



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
 B&R Division GBPWD
 Kharmonj
 (Widening of Dangerous Sharp end of Metal Road from Humayun Bridge to Olding)

Reference # CED/TFL **32614** (Engr. Amina Rajput) Dated: 12-02-2019
 Reference of the request letter # EE-Dev-khmg-2(07)/2017-18/613 Dated: 24-01-2019

Tension Test Report (Page – 1/2)

Date of Test 25-02-2019
 Gauge length 2 inches
 Description Vertical Post & W-Section 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
1	Vertical Post	2.12x0.50	1.06	5000	6100	4716.98	5754.72	0.50	25.00	
2		2.12x0.50	1.06	4900	6100	4622.64	5754.72	0.50	25.00	
3	W-Section	2.11x0.29	0.61	1700	2500	2778.23	4085.63	0.50	25.00	
4		2.11x0.29	0.61	1600	2300	2614.81	3758.78	0.30	15.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Four Samples for Tensile and Two Samples for Bend Test										
Bend Test										
Strip Taken from W-Section Bend Test Through 180° is Satisfactory										
Strip Taken from W-Section Bend Test Through 180° is Satisfactory										

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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To,
Executive Engineer
B&R Division GBPWD
Kharmong
(Widening of Dangerous Sharp end of Metal Road from Humayun Bridge to Olding)

Reference # CED/TFL **32614** (Engr. Amina Rajput)

Dated: 12-02-2019

Reference of the request letter # EE-Dev-khmg-2(07)/2017-18/613

Dated: 24-01-2019

Weight & Size Test Report (Page – 2/2)

Date of Test 25-02-2019

Gauge length -----

Description Vertical Post Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	Thickness	Remark
		(g)	(cm)	(kg/m)	(mm)	
1	Vertical Post	11498	100.00	11.50	5.15	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
Only One Sample for Test						

I/C Testing Laboratoires
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To,
 Resident Engineer
 EA Consulting (Pvt) Ltd
 Sukkur – Multan Motorway Project
 Section – III (CSCEC)

Reference # CED/TFL 32629 (Engr. Amina Rajput)
 Reference of the request letter # RE/EA/M.P-III/338-2019

Dated: 14-02-2019
 Dated: 14-02-2019

Tension Test Report (Page – 1/2)

Date of Test 25-02-2019

Gauge length 2 inches

Description Backup Plate Strip Tensile Test as per AASHTO-M-180

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Backup Plate	2.33x0.710	1.65	5800	7900	3506.01	4775.43	0.60	30.00	
2		2.32x0.715	1.66	5700	8000	3436.22	4822.76	0.60	30.00	
3	Backup Plate	2.32x0.710	1.65	5700	8100	3460.42	4917.44	0.60	30.00	
4		2.31x0.720	1.66	5400	8100	3246.75	4870.13	0.60	30.00	
5	Backup Plate	2.33x0.700	1.63	5600	7400	3433.48	4537.09	0.60	30.00	
6		2.32x0.710	1.65	5400	7400	3278.29	4492.47	0.60	30.00	
7	Backup Plate	2.36x0.70	1.65	5400	7400	3268.77	4479.42	0.70	35.00	
8		2.34x0.70	1.64	5300	7200	3235.65	4395.60	0.70	35.00	
Only Eight Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 Resident Engineer
 EA Consulting (Pvt) Ltd
 Sukkur – Multan Motorway Project
 Section – III (CSCEC)

Reference # CED/TFL 32629 (Engr. Amina Rajput)
 Reference of the request letter # RE/EA/M.P-III/338-2019

Dated: 14-02-2019
 Dated: 14-02-2019

Tension Test Report (Page – 2/2)

Date of Test 25-02-2019
 Gauge length 2 inches
 Description Guard Rail Post Strip Tensile Test as per AASHTO-M-180

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Guard Rail Post	2.34x0.72	1.68	5500	7900	3264.48	4688.98	0.70	35.00	
2		2.35x0.76	1.79	5700	8000	3191.49	4479.28	0.60	30.00	
3	Guard Rail Post	2.35x0.74	1.74	5700	8100	3277.75	4657.85	0.60	30.00	
4		2.34x0.74	1.73	5400	7800	3118.50	4504.50	0.60	30.00	
5	Guard Rail Post	2.35x0.73	1.72	5900	8100	3439.23	4721.66	0.60	30.00	
6		2.35x0.73	1.72	5900	8000	3439.23	4663.36	0.60	30.00	
7	Guard Rail Post	2.34x0.73	1.71	5900	7950	3453.93	4654.02	0.70	35.00	
8		2.33x0.74	1.72	5600	7850	3247.88	4552.84	0.70	35.00	
Only Eight Samples for Tensile Test										
Bend Test										

I/C Testing Laboratories
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Ref: CED/TFL/02/32670

Dated: 20-02-19

To
M/S Army Welfare Trust
Lahore
(Sewerage System of Additional Land Measuring 35K Land AWT Housing Scheme
Phase-2, Lahore)

Subject: **TESTING OF R.C.C. PIPE [ASTM-C76]**

Reference to your letter No. AWRES/Dev/AL-II, dated 13.02.2019 on the subject cited above. Two R.C.C. Pipes as received by us have been tested. The results are tabulated as under.

Sr. No	Nominal Size	Total Length	Loaded Length	External Diameter	Internal Diameter	Wall Thickness	Proof load	Ultimate Load	Proof Stress	Ultimate Stress
	(mm)	(m)	(m)	(mm)	(mm)	(mm)	(kg)	(kg)	N/m/mm	N/m/mm
1	228.6 (9")	2.383	2.225	282.00	227.66	27.17	7600	9800	147.19	189.79
2	228.6 (9")	2.380	2.228	283.00	227.40	27.80	10800	13400	209.12	259.46

Witness by Azmat Ali (SDO-B/R (AWT HS-PN-2))

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
M/S Spleen Manufacturing (Pvt) Ltd
Lahore
(Sufi Steel Angles)

Reference # CED/TFL 32671 (Dr. M Rizwan Riaz)

Dated: 20-02-2019

Reference of the request letter # SMPL/SUFI STEEL INDUSTRIES/1620 Dated: 20-02-2019

Tension Test Report (Page – 1/1)

Date of Test 25-02-2019

Gauge length 2 inches

Description Angle Steel Strip Tensile 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	3x3x3/16	21.20x4.50	95.40	3200	5000	329.06	514.15	0.70	35.00	
2	3x3x3/16	21.10x4.40	92.84	3200	5000	338.13	528.33	0.60	30.00	
3	2 ¹ / ₂ x2 ¹ / ₂ x3/16	21.30x4.90	104.37	4500	6500	422.97	610.95	0.50	25.00	
4	2 ¹ / ₂ x2 ¹ / ₂ x3/16	21.40x4.90	104.86	4500	6500	420.99	608.10	0.50	25.00	
5	2x2x3/16	21.40x4.50	96.30	3300	5700	336.17	580.65	0.50	25.00	
6	2x2x3/16	21.40x4.50	96.30	3200	5500	325.98	560.28	0.50	25.00	
Only Six Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 M/S Defence Housing Authority.
 Lahore Cantt
 (Const Mosque at Sector-N, DHA Ph-VI)(M/s A 2 Z Const)

Reference # CED/TFL **32678, 691** (Dr. Ali Ahmed) Dated: 22-02-2019
 Reference of the request letter # 408/241/E/Lab/458 Dated: 22-02-2019

Tension Test Report (Page -1/1)

Date of Test 25-02-2019
 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	0.375	3	0.375	0.11	0.110	3200	4900	64200	63950	98200	98000	1.20	15.0	City U.A.E S
2	0.379	3	0.377	0.11	0.111	3200	4900	64200	63320	98200	97000	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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,
 Acting Project Director
 Air University Multan Campus
 Construction of Academic Block-I

Reference # CED/TFL **32679** (Dr. Ali Ahmed)
 Reference of the request letter # MUX/AUMC/AB1/2018/53

Dated: 21-02-2019
 Dated: 21-02-2019

Tension Test Report (Page -1/1)

Date of Test 25-02-2019
 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	2800	4000	56200	57300	80200	81900	1.60	20.0	
2	0.356	3	0.365	0.11	0.105	2700	4000	54100	56860	80200	84300	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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,
 Sub-Divisional Officer (Civil)
 GC University Faisalabad
 Construction of Hostel No. 10 at New Campus Government College University, Faisalabad

Reference # CED/TFL **32682** (Dr. Ali Ahmed)
 Reference of the request letter # GCUF/EC/0225

Dated: 22-02-2019
 Dated: 14-02-2019

Tension Test Report (Page -1/1)

Date of Test 25-02-2019
 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	0.378	3/8	0.376	0.11	0.111	3700	5400	74200	73490	108200	107300	1.10	13.8	
2	0.377	3/8	0.376	0.11	0.111	3800	5200	76200	75490	104200	103400	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

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Pakistan. Ph: 92-42-99029202

To,
 Sub Divisional Officer
 Buildings Sub Division
 Sargodha
 (Establishment of Zoo at Sargodha)

Reference # CED/TFL **32683** (Dr. Ali Ahmed)
 Reference of the request letter # 58/SGD

Dated: 22-02-2019
 Dated: 11-02-2019

Tension Test Report (Page -1/1)

Date of Test 25-02-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile 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	0.412	3/8	0.393	0.11	0.121	4700	5200	94200	85540	104200	94700	0.75	9.4	
2	0.412	3/8	0.392	0.11	0.121	3500	5100	70200	63760	102200	93000	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														
Bend Test														

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To,
M/S Rizwan Traders
Lahore

Reference # CED/TFL **32684** (Dr. Ali Ahmed)
Reference of the request letter # Nil

Dated: 22-02-2019

Dated: 22-02-2019

Tension Test Report (Page – 1/1)

Date of Test 25-02-2019

Gauge length -----

Description Steel Wire Rope Tensile Test

Sr. No.	Nominal Diameter	Measured weight	Breaking Load		Remarks / Coil No.
	(mm)	(kg/m)	(kg)	(kN)	
1	25	2.06	30000	294.30	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
Only one sample for Test					

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