



**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 Fairmay Investment  
Lahore

Reference # CED/TFL **32519** (Dr. Waseem Abbas)  
Reference of the request letter # ST/F.R/01

Dated: 29-01-2019  
Dated: 29-01-2019

**Tension Test Report** (Page -1/1)

Date of Test 30-01-2019  
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 <sup>2</sup> )		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	0.389	3	0.381	0.11	0.114	3600	4800	72200	69450	96200	92600	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one sample for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

Note:

- 1- You can See your reports On Internet in the following web site  
[http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing\\_reports](http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports)
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**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

Ref: CED/TFL/01/32520

Dated: 29-01-19

To,  
M/S Amjad Engineering Services  
Lahore

Subject: - CALIBRATION OF PRESSURE GAUGE (MARK: TFL/01/32520) (Page -1/2)

Reference to your Letter No. Nil, Dated: 29/01/2019 on the subject cited above. One Pressure Gauge No. AES-313 as received by us has been calibrated. The results are tabulated as under:

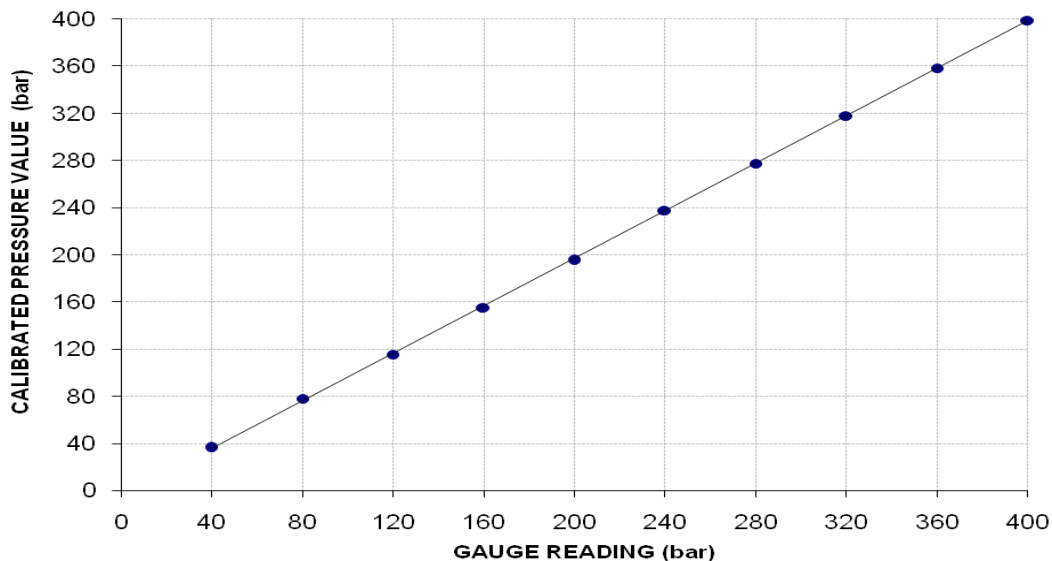
Total Range : Zero - 1000 (bar)  
Calibrated Range : Zero - 400 (bar)

Pressure Gauge Reading (bar)	40	80	120	160	200	240	280	320	360	400
Calibrated Load (kg)	7300	15700	23300	31300	39400	48000	56000	64200	72400	80500
Calibrated Pressure (bar)	36.16	77.76	115.41	155.03	195.15	237.75	277.37	317.98	358.60	398.72

The Ram Area used for Calibration = 198 cm<sup>2</sup>

**Calibration Curve for Pressure Gauge No. AES-313**

Calibrated Value (bar) = (1.007 × Gauge Reading (bar)) - 4.721



**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

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Ref: CED/TFL/01/32520

Dated: 29-01-19

To,  
M/S Amjad Engineering Services  
Lahore

Subject: - CALIBRATION OF PRESSURE GAUGE (MARK: TFL/01/32520) (Page -2/2)

Reference to your Letter No. Nil, Dated: 29/01/2019 on the subject cited above. One Pressure Gauge No. AES-314 as received by us has been calibrated. The results are tabulated as under:

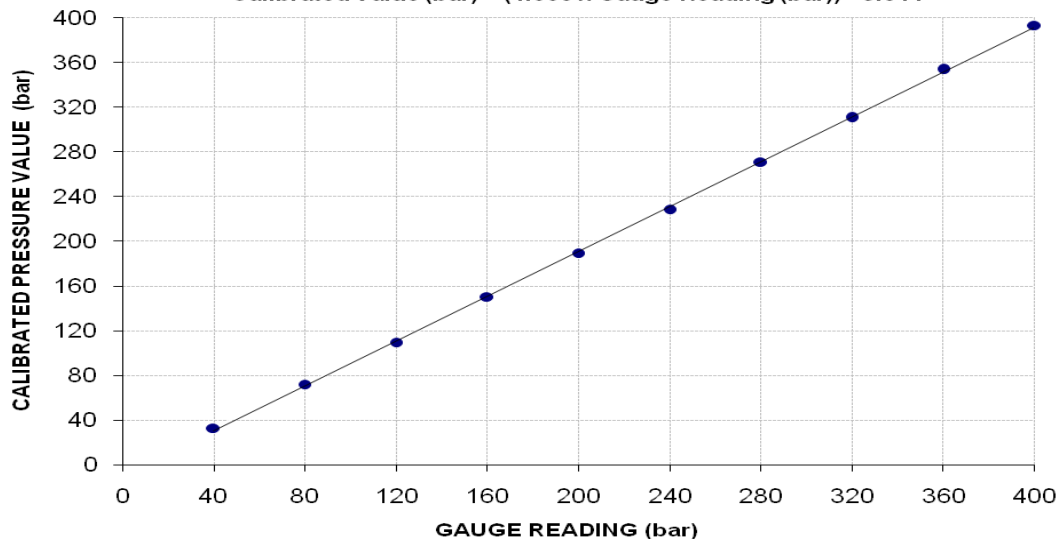
Total Range : Zero - 1000 (bar)  
Calibrated Range : Zero - 400 (bar)

Pressure Gauge Reading (bar)	40	80	120	160	200	240	280	320	360	400
Calibrated Load (kg)	6600	14500	22100	30400	38300	46200	54700	62700	71400	79400
Calibrated Pressure (bar)	32.69	71.82	109.46	150.57	189.70	228.83	270.93	310.56	353.65	393.27

The Ram Area used for Calibration = 198 cm<sup>2</sup>

**Calibration Curve for Pressure Gauge No. AES-314**

Calibrated Value (bar) = (1.003 x Gauge Reading (bar)) - 9.641



**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

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**University of Engineering and Technology Lahore, 54890**  
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To,  
 Resident Engineer  
 Prime Engineering Consultancy  
 Kallurkot Bridge Project  
 (Construction of 4 Lane Bridge over River Indus Connecting Kallur Kot with D.I.Khan)

Reference # CED/TFL **32521** (Dr. Waseem Abbas) Dated: 29-01-2019  
 Reference of the request letter # PE-BA-JV/KK-DIK/2018/11 Dated: 28-01-2019

**Tension Test Report** (Page -1/1)

Date of Test 30-01-2019  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		Area (in <sup>2</sup> )		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	32	31.92	1.27	1.241	37800	54000	65600	67160	93800	96000	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one sample for tensile and one sample for bend test</b>														
Bend Test														
32mm Dia Bar Bend Test Through 180° 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**  
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To,  
M/S Defence Housing Authority.  
Lahore Cantt  
(Infra Development Works Sector-E, DHA Ph-IX)(M/s Inland)

Reference # CED/TFL **32522** (Dr. Waseem Abbas)  
Reference of the request letter # 408/241/E/Lab/430/51

Dated: 29-01-2019  
Dated: 29-01-2019

**Tension Test Report** (Page -1/1)

Date of Test 30-01-2019  
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 <sup>2</sup> )		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	0.376	3	0.375	0.11	0.111	3500	5200	70200	69730	104200	103600	1.30	16.3	City Steel
2	0.377	3	0.376	0.11	0.111	3500	5200	70200	69590	104200	103400	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

**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,  
M/S ZHN Contracting Corporation (SMC-Private) Limited  
Lahore

Reference # CED/TFL **32523** (Dr. Waseen Abbas)  
Reference of the request letter # ZHN/004/2019

Dated: 29-01-2019  
Dated: 29-01-2019

**Tension Test Report** (Page -1/2)

Date of Test 30-01-2019  
Gauge length 8 inches  
Description MS Wire Tensile Test

Sr. No.	Weight (kg/m)	Diameter/ size		Area (mm <sup>2</sup> )		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	0.152	5	4.97	-----	19.4	-----	1300	-----	658	0.3	3.8	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one sample for tensile test</b>												
Bend Test												

**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 ZHN Contracting Corporation (SMC-Private) Limited  
Lahore

Reference # CED/TFL **32523** (Dr. Waseen Abbas)  
Reference of the request letter # ZHN/004/2019

Dated: 29-01-2019

Dated: 29-01-2019

**Tension Test Report** (Page – 2/2)

Date of Test 30-01-2019  
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)		% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)		
1	9.53 (3/8")	432.0	440.0	9600	94.18	11400	111.83	>3.50	xx
2	11.11 (7/16")	582.0	588.0	13500	132.44	14900	146.17	>3.50	xx
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-

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

Reference # CED/TFL **32512** (Dr. Waseem Abbas)  
 Reference of the request letter # CONC-20190129

Dated: 29-01-2019  
 Dated: 29-01-2019

**Tension Test Report** (Page -1/1)

Date of Test 30-01-2019  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		Area (in <sup>2</sup> )		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	0.358	3	0.366	0.11	0.105	3500	4700	70200	73350	94200	98500	1.30	16.3	
2	0.358	3	0.366	0.11	0.105	3400	4500	68200	71220	90200	94300	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile for bend test</b>														
Bend Test														

**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  
 Mascon Associates (Pvt) Ltd  
 Musafir Khana (Data Darbar)  
 (Ittefaq Steel)

Reference # CED/TFL **32526** (Dr. Waseem Abbas)  
 Reference of the request letter # MASC-RE/PG/18/5021

Dated: 29-01-2019  
 Dated: 29-01-2019

**Tension Test Report** (Page -1/1)

Date of Test 30-01-2019  
 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 <sup>2</sup> )		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	0.378	3	0.376	0.11	0.111	3200	4800	64200	63490	96200	95300	1.40	17.5	
2	0.376	3	0.375	0.11	0.111	3200	4900	64200	63830	98200	97800	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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

To,  
M/S Defence Housing Authority.  
Lahore Cantt  
(Const. of Infra Dev Works of DHA Ph-VII)(M/s Al-Karim Enterprises)

Reference # CED/TFL **32528** (Dr. Waseem Abbas) Dated: 29-01-2019  
Reference of the request letter # 408/241/E/Lab/12T-23B/420 Dated: 22-01-2019

**Tension Test Report** (Page -1/1)

Date of Test 30-01-2019  
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 <sup>2</sup> )		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	0.393	3	0.384	0.11	0.116	3400	5300	68200	64830	106200	101100	1.30	16.3	Mughal Steel
2	0.384	3	0.379	0.11	0.113	3500	5300	70200	68260	106200	103400	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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**STRUCTURAL ENGINEERING DIVISION**  
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**Department of Civil Engineering**  
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**Pakistan. Ph: 92-42-99029202**

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

Reference # CED/TFL **32530** (Dr. Waseem Abbas)  
 Reference of the request letter # CONC-20190129

Dated: 30-01-2019  
 Dated: 29-01-2019

**Tension Test Report** (Page -1/1)

Date of Test 30-01-2019  
 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 <sup>2</sup> )		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	4.191	10	1.252	1.27	1.232	38000	55800	66000	67990	96900	99900	1.40	17.5	Prime Steel
2	4.119	10	1.242	1.27	1.211	37800	56000	65600	68810	97200	102000	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#10 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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