



STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Lead Materials' Engineer
M/S CSCEC Pakistan
Peshawar–Karachi Motorway (Sukkur–Multan Section) Project
Sukkur - Multan Section-I

Reference # CED/TFL **33478** (Dr. Ali Ahmed)

Dated: 02-07-2019

Reference of the request letter # CSCEC/CL/SEC-01/Grating - 01/2019

Dated: 18-06-2019

Tension Test Report (Page – 1/1)

Date of Test 15-07-2019

Gauge length 50 mm

Description Gutter Inlet Grating Standard Steel Specimen Tensile Test

Sr. No.	Diameter / size	Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Marks
	(mm)	(mm ²)	(kg)	(kg)	(MPa)	(MPa)	(mm)		
1	16.00	201.062	5370	5900	262.01	287.87	1	2.00	
2	16.40	211.241	8830	9700	410.06	450.47	6	12.00	
Only Two Samples for Tensile Test									

I/C Testing Laboratories
UET Lahore, Pakistan.

Note:

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To,
 Lead Materials' Engineer
 M/S CSCEC Pakistan
 Peshawar–Karachi Motorway (Sukkur–Multan Section) Project
 Sukkur - Multan Section-I
 (Jiang Su Sunbird China)

Reference # CED/TFL **33479** (Dr. Ali Ahmed) Dated: 02-07-2019
 Reference of the request letter # CSCEC/CL/SEC-01/LP-Main-01/2019 Dated: 28-06-2019

Tension Test Report (Page – 1/2)

Date of Test 15-07-2019
 Gauge length 2 inches
 Description Light Pole (Main) Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Light Pole (Main)	23.90x4.70	112.33	4000	5400	349.33	471.59	0.60	30.00	
2		23.90x4.70	112.33	3900	5400	340.59	471.59	0.60	30.00	
-	.	-	-	-	-	-	-	-	-	
-	.	-	-	-	-	-	-	-	-	
-	.	-	-	-	-	-	-	-	-	
-	.	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Lead Materials' Engineer
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Peshawar–Karachi Motorway (Sukkur–Multan Section) Project
Sukkur - Multan Section-I
(Jiang Su Sunbird China)

Reference # CED/TFL **33479** (Dr. Ali Ahmed)

Dated: 02-07-2019

Reference of the request letter # CSCEC/CL/SEC-01/LP-Main-01/2019

Dated: 28-06-2019

Thickness Test Report (Page – 2/2)

Date of Test 15-07-2019

Gauge length -----

Description Light Pole (Main) Thickness Test

Sr. No.	Designation	Thickness	Remark
		(mm)	
1	Light Pole (Main)	4.70	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
Only One Sample for Test			

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 Lead Materials' Engineer
 M/S CSCEC Pakistan
 Peshawar–Karachi Motorway (Sukkur–Multan Section) Project
 Sukkur - Multan Section-I
 (Jiang Su Sunbird China)

Reference # CED/TFL **33480** (Dr. Ali Ahmed) Dated: 02-07-2019
 Reference of the request letter # CSCEC/CL/SEC-1/LP (ARM) 01/2019 Dated: 28-06-2019

Tension Test Report (Page – 1/2)

Date of Test 15-07-2019
 Gauge length 2 inches
 Description Light Pole (Arm) Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Light Pole (Arm)	23.90x3.00	71.70	-----	3500	-----	478.87	0.40	20.00	
2		23.90x3.00	71.70	-----	3100	-----	424.14	0.30	15.00	
.	
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.	
Only Two Samples for Tensile Test										
Bend Test										

I/C Testing Laboratories
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To,
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Peshawar–Karachi Motorway (Sukkur–Multan Section) Project
Sukkur - Multan Section-I
(Jiang Su Sunbird China)

Reference # CED/TFL **33480** (Dr. Ali Ahmed)

Dated: 02-07-2019

Reference of the request letter # CSCEC/CL/SEC-1/LP (ARM) 01/2019

Dated: 28-06-2019

Thickness Test Report (Page – 2/2)

Date of Test 15-07-2019

Gauge length -----

Description Light Pole (Arm) Thickness Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Thickness	Remark
1	Light Pole (Arm)	1900	46.0	4.13	60.00	54.00	3.00	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for Test								

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To,
 Manager QA/QC & HSE
 Banu Mukhtar Steel (Pvt) Ltd
 New Garden Town, Lahore

Reference # CED/TFL **33530** (Dr. Ali Ahmed)
 Reference of the request letter # BMS-QA/QC-052/19

Dated: 11-07-2019
 Dated: 11-07-2019

Tension Test Report (Page -1/1)

Date of Test 15-07-2019
 Gauge length 8 inches
 Description Anchor Bolt Tensile Test as per ASTM- F1554

Sr. No.	Weight (kg/m)	Diameter/ size		Area (mm ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (MPa) Actual	Ultimate Stress (MPa) Actual	Elongation (inch)	% Elongation	Remarks
		Nominal (mm)	Actual (mm)	Nominal	Actual							
1	5.660	30	30.30	-----	721.0	22600	34600	307	471	2.50	31.3	TT01
3	5.507	30	29.89	-----	701.5	26200	41600	366	582	2.00	25.0	TT02
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
Note: only two samples for tensile test												
Bend Test												

I/C Testing Laboratoires
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Ref: CED/TFL/07/33531

Dated: 11-07-2019

To
Resident Engineer
ABM Engineers
Petro-Sehwan N-55, Section 01 (64km)

Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/07/33531)** (Page – 1/1)

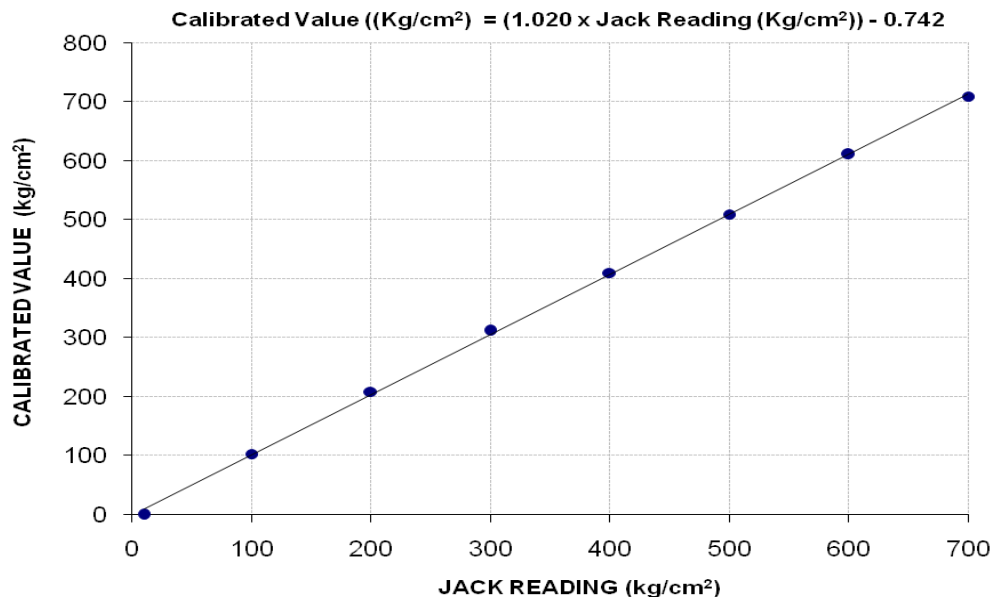
Reference to your Letter No. RE/N-55/ABM/2019/495, dated: 11/07/2019 on the subject cited above. One Hydraulic Jack (Jack No. 078, Pump No. 213) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (kg/cm²)
Calibrated Range : Zero - 700 (kg/cm²)

Hydraulic Jack Reading (kg/cm ²)	10	100	200	300	400	500	600	700
Calibrated Load (kg)	0	27400	55800	83200	109600	136000	163200	189400
Calibrated Pressure (kg/cm ²)	0	102.54	208.83	311.38	410.18	508.98	610.78	708.83

The Ram Area of Jack = 267.2 cm²

Calibration Curve For Jack No. 078



I/C Testing Laboratoires
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To,
 Assistant Engineer
 Pakistan Railways
 Multan

Reference # CED/TFL **33542** (Dr. Ali Ahmed)
 Reference of the request letter # 55-W/1/M

Dated: 11-07-2019
 Dated: 11-07-2019

Tension Test Report (Page -1/1)

Date of Test 15-07-2019

Gauge length 8 inches

Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (inch)		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal	Actual	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	4.220	1 ¹ / ₄	1.257	1.27	1.240	36400	54600	63200	64680	94800	97100	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
1 ¹ / ₄ " Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
Project Manager
GMHP Consultants
Gorkin – Matiltan Hydropower Project

Reference # CED/TFL **33549** (Dr. Ali Ahmed)
Reference of the request letter # 3837-39/PM/(30)/GMHPP/2019

Dated: 12-07-2019
Dated: 03-07-2019

Tension Test Report (Page – 1/2)

Date of Test 15-07-2019
Gauge length 640 mm
Description Steel Strand Tensile Test as per ASTM A-416-94a

Sr. No.	Nominal Diameter	Nominal Weight	Measured weight	Yield strength clause (6.3)		Breaking strength clause (6.2)		Young's Modulus of Elasticity "E"	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	GPa		
1	12.70 (1/2")	775.0	789.0	18000	176.58	19900	195.22	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
Only one sample for Test										

Note:

1. Modulus of Elasticity is based on nominal steel area of the steel strand vide clause 13.3 of ASTM – A416a
2. Load versus percentage strain graphs are attached

I/C Testing Laboratoires
UET Lahore, Pakistan.

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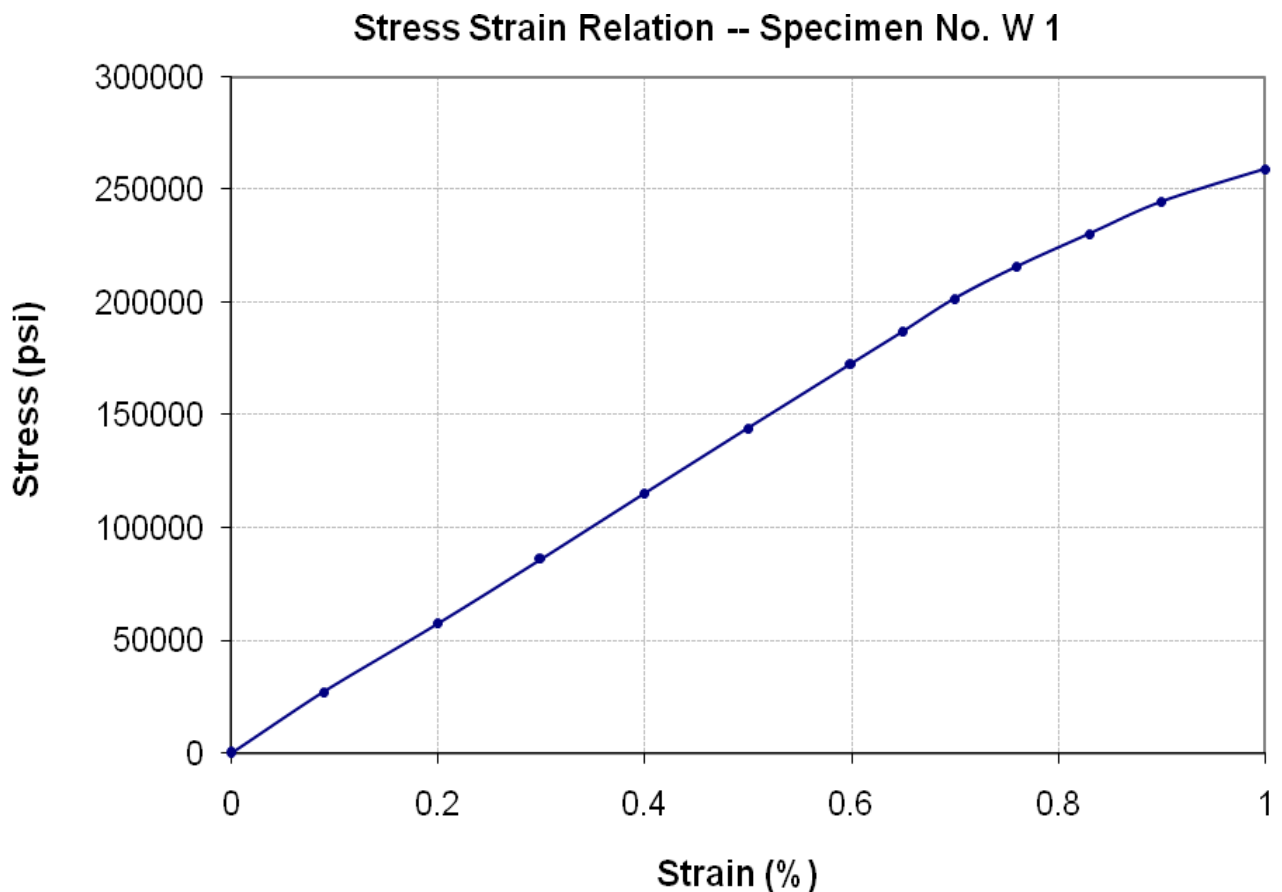
STRUCTURAL ENGINEERING DIVISION
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To,
Project Manager
GMHP Consultants
Gorkin – Matiltan Hydropower Project

Reference # CED/TFL **33549** (Dr. Ali Ahmed)
Reference of the request letter # 3837-39/PM/(30)/GMHPP/2019

Dated: 12-07-2019
Dated: 03-07-2019

Graph (Page – 2/2)



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To,
 Resident Engineer
 Dar Engineering
 Punjab Agriculture Food and Durg Authority's Science Enclave, Lahore Pakistan
 (Heat No. P-M-90 - Kamran Steel)

Reference # CED/TFL **33550** (Dr. Ali Ahmed)
 Reference of the request letter # DB-78/DAR/RE/ME/2019/0198

Dated: 12-07-2019
 Dated: 11-07-2019

Tension Test Report (Page -1/1)

Date of Test 15-07-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.366	3	0.370	0.11	0.108	3200	4600	64200	65510	92200	94200	1.40	17.5	
2	0.374	3	0.374	0.11	0.110	3600	4800	72200	72120	96200	96200	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 Project Manager
 Liberty Builders
 Construction of Zee Avenue Project, 17-A, Cooper Road, Lahore

Reference # CED/TFL **33553** (Dr. Ali Ahmed)
 Reference of the request letter # CONC-20190715

Dated: 15-07-2019
 Dated: 15-07-2019

Tension Test Report (Page -1/1)

Date of Test 15-07-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ size		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.365	3	0.370	0.11	0.107	3700	4900	74200	76050	98200	100800	0.90	11.3	
2	0.356	3	0.365	0.11	0.105	4400	5300	88200	92620	106200	111600	0.75	9.4	
3	0.364	3	0.369	0.11	0.107	4400	5500	88200	90590	110200	113300	0.75	9.4	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only three samples for tensile and two samples for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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To,
 Resident Engineer
 G3 Engineering Consultant (Pvt) Ltd
 Construction of The Cantonment Board Medical College Near Old CGH Sarfraz Rafiqui Road,
 Lahore Cantt

Reference # CED/TFL **33554** (Dr. Ali Ahmed)
 Reference of the request letter # G3/224/RE-36

Dated: 15-07-2019
 Dated: 15-07-2019

Tension Test Report (Page -1/1)

Date of Test 15-07-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ size		Area (in ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.379	3	0.377	0.11	0.111	3200	5800	64200	63290	116300	114700	1.00	12.5	
2	0.393	3	0.383	0.11	0.115	3600	6500	72200	68760	130300	124200	0.75	9.4	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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