



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
 NESPAK
 China Pakistan Economic Corridor (CPEC), Western Route Hakla (On M1) – Yarak (D.I Khan) Motorway,
 Package-3 (Tarap to Kot Belian)
 Reference # CED/TFL **34228** (Dr. M Rizwan Riaz) Dated: 28-11-2019
 Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/1277 Dated: 27-11-2019

Tension Test Report (Page – 1/5)

Date of Test 09-12-2019
 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	
											(mm)
1	MS H-Column	350x350	21.00x18.10	380.10	9700	17700	250.35	456.82	0.90	45.00	
2		350x350	21.60x18.10	390.96	11100	18000	278.52	451.66	0.85	42.50	
3	MS I-Beam	152x152	26.20x10.00	262.00	9000	14900	336.98	557.90	0.80	40.00	
4		152x152	26.20x10.00	262.00	9000	14800	336.98	554.15	0.70	35.00	
5	MS I-Beam	406x152	22.00x12.20	268.40	8000	14600	292.40	533.63	0.80	40.00	
6		406x152	22.00x12.20	268.40	8500	14500	310.67	529.97	0.80	40.00	
7	MS I-Beam	355x152	21.20x12.70	269.24	8200	15900	298.77	579.33	0.70	35.00	
8		355x152	21.20x12.70	269.24	8500	15900	309.71	579.33	0.70	35.00	
9	C-Channel	125x63	26.60x4.80	127.68	4900	7700	376.48	591.61	0.60	30.00	
10		125x63	26.60x4.80	127.68	4800	7700	368.80	591.61	0.70	35.00	
11	MS Angle	50x50	15.60x6.20	96.72	3300	5200	334.71	527.42	0.60	30.00	
12		50x50	15.60x6.20	96.72	3400	5400	344.85	547.70	0.70	35.00	

Only Twelve Samples for Tensile and Six Samples for Bend Test

Bend Test

Strip Taken from MS H-Column (350x350mm) Bend Test Through 180° is Satisfactory

Strip Taken from MS I-Beam (152x152mm) Bend Test Through 180° is Satisfactory

Strip Taken from MS I-Beam (406x152mm) Bend Test Through 180° is Satisfactory

Strip Taken from MS I-Beam (355x152mm) Bend Test Through 180° is Satisfactory

Strip Taken from MS C-Channel (125x63mm) Bend Test Through 180° is Satisfactory

Strip Taken from MS Angle (50x50mm) 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
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To,
 Resident Engineer
 NESPAK

China Pakistan Economic Corridor (CPEC), Western Route Hakla (On M1) – Yarak (D.I Khan) Motorway,
 Package-3 (Tarap to Kot Belian)

Reference # CED/TFL **34228** (Dr. M Rizwan Riaz)

Dated: 28-11-2019

Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/1277

Dated: 27-11-2019

Tension Test Report (Page – 2/5)

Date of Test 09-12-2019

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	
											(mm)
1	C-Channel	100x50	16.00x7.60	121.60	4500	6800	363.03	548.59	0.70	35.00	
2		100x50	16.00x7.60	121.60	4000	6300	322.70	508.25	0.70	35.00	
3	MS Angle	38x38	15.50x6.40	99.20	3300	5400	326.34	534.01	0.70	35.00	
4		38x38	15.50x6.40	99.20	3600	5500	356.01	543.90	0.60	30.00	
5	MS Angle	38x38	15.40x3.30	50.82	2000	2900	386.07	559.80	0.60	30.00	
6		38x38	15.40x3.30	50.82	2000	3000	386.07	579.10	0.55	27.50	
7	Corrugated Sheet	1040m	21.20x0.80	16.96	500	800	289.21	462.74	0.70	35.00	
8		1040m	21.20x0.80	16.96	500	700	289.21	404.89	0.70	35.00	
9	Corrugated Sheet	1090m	22.80x0.50	11.40	300	500	258.16	430.26	0.50	25.00	
10		1090m	22.80x0.50	11.40	300	500	258.16	430.26	0.50	25.00	
11	MS Cover Plate	300x300	26.60x10.00	266.00	6800	11800	250.78	435.18	0.90	45.00	
12		300x300x	26.60x10.00	266.00	7000	11700	258.16	431.49	0.90	45.00	

Only Twelve Samples for Tensile and Six Samples for Bend Test

Bend Test

Strip Taken from MS C-Channel (100x50mm) Bend Test Through 180° is Satisfactory

Strip Taken from MS Angle (38x38mm) Bend Test Through 180° is Satisfactory

Strip Taken from MS Angle (38x38mm) Bend Test Through 180° is Satisfactory

Strip Taken from Corrugated Sheet (1040m) Bend Test Through 180° is Satisfactory

Strip Taken from Corrugated Sheet (1090m) Bend Test Through 180° is Satisfactory

Strip Taken from MS Cover Plate (300x300mm) Bend Test Through 180° is Satisfactory

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 Resident Engineer
 NESPAK
 China Pakistan Economic Corridor (CPEC), Western Route Hakla (On M1) – Yarak (D.I Khan) Motorway,
 Package-3 (Tarap to Kot Belian)

Reference # CED/TFL **34228** (Dr. M Rizwan Riaz) Dated: 28-11-2019
 Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/1277 Dated: 27-11-2019

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

Date of Test 09-12-2019
 Description MS H-Column, MS I-Beam & C-Channel Weight & Size Test

Sr. No.	Designation		Weight	Length	Weight per Unit Length	Depth (d)	Flange Width (bf)	Flange Thickness (tf)	Web Thickness (tw)	Remarks
	(mm)	(mm)								
1	MS H-Column	350x350	40200	31.00	129.68	353.0	351.00	18.50	12.20	
2	MS I-Beam	152x152	9800	30.70	31.92	151.80	151.20	10.20	8.50	
3	MS I-Beam	406x152	27950	31.50	88.73	407.00	152.60	23.80	12.45	
4	MS I-Beam	355x152	1625	20.20	8.04	356.20	150.80	22.00	13.40	
5	C-Channel	125x63	3200	30.50	10.49	127.30	63.50	7.20	5.00	
6	C-Channel	100x50	3650	33.50	10.90	101.80	51.30	9.40	8.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Six Samples for Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

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China Pakistan Economic Corridor (CPEC), Western Route Hakla (On M1) – Yarak (D.I Khan) Motorway,
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Weight & Size Test Report (Page – 4/6)

Date of Test 09-12-2019
Description MS Angle Weight & Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	L - 1	L - 2	Thickness	Remarks
	(mm)	(g)	(cm)	(kg/m)	(mm)	(mm)	(mm)	
1	50x50	1450	30.30	4.79	51.00	51.20	6.80	
2	38x38	1100	30.60	3.59	39.00	39.10	7.00	
3	38x38	608	30.50	1.99	38.50	37.10	3.80	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only Three Samples for Test								

I/C Testing Laboratories
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To,
Resident Engineer
NESPAK
China Pakistan Economic Corridor (CPEC), Western Route Hakla (On M1) – Yarak (D.I Khan) Motorway,
Package-3 (Tarap to Kot Belian)

Reference # CED/TFL **34228** (Dr. M Rizwan Riaz) Dated: 28-11-2019
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Weight & Size Test Report (Page – 3/5)

Date of Test 09-12-2019

Description Corrugated Sheet Weight & Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	Thickness	Remarks
	(m)	(g)	(cm)	(kg/m)	(mm)	
1	1040	2300	30.50	7.54	0.80	
2	1090	1450	30.50	4.75	0.50	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
Only Two Samples for Test						

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To,
Resident Engineer
NESPAK
China Pakistan Economic Corridor (CPEC), Western Route Hakla (On M1) – Yarak (D.I Khan) Motorway,
Package-3 (Tarap to Kot Belian)

Reference # CED/TFL **34228** (Dr. M Rizwan Riaz) Dated: 28-11-2019
Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/1277 Dated: 27-11-2019

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

Date of Test 09-12-2019
Description MS Cover Plate Weight & Size Test

Sr. No.	Designation	Weight	Length	Width	Weight per Unit Area	Thickness	Remarks
	(mm)	(g)	(cm)	(cm)	(kg/m ²)	(mm)	
1	300x300	7400	30.70	30.60	78.77	10.00	
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Only One Sample for Test							

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To,
 Project Manager
 Superior Group
 Superior House
 (Raees Faheem & Associates)(Ittefaq Building Solutions)

Reference # CED/TFL **34272** (Dr. M Rizwan Riaz)
 Reference of the request letter # Naheed Oalace/03

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

Tension Test Report (Page -1/1)

Date of Test 09-12-2019
 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	0.383	3	0.378	0.11	0.113	3400	5600	68200	66610	112300	109800	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample 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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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/12/34274

Dated: 06-12-19

Dated of Test: 09-12-19

To
Chief Engineer (HVDC) NTDC
National Transmission & Despatch Company Ltd
+660kV Matiari-Lahore HVDC Transmission Project, Lot-05 Camp

Subject:- CALIBRATION OF COMPRESSION TESTING MACHINE
(MARK: CED/TFL/12/34274) (Page -1/2)

Reference to your letter No. 8140-43/CE/HVDC/LHR, dated: 05/12/2019 on the subject cited above. One Compression Testing Machine has been calibrated by using standard calibration device. The results are tabulated as under:

Calibrated Rang : Zero - 200000 (Lbs)

Machine Reading (Lbs)	Corrected Load Value (Lbs)	Machine Reading (Lbs)	Corrected Load Value (Lbs)	Machine Reading (Lbs)	Corrected Load Value (Lbs)
5000	5122	75000	72520	145000	139012
10000	9917	80000	76895	150000	143514
15000	14930	85000	81052	155000	148565
20000	19725	90000	86199	160000	153506
25000	24411	95000	90799	165000	157898
30000	28879	100000	96166	170000	162619
35000	33783	105000	100766	175000	167890
40000	38578	110000	105257	180000	173144
45000	43523	115000	109535	185000	178308
50000	48772	120000	114688	190000	183032
55000	53037	125000	119622	195000	188086
60000	57630	130000	124775	200000	193028
65000	62551	135000	129129		
70000	67160	140000	133961		

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Ref: CED/TFL/12/34274

Dated: 06-12-19

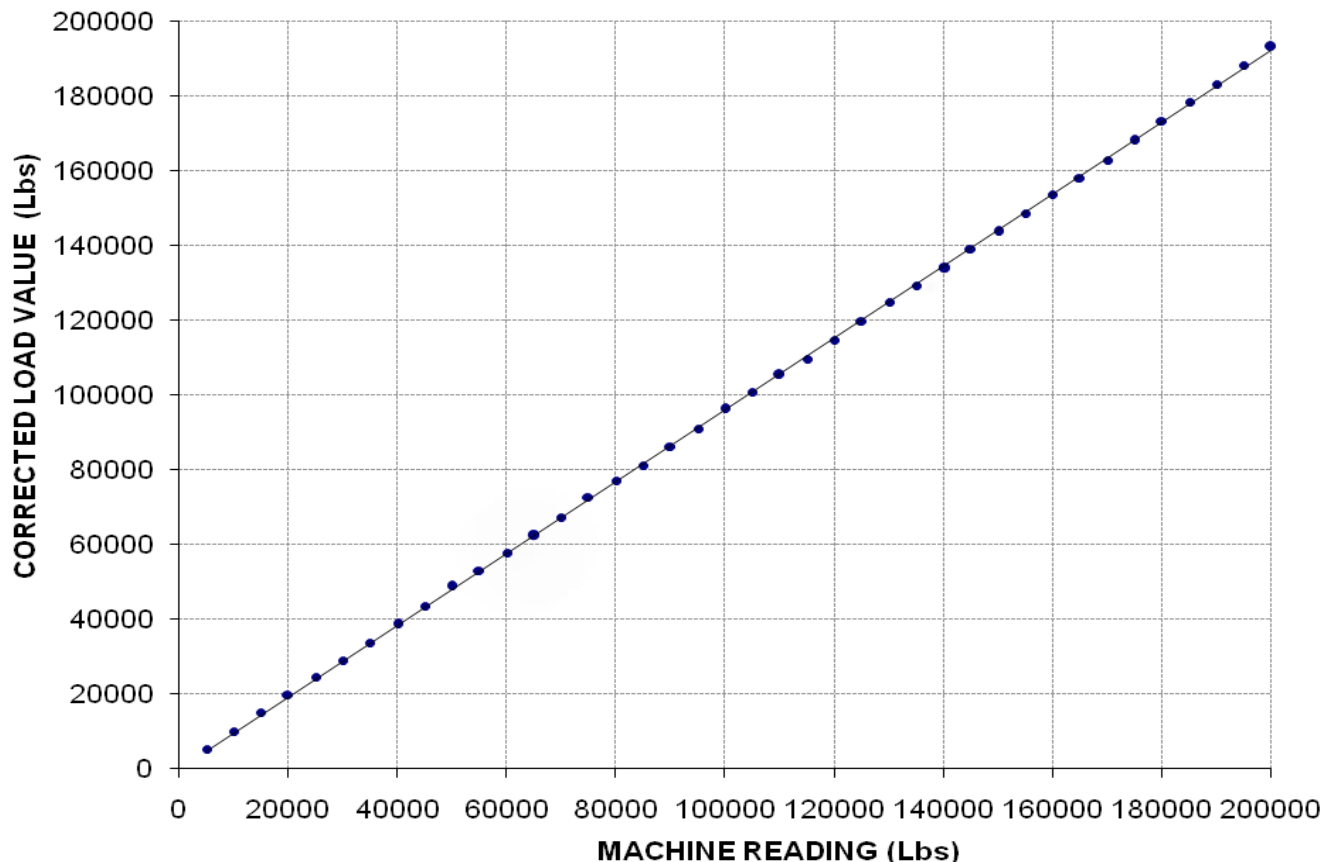
Dated of Test: 09-12-19

To
Chief Engineer (HVDC) NTDC
National Transmission & Despatch Company Ltd
+660kV Matiari-Lahore HVDC Transmission Project, Lot-05 Camp

Subject:- CALIBRATION OF COMPRESSION TESTING MACHINE
(MARK: CED/TFL/12/34274) (Page -2/2)

CONCRETE CYLINDER TESTING MACHINE

$$\text{Callibrated Value (Lbs)} = (0.958 \times \text{Machine Reading (Lbs)}) + 170.5$$



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

To,
 Assistant Engineer (Civil)
 University of Okara
 (Construction of 2nd Floor (Part-B) of Main Academic Block)

Reference # CED/TFL **34275** (Dr. M Rizwan Riaz)
 Reference of the request letter # Nil

Dated: 06-12-2019
 Dated: 05-12-2019

Tension Test Report (Page -1/1)

Date of Test 09-12-2019
 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	0.370	3	0.372	0.11	0.109	4000	5000	80200	81050	100200	101400	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample 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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Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
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To,
 Assistant Engineer (Civil)
 University of Okara
 (Finishing and External Development of Cafe & Tuck Shop at University of Okara)

Reference # CED/TFL **34276** (Dr. M Rizwan Riaz)
 Reference of the request letter # Nil

Dated: 06-12-2019
 Dated: 05-12-2019

Tension Test Report (Page -1/1)

Date of Test 09-12-2019
 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	0.366	3	0.370	0.11	0.107	4000	5000	80200	82020	100200	102600	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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Ref: CED/TFL/11/34277

Dated: 06-12-19

Date of Test: 09-12-19

To
Resident Engineer
Peas Consulting (Pvt) Ltd
Construction of Bridge

Subject: - TEST RESULT REPORT FOR BEARING DEVICE (PAD) (Page # 1/1)

Reference to your letter no. RE/PEAS/NHA/BR-REH/N-125/2017/089, Dated: 27/11/0919 on the above mentioned subject. One Elastomeric Bearing Rubber Pad (EBRP) (350x350x106mm) has been received by us. The same was tested and results are given below.

Laboratory : **TEST FLOOR LAB**
Machine : **SHIMADZU**
Sample No. : **1/1**
Dimensions of EBRP : **553 x 253 x 58.25 mm**

TEST RESULTS - SHORT DURATION

Load Duration : **5+5 minutes**
Test Load : **120 TONS**
Bulging Pattern : **Uniform Buldging.**
Laminated Parallelism : **Parallel**
Cracks : **No crack is observed**

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 Sub Divisional Officer
 Highway (M&R) Sub Division
 Khushab
 (Special Repair/ Rehabilitation of Mandara Chakwal Kj=hushab Road km no. 120, 121 Pal Adda
 km no. 142 Katha Adda Effective Reach 0.70 km in District Khushab)
 Reference # CED/TFL **34280** (Dr. M Rizwan Riaz) Dated: 06-12-2019
 Reference of the request letter # 3531 Dated: 28-11-2019

Tension Test Report (Page -1/1)

Date of Test 09-12-2019
 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	3400	5000	68200	68180	100200	100300	1.20	15.0	
2	0.371	3	0.373	0.11	0.109	3300	5000	66200	66670	100200	101100	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two sample 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.

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 Defence Housing Authority.
Lahore Cantt
(Const of Mposque at Sector-D DHA Ph-I (M/s Imran Sadique Associates))

Reference # CED/TFL **34281** (Dr. M Rizwan Riaz)
Reference of the request letter # 408/241/E/Lab/793/NIL

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

Tension Test Report (Page -1/1)

Date of Test 09-12-2019
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	0.361	3	0.368	0.11	0.106	3100	4600	62200	64340	92200	95500	1.30	16.3	Kamran Steel
2	0.363	3	0.369	0.11	0.107	3200	4600	64200	66010	92200	94900	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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STRUCTURAL ENGINEERING DIVISION
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To,
 Resident Engineer
 Al-Imam Enterprises (Pvt) Ltd
 Construction of Penta Square, Phase-V, D.H.A, Lahore
 (Kamran Steel)

Reference # CED/TFL **34282** (Dr. M Rizwan Riaz)

Dated: 06-12-2019

Reference of the request letter # Al-Imam/746/PS-1/DHA/LHE/1011

Dated: 02-12-2019

Tension Test Report (Page -1/1)

Date of Test 09-12-2019

Gauge length 8 inches

Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		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	4.330	32	32.33	1.25	1.273	40000	56000	70547	69270	98766	97000	1.50	18.8	
2	4.190	32	31.81	1.25	1.232	41400	56200	73016	74080	99119	100600	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
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
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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
 (Kamran Steel)

Reference # CED/TFL **34283** (Dr. M Rizwan Riaz)

Dated: 06-12-2019

Reference of the request letter # Al-Imam/746/PS-1/DHA/LHE/1015

Dated: 05-12-2019

Tension Test Report (Page -1/1)

Date of Test 09-12-2019

Gauge length 8 inches

Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		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	4.082	32	31.39	1.25	1.200	40600	56800	71605	74580	100177	104400	1.50	18.8	
2	4.150	32	31.66	1.25	1.220	39600	56400	69842	71550	99472	101900	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
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
Pakistan. Ph: 92-42-99029202

To,
 Sub Divisional Officer
 Public Health Engg: S/Division
 Phoolnager
 (Construction of Sullage Carrier for Ultimate Disposal Phool Nagar City Tehsil Pattoki Distt:
 Kasur)

Reference # CED/TFL **34285** (Dr. M Rizwan Riaz)
 Reference of the request letter # 812/PN

Dated: 06-12-2019
 Dated: 05-12-2019

Tension Test Report (Page -1/1)

Date of Test 09-12-2019
 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	0.418	3	0.396	0.11	0.123	4100	5200	82200	73470	104200	93200	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile test														
Bend Test														

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