



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

To,
 C.R.E.
 NESPAK ISLD

Construction of Infrastructure Including Allied Facilities for New Islamabad Airport Bus Service Package-II – from G-13 to N-5 Interchange

Reference # CED/TFL **34261** (Dr. M Rizwan Riaz)

Dated: 03-12-2019

Reference of the request letter # CRE/MBS/ISLD/01/718

Dated: 02-12-2019

Tension Test Report (Page – 1/1)

Date of Test 11-12-2019

Gauge length 2 inches

Description Mild Steel Sample 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
	(mm)										
1	Pipe	63	21.10x4.20	88.62	3300	4700	365.30	520.28	0.60	30.00	
2		63	21.10x4.20	88.62	3500	4800	387.44	531.35	0.60	30.00	
3	Pipe	50.8	27.80x4.10	113.98	4500	6300	387.30	542.23	0.70	35.00	
4		50.8	27.80x4.10	113.98	4400	6200	378.70	533.62	0.45	22.50	
5	Pipe	19	17.00x3.10	52.70	2000	2600	372.30	483.98	0.50	25.00	
6		19	17.00x3.10	52.70	1900	2600	353.68	483.98	0.45	22.50	
7	Plate	6	18.20x6.90	125.58	4600	6400	359.34	499.95	0.60	30.00	
8		6	18.20x6.90	125.58	5100	6600	398.40	515.58	0.70	35.00	
9	Plate	12	21.85x12.35	269.85	8200	15000	298.10	545.31	0.70	35.00	
10		12	21.85x12.35	269.85	8600	15100	312.64	548.94	0.70	35.00	
Only Ten Samples for Tensile Test											
Bend Test											

I/C Testing Laboratories
UET Lahore, Pakistan.

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To,
 Resident Engineer
 AZ Engineering Associates
 Khushab Residency
 Widening/ Rehabilitation of Road from Kathwai to Nushera Length = 16.75 km, District
 Khushab
 Reference # CED/TFL **34278, 303** (Dr. M Rizwan Riaz)
 Reference of the request letter # AZEA/KB/RE/574

Dated: 06-12-2019
 Dated: 30-09-2019

Tension Test Report (Page -1/1)

Date of Test 11-12-2019
 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	0.364	3	0.369	0.11	0.107	3400	5600	68200	70090	112300	115500	1.00	12.5	
2	0.360	3	0.367	0.11	0.106	3500	5600	70200	72820	112300	116600	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,
 Chief Engineer (HVDC) NTDC
 National Transmission & Despatch Company Ltd
 +600 kV HVDC Matiari Lahore Transmission Project
 (Lot-08)

Reference # CED/TFL **34286** (Engr. Amina Rajput)
 Reference of the request letter # 8163-66/CE/HVDC/LHR

Dated: 06-12-2019
 Dated: 06-12-2019

Tension Test Report (Page -1/2)

Date of Test 11-12-2019
 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	0.374	3	0.374	0.11	0.110	3000	4400	60200	60140	88200	88200	1.50	18.8	
2	0.370	3	0.372	0.11	0.109	2950	4400	59200	59800	88200	89200	1.50	18.8	
3	0.384	3	0.379	0.11	0.113	3000	4500	60200	58610	90200	88000	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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 Noman Abdul Khaliq (A.D (HVDC) o/o P.D), M. Bilal Butt (OE) & Dr. Ali Adnan (CET Lot 7 & 8)

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 Chief Engineer (HVDC) NTDC
 National Transmission & Despatch Company Ltd
 +600 kV HVDC Matiari Lahore Transmission Project
 (Lot-08)

Reference # CED/TFL **34286** (Engr. Amina Rajput)
 Reference of the request letter # 8163-66/CE/HVDC/LHR

Dated: 06-12-2019
 Dated: 06-12-2019

Tension Test Report (Page -1/2)

Date of Test 11-12-2019
 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	4.190	10	1.252	1.27	1.232	39200	55700	68100	70150	96700	99700	1.40	17.5	
2	4.281	10	1.266	1.27	1.258	43200	57400	75000	75680	99700	100600	1.50	18.8	
3	4.215	10	1.256	1.27	1.239	39600	55200	68800	70450	95800	98300	1.40	17.5	
4	4.215	10	1.256	1.27	1.239	39600	56200	68800	70460	97600	100000	1.50	18.8	
5	4.237	10	1.259	1.27	1.245	42600	57300	74000	75400	99500	101500	1.40	17.5	
6	4.229	10	1.258	1.27	1.243	42400	56000	73600	75190	97200	99300	1.40	17.5	

Note: only six samples for tensile and six samples for bend test

Bend Test

#10 Bar Bend Test Through 180° is Satisfactory

#10 Bar Bend Test Through 180° is Satisfactory

#10 Bar Bend Test Through 180° is Satisfactory

#10 Bar Bend Test Through 180° is Satisfactory

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#10 Bar Bend Test Through 180° is Satisfactory

Witness by Noman Abdul Khaliq (A.D (HVDC) o/o P.D), M. Bilal Butt (OE) & Dr. Ali Adnan
 (CET Lot 7 & 8)

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
M/S Specialists Group Inc. Limited
Lahore

Reference # CED/TFL **34296** (Dr. M Rizwan Riaz)
Reference of the request letter # SGI/UET/0619/12

Dated: 10-12-2019
Dated: 06-12-2019

Tension Test Report (Page – 1/1)

Date of Test 11-12-2019
Gauge length 8 inches
Description 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 ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	ZM60-66	25.60x8.20	209.92	8000	11600	373.86	542.09	1.60	20.00	
2	ZM60-103	25.20x12.60	317.52	11200	17400	346.03	537.59	1.70	21.25	
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Only Two 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
(Infra Dev Works at OHWT, Sector-P, DHA Ph-I (M/s Zoraiz))

Reference # CED/TFL **34298** (Dr. M Riaz Riaz)
Reference of the request letter # 408/241/E/Lab/796/ZE-20

Dated: 10-12-2019
Dated: 09-12-2019

Tension Test Report (Page -1/1)

Date of Test 11-12-2019
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	0.380	3	0.377	0.11	0.112	4700	5800	94200	92630	116300	114300	0.80	10.0	S.J Steel
2	0.381	3	0.378	0.11	0.112	4600	5700	92200	90580	114300	112300	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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,
 Managing Partner
 Shaheen Associates
 Z.I. Solar (Pvt) Ltd at Sundar Industrial Estate

Reference # CED/TFL **34299** (Dr. M Rizwan Riaz)
 Reference of the request letter # SBA-1/6036

Dated: 10-12-2019
 Dated: 09-12-2019

Tension Test Report (Page -1/1)

Date of Test 11-12-2019
 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	0.364	3/8	0.369	0.11	0.107	3200	4700	64200	65830	94200	96700	1.50	18.8	
2	0.362	3/8	0.368	0.11	0.106	3400	4800	68200	70520	96200	99600	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														
Bend Test														

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To,
 Assistant Resident Engineer
 ES Consultants Pvt Ltd.
 Consultancy Services for The Project Technical Assistance, Design and Supervisory Services to
 PMIU and School Council/Licensees for the Construction of Additional Class Rooms in Selected
 Schools of Punjab (Package-2)(School :- GPS Chak No. 58 District Kasur)(EMIS :- 35140293)

Reference # CED/TFL **34300** (Dr. M Rizwan Riaz)
 Reference of the request letter # ESC/PMIU/P2/0025

Dated: 10-12-2019
 Dated: 27-11-2019

Tension Test Report (Page -1/1)

Date of Test 11-12-2019
 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	0.377	3	0.375	0.11	0.111	2800	4200	56200	55740	84200	83600	1.40	17.5	
2	0.376	3	0.375	0.11	0.110	2600	4200	52100	51900	84200	83900	1.40	17.5	
3	0.375	3	0.375	0.11	0.110	2800	4200	56200	55960	84200	84000	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only three samples for tensile test														
Bend Test														

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