

السيد المهندس / رئيس قطاع التنفيذ و المناطق

تحية طيبة وبعد ،،،

بالإحالة إلي مشروع القطار الكهربائي السريع القطاع الرابع (قطاع وادي النطرون/برج العرب/الاسكندرية).

نتشرف بأن نرسل لسيادتكم المقايضة المعدلة لبنود أعمال الجسر الترابي والأعمال الصناعية لمشروع القطار الكهربائي السريع الخط الأول (العين السخنة - العاصمة الإدارية - العلمين - مطروح) (قطاع وادي النطرون / برج العرب) أعمال سن الفلتر لتنفيذ المسافة من الكم ٣٠٦,١٥٥ إلى الكم ٣٠٦,٤٠٠ بطول ٠,٢٤٥ كم (بالأمر المباشر).

عقد رقم (٢٠٢٤/٢٠٢٣/٩٥٠)

تنفيذ : "شركة أورانج للاستيراد والتصدير".

وذلك طبقاً للأسعار بعد المفاوضة.

برجاء من سيادتكم التفضل بالموافقة والتوجيه بالازم.

و تفضلوا بقبول فائق الاحترام ،،،

أصح

رئيس الإدارة المركزية

منطقة غرب الدلتا

الاسكندرية - مرسى مطروح

عبد مهندس /

"هاني محمد محمود طه"

المقايمة المعدلة لبيانات الأعمال لمعملية
استناد أعمال الجسر الثرائس والأعمال الصناعية لمشروع القطر الكهربائي السريع الخط الأول
(العين السخنة - العاصمة الإدارية - العامين - مطروح) (قطاع وادي التطرون / برج العرب) أعمال سن الفلتر
لتنفيد المسافة من الكم 306.155 إلى الكم 306.400 بطول 0.245 كم (بالأمر المباشر).
عقد رقم (2024/2023/950)
تنفيذ "شركة أورنج للتصدير والتصدير"

رقم البند	بيان الأعمال	الوحدة	الكمية	القيمة	الإجمالي
1	أعمال الردم				
1-1	بالمتر المكعب أعمال توريد وفرش طبقة فلتر من الأحجار الصلبة المتدرجة ناتج تكسير كسرات والمطابقة للمواصفات وأقصى 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 تجلوس عن 45% والقيمة تشمل اعمال التجارب المعملية والبند يشمل اجراء التجارب المعملية والحقلية طبقا لاصول الصناعة الممتازة وتقدير الاستشاري وتعليمات المهندس المشرف . - لمسافة نقل 20 كم . - القيمة شاملة قيمة المادة المحجوبة . - يتم احتساب 1.3 جنية لكل 1 كم بالزيادة او النقصان .				
	السعر خلال شهر مايو 2023 طبقا للمفاوضة بتاريخ 2023-12-18	م	3	18385.0	6,383,272.00
	علاوة بند (1-1) علاوة مسافة النقل 162 كم . 184.6=1.3*142	م	3	18385.0	3,393,871.00
	علاوة تحصيل رسوم الكارثة والموازن طبقا للائحه الشركة الوطنية	م	3	18385.0	459,625.00
	الإجمالي				10,236,768.00
عشرة ملايين ومئتان وستة وثلاثون ألفا وسبعمائة وثمانية وستون جنيها مصرى فقط لا غير.					
* يرجى العلم بان القبات المذكورة طبقا للمفاوضة الخاصة بالقطاع الرابع بتاريخ 2023-12-18					

الهيئة العامة للطرق والكباري
مدير عام المشروعات
م/ محمد حسني فياض

الهيئة العامة للطرق والكباري
مدير المشروع
م/ أحمد جلال عبد السلام
أحمد جلال

المكتب الاستشاري الهندسي أ.د. خالد فديل
مدير المشروع
م/ هشام محمد صبري

الشركة المنفذة
م/ محمد حسني فياض
م/ محمد حسني فياض

ORANGE COMPANY
EXPORT & IMPORT
2023/11/10

ORANGE COMPANY
EXPORT & IMPORT
2023/11/10

رئيس الإدارة المركزية
منطقة غرب الدلتا
الاسكندرية - مرسى مطروح
عميد مهندس /
"هاني محمد محمود شاه"
2023/11/10

قائمة الكميات الواردة بالمستخلص جاري (2)

اسناد أعمال الجسر الترابي والأعمال الصناعية لمشروع القطر الكهربائي السريع الخط الأول
(العين السخنة - العاصمة الإدارية - العلمين - مطروح)
(قطاع وادي النطرون / برج العرب) أعمال سن الفلتر
لتنفيذ المسافة من الكم 306.155 إلى الكم 306.400 بطول 0.245 كم (بالأمر المباشر).

بند (1-1):

بالمتر المكعب أعمال توريد وفرش طبقة فلتر من الأحجار الصلبة المتدرجة ناتج تكسير كسارات والمطابقة للمواصفات وأقصى حجم حبيبي ما بين 20 مم إلى 75 مم وألا يزيد نسبة المار من منخل 200 عن 5% والتدرج الوارد بالاشتراطات الخاصة بالمشروع وهي أحجار مقاس سن:1:سن:2:سن:4 أو سن:6 بنسبة 1:1:1:1 وألا يقل معامل المرونة EV2 من تجربة لوح التحميل عن 50 ميجا بسكال وألا يزيد نسبة الفاقد بجهاز لوس أنجلوس عن 45% والفئة تشمل أعمال التجارب المعملية والبند يشمل اجراء التجارب المعملية والحقلية طبقاً لأصول الصناعة الممتازة وتقرير الاستشاري وتعليمات المهندس المشرف.
- لمسافة نقل 20 كم.
- الفئة شاملة قيمة المادة المحجيرة.
- يتم احتساب 1.3 جنية للكم بالزيادة أو النقصان.

السعر ابتداء من شهر مايو 2023 طبقاً للمفاوضة الخاصة بالقطاع الرابع بتاريخ 2023-12-18
تنفيذ : "شركة أورانج للاستيراد والتصدير"
عقد رقم (2024/2023/950)

مقدار العمل السابق :		0.0	3م
مسلسل	الموقع الكيلومترى		الكمية (3م)
	من الكم	الى الكم	
1	160+306	180+306	597.89
2	180+306	320+306	11383.31
3	320+306	340+306	999.36
اجمالي الكمية الهندسي (3م)			12980.56
اجمالي الكمية بعد احتساب نسبة غرز 25% (3م)			16225.70
الاجمالي خلال فترة المستخلص الحالية (3م)			16225.70

مهندس الهيئة
م / أحمد جلال عبد السلام
أحمد جلال

مهندس الاستشاري
مكتب أ/د/ خالد فنديل
م / هشام محمد ضيري
م / هشام محمد ضيري

مهندس الاستشاري
مكتب XYZ
م / محمد خليل
م / محمد خليل

مهندس الشركة
م / محمد فتحي الغول
م / محمد فتحي الغول
ORANGE CO.
EXPORT & IMPORT
2023/11/10

قائمة الكميات الواردة بالمستخلص جاري (2)

اسناد أعمال الجسر الترابي والأعمال الصناعية لمشروع القطار الكهربائي السريع الخط الأول
(العين السخنة - العاصمة الإدارية - العلمين - مطروح)
(قطاع وادي النطرون / برج العرب) أعمال سن القلتر
لتنفيذ المسافة من الكم 306.155 إلى الكم 306.400 بطول 0.245 كم (بالأمر المباشر).

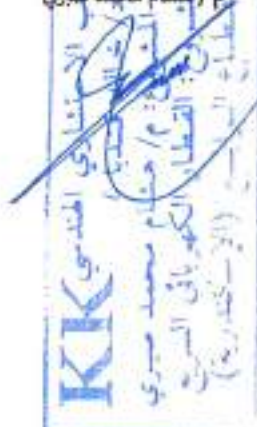
علاوة بند (1-1) علاوة مسافة النقل 162 كم .

تنفيذ : "شركة أورانج للاستيراد والتصدير"
عقد رقم (2024/2023/950)

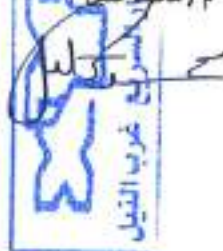
مقدار العمل السابق :		0.0	3م
مسلسل	الموقع الكيلومتری		الكمية (م3)
	من الكم	إلى الكم	الطول (متر)
1	160+306	180+306	20
2	180+306	320+306	140
3	320+306	340+306	20
اجمالي الكمية الهندسي (م3)			12980.56
اجمالي الكمية بعد احتساب نسبة غرز 25% (م3)			16225.70
الاجمالي خلال فترة المستخلص الحالية (م3)			16225.70

مهندس الهيئة
م / أحمد جلال عبد السلام
أحمد جلال

مهندس الاستشاري
مكتب أيد / خالد فنديل
م / هشام محمد طهري



مهندس الاستشاري
مكتب XYZ
م / محمد خليل



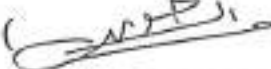
مهندس الشركة
م / محمد فتحي الغول

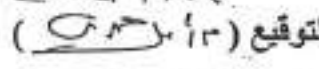




تفيد الإدارة العامة للمعلومات بأن " شركة أورانج للاستيراد والتصدير " ليس عليها محملات (مركبات - معلومات) عن عملية " اسناد اعمال الجسر الترابي والاعمال الصناعية لمشروع القطار الكهربائي السريع الخط الأول (العين المدخنة العاصمة الإدارية - العلمين - مطروح) (قطاع وادي النظرون / برج العرب) اعمال من الفلتر لتنفيذ المسافة من الكم ٣٠٦,١٥٥ الي الكم ٣٠٦,٤٠٠ بطول ٠,٢٤٥ كم "

- عقد رقم (٢٠٢٤/ ٢٠٢٣/٩٥٠)

التوقيع ()
مهندس / محمد صابر الباجوري
مدير عام الإدارة العامة للمعلومات

٢٠٢٤/١١٢٣
التوقيع ()
مهندسة / أمل حمدي
مدير إدارة صيانة الجسور



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 (305+940 to 306+120)
Test Date : 05/11/2023
Report Date : 06/11/2023
Type of soil : ----
Test level : fill filter
Report No. : 003:005

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 300 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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ش الملك الأفضل ٣
الزمالة - القاهرة
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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

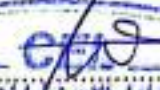
Report

- 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	05/11/2023
- 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	305+980	44	137	3.1
2	306+070	39	178	4.5
3	306+100	41	129	3.1

Signature / 
مكتب معامل الاستشارات الهندسية
الاستشارات الهندسية
إم السيد القصير
219 - 991 - 537
القاهرة - مصر

Company Name : Orange Construction.
 Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (4) - Wadi El Natroun to Berg Al Arab.
 Test Date : 05/11/2023
 report date : 06/11/2023
 Location : Station 305+980
 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	19.81	0.19	19.73	0.27	19.76	0.24	0.23
2	1.67	19.63	0.37	19.22	0.78	19.23	0.77	0.64
3	2.50	19.37	0.63	18.68	1.32	18.65	1.35	1.10
4	3.33	19.16	0.84	18.15	1.85	18.21	1.79	1.49
5	4.14	18.95	1.05	17.65	2.35	17.70	2.30	1.90
6	5.00	18.80	1.20	17.05	2.95	17.08	2.92	2.36

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	5.00	18.80	1.20	17.05	2.95	17.08	2.92	2.36
2	2.50	18.91	1.09	17.11	2.89	17.15	2.85	2.28
3	1.250	18.96	1.04	17.28	2.72	17.47	2.53	2.10
4	0.05	19.16	0.84	17.67	2.33	17.85	2.15	1.77

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.83	19.05	0.95	17.52	2.48	17.75	2.25	1.89
1	1.67	18.85	1.15	17.31	2.69	17.66	2.34	2.06
2	2.50	18.80	1.20	17.20	2.80	17.45	2.55	2.18
3	3.33	18.75	1.25	17.08	2.92	17.21	2.79	2.32
4	4.17	18.68	1.32	16.92	3.08	16.98	3.02	2.47



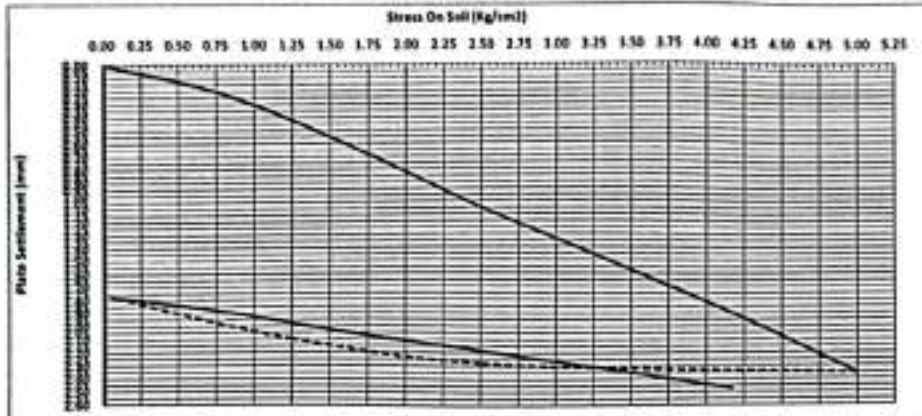
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 الزمالك - القاهرة
 تليفون + فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : Orange Construction.
 Project : Electric Express Train, Al Ain Sokhna to Marsa Matruh Priority Sector (4) - Wadi El Natroun to Borg El Arah.
 Test Date : 05/11/2023
 report date : 06/11/2023
 Location : Station 305+980
 Test No. : 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	0.23	0.64	1.10	1.49	1.90	2.38

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)	2.38	2.28	2.10	1.77

D (mm) =	300	S1 (mm)=	0.96	S2(mm)=	1.57	ΔS =	1.01
Ev1 (MPa) =	(0.75*D*Δσ)/ΔS						44

Ev2/Ev1 = 3.1

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)	1.77	1.89	2.06	2.18	2.32	2.47

D (mm) =	300	S1 (mm)=	2.03	S2(mm)=	2.35	ΔS =	0.32
Ev2 (MPa) =	(0.75*D*Δσ)/ΔS						138

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)



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 www.cel-egypt.com

Company Name : Orange Construction.
 Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (4) - Wadi El Natroun to Borg El Arab.
 Test Date : 05/11/2023
 report date : 06/11/2023
 Location : Station 306+070
 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	19.85	0.15	19.77	0.23	19.75	0.25	0.21
2	1.67	19.60	0.40	19.38	0.62	19.27	0.73	0.58
3	2.50	19.39	0.61	18.85	1.15	18.67	1.33	1.03
4	3.33	18.69	1.31	18.45	1.55	18.21	1.79	1.55
5	4.14	18.23	1.77	18.10	1.90	17.75	2.25	1.97
6	5.00	17.81	2.19	17.75	2.25	17.32	2.68	2.37

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	5.00	17.81	2.19	17.75	2.25	17.32	2.68	2.37
2	2.50	17.90	2.10	17.82	2.18	17.43	2.57	2.28
3	1.250	17.98	2.02	17.94	2.06	17.53	2.47	2.18
4	0.05	18.43	1.57	18.25	1.75	17.82	2.18	1.83

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.83	18.35	1.65	18.11	1.89	17.70	2.30	1.95
1	1.67	18.27	1.73	17.96	2.04	17.64	2.36	2.04
2	2.50	18.18	1.82	17.85	2.15	17.59	2.41	2.13
3	3.33	18.02	1.98	17.73	2.27	17.50	2.50	2.25
4	4.17	17.85	2.15	17.66	2.34	17.39	2.61	2.37



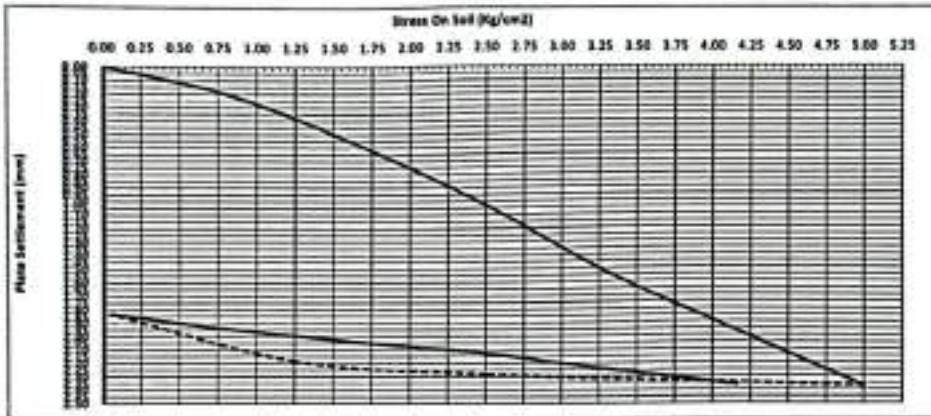
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 www.cel-egypt.com

Company Name : Orange Construction.
 Project : Electric Express Train, Al Ain Sokhna to Marsa Matruh Priority Sector (4) - Wadi El Natroun to Borg El Arab.
 Test Date : 05/11/2023
 report date : 06/11/2023
 Location : Station 306+070
 Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (t)	0	1	2	3	4	5	8
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	0.21	0.58	1.03	1.55	1.97	2.37

UnLoading (t)	1	2	3	4
Stage(Kg)	3535	1767	883	0
Stress (Kg/cm²)	5.00	2.50	1.250	0.05
Settlement (mm)	2.37	2.28	2.18	1.83

D (mm) =	300	S1 (mm)=	0.51	S2(mm)=	1.63	ΔS =	1.12
Ev1 (MPa) =	(0.75'D'Δσ)/ΔS						39

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)	1.83	1.95	2.04	2.13	2.25	2.37

Ev2/Ev1 =	4.5
-----------	-----

D (mm) =	300	S1 (mm)=	2.92	S2(mm)=	2.27	ΔS =	0.25
Ev2 (MPa) =	(0.75'D'Δσ)/ΔS						177

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)



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Company Name : Orange Construction.
Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (4) - Wadi El Natroun to Borg El Arab.
Test Date : 05/11/2023
report date : 06/11/2023
Location : Station 306+100
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	0.83	19.78	0.22	19.72	0.28	19.71	0.29	0.26
2	1.67	19.64	0.36	19.42	0.58	19.10	0.90	0.61
3	2.50	19.15	0.85	18.93	1.07	18.40	1.60	1.17
4	3.33	18.82	1.18	18.45	1.55	18.08	1.92	1.55
5	4.14	18.40	1.60	18.02	1.98	17.90	2.10	1.89
6	5.00	18.10	1.90	17.80	2.20	17.62	2.38	2.16

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	5.00	18.10	1.90	17.80	2.20	17.62	2.38	2.16
2	2.50	18.22	1.78	17.85	2.15	17.72	2.28	2.07
3	1.250	18.45	1.55	17.93	2.07	17.86	2.14	1.92
4	0.05	18.87	1.13	18.15	1.85	18.16	1.84	1.61

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.83	18.80	1.20	18.06	1.94	18.05	1.95	1.70
1	1.67	18.64	1.36	17.95	2.05	17.95	2.05	1.82
2	2.50	18.49	1.51	17.85	2.15	17.86	2.14	1.93
3	3.33	18.18	1.82	17.74	2.26	17.74	2.26	2.11
4	4.17	18.02	1.98	17.63	2.37	17.62	2.38	2.24



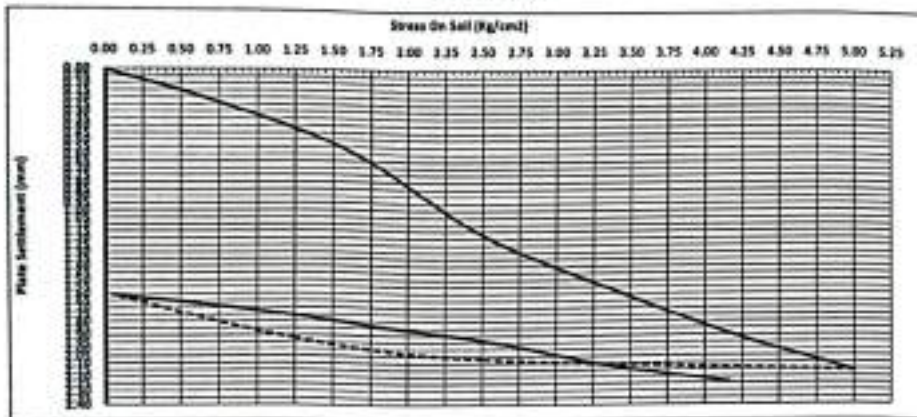
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Company Name : Orange Construction.
Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (4) - Wadi El Natroun to Borg El Arab.
Test Date : 05/11/2023
Report date : 06/11/2023
Location : Station 306+100
Test No. : 03

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	0.26	0.61	1.17	1.55	1.89	2.16

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)	2.16	2.07	1.92	1.61

D (mm) =	300	S1 (mm)=	0.55	S2(mm)=	1.62	ΔS =	1.07
Ev1 (MPa) =	(0.75"D*Δσ)/ΔS						41

Ev2/Ev1 =	3.1
-----------	-----

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)	1.61	1.70	1.82	1.93	2.11	2.24

D (mm) =	300	S1 (mm)=	1.80	S2(mm)=	2.14	ΔS =	0.34
Ev2 (MPa) =	(0.75"D*Δσ)/ΔS						128

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 (imax) (kg/cm²)
Δs = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



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Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+100
Type of sample : Water Backfill
Delivery Date : 04-11-2023
Reporting Date : 11-11-2023
Reporting No. : 003
Sample No. : 01

Dear Gentleman,

Attached here with the Water Backfill delivered on 04-11-2023

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according ASTM D-1140.
3. Specific Gravity & Absorption according to ASTM C-127 & D 6473.
4. Los Anglos according to ASTM C-131.
5. Organic Content according to ASTM D-2974.

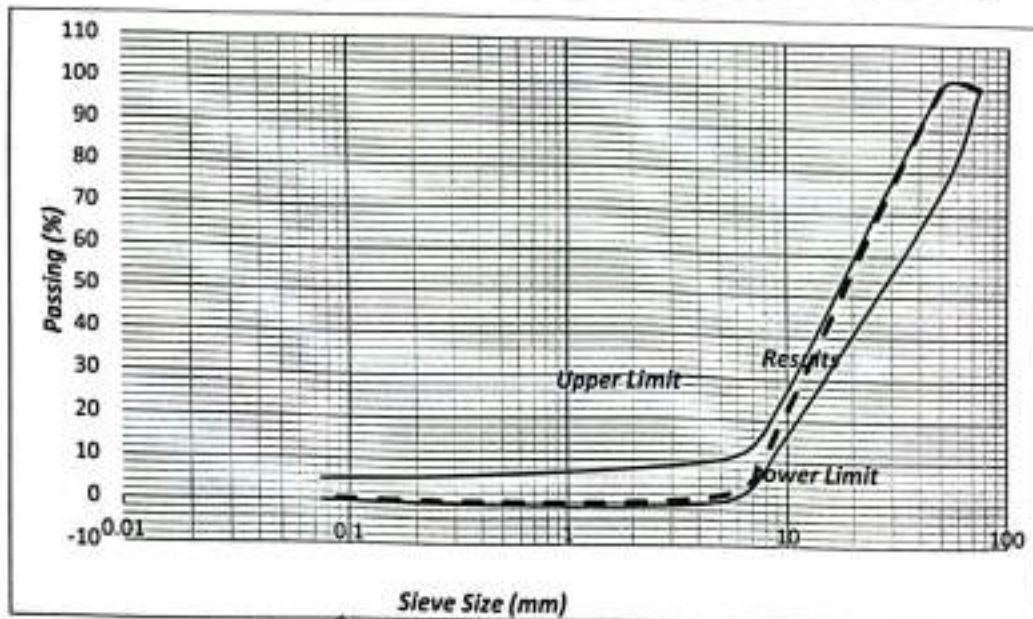
Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken.

Signature:  CEL
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الدكتور محمد الشاذلي
مدير المختبر

Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+100
Type of sample : Water Backfill
Delivery Date : 04-11-2023
Reporting Date : 11-11-2023
Reporting No. : 003
Sample No. : 01

Results of sieve analysis according to ASTM D-422.

Sieve Size (mm)	Passing %	Job specification limits (ASTM D-422)	
		Min.	Max.
75	100	100	100
50	100	75	100
10	20.3	15	25
4.75	1.4	0	10
0.075	0.4	0	5



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

Signature / *[Signature]*

Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+100
Type of sample : Water Backfill
Delivery Date : 04-11-2023
Reporting Date : 11-11-2023
Reporting No. : 003
Sample No. : 01

**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)	0.4

Signature / 
الهندسة / المهندس / 
Dr. Mohamed El-Agnaf / د. محمد عبد الغنى

Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+100
Type of sample : Water Backfill
Delivery Date : 04-11-2023
Reporting Date : 11-11-2023
Reporting No. : 003
Sample No. : 01

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

Test	Results
Bulk Specific Gravity (OD)	2.59
Bulk Specific Gravity (SSD)	2.65
Apparent Specific Gravity.	2.76
Absorption %	2.31

Note:

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

Signature 
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Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+170 : 306+330
Type of sample : Water Backfill
Delivery Date : 22-10-2023
Delivery Date : 30-10-2023
Reporting No. : 006
Sample No. : 04

Dear Gentleman,

Attached here with the Water Backfill delivered on 22-10-2023

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according ASTM D-1140.
3. Specific Gravity & Absorption according to ASTM C-127 & D 6473.
4. Los Anglos according to ASTM C-131.
5. Organic Content according to ASTM D-2974.

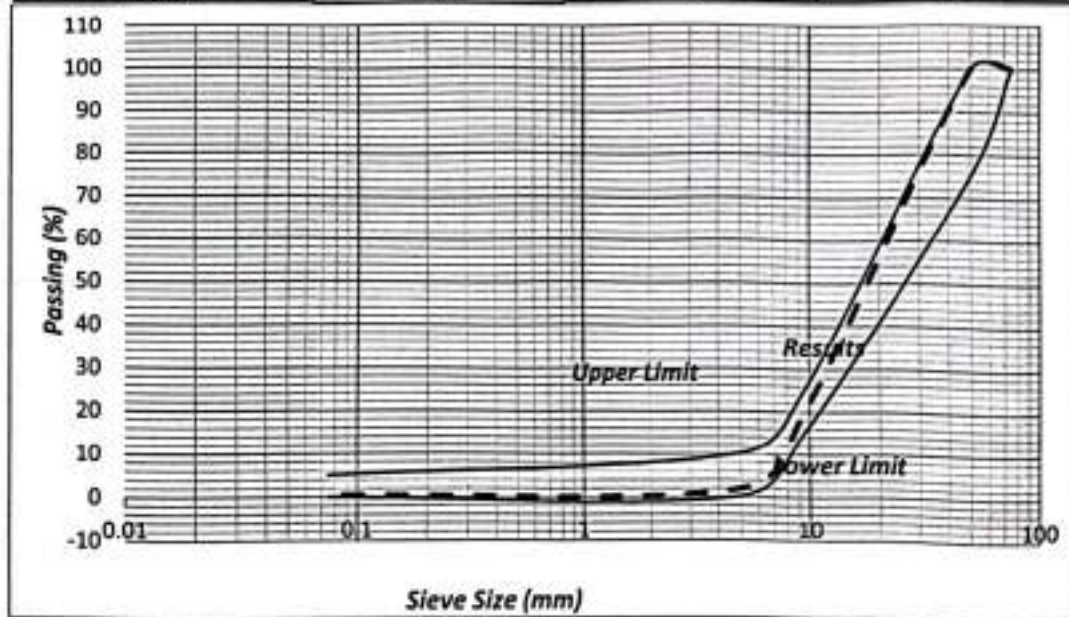
Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken.

Signature 

Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+170 : 306+330
Type of sample : Water Backfill
Delivery Date : 22-10-2023
Delivery Date : 30-10-2023
Reporting No. : 006
Sample No. : 04

Results of sieve analysis according to ASTM D-422.

Sieve Size (mm)	Passing %	Job specification limits (ASTM D-422)	
		Min.	Max.
75	100	100	100
50	100	75	100
10	19.8	15	25
4.75	1.7	0	10
0.075	0.5	0	5



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

Signature /
المهندس /
02

Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+170 : 306+330
Type of sample : Water Backfill
Delivery Date : 22-10-2023
Delivery Date : 30-10-2023
Reporting No. : 006
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)	0.5

Signature 

Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+170 : 306+330
Type of sample : Water Backfill
Delivery Date : 22-10-2023
Delivery Date : 30-10-2023
Reporting No. : 006
Sample No. : 04

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)	2.54
Apparent Specific Gravity.	2.64
Absorption %	2.25

Note:

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

Signature: 

Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+170 : 306+330
Type of sample : Water Backfill
Delivery Date : 22-10-2023
Delivery Date : 30-10-2023
Reporting No. : 006
Sample No. : 04

RESISTANCE TO DEGRADATION
OF SMALL SIZE AGGREGATE BY ABRASION
AND IMPACT IN LOS ANGELES MACHINE
ASTM C-131

Test	Results
Amount of loss by abrasion and impact (%) Coarse aggregate	29.4

- According to Project Specs:
The amount of loss by abrasion and impact for moderate weathering
- Shall not exceed 45% (when Subjected to 500 revolutions)

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

Signature /.....

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 (306+180 to 306+320)

Test Date : 05/11/2023

Report Date : 06/11/2023

Type of soil : ----

Test level : fill filter

Report No. : 006:008

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 300 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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الاختبارات المحملية
إلى التسجيل المصري : 537 - 991 - 219
القاهرة : شارع الملك الأفندي - الزمالك

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	05/11/2023
- 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	306+220	41	149	3.6
2	306+270	42	159	3.8
3	306+300	42	191	4.5


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 الاستشارات الهندسية
 رقم التسجيل الفردي : 537 - 501 - 219
 3 شارع الملك الافضل - الزمالة

Company Name : Orange Construction.
Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (4) - Wadi El Natroun to Borg El Arab.
Test Date : 05/11/2023
report date : 06/11/2023
Location : Station 306+220
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	19.77	0.23	19.66	0.34	19.64	0.36	0.31
2	1.67	19.55	0.45	19.26	0.74	19.10	0.90	0.70
3	2.50	19.30	0.70	18.78	1.22	18.58	1.42	1.11
4	3.33	18.89	1.11	18.18	1.82	18.15	1.85	1.59
5	4.14	18.60	1.40	17.65	2.35	17.53	2.47	2.07
6	5.00	18.32	1.68	16.93	3.07	16.90	3.10	2.62

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	5.00	18.32	1.68	16.93	3.07	16.90	3.10	2.62
2	2.50	18.38	1.62	17.02	2.98	16.98	3.02	2.54
3	1.250	18.47	1.53	17.18	2.82	17.14	2.86	2.40
4	0.05	18.74	1.26	17.66	2.34	17.62	2.38	1.99

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.83	18.53	1.47	17.44	2.56	17.55	2.45	2.16
1	1.67	18.30	1.70	17.24	2.76	17.28	2.72	2.39
2	2.50	18.23	1.77	17.10	2.90	17.14	2.86	2.51
3	3.33	18.14	1.86	16.99	3.01	17.03	2.97	2.61
4	4.17	18.06	1.94	16.79	3.21	16.85	3.15	2.77



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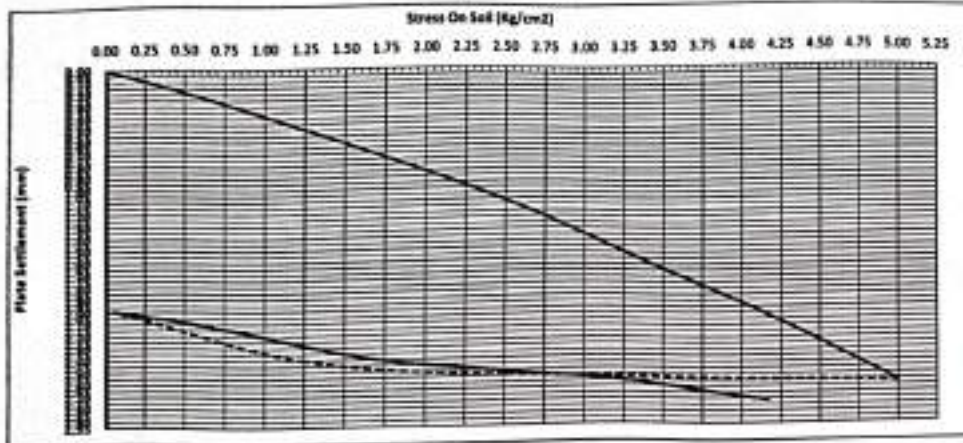
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مكتب معمل الاستشارات الهندسية

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 El Arab.
: 05/11/2023
: 06/11/2023
: Station 306+220
: 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	0.31	0.70	1.11	1.59	2.07	2.62

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)	2.62	2.54	2.40	1.99

D (mm) =	300	S1 (mm)=	0.62	S2(mm)=	1.69	ΔS =	1.07
Ev1 (MPa) =	(0.75*D*Δσ)/ΔS		41				

Ev2/Ev1 = 3.6

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)	1.99	2.16	2.39	2.51	2.61	2.77

D (mm) =	300	S1 (mm)=	2.35	S2(mm)=	2.64	ΔS =	0.30
Ev2 (MPa) =	(0.75*D*Δσ)/ΔS		148				

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)



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Company Name : Orange Construction.
Project : Electric Express Train, Al Ain Sokhna to Marsa Matruh Priority Sector (4) - Wadi El Natroun to Borg El Arab.
Test Date : 05/11/2023
report date : 06/11/2023
Location : Station 306+270
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	19.72	0.28	19.67	0.33	19.65	0.35	0.32
2	1.67	19.24	0.76	19.13	0.87	19.07	0.93	0.85
3	2.50	18.87	1.13	18.72	1.28	18.63	1.37	1.26
4	3.33	18.45	1.55	18.22	1.78	18.20	1.80	1.71
5	4.14	17.93	2.07	17.76	2.24	17.65	2.35	2.22
6	5.00	17.52	2.48	17.33	2.67	17.14	2.86	2.67

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	5.00	17.52	2.48	17.33	2.67	17.14	2.86	2.67
2	2.50	17.60	2.40	17.40	2.60	17.22	2.78	2.50
3	1.250	17.77	2.23	17.53	2.47	17.33	2.67	2.40
4	0.05	18.12	1.88	17.95	2.05	17.85	2.15	2.03

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.83	18.01	1.99	17.88	2.12	17.73	2.27	2.13
1	1.67	17.93	2.07	17.75	2.25	17.66	2.34	2.22
2	2.50	17.85	2.15	17.60	2.40	17.54	2.46	2.34
3	3.33	17.72	2.28	17.48	2.52	17.43	2.57	2.46
4	4.17	17.60	2.40	17.37	2.63	17.32	2.68	2.57



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www.cel-egypt.com

Company Name

Project

Test Date

report date

Location

Test No.

: Orange Construction.

: Electric Express Train, Al Ain Sokhna to Marea Matrouh Priority Sector (4) - Wadi El Nabroun to Borg El Arab.

: 05/11/2023

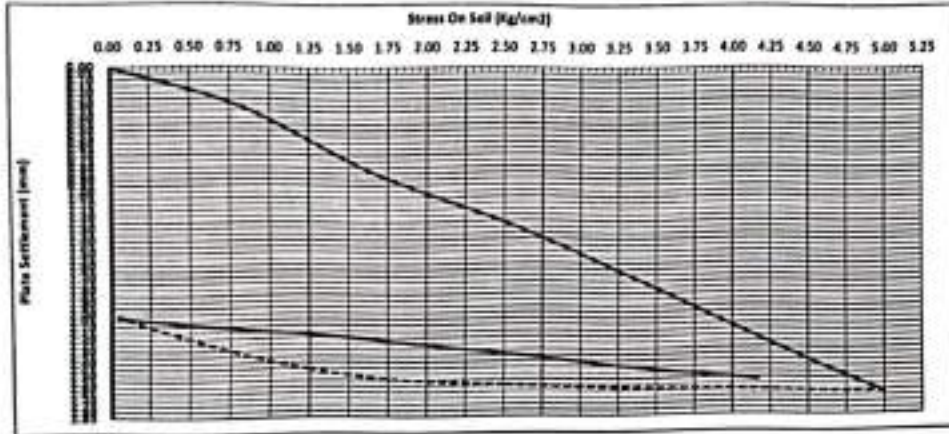
: 06/11/2023

: Station 306+270

: 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	0.32	0.65	1.26	1.71	2.22	2.87

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)	2.87	2.59	2.46	2.03

D (mm) =	300	S1 (mm)=	0.75	S2(mm)=	1.81	ΔS =	1.06
Ev1 (MPa) =	(0.75*D*Δσ)/ΔS						42

Ev2/Ev1 =	3.8
-----------	-----

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)	2.03	2.13	2.22	2.34	2.46	2.57

D (mm) =	300	S1 (mm)=	2.20	S2(mm)=	2.48	ΔS =	0.28
Ev2 (MPa) =	(0.75*D*Δσ)/ΔS						150

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)



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www.cel-egypt.com

Company Name : Orange Construction.
Project : Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (K) - Wadi El Natroun to Borg El Arab.
Test Date : 05/11/2023
report date : 06/11/2023
Location : Station 306+300
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	0.83	19.63	0.37	19.75	0.25	19.81	0.19	0.27
2	1.67	19.28	0.72	19.30	0.70	19.43	0.57	0.66
3	2.50	18.87	1.13	18.90	1.10	18.94	1.06	1.10
4	3.33	18.42	1.58	18.47	1.53	18.51	1.49	1.53
5	4.14	17.97	2.03	17.93	2.07	18.00	2.00	2.03
6	5.00	17.53	2.47	17.60	2.40	17.63	2.37	2.41

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	5.00	17.53	2.47	17.60	2.40	17.63	2.37	2.41
2	2.50	17.62	2.38	17.68	2.32	17.70	2.30	2.33
3	1.250	17.74	2.26	17.77	2.23	17.83	2.17	2.22
4	0.05	18.15	1.85	18.22	1.78	18.32	1.68	1.77

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.83	18.06	1.94	18.11	1.89	18.18	1.82	1.88
1	1.67	17.96	2.04	17.99	2.01	18.05	1.95	2.00
2	2.50	17.87	2.13	17.89	2.11	17.93	2.07	2.10
3	3.33	17.87	2.13	17.80	2.20	17.80	2.20	2.18
4	4.17	17.66	2.34	17.68	2.32	17.65	2.35	2.34



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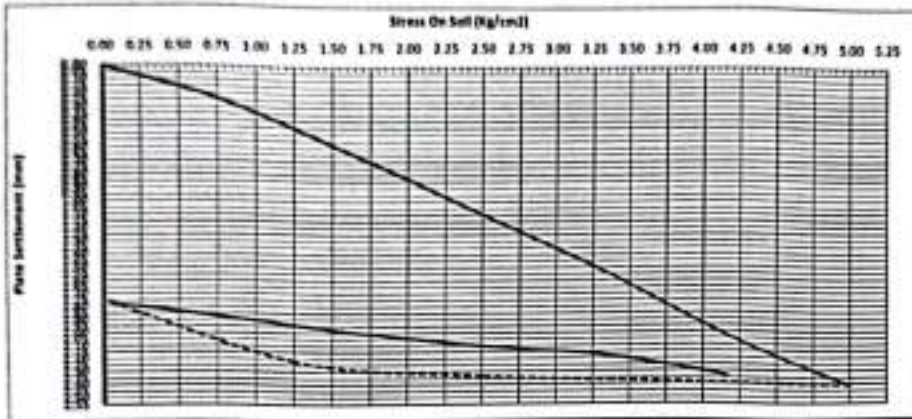


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Company Name
Project
Test Date
Report date
Location
Test No.

: Orange Construction,
: Electric Express Train, Al Ain Sokhna to Marsa Matrouh Priority Sector (4) - Wadi El Matroun to Borg El Arab.
: 05/11/2023
: 06/11/2023
: Station 306+300
: 03

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	2947	3535
Stress (Kg/cm²)	0.00	0.83	1.67	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.27	0.68	1.10	1.53	2.03	2.41

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)	2.41	2.33	2.22	1.77

D (mm) =	300	S1 (mm) =	0.59	S2(mm) =	1.83	ΔS =	1.04
Ev1 (MPa) =	(0.75*D³Δσ)/ΔS						
	42						

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	589	1178	1767	2357	2947
Stress (Kg/cm²)	0.05	0.83	1.67	2.50	3.33	4.17
Settlement (mm)	1.77	1.88	2.00	2.10	2.18	2.34

Ev2/Ev1 = 4.5

D (mm) =	300	S1 (mm) =	1.98	S2(mm) =	2.21	ΔS =	0.23
Ev2 (MPa) =	(0.75*D³Δσ)/ΔS						
	191						

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)



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Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+000
Type of sample : Water Backfill
Delivery Date : 15-10-2023
Reporting Date : 24-10-2023
Reporting No. : 001
Sample No. : 01

Dear Gentleman,

Attached here with the Water Backfill delivered on 15-10-2023

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according ASTM D-1140.
3. Specific Gravity & Absorption according to ASTM C-127 & D 6473.
4. 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

Signature /

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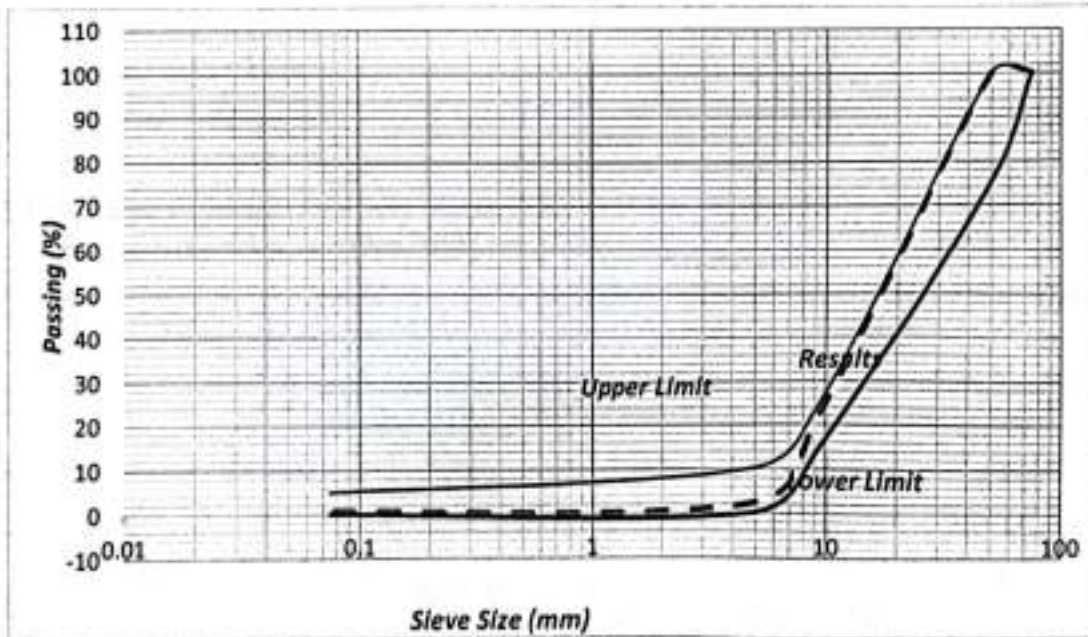


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Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+000
Type of sample : Water Backfill
Delivery Date : 15-10-2023
Reporting Date : 24-10-2023
Reporting No. : 001
Sample No. : 01

Results of sieve analysis according to ASTM D-422.

Sieve Size (mm)	Passing %	Job specification limits (ASTM D-422)	
		Min.	Max.
75	100	100	100
50	100	75	100
10	22.6	15	25
4.75	2.1	0	10
0.075	0.7	0	5



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

Signature /

Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+000
Type of sample : Water Backfill
Delivery Date : 15-10-2023
Reporting Date : 24-10-2023
Reporting No. : 001
Sample No. : 01

**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)	0.7

Signature /.....

Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+000
Type of sample : Water Backfill
Delivery Date : 15-10-2023
Reporting Date : 24-10-2023
Reporting No. : 001
Sample No. : 01

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.	2.65
Absorption %	5.6

Note:

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

Signature /

Company Name : Orange Company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. 306+000
Type of sample : Water Backfill
Delivery Date : 15-10-2023
Reporting Date : 24-10-2023
Reporting No. : 001
Sample No. : 01

RESISTANCE TO DEGRADATION
OF SMALL SIZE AGGREGATE BY ABRASION
AND IMPACT IN LOS ANGELES MACHINE
ASTM C-131

Test	Results
Amount of loss by abrasion and impact (%) Coarse aggregate	24.2

- According to Project Specs:
The amount of loss by abrasion and impact for moderate weathering
- Shall not exceed 45% (when Subjected to 500 revolutions)

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

Signature /.....