2023

II- Sample description:

Coarse Aggregate mix

III- Required tests and Results:

Required tests		Results
1- Specific gravity (SG), absorption and degradation.	SSD	2.505
	Absorption	1.73%
	Degradation	0.3%
2- Grain size analysis	Grain size analysis	As shown in figures
3- Los Angeles test	Abrasion ratio	29.4%
4- Percentage of flakiness Aggregate.	Total Percentage of flakiness portion	4.09%
5- Percentage of Elongation Aggregate.	Total Percentage of Elongation portion	5.88%
6- Percentage of natural aggregate.	Total Percentage of natural aggregate	7.06%

IV- Notes

- 1- Samples were brought by : Contractor.
- 2- Samples are responsible from the Person who brought it.
- 3- The results are applying only for the present report.
- 4-

LAB DIRECTOR

Eng / Eman kandil



Geotechnical consultant

For. DR. M -
Dr. Mohamed Mostafa Badry

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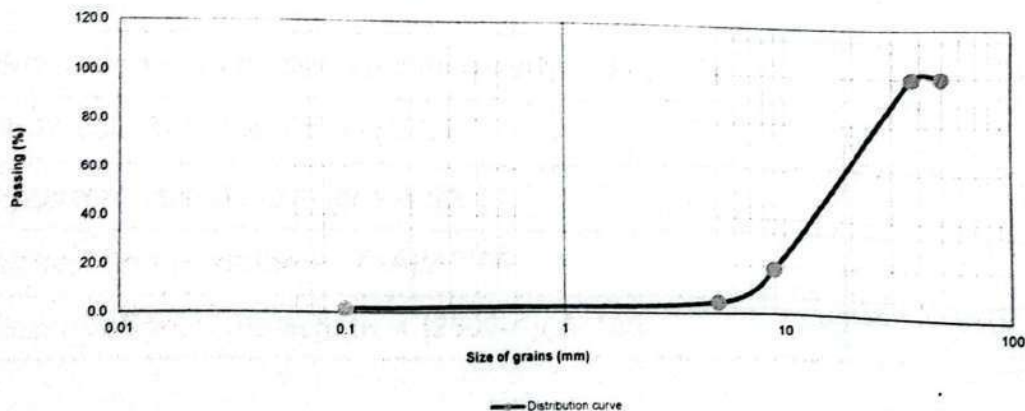
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PARTICLE SIZE DISTRIBUTION ANALYSIS ASTM C-136 / AASHTO T27

Sieve size (mm)	WEIGHT	CUMULATIVE	CUMULATIVE	CUMULATIVE	STANDURD	
	RETAINED	WEIGHT	PERCENTAGE	PERCENTAGE	SPECIFICATION	
	(gm)	RETAINED (gm)	RETAINED (%)	PASSING (%)	LIMITS	
75	0.00	0.00	0.00	100.0	100	100
50	0.00	0.00	0.00	100.0	75	90
10	10546.00	10546.00	81.29	18.7	15	25
No.4	1843.00	12389.00	95.49	4.51	0	10
No.200	390.00	390.00	66.67	1.50	0	5

Total sample weight = 12974.00 pass No.4= 585.0 Total fine aggregates weight = 585 gm
% 4.5

Size analysis distribution curve



Coarse Agg.





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Absorption and specific gravity for Coarse Aggregate ASTM C 127 - AASHTO T 85

Weight of sample	2500
Weight of saturated - dry surface sample (B)	2535
Weight of saturated sample in water (C)	1523
Weight of dry sample aftr heating (A)	2492

Results:-

Saturation surface dry spicific gravity = $B / (B-C)$	2.505
Bulk spicific gravity = $A / (B-C)$	2.46
Apparent spicific gravity = $A / (A-C)$	2.57
Absorbtion of water = $(B-A)/A \times 100$	1.73
Degradation of aggregate = $(2500-A)/A \times 100$	0.3



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ABRASION AND IMPACT " LOS ANGELES " TEST (For small size coarse aggregate) ASTM- C 131-96 / AASHTO-T-96

Results

Speed	Rotate at 30 to 33 Rpm For 500 Revolution
Trial Grading	A
Intital Weight (W1) gms	5000
Weight of tested sample (W2) gms Retained on sieve No.12	3530
% Wear By Weight Passing on Sieve No.12	29.4%



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percentage of flakiness aggregate
ASTM D-4791

Flakiness Determination

Sieve size "inch"		Mass test portion (gm)	Mass of flakiness (gm)	Percentage of flakiness portion %
Passing	Retained			
1.5	1	2200	25	1.14
1	3/4	1270	0	0.00
3/4	1/2	2050	25	1.22
1/2	3/8	346	6	1.73
Total Percentage of flakiness portion %				4.09
Standard Specification				≤ 10%

Elongated Determination

Sieve size "inch"		Mass test portion (gm)	Mass elongated (gm)	Percentage of elongated portion %
Passing	Retained			
1.5	1	2200	0	0.00
1	3/4	1270	15	1.18
3/4	1/2	2050	37	1.80
1/2	3/8	346	10	2.89
Total Percentage of Elongated portion %				5.88
Standard Specification				≤ 10%



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Percentage of crushed aggregate

Crushed Determination

Sieve size "inch"		Mass test portion (gm)	Mass natural (gm)	Percentage of crushed portion %
Passing	Retained			
1 1/2	1	2200	147	93.32
1	3/4	1270	97	92.36
3/4	1/2	2050	110	94.63
1/2	3/8	346	60	82.66
Total		5866.00	414	92.94

Percentage of cruched =	92.94	%
Percentage of natural =	7.06	%
Standard specification	≤ 10	%



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Report :	728 - 2 - Center
Date :	20/09/2023

CHEMICAL ANALYSIS

General Consultant :	SYSTRA
Consultant :	DR/ Khaied Kandil
Contractor :	شركة اورانج للاستيراد والتصدير والمقاولات العامة
Project :	Electric express train
Sample :	Coarse Aaggregate Fillter Layer
Station :	ST (309 + 800)
Date of Test :	12/09/2023

Temperature : 28 °C

Humidity : 45%

ANALYSIS	RESULTS	METHOD REFERENCE
CHLORIDE (CL)	0.0028%	ASTM D 2974
SULPHATE (SO3)	0.0041%	
ORGANIG MATTER	NEGATIVE	



LAB DIRECTOR
CH/ Mostafa Asker

Mostafa

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Company : Orange Construction.

Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority

Sector (4) – Wadi El Natroun to Borg Al Arab.

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: Station (309+840 to 309+950)

Test Date : 15/11/2023

Report Date : 16/11/2023

Type of soil : ----

Test level : fill filter

Report No. : 0011:0012

Dear Gentleman,

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

Apparatus

1. Loading plates consists of plates with 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 plate 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 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

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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 : fill filter
- Job Requirement : -----

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Partly Sunny
- Plate Diameter (mm)	300
- date of measurement	15/11/2023
- 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
		E_{v1} (MPa)	E_{v2} (MPa)	
1	309+890	45	143	3.2
2	309+930	52	158	3.0

Signature / 

Company Name : Orange Construction.
 Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (4) - Wadi El Natroun to Borg Al Arab.
 Test Date : 15/11/2023
 report date : 16/11/2023
 Location : Station 309+890
 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	0.83	19.73	0.27	19.67	0.33	19.72	0.28	0.29
2	1.67	19.55	0.45	19.37	0.63	19.29	0.71	0.60
3	2.50	19.21	0.79	18.95	1.05	18.79	1.21	1.02
4	3.33	18.94	1.06	18.34	1.66	18.40	1.60	1.44
5	4.14	18.62	1.38	17.87	2.13	18.05	1.95	1.82
6	5.00	18.40	1.60	17.64	2.36	17.73	2.27	2.08

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	5.00	18.40	1.60	17.64	2.36	17.73	2.27	2.08
2	2.50	18.52	1.48	17.73	2.27	17.85	2.15	1.97
3	1.250	18.70	1.30	17.84	2.16	18.07	1.93	1.80
4	0.05	19.05	0.95	18.44	1.56	18.52	1.48	1.33

Loading Stage (2)

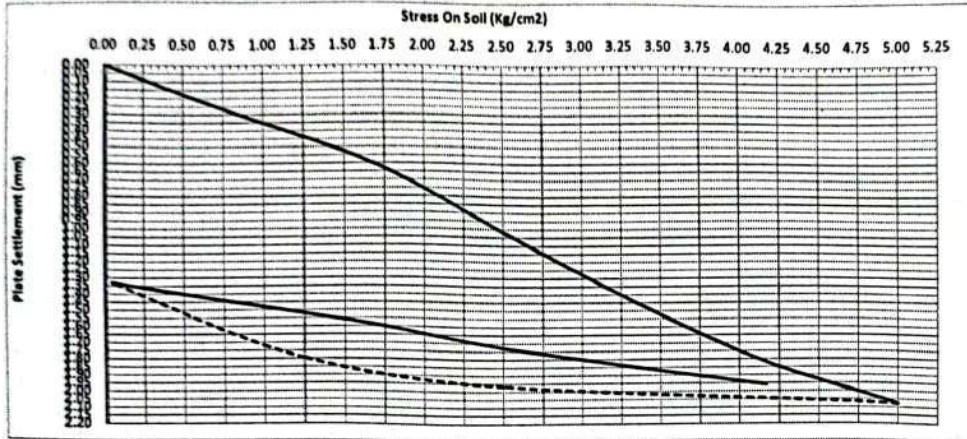
Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.83	18.92	1.08	18.32	1.68	18.40	1.60	1.45
1	1.67	18.80	1.20	18.14	1.86	18.30	1.70	1.59
2	2.50	18.69	1.31	17.95	2.05	18.18	1.82	1.73
3	3.33	18.60	1.40	17.82	2.18	18.04	1.96	1.85
4	4.17	18.51	1.49	17.70	2.30	17.91	2.09	1.96



Company Name
Project
Test Date
report date
Location
Test No.

: Orange Construction.
: Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (4) - Wadi El Natroun to Borg Al Arab.
: 15/11/2023
: 16/11/2023
: Station 309+890
: 01

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	589	1178	1767	2357	2967	3535
Stress (Kg/cm2)	0.00	0.83	1.67	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.29	0.60	1.02	1.44	1.82	2.08

UnLoading (1)	1	2	3	4
Stage(Kg)	3535	1767	883	0
Stress (Kg/cm2)	5.00	2.50	1.250	0.05
Settlement (mm)	2.08	1.97	1.80	1.33

D (mm) =	300	S1 (mm)=	0.54	S2(mm)=	1.51	ΔS =	0.98
Ev1 (MPa) =	(0.75*D*Δσ)/ΔS		45				

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	589	1178	1767	2357	2967
Stress (Kg/cm2)	0.05	0.83	1.67	2.50	3.33	4.17
Settlement (mm)	1.33	1.45	1.59	1.73	1.85	1.96

Ev2/Ev1 = 3.2

D (mm) =	300	S1 (mm)=	1.56	S2(mm)=	1.87	ΔS =	0.31
Ev2 (MPa) =	(0.75*D*Δσ)/ΔS		143				

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 : Orange Construction.
 Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (4) - Wadi El Natroun to Borg Al Arab.
 Test Date : 15/11/2023
 report date : 16/11/2023
 Location : Station 309+930
 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	0.83	19.60	0.40	19.64	0.36	19.82	0.18	0.31
2	1.67	19.40	0.60	19.45	0.55	19.63	0.37	0.51
3	2.50	19.03	0.97	19.18	0.82	19.46	0.54	0.78
4	3.33	18.45	1.55	18.71	1.29	19.16	0.84	1.23
5	4.14	17.90	2.10	18.24	1.76	18.78	1.22	1.69
6	5.00	17.18	2.82	17.58	2.42	18.25	1.75	2.33

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	5.00	17.18	2.82	17.58	2.42	18.25	1.75	2.33
2	2.50	17.27	2.73	17.74	2.26	18.36	1.64	2.21
3	1.250	17.45	2.55	17.83	2.17	18.48	1.52	2.08
4	0.05	17.96	2.04	18.26	1.74	18.74	1.26	1.68

Loading Stage (2)

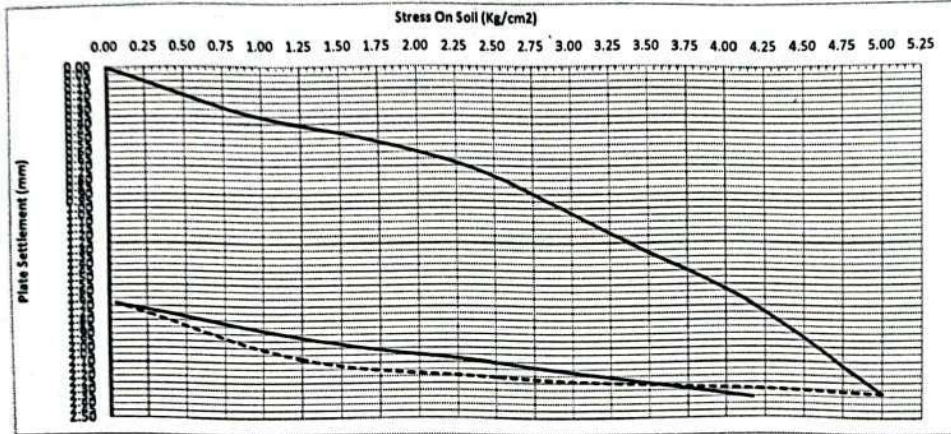
Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.83	17.75	2.25	18.10	1.90	18.62	1.38	1.84
1	1.67	17.55	2.45	17.90	2.10	18.54	1.46	2.00
2	2.50	17.41	2.59	17.80	2.20	18.47	1.53	2.11
3	3.33	17.26	2.74	17.68	2.32	18.39	1.61	2.22
4	4.17	17.08	2.92	17.55	2.45	18.30	1.70	2.36



Client Name
Project
Test Date
Report date
Location
Test No.

: Orange Construction.
: Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (4) - Wadi El Natroun to Borg Al Arab.
: 15/11/2023
: 16/11/2023
: Station 309+930
: 02

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	589	1178	1767	2357	2967	3535
Stress (Kg/cm2)	0.00	0.83	1.67	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.31	0.51	0.78	1.23	1.69	2.33

UnLoading (1)	1	2	3	4
Stage(Kg)	3535	1767	883	0
Stress (Kg/cm2)	5.00	2.50	1.250	0.05
Settlement (mm)	2.33	2.21	2.08	1.68

D (mm) =	300	S1 (mm)=	0.47	S2(mm)=	1.32	ΔS =	0.85
Ev1 (MPa) =	(0.75*D*Δσ)/ΔS		52				

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	589	1178	1767	2357	2967
Stress (Kg/cm2)	0.05	0.83	1.67	2.50	3.33	4.17
Settlement (mm)	1.68	1.84	2.00	2.11	2.22	2.36

Ev2/Ev1 =	3.0
-----------	-----

D (mm) =	300	S1 (mm)=	1.97	S2(mm)=	2.25	ΔS =	0.28
Ev2 (MPa) =	(0.75*D*Δσ)/ΔS		158				

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)

