



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 (.I. Khan)
 Motorway, Package-3 (Trap to Kot Belian)(Zone Engineering and Construction)(Mass
 Construction (Pvt) Ltd)
 Reference # CED/TFL **33212** (Dr.M Rizwan Riaz) Dated: 13-05-2019
 Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/959 Dated: 11-05-2019

Tension Test Report (Page – 1/1)

Date of Test 21-05-2019
 Gauge length 2 inches
 Description W-Beam Guard Rail, Steel Vertical Post & Steel Spacer Block Strip
 Tensile

and Bend Test as per AASHTOO A-180

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	W-Beam Guard Rail	2.66x0.31	0.82	3300	4000	4001.94	4850.84	0.60	30.00	
2		2.655x0.31	0.82	3200	4100	3887.98	4981.47	0.50	25.00	
3	Steel Vertical Post	2.64x0.60	1.58	6500	8600	4103.54	5429.29	0.60	30.00	
4		2.66x0.60	1.60	6600	8400	4135.34	5263.16	0.70	35.00	
5	Steel Spacer Block	2.66x0.50	1.33	5200	6700	3909.77	5037.59	0.60	30.00	
6		2.67x0.50	1.34	5400	6800	4044.94	5093.63	0.60	30.00	
Only Six Samples for Tensile and Two Samples for Bend Test										
Bend Test										
Strip Taken from W-Beam Guardrail Bend Test Through 180° is Satisfactory										
Strip Taken from W-Beam Guardrail Bend Test Through 180° is Satisfactory										

I/C Testing Laboratoires
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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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 (.I. Khan)
 Motorway, Package-3 (Trap to Kot Belian)(Ishtiaq Steel Lahore)(FABCO)

Reference # CED/TFL **33214** (Dr.M Rizwan Riaz) Dated: 13-05-2019
 Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/958 Dated: 11-05-2019

Tension Test Report (Page – 1/1)

Date of Test 21-05-2019
 Gauge length 2 inches
 Description W-Beam of Metal Guard Rail Strip Tensile and Bend Test as per AASHTOO A-180

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	W-Beam	2.640x0.260	0.69	2000	2800	2913.75	4079.25	0.50	25.00	
2		2.625x0.255	0.67	1900	2700	2838.47	4033.61	0.60	30.00	
-	.	-	-	-	-	-	-	-	-	
-	.	-	-	-	-	-	-	-	-	
-	.	-	-	-	-	-	-	-	-	
-	.	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile and Two Samples for Bend Test										
Bend Test										
Strip Taken from W-Beam Bend Test Through 180° is Satisfactory										
Strip Taken from W-Beam Bend Test Through 180° is Satisfactory										

I/C Testing Laboratoires
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
2. The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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
(Infra Dev Works of Prism-9 Pkg-05 Ph-IX - (M/s Maaksons(Jamal))

Reference # CED/TFL **33219** (Dr. M Rizwan Riaz)
Reference of the request letter # 408/241/E/Lab/105/474

Dated: 13-05-2019
Dated: 11-03-2019

Tension Test Report (Page – 1/1)

Date of Test 21-05-2019
Gauge length 2 inches
Description MS Pipe 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
	(inch)	(mm)									
1	MS Pipe	15	26.40x5.85	154.44	5400	7400	343.01	470.05	0.80	40.00	
2	MS Pipe	15	26.30x5.80	152.54	5500	7500	353.71	482.33	0.70	35.00	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile and One Sample for Bend Test											
Bend Test											
Strip Taken from MS Pipe (15") Bend Test Through 180° is Satisfactory											

I/C Testing Laboratoires
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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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/05/33247

Dated: 15-05-19

To
Chief Resident Engineer (Civil) Punjnad Barrages
Trimmu Punjnad Barrages Consultants
Trimmu and Punjnad Barrages Improvement

Subject: - TEST RESULT REPORT FOR BEARING DEVICE (PAD)

Reference to your letter no. TPBC/CRE/TECH/119, Dated: 08/05/2019 on the above mentioned subject. One Elastomeric Bearing Rubber Pad (EBRP) source: Rainbow) 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 : **403 x 305 x 52.10 mm**

TEST RESULTS - SHORT DURATION

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

I/C Testing Laboratoires
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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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

To,
 DCRE/RE-1
 Zeeruk International (Pvt) Ltd
 Lahore Sialkot Motorway Project
 (Steel Complex)

Reference # CED/TFL **33232** (Dr. Waseem Abbas)
 Reference of the request letter # LSMP/RE-1/2019/794

Dated: 15-05-2019
 Dated: 15-05-2019

Tension Test Report (Page – 1/3)

Date of Test 21-05-2019
 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)		Young's Modulus of Elasticity "E"	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	GPa		
1	12.70 (1/2")	775.0	777.0	17800	174.62	19200	188.35	199	>3.50	xx
2	12.70 (1/2")	775.0	789.0	18500	181.49	20000	196.20	198	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only two samples for Test										

Note:

1. Modulus of Elasticity is based on nominal steel area of the steel strand vide clause 13.3 of ASTM – A416a
2. Load versus percentage strain graphs are attached

I/C Testing Laboratoires
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
2. The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



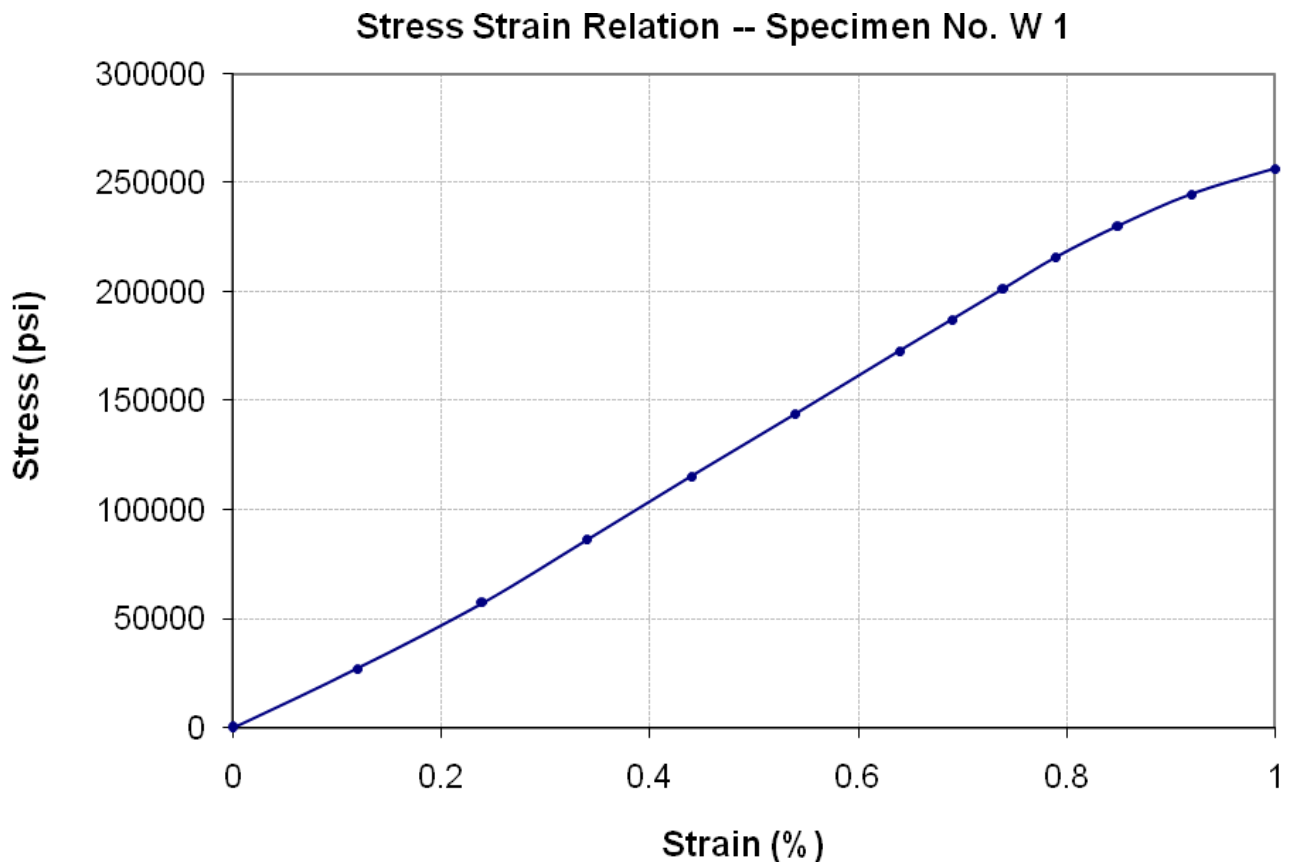
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
DCRE/RE-1
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project
(Steel Complex)

Reference # CED/TFL **33232** (Dr. Waseem Abbas)
Reference of the request letter # LSMP/RE-1/2019/794

Dated: 15-05-2019
Dated: 15-05-2019

Graph (Page – 2/3)



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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



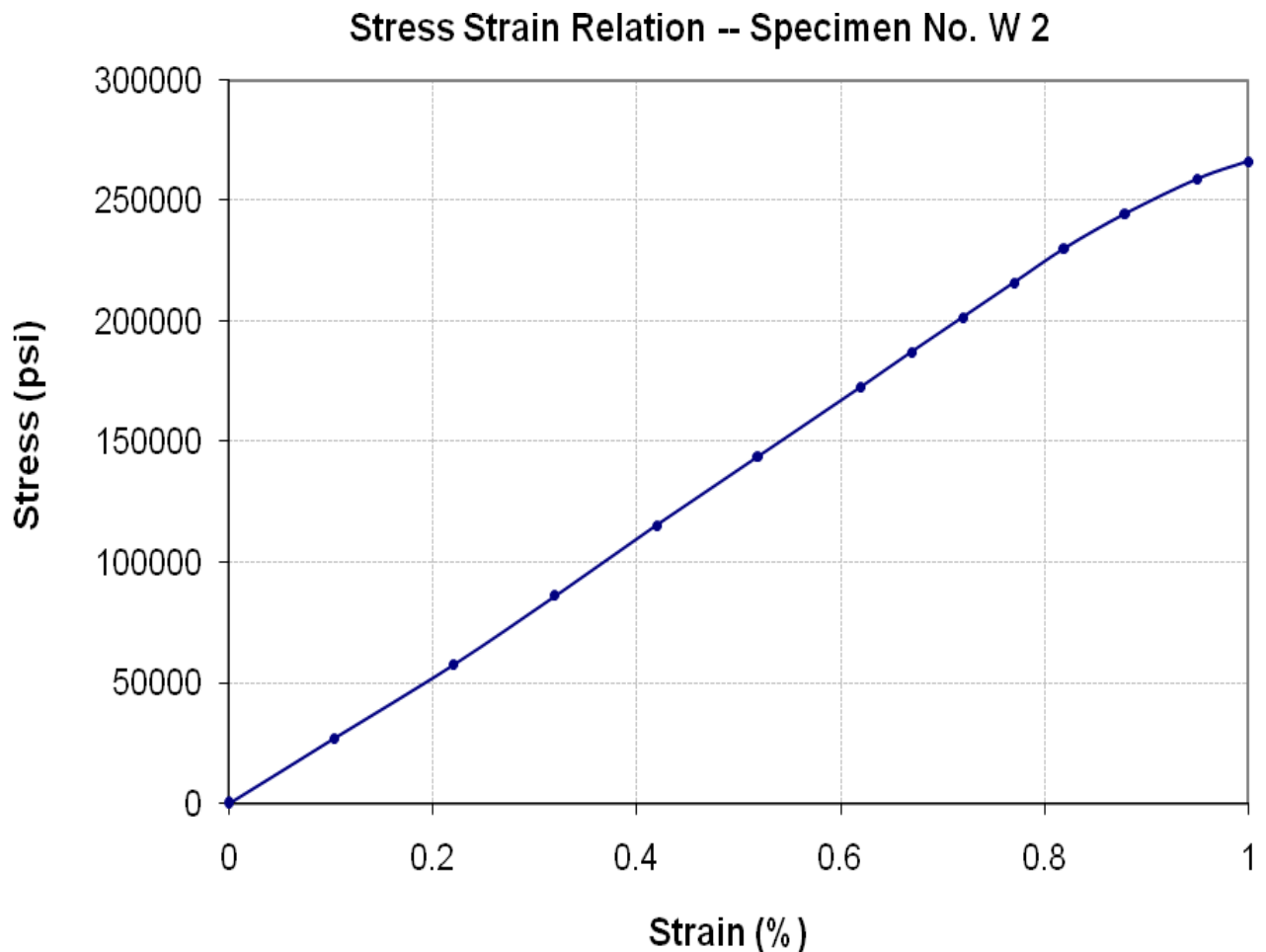
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
DCRE/RE-1
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project
(Steel Complex)

Reference # CED/TFL **33232** (Dr. Waseem Abbas)
Reference of the request letter # LSMP/RE-1/2019/794

Dated: 15-05-2019
Dated: 15-05-2019

Graph (Page – 3/3)



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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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 Ann Global (Pvt) Limited
43-C Model Town, Lahore
(Manufacturing of PCC Poles at Sahiwal Pole Plant)

Reference # CED/TFL **33242** (Dr. Waseem Abbas)
Reference of the request letter # ANN/UET/19/10

Dated: 16-05-2019
Dated: 13-04-2019

Tension Test Report (Page – 1/1)

Date of Test 21-05-2019
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	442.0	10100	99.08	10900	106.93	>3.50	xx
2	9.53 (3/8")	432.0	442.0	10300	101.04	11000	107.91	>3.50	xx
3	11.11 (7/16")	582.0	606.0	13100	128.51	14600	143.23	>3.50	xx
4	11.11 (7/16")	582.0	605.0	12700	124.59	14500	142.2	>3.50	xx
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-

Only four samples for Test

I/C Testing Laboratoires
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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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

To,
 DCRE/RE-1R
 Zeeruk International (Pvt) Ltd
 Lahore Sialkot Motorway Project
 (Steel Complex)

Reference # CED/TFL **33246** (Dr. Waseem Abbas)
 Reference of the request letter # LSMP/RE-1/2019/798

Dated: 16-05-2019
 Dated: 16-05-2019

Tension Test Report (Page – 1/2)

Date of Test 21-05-2019
 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)		Young's Modulus of Elasticity "E"	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	GPa		
1	12.70 (1/2")	775.0	783.0	17700	173.64	19500	191.30	198	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only one sample for Test										

Note:

1. Modulus of Elasticity is based on nominal steel area of the steel strand vide clause 13.3 of ASTM – A416a
2. Load versus percentage strain graphs are attached

I/C Testing Laboratoires
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
2. The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



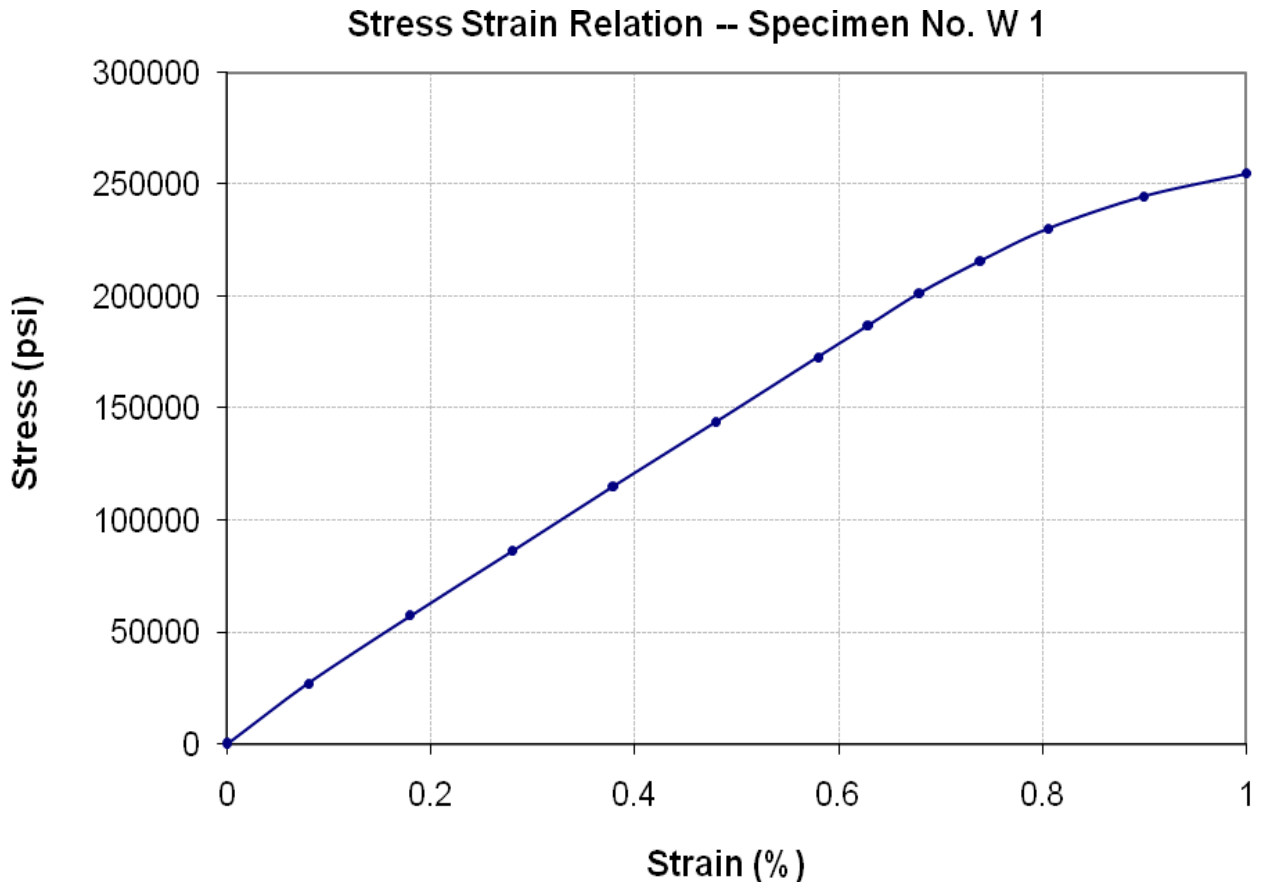
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
DCRE/RE-1R
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project
(Steel Complex)

Reference # CED/TFL **33246** (Dr. Waseem Abbas)
Reference of the request letter # LSMP/RE-1/2019/798

Dated: 16-05-2019
Dated: 16-05-2019

Graph (Page – 2/2)



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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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/05/33251

Dated: 16-05-19

To
M/S Bemsol Private Limited
Canal Bank Road, Lahore

Subject: - CALIBRATION OF PRESSURE GAUGE (MARK: TFL/05/33251) (Page -1/2)

Reference to your Letter No. BPL/UET/301, Dated: 16/05/2019 on the subject cited above. One Pressure Gauge (No. 5431202803) as received by us has been calibrated. The results are tabulated as under:

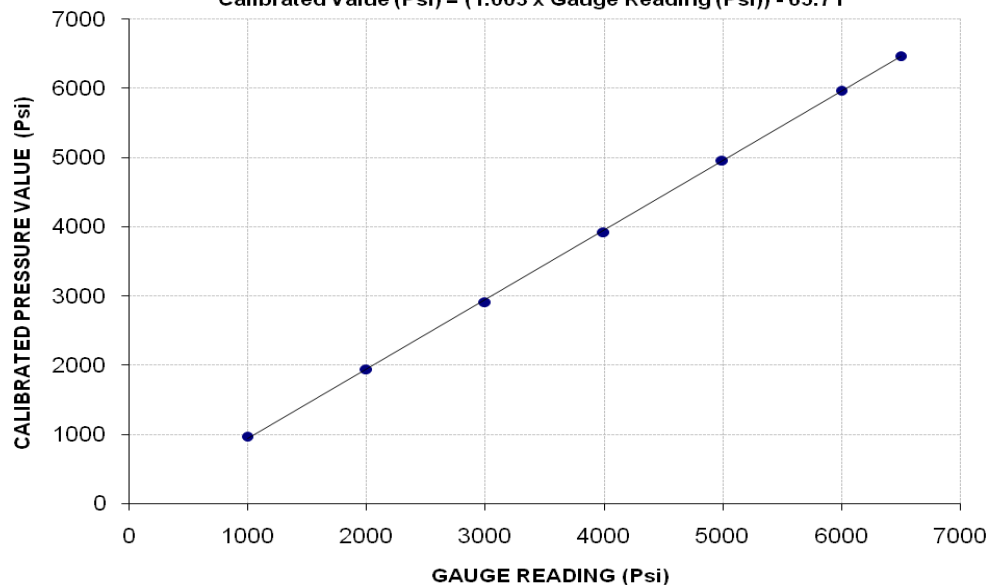
Total Range : Zero - 10000 (Psi)
Calibrated Range : Zero - 6500 (Psi)

Pressure Gauge Reading (Psi)	1000	2000	3000	4000	5000	6000	6500
Calibrated Load (kg)	13500	27000	40500	54600	69000	83100	90000
Calibrated Pressure (Psi)	969.75	1939.50	2909.25	3922.10	4956.50	5969.35	6465.00

The Ram Area use for Calibration = 198 cm²

Calibration Curve for Pressure Gauge No. 5431202803

$$\text{Calibrated Value (Psi)} = (1.003 \times \text{Gauge Reading (Psi)}) - 65.71$$



I/C Testing Laboratoires
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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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/05/33251

Dated: 16-05-19

To
M/S Bemsol Private Limited
Canal Bank Road, Lahore

Subject: - CALIBRATION OF PRESSURE GAUGE (MARK: TFL/05/33251) (Page -2/2)

Reference to your Letter No. BPL/UET/301, Dated: 16/05/2019 on the subject cited above. One Pressure Gauge (No. 5431110943) as received by us has been calibrated. The results are tabulated as under:

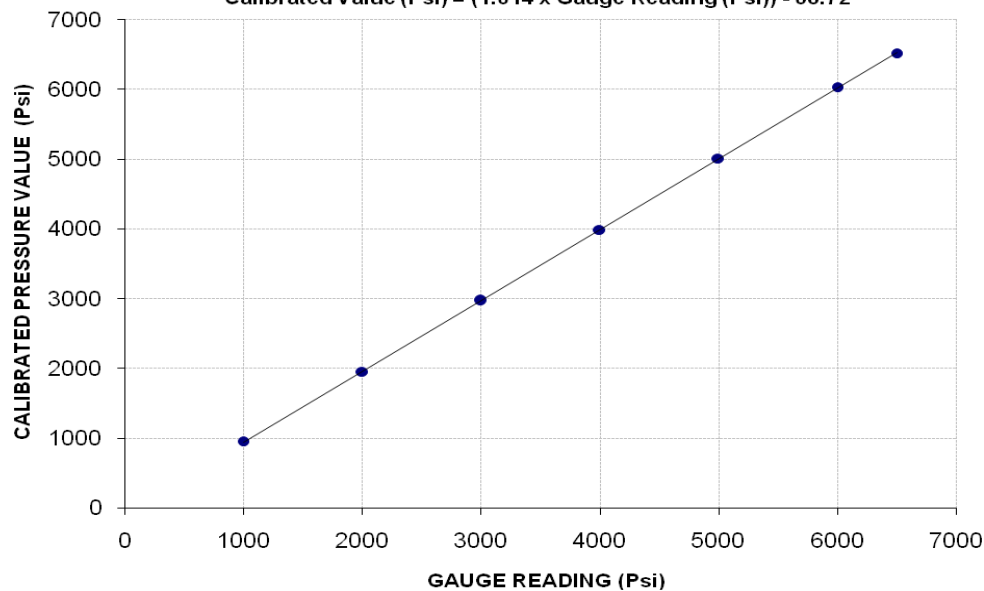
Total Range : Zero - 10000 (Psi)
Calibrated Range : Zero - 6500 (Psi)

Pressure Gauge Reading (Psi)	1000	2000	3000	4000	5000	6000	6500
Calibrated Load (kg)	13300	27200	41300	55500	69700	84000	90700
Calibrated Pressure (Psi)	955.38	1953.87	2966.72	3986.75	5006.78	6034.00	6515.28

The Ram Area use for Calibration = 198 cm²

Calibration Curve for Pressure Gauge No. 5431110943

Calibrated Value (Psi) = (1.014 x Gauge Reading (Psi)) - 68.72



I/C Testing Laboratoires
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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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

To,
 Chief Resident Engineer (Civil) Panjad Barrage
 Trimmu Panjnad Barrages Consultants
 Trimmu and Panjnad Barrages Improvement Project (TPBIP)
 (Kamran Steel)

Reference # CED/TFL **33262** (Dr. Waseem Abbas) Dated: 20-05-2019
 Reference of the request letter # TPBC/CRE/TECH/127 Dated: 13-05-2019

Tension Test Report (Page -1/1)

Date of Test 21-05-2019
 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	5.177	11	1.392	1.56	1.522	49600	68600	70100	71850	97000	99400	1.80	22.5	
2	5.161	11	1.390	1.56	1.517	48800	66200	69000	70910	93600	96200	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#11 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample /Signed Samples



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
 State Grid
 China Electric Power Equipment and Technology Co., Ltd
 ±600kV Matiari-Lahore HVDC Transmission Line (Lot-4)

Reference # CED/TFL **33264** (Dr. Waseem Abbas) Dated: 20-05-2019
 Reference of the request letter # CET/HVDC/SPO(04)L4/City Steel/UET-19-625 Dated: 17-05-2019

Tension Test Report (Page -1/1)

Date of Test 21-05-2019
 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	3400	5100	68200	67020	102200	100600	1.00	12.5	
2	0.380	3	0.377	0.11	0.112	3200	5100	64200	63180	102200	100700	1.10	13.8	
3	0.379	3	0.377	0.11	0.112	3100	5000	62200	61280	100200	98900	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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

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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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) to D.I. Khan
Motorway – Rehmani Khel to Kot Balian – Package 2A (WMI)

Reference # CED/TFL **33265** (Dr. Waseem Abbas)

Dated: 20-05-2019

Reference of the request letter # RE/NESPAK/P-2A/CPEC-WR/782

Dated: 25-04-2019

Tension Test Report (Page – 1/3)

Date of Test 21-05-2019

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)		Young's Modulus of Elasticity "E"	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	GPa		
1	12.70 (1/2")	775.0	784.0	18000	176.58	19500	191.30	198	>3.50	xx
2	12.70 (1/2")	775.0	781.0	17100	167.75	19800	194.24	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only two samples for Test										

Note:

1. Modulus of Elasticity is based on nominal steel area of the steel strand vide clause 13.3 of ASTM – A416a
2. Load versus percentage strain graphs are attached

I/C Testing Laboratoires
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
2. The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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) to D.I. Khan
Motorway – Rehmani Khel to Kot Balian – Package 2A (WMI)

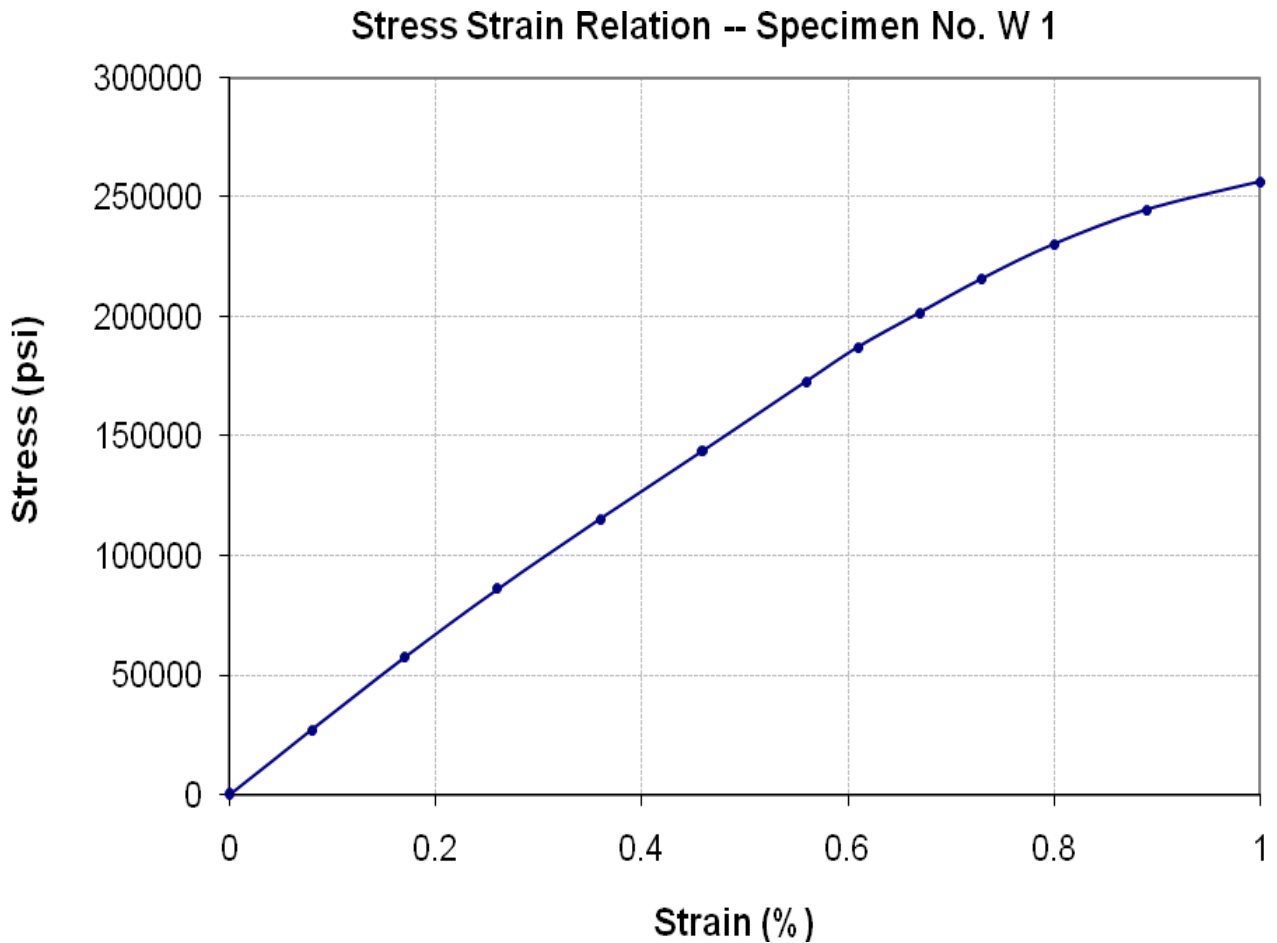
Reference # CED/TFL **33265** (Dr. Waseem Abbas)

Dated: 20-05-2019

Reference of the request letter # RE/NESPAK/P-2A/CPEC-WR/782

Dated: 25-04-2019

Graph (Page – 2/3)



I/C Testing Laboratoires
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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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) to D.I. Khan
Motorway – Rehmani Khel to Kot Balian – Package 2A (WMI)

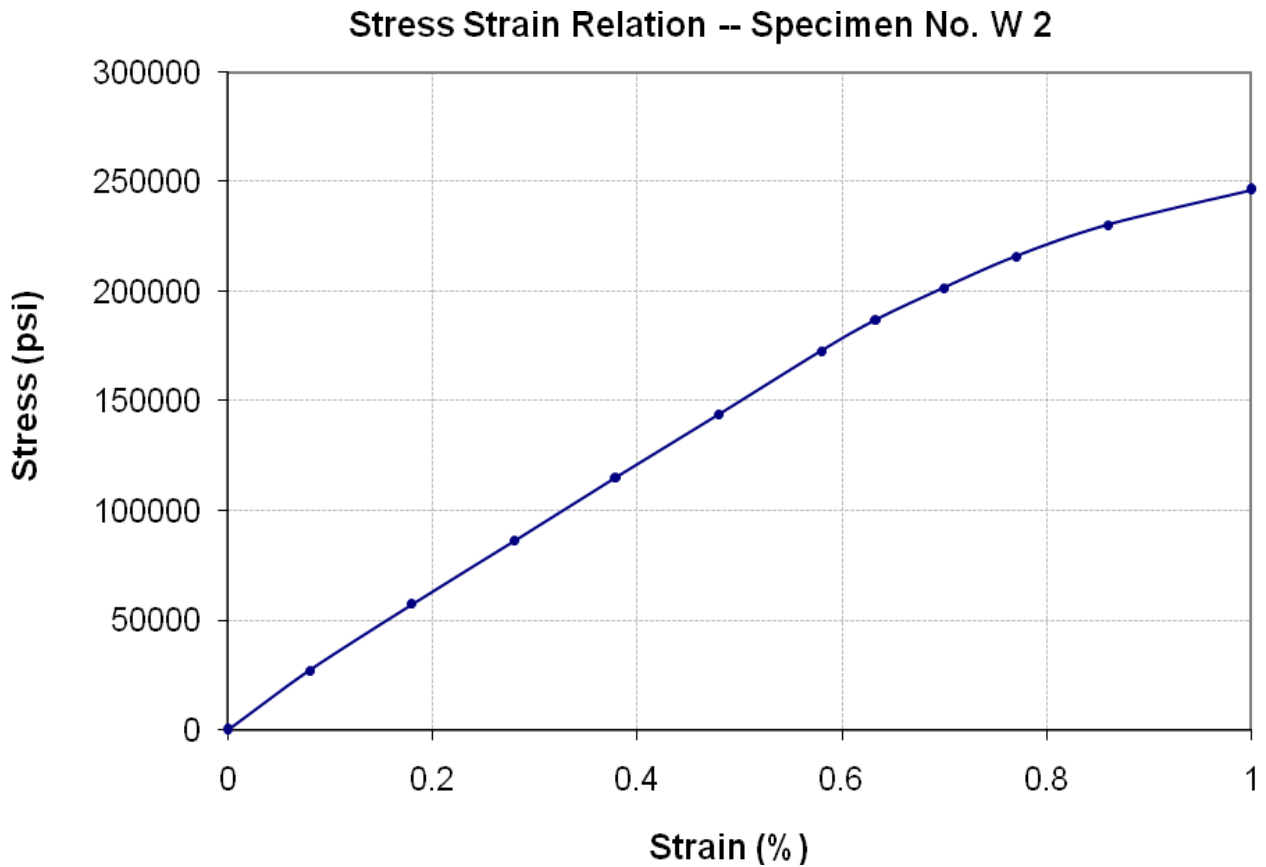
Reference # CED/TFL **33265** (Dr. Waseem Abbas)

Dated: 20-05-2019

Reference of the request letter # RE/NESPAK/P-2A/CPEC-WR/782

Dated: 25-04-2019

Graph (Page – 3/3)



I/C Testing Laboratoires
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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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
 Al-Imam Enterprises Pvt Ltd
 Establishment of Centre of Excellence Peer Mahal, Toba Tek Singh

Reference # CED/TFL **33266** (Dr. Waseem Abbas)
 Reference of the request letter # RE/UET/CEPM/05/19/102

Dated: 20-05-2019
 Dated: 18-05-2019

Tension Test Report (Page -1/1)

Date of Test 21-05-2019
 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	0.112	3600	4800	72200	70560	96200	94100	1.20	15.0	
2	0.383	3	0.378	0.11	0.113	3600	4900	72200	70530	98200	96000	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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 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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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 Sherwani Enterprises
Lahore
(Site ID: 87-R-1, Joha Town, Lahore)

Reference # CED/TFL **33267** (Dr. Waseem Abbas)
Reference of the request letter # Nil

Dated: 20-05-2019
Dated: 20-05-2019

Tension Test Report (Page -1/1)

Date of Test 21-05-2019
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	0.325	3/8	0.349	0.11	0.096	2600	3900	52100	59960	78200	90000	0.60	7.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample 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.

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
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples