



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-I
 NESPAK
 Widening of Aik Moria Pull, Lahore

Reference # CED/TFL **34753, 826** (Dr. M Rizwan Riaz)
 Reference of the request letter # 3772/AMP/103/MWA/04/65

Dated: 27-02-2020
 Dated: 19-02-2020

Tension Test Report (Page – 1/6)

Date of Test 05-03-2020
 Gauge length 2 inches
 Description Steel Structure Steel Strip Tensile Test as per ASTM A-36

Sr. No.	Designation		Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Angle	127x127x12mm	27.10x12.20	330.62	10500	16900	311.55	501.45	0.70	35.00	
2		127x127x12mm	27.10x12.20	330.62	11000	17500	326.39	519.25	0.60	30.00	
3	Angle	152x152x20mm	24.10x19.60	472.36	13500	25900	280.37	537.89	0.70	35.00	
4		152x152x20mm	24.90x19.60	488.04	15000	26800	301.51	538.70	0.70	35.00	
5	Angle	101x101x10mm	24.90x9.70	241.53	7600	12200	308.68	495.52	0.60	30.00	
6		101x101x10mm	27.10x9.70	262.87	8300	13200	309.75	492.61	0.60	30.00	
7	Angle	76x76x10mm	24.20x9.70	234.74	7400	12700	309.25	530.74	0.60	30.00	
8		76x76x10mm	24.60x9.70	238.62	7400	12700	304.22	522.11	0.60	30.00	
9	Angle	89x89x10mm	24.60x9.65	237.39	7700	12600	318.20	520.69	0.60	30.00	
10		89x89x10mm	24.80x9.65	239.32	8000	12400	327.93	508.29	0.65	32.50	
11	Angle	2-1/2"x2-1/2"x1/4"	27.95x6.00	167.70	5600	9300	327.58	544.03	0.65	32.50	
12		2-1/2"x2-1/2"x1/4"	27.95x6.00	167.70	5600	9100	327.58	532.33	0.55	27.50	
13	I-Beam (Cross Girder)	18"x7"	27.10x14.00	379.40	10500	20400	271.49	527.47	0.65	32.50	
14		18"x7"	27.10x14.00	379.40	10600	19900	274.08	514.55	0.60	30.00	
Only Fourteen Samples for Tensile Test											
Bend Test											

I/C Testing Laboratories
UET Lahore, Pakistan.

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 Reference of the request letter # 3772/AMP/103/MWA/04/65

Dated: 27-02-2020

Dated: 19-02-2020

Tension Test Report (Page – 2/6)

Date of Test 05-03-2020

Gauge length 2 inches

Description Steel Structure Steel Strip Tensile Test as per ASTM A-36

Sr. No.	Designation		Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	I-Beam (Rail Girder)	12"x6"	24.80x8.65	214.52	6800	11600	310.96	530.47	0.70	35.00	
2		12"x6"	24.80x8.65	214.52	6900	11700	315.54	535.04	0.65	32.50	
3	Channel	6"x3"	27.00x7.00	189.00	5600	9800	290.67	508.67	0.60	30.00	
4		6"x3"	27.00x7.00	189.00	5600	9600	290.67	498.29	0.60	30.00	
5	Web Plate	10mm	27.20x10.00	272.00	10300	13600	371.48	490.50	0.70	35.00	
6		10mm	27.25x10.00	272.50	10000	14100	360.00	507.60	0.70	35.00	
7	Packing Plate	20mm	24.60x19.80	487.08	15500	25300	312.18	509.55	0.80	40.00	
8		20mm	24.60x19.80	487.08	15100	25400	304.12	511.57	0.80	40.00	
9	Protection Plate	3mm	24.20x3.00	72.60	2400	3300	324.30	445.91	0.60	30.00	
10		3mm	24.20x3.00	72.60	2400	3300	324.30	445.91	0.60	30.00	
11	Strip	16mm	24.60x15.80	388.68	13500	20500	340.73	517.41	0.70	35.00	
12		16mm	24.60x15.80	388.68	13600	20600	343.25	519.93	0.70	35.00	
13	Plate	12mm	21.00x12.00	252.00	7500	13400	291.96	521.64	0.70	35.00	
14		12mm	21.00x12.00	252.00	7500	13400	291.96	521.64	0.70	35.00	
Only Fourteen Samples for Tensile Test											
Bend Test											

I/C Testing Laboratoires
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Reference of the request letter # 3772/AMP/103/MWA/04/65

Dated: 27-02-2020
Dated: 19-02-2020

Weight & Size Test Report (Page – 3/6)

Date of Test 05-03-2020
Gauge length -----
Description Angle Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	L-1	L-2	Thickness	Remark
1	127x127x12mm	15600	60.80	25.66	127.00	127.00	12.20	
2	152x152x20mm	26800	61.30	43.72	153.00	152.00	19.60	
3	101x101x10mm	9400	60.90	15.44	101.00	102.00	9.70	
4	76x76x10mm	7200	60.90	11.82	76.00	76.20	9.70	
5	89x89x10mm	8800	60.90	14.45	89.00	89.10	9.65	
6	2-1/2"x2-1/2"x1/4"	4600	61.20	7.52	65.00	62.20	6.00	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only Six Samples for Test								

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Dated: 27-02-2020
Dated: 19-02-2020

Weight & Size Test Report (Page – 4/6)

Date of Test 05-03-2020
Gauge length -----
Description Girder & Channel 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	Cross Girder	18x7	73000	61.00	119.67	458.00	178.00	27.00	14.00	
2	Rail Girder	12x6	35000	61.00	57.38	306.00	152.00	13.20	8.65	
3	Channel	6x3	12400	60.80	20.39	152.00	76.20	9.80	7.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Three Samples for Test										

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To,
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Dated: 27-02-2020
Dated: 19-02-2020

Weight & Size Test Report (Page – 5/6)

Date of Test 05-03-2020
Gauge length -----
Description Plate Weight and Size Test

Sr. No.	Designation		Weight	Length	Width	Weight per Unit Area	Thickness	Remark
	(mm)	(mm)						
1	Web Plate	10	4800	60.90	10.00	78.82	10.00	
2	Packing Plate	20	9600	62.00	9.90	156.40	19.80	
3	Protection Plate	3	1450	61.00	10.00	23.77	3.00	
4	Strip	16	7530	60.70	9.90	125.31	15.80	
5	Plate	12	6120	60.90	10.10	99.50	12.00	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only Six Samples for Test								

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To,
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Widening of Aik Moria Pull, Lahore

Reference # CED/TFL **34753, 826** (Dr. M Rizwan Riaz)
Reference of the request letter # 3772/AMP/103/MWA/04/64

Dated: 27-02-2020
Dated: 19-02-2020

Tension Test Report (Page – 6/6)

Date of Test 11-03-2020
Gauge length 2 inches
Description Rivet Bar Tensile Test

Sr. No.	Diameter / size	Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(mm)	(mm ²)	(kg)	(kg)	(MPa)	(MPa)	(mm)		
1	19.70	304.805	8100	14100	260.69	453.80	0.80	40.00	
Only One Sample for Tensile Test									

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To,
 Project Manager
 Innovative Construction Company
 Construction of Waste Water Treatment Plant at Samad Apparel, Lahore

Reference # CED/TFL **34783** (Dr. M Rizwan Riaz)
 Reference of the request letter # ST/WWTP-SA/0320/01

Dated: 04-03-2020
 Dated: 04-03-2020

Tension Test Report (Page -1/1)

Date of Test 05-03-2020
 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	0.366	3/8	0.370	0.11	0.108	3300	4800	66200	67590	96200	98400	1.20	15.0	
2	0.367	3/8	0.371	0.11	0.108	3200	4800	64200	65420	96200	98200	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														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 Chief Engineer (HVDC) NTDC
 National Transmission & Despatch Company Ltd
 +600 kV 4000 MW Biple HVDC Matiari Lahore Transmission Project (Lot-7 & 8)
 (Kamran Steel)

Reference # CED/TFL **34784** (Dr. M Rizwan Riaz)
 Reference of the request letter # 9466-70/CE/HVDC/LHR

Dated: 04-03-2020
 Dated: 04-03-2020

Tension Test Report (Page -1/1)

Date of Test 05-03-2020
 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	0.371	3	0.373	0.11	0.109	2700	3900	54100	54560	78200	78800	1.70	21.3	
2	0.372	3	0.373	0.11	0.109	2800	4000	56200	56400	80200	80600	1.70	21.3	
3	0.383	3	0.378	0.11	0.112	2700	3800	54100	52900	76200	74500	1.90	23.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only three samples for tensile and three samples for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														
#3 Bar Bend Test Through 180° is Satisfactory														
#3 Bar Bend Test Through 180° is Satisfactory														

Witness by Ali Ahmed (NTDC), M. Bilal Butt (OE) & Dr. Ali Adnan (CET Lot 7 & 8)

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UET Lahore, Pakistan.

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To,
M/S HB Consultant
3054 – Y, Phase-VII, DHA Lahore

Reference # CED/TFL **34785** (Dr. M Rizwan Riaz)
Reference of the request letter # ST/WWTP-SA/0320/01

Dated: 04-03-2020
Dated: 04-03-2020

Tension Test Report (Page -1/1)

Date of Test 05-03-2020
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	0.357	3/8	0.366	0.11	0.105	3600	4600	72200	75530	92200	96600	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile test														
Bend Test														

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To,
 Site Engineer
 Samad Rubber Works (Pvt) Ltd. (Apparel Division)
 Plot # 02 Fiazi Street 21 km Feroz Pur Road Lahore

Reference # CED/TFL **34786** (Dr. M Rizwan Riaz)
 Reference of the request letter # Nil

Dated: 04-03-2020
 Dated: 04-03-2020

Tension Test Report (Page -1/1)

Date of Test 05-03-2020
 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	0.371	3/8	0.372	0.11	0.109	3300	4900	66200	66790	98200	99200	1.40	17.5	
2	0.370	3/8	0.372	0.11	0.109	3300	4900	66200	66960	98200	99500	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 180° is Satisfactory														

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