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

To,
Resident Engineer
EA Consulting (Pvt) Ltd
Sukkur – Multan Motorway Project Section-III (CSCEC)
(Honto Engineering Company Lahore)
Reference # CED/TFL **32932** (Dr. Ali Ahmed) Dated: 26-03-2019
Reference of the request letter # CRE/EA/M.P-III/370-2019 Dated: 26-03-2019

Tension Test Report (Page – 1/2)

Date of Test 03-04-2019
Gauge length 2 inches
Description Metal Post for Sign Board Steel Strip Tensile and Bend Test as per ASTM A153

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	-----	(mm)	(mm^2)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	Metal Post (Plate)	26.00X20.10	522.60	18000	26000	337.89	488.06	0.80	40.00	
2		26.00X20.10	522.60	17800	25800	334.13	484.31	0.90	45.00	
3	Metal Post (Pipe)	24.40X8.20	200.08	7500	10300	367.73	505.01	0.50	25.00	
4		24.30X8.20	199.26	7500	10300	369.24	507.09	0.50	25.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Four Samples for Tensile and Two for Bend Test										
Bend Test										
Strip Taken from Metal Post (Plate) Bend Test Through 180º is Satisfactory										
Strip Taken from Metal Post (Pipe) Bend Test Through 180º is Satisfactory										

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
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3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

STRUCTURAL ENGINEERING DIVISION

Test Floor Laboratory
Department of Civil Engineering
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Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
EA Consulting (Pvt) Ltd
Sukkur – Multan Motorway Project Section-III (CSCEC)
(Honto Engineering Company Lahore)

Reference # CED/TFL **32932** (Dr. Ali Ahmed) Dated: 26-03-2019
Reference of the request letter # CRE/EA/M.P-III/370-2019 Dated: 26-03-2019

Thickness Test Report (Page – 2/2)

Date of Test 03-04-2019
Gauge length -------
Description Metal Post for Sign Board Thickness Test

Sr. No.	Designation	Thickness	Remark
	-------	(mm)	
1	**Metal Post (Plate)**	**20.10**	
2	**Metal Post (Pipe)**	**8.20**	
-	-	**-**	
-	**-**	**-**	
-	**-**	**-**	
-	**-**	**-**	
-	**-**	**-**	
Only Two Samples for Test			

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STRUCTURAL ENGINEERING DIVISION

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

To,
Executive Engineer/Bridges/Tech
For Dy. Chief Engineer/Bridges
Pakistan Railways, Lahore

Reference # CED/TFL **32950** (Dr. Ali Ahmed) Dated: 28-03-2019
Reference of the request letter # 56-W/46/Mul/2018/Tender/W.IV Dated: 26-03-2019

Tension Test Report (Page – 1/4)

Date of Test 0304--2019
Gauge length 2 inches
Description Steel Structure Steel Strip Tensile and Bend Test

Sr. No.	Designation		Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(inch)		(mm)	(mm^2)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	R.S Joist	16x6	20.30x12.70	257.81	8700	15000	331.05	570.77	0.60	30.00	
2		16x6	20.60x12.70	261.62	8700	15000	326.23	562.46	0.50	25.00	
3	M.S Angle	5x5x1/2	20.80x11.85	246.48	8600	13600	342.28	541.29	0.60	30.00	
4		5x5x1/2	20.70x11.90	246.33	9600	13900	382.32	553.56	0.50	25.00	
5	M.S Plate	24x1/2	20.70x11.85	245.30	7000	11600	279.95	463.91	0.70	35.00	
6		24x1/2	21.10x11.80	248.98	7000	11600	275.81	457.05	0.80	40.00	
Only Six Samples for Tensile and Three Samples for Bend Test											

Bend Test

Strip Taken from R.S Joist (16"x6") Bend Test Through 180º is Satisfactory

Strip Taken from M.S Angle (5"x5"x1/2") Bend Test Through 180º is Satisfactory

Strip Taken from M.S Pilate (24"x1/2") Bend Test Through 180º is Satisfactory

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
Executive Engineer/Bridges/Tech
For Dy. Chief Engineer/Bridges
Pakistan Railways, Lahore

Reference # CED/TFL **32950** (Dr. Ali Ahmed) Dated: 28-03-2019
Reference of the request letter # 56-W/46/Mul/2018/Tender/W.IV Dated: 26-03-2019

Weight &Size Test Report (Page – 2/4)

Date of Test 03-04-2012
Gauge length -------
Description R.S Joist Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	Depth (d)	Flange Width (b_f)	Flange Thickness (t_f)	Web Thickness (t_w)	Remark
	(inch)	(g)	(cm)	(kg/m)	mm	mm	mm	mm	
1	16x6	**7473**	**77.20**	**96.80**	**405.00**	**58.50**	**25.00**	**13.40**	
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-		-	
-	-	-	-	-	-	-		-	
-	-	-	-	-	-	-		-	
-	-	-	-	-	-	-		-	
-	-	-	-	-	-	-		-	
-	-	-	-	-	-	-		-	
Only One Samples for Test									

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UET Lahore, Pakistan.

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

To,
Executive Engineer/Bridges/Tech
For Dy. Chief Engineer/Bridges
Pakistan Railways, Lahore

Reference # CED/TFL **32950** (Dr. Ali Ahmed) Dated: 28-03-2019
Reference of the request letter # 56-W/46/Mul/2018/Tender/W.IV Dated: 26-03-2019

Weight &Size Test Report (Page – 5/8)

Date of Test 03-04-2019
Gauge length -------
Description M.S Angle Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	L-1	L-2	Thickness	Remark
	(inch)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	**5x5x1/2**	**1792**	**78.40**	**22.86**	**126.70**	**126.90**	**12.20**	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Samples for Test								

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

To,
Executive Engineer/Bridges/Tech
For Dy. Chief Engineer/Bridges
Pakistan Railways, Lahore

Reference # CED/TFL **32950** (Dr. Ali Ahmed) Dated: 28-03-2019
Reference of the request letter # 56-W/46/Mul/2018/Tender/W.IV Dated: 26-03-2019

Weight &Size Test Report (Page – 4/4)

Date of Test 03-04-2019
Gauge length -------
Description Plate Weight and Size Test

Sr. No.	Designation	Weight	Length	Width	Weight per Unit Area	Thickness	Remark
	(inch)	(g)	(mm)	(mm)	(kg/m^2)	(mm)	
1	**24x1/2**	**2241**	**154.70**	**155.30**	**93.28**	**11.90**	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
Only One Samples for Test							

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UET Lahore, Pakistan.

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

Ref: CED/TFL/04/32970 **Dated: 01-04-19**

To,
M/S Amjad Engineering Services
Lahore

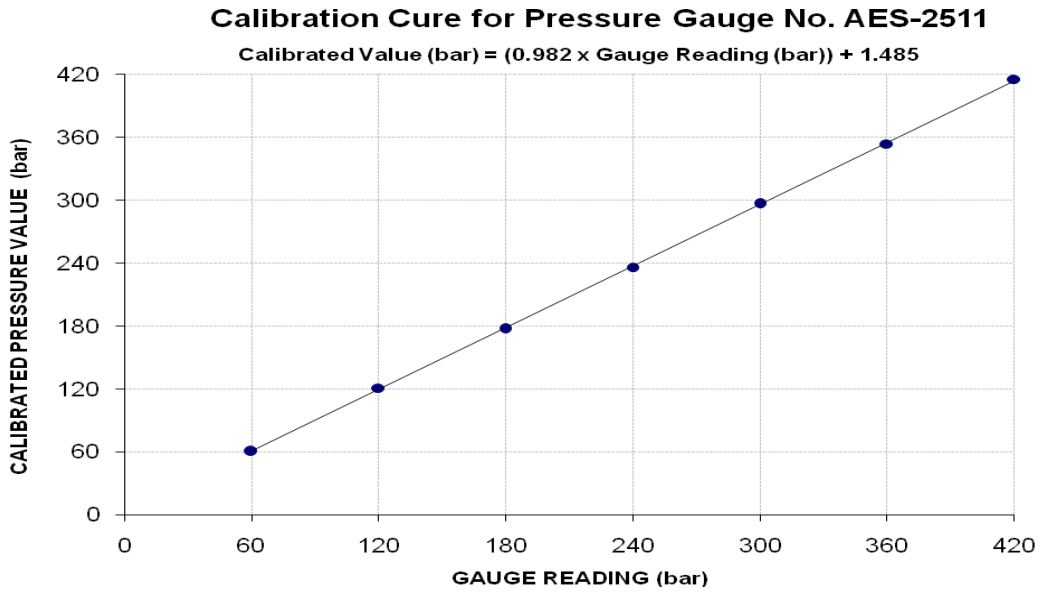
Subject: **- CALIBRATION OF PRESSURE GAUGE (MARK: TFL/04/32970)** (Page -1/2)

Reference to your Letter No. Nil, Dated: 01/04/2019 on the subject cited above. One Pressure Gauge No. AES-2511 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 420 (bar)

Pressure Gauge Reading (bar)	**60**	**120**	**180**	**240**	**300**	**360**	**420**
Calibrated Load (kg)	**12200**	**24400**	**35800**	**47700**	**59900**	**71400**	**83900**
Calibrated Pressure (bar)	**60.43**	**120.85**	**177.32**	**236.26**	**296.69**	**353.65**	**415.56**

The Ram Are use for Calibration = 198 cm^2



I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

Ref: CED/TFL/04/32970 **Dated: 01-04-19**

To,
M/S Amjad Engineering Services
Lahore

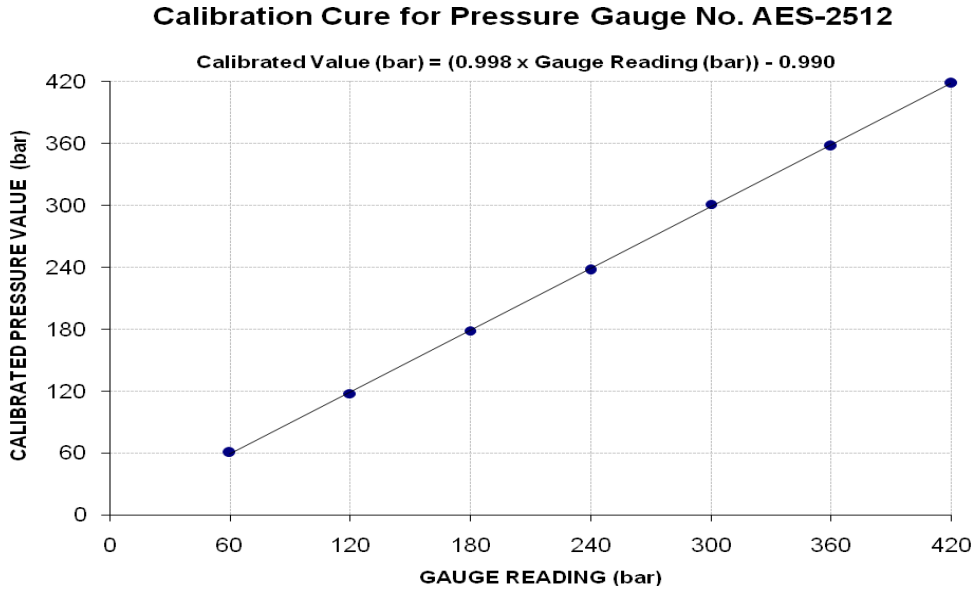
Subject: **- CALIBRATION OF PRESSURE GAUGE (MARK: TFL/04/32970)** (Page -2/2)

Reference to your Letter No. Nil, Dated: 01/04/2019 on the subject cited above. One Pressure Gauge No. AES-2512 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 420 (bar)

Pressure Gauge Reading (bar)	**60**	**120**	**180**	**240**	**300**	**360**	**420**
Calibrated Load (kg)	**12200**	**23700**	**36000**	**47900**	**60800**	**72200**	**84500**
Calibrated Pressure (bar)	**60.43**	**117.39**	**178.31**	**237.25**	**301.14**	**357.61**	**418.53**

The Ram Are use for Calibration = 198 cm^2



I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
Project Manager
Izhar Construction (Pvt) Ltd
Construction of (Ecolean Pakistan Pvt. Ltd Sundar Estate) Lahore

Reference # CED/TFL **32977** (Dr. Ali Ahmed) Dated: 02-04-2019
Reference of the request letter # ICPL/EC/038 Dated: 02-04-2019

Tension Test Report (Page -1/2)

Date of Test 03-04-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.373	3/8	0.374	0.11	0.110	3600	4800	72200	72410	96200	96600	0.90	11.3	
2	0.366	3/8	0.370	0.11	0.107	3600	4700	72200	73840	94200	96400	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works Sector-M (Extension), DHA PH-V)(M/s AAJ Engrs)

Reference # CED/TFL **32978** (Dr. Ali Ahmed) Dated: 02-04-2019
Reference of the request letter # 408/241/E/Lab/511/13 Dated: 02-04-2019

Tension Test Report (Page -1/2)

Date of Test 03-04-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ size		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.374	3	0.374	0.11	0.110	3700	4800	74200	74120	96200	96200	0.90	11.3	Kamran Steel
2	0.369	3	0.372	0.11	0.109	4100	5000	82200	83280	100200	101600	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works Sector-M (Extension), DHA PH-V)(M/s AAJ Engrs)

Reference # CED/TFL **32978** (Dr. Ali Ahmed) Dated: 02-04-2019
Reference of the request letter # 408/241/E/Lab/510/06 Dated: 02-04-2019

Tension Test Report (Page -2/2)

Date of Test 03-04-2019
Gauge length ------
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A496

Sr. No.	Weight	Diameter/ size		Area (mm^2)		Yield load	Breaking Load	Yield Stress (Mpa)		Ultimate Stress (Mpa)		Remarks
	(Kg/m)	Nominal (in)	Actual (mm)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	
1	0.110	5/32	4.23	12.82	14.05	800	900	612	559	689	629	
2	0.113	5/32	4.29	12.82	14.43	900	1100	689	612	842	748	
3	0.267	1/4	6.58	32.26	33.98	1000	1900	304	289	578	548	
4	0.266	1/4	6.56	32.26	33.83	1100	2100	335	319	639	609	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only four samples for tensile and two samples for bend test												
Bend Test												
5/32**"** Dia Bar Bend Test Through 180º is Satisfactory												
1/4**"** Dia Bar Bend Test Through 180º is Satisfactory												

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
M/S Al Rafiq Construction Co, (Pvt) Ltd

Reference # CED/TFL **32979** (Dr. Ali Ahmed) Dated: 02-04-2019
Reference of the request letter # Nil Dated: 02-04-2019

Tension Test Report (Page -1/1)

Date of Test 03-04-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.407	3/8	0.391	0.11	0.120	4200	5100	84200	77300	102200	93900	1.00	12.5	
2	0.407	3/8	0.390	0.11	0.120	4300	5200	86200	79290	104200	95900	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
Resident Engineer
AL-Imam Enterprises Pvt Ltd
Construction of Penta Square, Phase-V, D.H.A, Lahore
(Pak Steel)
Reference # CED/TFL **32980** (Dr. Ali Ahmed) Dated: 02-04-2019
Reference of the request letter # Al-Imam/746/PS-1/DHA/LHE/818 Dated: 02-04-2019

Tension Test Report (Page -1/1)

Date of Test 03-04-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (mm)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.398	10	9.81	0.11	0.117	3700	5100	74200	69630	102200	96000	1.30	16.3	
2	0.383	10	9.62	0.11	0.113	3600	4900	72200	70460	98200	96000	1.30	16.3	
3	0.416	10	10.02	0.11	0.122	4100	5200	82200	73950	104200	93800	1.00	12.5	
4	0.439	10	10.30	0.11	0.129	4900	5900	98200	83690	118300	100800	1.00	12.5	
5	0.410	10	9.96	0.11	0.121	3500	5100	70200	63940	102200	93200	1.20	15.0	
6	0.416	10	10.02	0.11	0.122	3500	5300	70200	63130	106200	95600	1.20	15.0	
7	4.350	32	32.41	1.27	1.279	36400	59200	63200	62750	102800	102100	1.70	21.3	
8	4.359	32	32.44	1.27	1.281	36400	58800	63200	62620	102100	101200	1.70	21.3	
Note: only eight samples for tensile and four samples for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180º is Satisfactory														
10mm Dia Bar Bend Test Through 180º is Satisfactory														
10mm Dia Bar Bend Test Through 180º is Satisfactory														
32mm Dia Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
Sub-Divisional Officer (Civil)
GC University, Faisalabad
(Construction of 1st Floor of Post Graduate Lab of Physics Department at Main Campus
Government College University, Faisalabad

Reference # CED/TFL **32981** (Dr. Ali Ahmed) Dated: 02-04-2019
Reference of the request letter # GCUF/EC/0313 Dated: 27-02-2019

Tension Test Report (Page -1/1)

Date of Test 03-04-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.374	3/8	0.374	0.11	0.110	3300	4500	66200	66160	90200	90300	1.30	16.3	
2	0.373	3/8	0.374	0.11	0.110	3300	4500	66200	66310	90200	90500	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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

Ref: CED/TFL/04/32982 **Dated: 02-04-19**

To,
Resident Engineer –II & III
Zeeruk International (Pvt) Ltd
Lahore – Sialkot Motorway

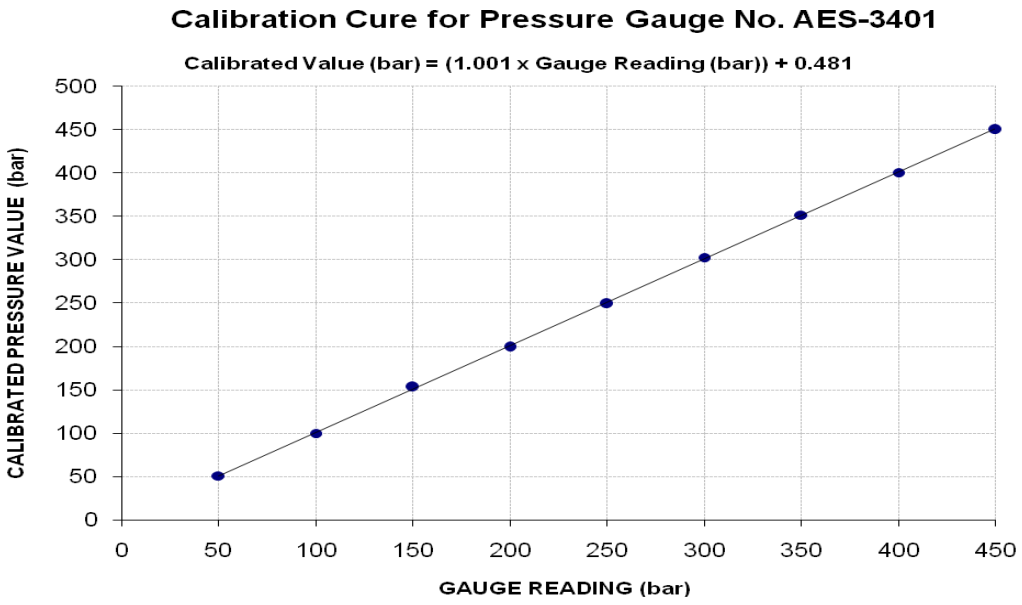
Subject: **- CALIBRATION OF PRESSURE GAUGE (MARK: TFL/04/32982)** (Page -1/2)

Reference to your Letter No. LSM/RE-II/St/19-155, Dated: 01/04/2019 on the subject cited above. One Pressure Gauge No. AES-3401 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 450 (bar)

Pressure Gauge Reading (bar)	50	100	150	200	250	300	350	400	450
Calibrated Load (kg)	10200	20100	30900	40200	50300	61100	71000	80900	90900
Calibrated Pressure (bar)	50.52	99.56	153.05	199.11	249.14	302.63	351.67	400.70	450.23

The Ram Are use for Calibration = 198 cm^2



I/C Testing Laboratoires
UET Lahore, Pakistan.

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

Ref: CED/TFL/04/32982 **Dated: 02-04-19**

To,
Resident Engineer –II & III
Zeeruk International (Pvt) Ltd
Lahore – Sialkot Motorway

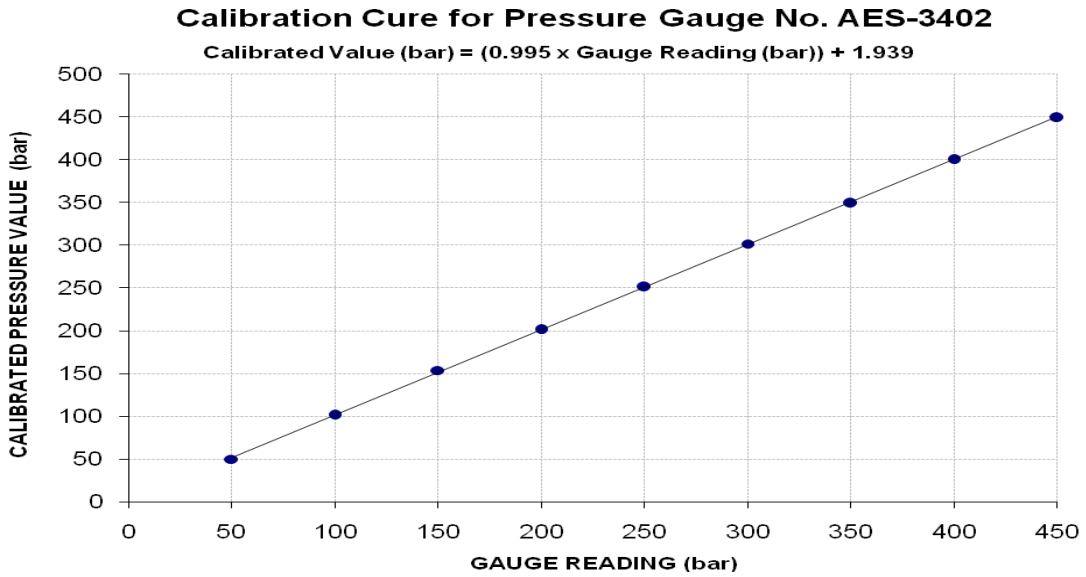
Subject: **- CALIBRATION OF PRESSURE GAUGE (MARK: TFL/04/32982)** (Page -2/2)

Reference to your Letter No. LSM/RE-II/St/19-155, Dated: 01/04/2019 on the subject cited above. One Pressure Gauge No. AES-3402 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 450 (bar)

Pressure Gauge Reading (bar)	50	100	150	200	250	300	350	400	450
Calibrated Load (kg)	10100	20400	31000	40600	50700	60900	70500	80800	90700
Calibrated Pressure (bar)	50.03	101.04	153.54	201.09	251.12	301.64	349.19	400.20	449.24

The Ram Are use for Calibration = 198 cm^2



I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
M/S Sui Northern Gas Pipelines Limited
Lahore
(Construction of Tuff Pavers, RCC Sump and Water Disposal Channel at Regional Distribution Office Lahore)

Reference # CED/TFL **32983** (Dr. Ali Ahmed) Dated: 02-04-2019
Reference of the request letter # CC/36/Road/Lhr Dated: 02-04-2019

Tension Test Report (Page -1/1)

Date of Test 03-04-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.372	3	0.373	0.11	0.109	4200	5200	84200	84740	104200	105000	1.00	12.5	
2	0.373	3	0.373	0.11	0.110	4200	5200	84200	84520	104200	104700	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														
Bend Test														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
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STRUCTURAL ENGINEERING DIVISION

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

To,
Manager Quality Control
Ravi Green Engineering (Pvt) Ltd
Construction of Flag Poles at DHA Bahawalpur 20 meter & 45meter
(CTE (Pvt) Ltd)(P-643)
Reference # CED/TFL **32986** (Dr. Ali Ahmed) Dated: 03-04-2019
Reference of the request letter # RG/MT/UET/2620 Dated: 02-04-2019

Tension Test Report (Page -1/2)

Date of Test 03-04-2019
Gauge length 8 inches
Description Anchor Rod Tensile Test

Sr. No.	Weight	Diameter/ size		Area (mm^2)		Yield load	Breaking Load	Yield Stress (MPa)	Ultimate Stress (MPa)	Elongation	% Elongation	Remarks
	(kg/m)	Nominal (mm)	Actual (mm)	Nominal	Actual	(kg)	(kg)	Actual	Actual	(inch)		
1	7.531	35	34.95	------	959.3	40800	69000	417	706	1.6	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile test												
Bend Test												

Witness by Muhammad Hinan Ch (Site Engineer, CTE Pvt Ltd)

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
Manager Quality Control
Ravi Green Engineering (Pvt) Ltd
Construction of Flag Poles at DHA Bahawalpur 20 meter & 45meter
(CTE (Pvt) Ltd)(P-643)

Reference # CED/TFL **32986** (Dr. Ali Ahmed) Dated: 03-04-2019
Reference of the request letter # RG/MT/UET/2621 Dated: 02-04-2019

Tension Test Report (Page – 2/2)

Date of Test 03-04-2019
Gauge length 8 inches
Description Carbon Steel Plate Steel Strip Tensile Test

Sr. No.	Designation		Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(mm)		(mm)	(mm^2)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	P643-T10-1	10	39.70x10.00	397.00	11800	18000	291.58	444.79	1.70	21.25	
2	P643-T12-2	12	39.80x12.00	477.60	12000	19400	246.48	398.48	2.10	26.25	
3	P643-T12-3	12	39.90x12.00	478.80	12100	19700	247.91	403.63	2.10	26.25	
4	P643-T14-4	14	39.70x14.00	555.80	16400	25400	289.46	448.32	2.20	27.50	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
Only Four Samples for Tensile Test											
Bend Test											

Witness by Muhammad Hinan Ch (Site Engineer, CTE Pvt Ltd)

I/C Testing Laboratoires
UET Lahore, Pakistan.

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