



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

Reference # CED/TFL **33880** (Dr. M Rizwan Riaz)
 Reference of the request letter # LSM/RE-1/2019/1082

Dated: 23-09-2019
 Dated: 23-09-2019

Tension Test Report (Page – 1/2)

Date of Test 30-09-2019
 Gauge length 2 inches
 Description Corrugated Steel Beam Steel Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Steel Beam	1.86x0.28	0.52	2100	2600	4032.26	4992.32	0.60	30.00	S # 1
2		1.86x0.28	0.52	2000	2600	3840.25	4992.32	0.70	35.00	
3	Steel Beam	1.86x0.28	0.52	2000	2600	3840.25	4992.32	0.70	35.00	S # 2
4		1.86x0.28	0.52	2100	2600	4032.26	4992.32	0.60	30.00	
5	Steel Beam	1.86x0.28	0.52	2000	2600	3840.25	4992.32	0.70	35.00	S # 3
6		1.86x0.28	0.52	2100	2600	4032.26	4992.32	0.60	30.00	
7	Steel Beam	1.88x0.28	0.53	2200	2700	4179.33	5129.18	0.60	30.00	S # 4
8		1.86x0.28	0.52	2100	2600	4032.26	4992.32	0.60	30.00	
Only Eight Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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

Reference # CED/TFL **33880** (Dr. M Rizwan Riaz)
 Reference of the request letter # LSM/RE-1/2019/1082

Dated: 23-09-2019
 Dated: 23-09-2019

Tension Test Report (Page – 2/2)

Date of Test 30-09-2019
 Gauge length 2 inches
 Description Steel Post Steel Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Steel Post	2.90x0.70	2.03	7300	10100	3596.06	4975.37	0.60	30.00	S # 1
2		2.90x0.70	2.03	7800	10200	3842.36	5024.63	0.65	32.50	
3	Steel Post	2.90x0.70	2.03	7600	10100	3743.84	4975.37	0.60	30.00	S # 2
4		2.90x0.70	2.03	7800	10100	3842.36	4975.37	0.60	30.00	
5	Steel Post	2.90x0.70	2.03	7600	10100	3743.84	4975.37	0.65	32.50	S # 3
6		2.90x0.70	2.03	7600	10000	3743.84	4926.11	0.60	30.00	
7	Steel Post	2.90x0.70	2.03	7600	10000	3743.84	4926.11	0.65	32.50	S # 4
8		2.90x0.70	2.03	7500	10000	3694.58	4926.11	0.70	35.00	
Only Eight Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Ref: CED/TFL/09/33896

Dated: 26-09-19

Dated of Test: 30-09-2019

To
Resident Engineer
NESPAK
Dualization & Improvement of Indus Highway Road Project Package -01(Sarai Gambila - Karak)

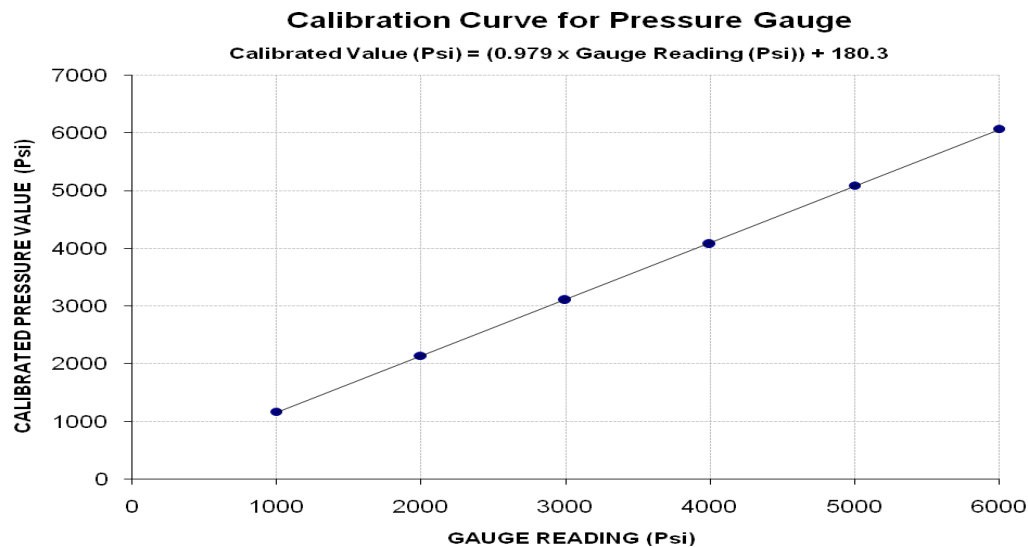
Subject: - CALIBRATION OF PRESSURE GAUGE (MARK: TFL/09/32485)

Reference to your Letter No. 36267/103/TH/01/107, dated: 18/09/2019 on the subject cited above. One Pressure Gauge (EN837-1) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 15000 (Psi)
Calibrated Range : Zero - 6000 (Psi)

Pressure Gauge Reading (Psi)	1000	2000	3000	4000	5000	6000
Calibrated Load (kg)	16350	29850	43200	56700	70900	84500
Calibrated Pressure (Psi)	1174.48	2144.23	3103.20	4072.95	5092.98	6069.92

The Ram Area of Calibration = 198 cm²



I/C Testing Laboratories
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
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To,
 Sub Divisional Officer (Civil)
 GC University, Faisalabad
 (Construction of Sports Facilities/Multipurpose Hall/Gymnasium at New Campus Government
 College University Faisalabad)

Reference # CED/TFL **33904** (Dr. M Rizwan Riaz)
 Reference of the request letter # GCUF/EC/1368

Dated: 27-09-2019
 Dated: 19-09-2019

Tension Test Report (Page -1/2)

Date of Test 30-09-2019

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	0.381	3/8	0.378	0.11	0.112	3100	4900	62200	60980	98200	96400	0.80	10.0	
2	0.381	3/8	0.378	0.11	0.112	3000	4800	60200	59010	96200	94500	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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STRUCTURAL ENGINEERING DIVISION
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Pakistan. Ph: 92-42-99029202

To,
 Sub Divisional Officer (Civil)
 GC University, Faisalabad
 (Construction of External Development (Sewerage Sump, External Sewerage & Power Cable etc) of Hostel # 9 at New Campus Government College University Faisalabad)

Reference # CED/TFL **33904** (Dr. M Rizwan Riaz)
 Reference of the request letter # GCUF/EC/1301

Dated: 27-09-2019
 Dated: 28-08-2019

Tension Test Report (Page -2/2)

Date of Test 30-09-2019

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	0.397	3	0.385	0.11	0.117	3100	5200	62200	58580	104200	98300	1.00	12.5	
2	0.382	3	0.378	0.11	0.112	3100	5000	62200	60820	100200	98100	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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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 Mosque Sector-D, DHA Ph-VI)(M/s SCION)

Reference # CED/TFL **33905** (Dr. M Rizwan Riaz)
Reference of the request letter # 408/241/E/Lab/710/481

Dated: 27-09-2019
Dated: 20-09-2019

Tension Test Report (Page -1/1)

Date of Test 30-09-2019
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	0.404	3	0.389	0.11	0.119	3600	4800	72200	66800	96200	89100	0.80	10.0	Mughal Steel
2	0.399	3	0.386	0.11	0.117	3800	5000	76200	71410	100200	94000	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
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To,
 AEN/Civil/RSP
 Pakistan Railways, HQs Office, Lahore
 Construction of 03 Unit Class-III & IV Staff (BS-08, BS-11 & BS-16) Residencies and 01 Subordinate Office
 alongwith T&P Store & Workshop with Electrification at Raiwind for RSP LON-SDR Main Line Section

Reference # CED/TFL **33907** (Dr. M Rizwan Riaz) Dated: 27-09-2019
 Reference of the request letter # Sig-Proj/LON-SDR/201-H/RSP Dated: 24-09-2019

Tension Test Report (Page -1/1)

Date of Test 30-09-2019
 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	0.393	3/8	0.383	0.11	0.115	3600	5500	72200	68720	110200	105000	1.00	12.5	
2	0.396	3/8	0.385	0.11	0.116	3600	5600	72200	68200	112300	106100	0.90	11.3	
3	0.395	3/8	0.384	0.11	0.116	3600	5600	72200	68400	112300	106400	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only three samples for tensile test														
Bend Test														

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,
 GM (Engineering)
 M.R. Electric Concern (Pvt) Ltd
 Construction of 500kV, D/C, Q/B, Transmission Line (2.587 km) for looping In/Out of second Circuit from 500kV
 S/C Sheikhpura New Lahore T/Line at HVDC Switching/Converter Station, Lahore

Reference # CED/TFL **33908** (Dr. M Rizwan Riaz) Dated: 27-09-2019

Reference of the request letter # MREC/HVDCLHR-12-2018/8 Dated: 27-09-2019

Tension Test Report (Page -1/1)

Date of Test 30-09-2019
 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	4.208	10	1.255	1.27	1.237	36400	54600	63200	64860	94800	97300	1.30	16.3	
2	5.223	11	1.398	1.56	1.535	51400	72000	72700	73800	101800	103400	1.40	17.5	
3	5.190	11	1.394	1.56	1.526	51600	71800	73000	74550	101500	103800	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only three samples for tensile and two samples for bend test														
Bend Test														
#10 Bar Bend Test Through 180° is Satisfactory														
#11 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,
M/S W – Mall
MM Alam Road Gulberg-III, Lahore

Reference # CED/TFL **33909** (Dr. M Rizwan Riaz)
Reference of the request letter # Nil

Dated: 27-09-2019
Dated: 27-09-2019

Tension Test Report (Page -1/1)

Date of Test 30-09-2019
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	0.370	3	0.372	0.11	0.109	3100	4800	62200	62830	96200	97300	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile test														
Bend Test														

I/C Testing Laboratories
UET Lahore, Pakistan.

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

To,
 Deputy Chief Works
 Punjab Safe Cities Authority
 Lahore
 (Project: New Ravi Entry/Exit to Lahore)(Pak German Engineers)

Reference # CED/TFL **33910** (Dr. M Rizwan Riaz)
 Reference of the request letter # 10492/CIVIL/PSCA/2019

Dated: 27-09-2019
 Dated: 07-08-2019

Tension Test Report (Page -1/1)

Date of Test 30-09-2019
 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	0.358	3	0.366	0.11	0.105	3300	4900	66200	69160	98200	102700	1.10	13.8	
2	0.356	3	0.365	0.11	0.105	3300	4900	66200	69460	98200	103200	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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Department of Civil Engineering
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To,
Material Engineer II & III
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project
LSM Project (Section II & III)
(Steel Complex)

Reference # CED/TFL **33911** (Dr. M Rizwan Riaz)
Reference of the request letter # LSM/RE-II/St/19/283

Dated: 27-09-2019

Dated: 07-05-2019

Tension Test Report (Page – 1/4)

Date of Test 30-09-2019

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	786.0	18400	180.50	19500	191.30	198	>3.50	xx
2	12.70 (1/2")	775.0	787.0	17500	171.68	19600	192.28	199	>3.50	xx
3	12.70 (1/2")	775.0	783.0	17500	171.68	19500	191.30	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-

Only three 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.

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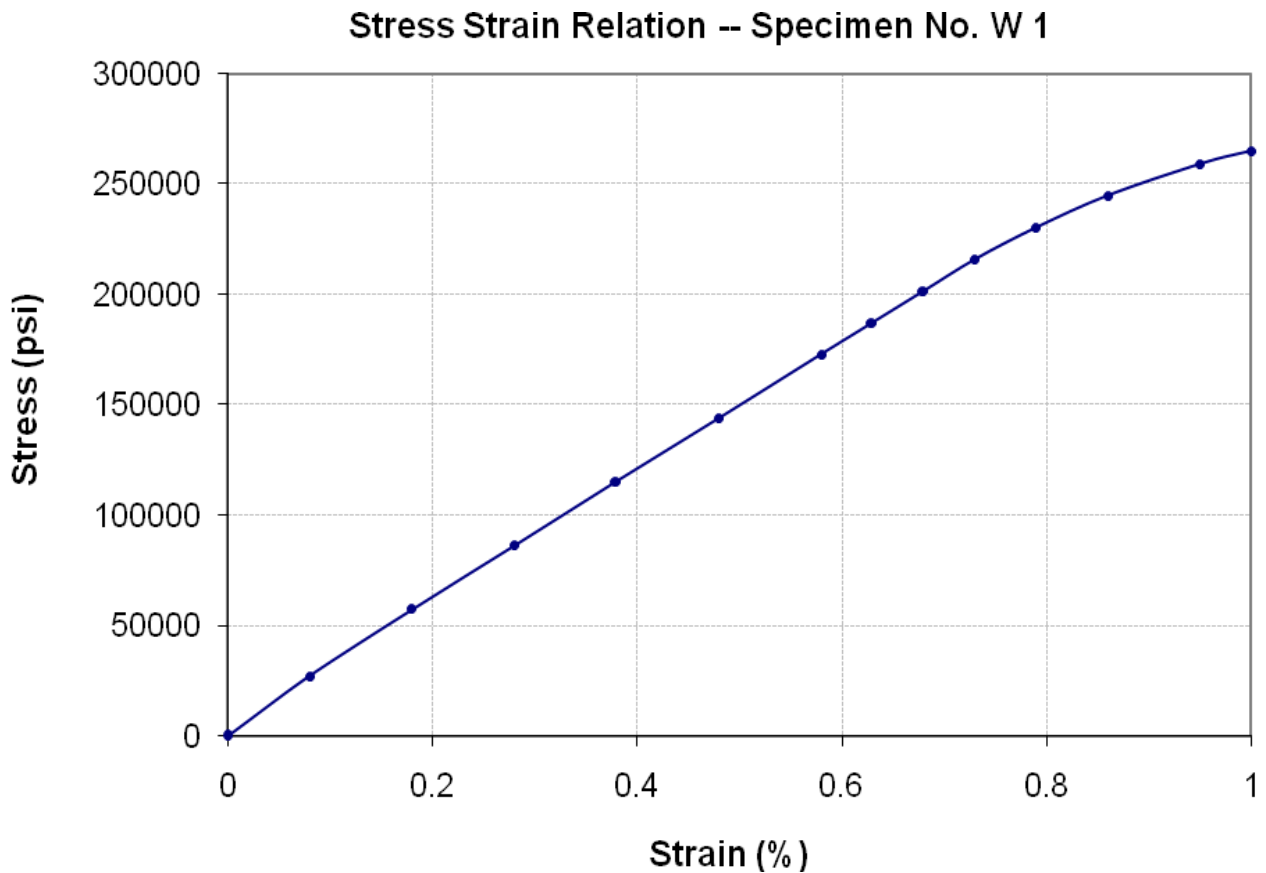
To,
Material Engineer II & III
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project
LSM Project (Section II & III)
(Steel Complex)

Reference # CED/TFL **33911** (Dr. M Rizwan Riaz)
Reference of the request letter # LSM/RE-II/St/19/283

Dated: 27-09-2019

Dated: 07-05-2019

Graph (Page – 2/4)



I/C Testing Laboratoires
UET Lahore, Pakistan.

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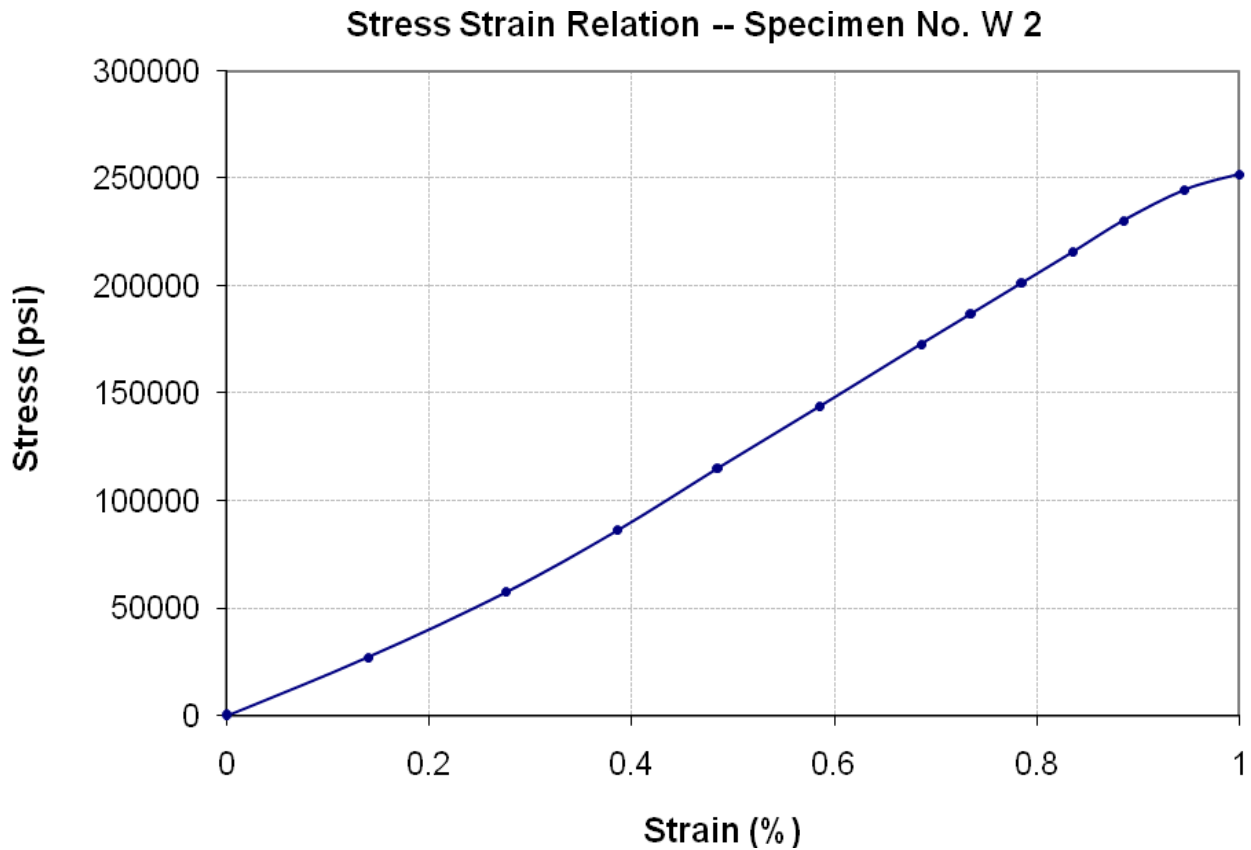
To,
Material Engineer II & III
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project
LSM Project (Section II & III)
(Steel Complex)

Reference # CED/TFL **33911** (Dr. M Rizwan Riaz)
Reference of the request letter # LSM/RE-II/St/19/283

Dated: 27-09-2019

Dated: 07-05-2019

Graph (Page – 3/4)



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UET Lahore, Pakistan.

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- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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

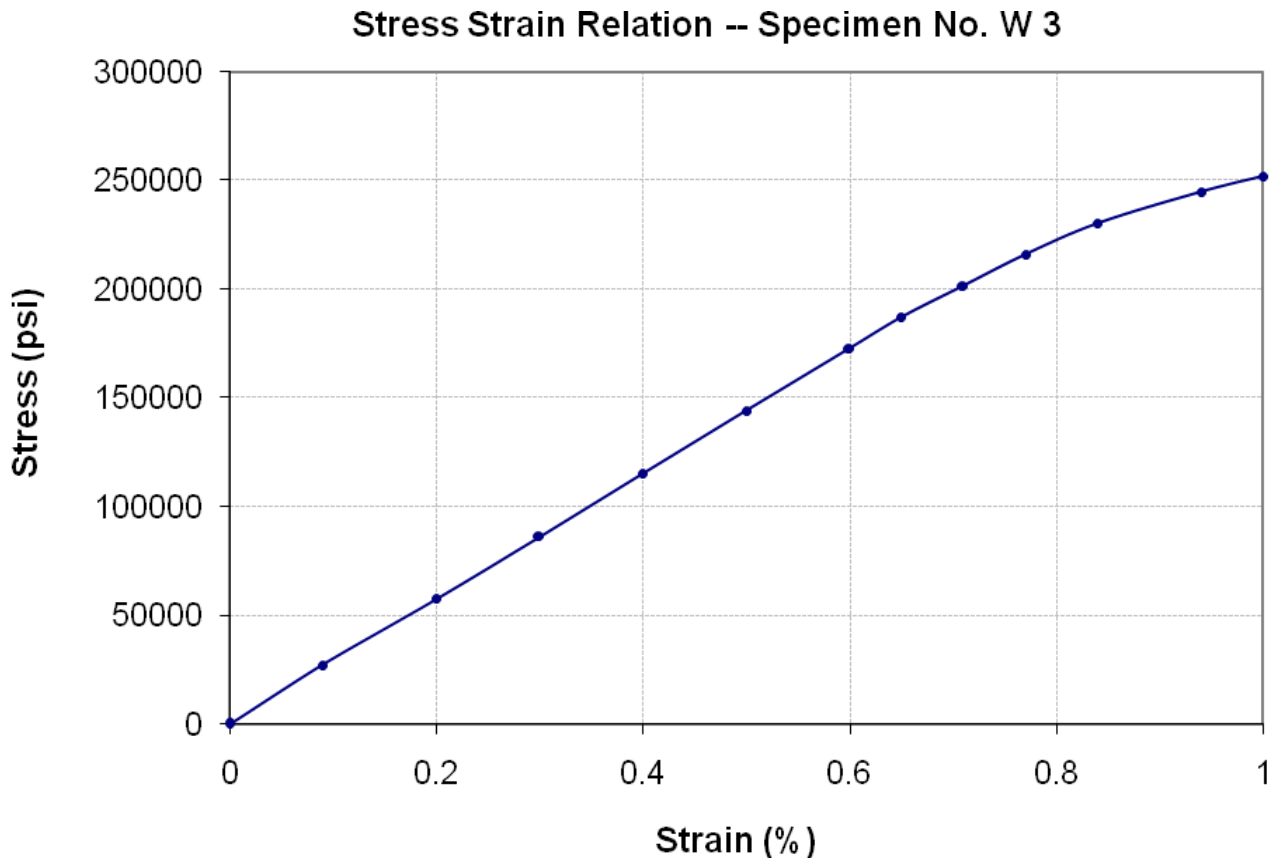
To,
Material Engineer II & III
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project
LSM Project (Section II & III)
(Steel Complex)

Reference # CED/TFL **33911** (Dr. M Rizwan Riaz)
Reference of the request letter # LSM/RE-II/St/19/283

Dated: 27-09-2019

Dated: 07-05-2019

Graph (Page – 4/4)



I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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To,
M/S Hafiz Wire Industry
Lahore

Reference # CED/TFL **33912** (Dr. M Riza Riaz)
Reference of the request letter # Nil

Dated: 30-09-2019

Dated: 30-09-2019

Tension Test Report (Page – 1/1)

Date of Test 30-09-2019

Gauge length -----

Description Chain Link Wire Tensile Test

Sr. No.	Diameter Wire	Breaking Load	Remarks
	(mm)	(kN)	
1	3.20	3.00	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
Only One Sample for Test			

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 Project Manager
 Liberty Builders
 Construction of Zee Avenue – Ramada Hotel & Suites 17-A Cooper Road, Lahore
 (Batala Steel)

Reference # CED/TFL **33915** (Dr. M Rizwan Riaz)
 Reference of the request letter # CONC-20190730

Dated: 30-09-2019
 Dated: 30-09-2019

Tension Test Report (Page -1/1)

Date of Test 30-09-2019
 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	0.390	3	0.382	0.11	0.115	3800	4900	76200	73000	98200	94200	0.80	10.0	
2	0.374	3	0.374	0.11	0.110	3600	4500	72200	72220	90200	90300	1.00	12.5	
3	0.384	3	0.379	0.11	0.113	3600	4900	72200	70240	98200	95700	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only three 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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I/C Testing Laboratories
UET Lahore, Pakistan.

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