



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

To,  
 Material Engineer  
 Defence Housing Authority Multan  
 Construction of Cosmos Monuments (M/s Pillar & Sons)

Reference # CED/TFL **1846** (Dr. M Rizwan Riaz)  
 Reference of the request letter # 701/92/Planning/DHA

Dated: 26-08-2022  
 Dated: 25-08-2022

**Tension Test Report** (Page – 1/2)

Date of Test 06-09-2022  
 Gauge length 2 inches  
 Description MS Pipe Steel Strip Tensile and Bend 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
	(mm)	(mm)									
1	MS Pipe	38x38x4	15.00x4.50	67.50	1800	3000	262	436	0.20	10.00	
2	MS Pipe	38x38x4	15.00x4.40	66.00	2000	3000	297	446	0.30	15.00	
3	MS Pipe	87x87x6	26.10x6.10	159.21	5000	7300	308	450	0.50	25.00	
4	MS Pipe	87x87x6	26.10x6.20	161.82	5100	7300	309	443	0.50	25.00	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
<b>Only Four Samples for Tensile and Two Samples for Bend Test</b>											
<b>Bend Test</b>											
Strip Taken from MS Pipe 38x38x4mm Bend Test Through 180° is Satisfactory											
Strip Taken from MS Pipe 87x87x6mm 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](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.
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To,  
Material Engineer  
Defence Housing Authority Multan  
Construction of Cosmos Monuments (M/s Pillar & Sons)

Reference # CED/TFL **1846** (Dr. M Rizwan Riaz)  
Reference of the request letter # 701/92/Planning/DHA

Dated: 26-08-2022  
Dated: 25-08-2022

**Weight & Size Test Report** (Page – 2/2)

Date of Test 06-092022  
Description MS Pipe Weight and Size Test

Sr. No.	Designation		Weight	Length	Weight per Unit Length	Outer Dimension		Thickness	Remark
						X	Y		
	(mm)		(g)	(cm)	(kg/m)	(mm)	(mm)	(mm)	
1	MS Pipe	38x38x4	1903	45.7	4.16	38.5	38.5	4.20	
2	MS Pipe	87x87x6	6994	45.7	15.30	88.30	87.10	5.90	
-	-		-	-	-		-	-	
-	-		-	-	-		-	-	
-	-		-	-	-		-	-	
-	-		-	-	-		-	-	
-	-		-	-	-		-	-	
-	-		-	-	-		-	-	
<b>Only Two Samples for Test</b>									

**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

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To,  
 Director Project  
 Innovative (R) Construction Company  
 Friday Food Faisalabad

Reference # CED/TFL **1872** (Dr. M Rizwan Riaz)  
 Reference of the request letter # ICL/NF/FFF/01/22

Dated: 01-09-2022  
 Dated: 01-09-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
 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 <sup>2</sup> )		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	0.375	3/8	0.374	0.11	0.110	4100	5000	82200	82060	100200	100100	0.75	9.4	
2	0.361	3/8	0.368	0.11	0.106	3800	4900	76200	78850	98200	101700	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one sample for tensile and one sample for bend test</b>														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

Note:

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

To,  
 Sub Divisional Officer  
 Buildings Sub Division  
 Shujabad  
 (Construction of Building for Govt, Girls High School at Kotla Tolay Khan)

Reference # CED/TFL **1873** (Dr. M Rizwan Riaz)  
 Reference of the request letter # 1130/SJD

Dated: 01-09-2022  
 Dated: 03-06-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
 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 <sup>2</sup> )		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	0.375	3/8	0.375	0.11	0.110	3600	4400	72200	71980	88200	88000	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one sample for tensile and one sample for bend test</b>														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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To,  
District Controller of Stores  
P. R. Carriage Factory  
Islamabad

Reference # CED/TFL **1874** (Dr. M Rizwan Riaz)  
Reference of the request letter # 855-D/INSP/CF

Dated: 01-09-2022  
Dated: 31-08-2022

**Tension Test Report** (Page – 1/1)

Date of Test 06-09-2022  
Gauge length 2 inches  
Description Sheet 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
	(in)	(mm)									
1	Sheet	24x2	25.30x2.30	58.19	2000	2700	337	455	0.45	22.50	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
<b>Only One Sample for Tensile Test</b>											
<b>Bend Test</b>											

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**UET Lahore, Pakistan.**

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

To,  
 Executive Engineer (B&W)  
 UVAS, Lahore  
 "Provision of Urgently Needed Female Hostel, Facilities at University of Veterinary & Animal Sciences at Ravi Campus, Pattoki

Reference # CED/TFL **1875** (Dr. M Rizwan Riaz)  
 Reference of the request letter # E.E 753

Dated: 01-09-2022  
 Dated: 20-06-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
 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 <sup>2</sup> )		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	0.380	3/8	0.377	0.11	0.112	3200	4600	64200	63210	92200	90900	1.20	15.0	
2	0.377	3/8	0.376	0.11	0.111	3100	4600	62200	61690	92200	91600	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

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To,  
 XEN  
 GE (Army)-II SIK  
 CA NO. CEA-CZ-21/2022 – Const of 8 x Sldrs Flats 23 FF HQ 8 Div at SLK Cantt

Reference # CED/TFL **1877** (Dr. M Rizwan Riaz)  
 Reference of the request letter # Nil

Dated: 01-09-2022  
 Dated: 01-09-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
 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 <sup>2</sup> )		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	0.372	3/8	0.373	0.11	0.109	3800	4900	76200	76690	98200	98900	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one sample for tensile and one sample for bend test</b>														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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

To,  
M/S Reliance Engineering & Construction Services  
Lahore  
(PARCO)

Reference # CED/TFL **1878** (Dr. M Rizwan Riaz)  
Reference of the request letter # RECS/Marketing/UET-SF-001

Dated: 01-09-2022  
Dated: 01-09-2022

**Tension Test Report** (Page – 1/1)

Date of Test 06-09-2022  
Gauge length 2 inches  
Description Scaffolding Pipe 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)									
1	Scaffolding Pipe	48	26.80x4.10	109.88	3500	4500	312	402	0.60	30.00	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
<b>Only One Sample for Tensile Test</b>											
<b>Bend Test</b>											

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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

To,  
Executive Engineer PWD  
Highway Division Bhimber  
“Upgradation of Jandala Pirgali Road (Part-II) Length 7.64 km, District Bhimber”

Reference # CED/TFL **1881** (Dr. M Rizwan Riaz)  
Reference of the request letter # 1588

Dated: 02-09-2022  
Dated: 28-08-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
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 <sup>2</sup> )		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	0.385	10	9.65	0.12	0.113	2900	4400	53278	56430	80835	85700	1.70	21.3	
2	0.367	10	9.41	0.12	0.108	3100	4300	56952	63410	78998	88000	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
10mm 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,  
Executive Engineer PWD  
Highway Division  
Bhimber  
“Construction of RCC Bridge at Sallar Nallah, Span 180 Meter. I/C Approaches 1.1 km and Panjeri – Kalri Kassguma Road, Length 1.9 km District Bhimber”

Reference # CED/TFL **1882** (Dr. Usman Akmal)  
Reference of the request letter # 1585

Dated: 02-09-2022  
Dated: 28-08-2022

**Tension Test Report** (Page – 1/2)

Date of Test 06-09-2022  
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	12.70 (1/2")	775.0	780.0	17200	168.73	20000	196.20	>3.50	xx
-	12.70 (1/2")	775.0	781.0	17200	168.73	20000	196.20	>3.50	xx
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-

**Only two samples for 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,  
Executive Engineer PWD  
Highway Division  
Bhimber  
“Upgradation of Jandala Pirgali Road (Part-I) Length 09 km District Bhimber” (Construction of  
RCC Bridge 30 mtr Span Nibla Nullah)

Reference # CED/TFL **1882** (Dr. Usman Akmal)  
Reference of the request letter # 1586

Dated: 02-09-2022  
Dated: 28-08-2022

**Tension Test Report** (Page – 2/2)

Date of Test 06-09-2022  
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	12.70 (1/2")	775.0	795.0	17100	167.75	19400	190.31	>3.50	xx
-	12.70 (1/2")	775.0	786.0	17100	167.75	18800	184.43	>3.50	xx
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-

**Only two samples for Test**

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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

To,  
 Chief Engineer  
 State Life Housing Society  
 Construction of Over Head Water Tank Block “J”

Reference # CED/TFL **1884** (Dr. M Rizwan Riaz)  
 Reference of the request letter # Nil

Dated: 02-09-2022  
 Dated: 02-09-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
 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 <sup>2</sup> )		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	3600	4700	72200	72150	94200	94200	1.40	17.5	
2	0.380	3	0.377	0.11	0.112	3700	4800	74200	73080	96200	94900	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 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](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,  
 Deputy Manager  
 Power China SEPCO1  
 Design, Manufacturing, Supply, Installation Testing and Commission of 220kV Mirpur Khas  
 Substation and Extension at Hala Road Substation

Reference # CED/TFL **1885** (Dr. Usman Akmal)  
 Reference of the request letter # ADB-200/2018/304

Dated: 02-09-2022  
 Dated: 02-09-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
 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 <sup>2</sup> )		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	0.421	10	10.08	0.12	0.124	3700	4500	67975	65890	82673	80200	1.20	15.0	
2	0.432	10	10.21	0.12	0.127	3700	4700	67975	64200	86347	81600	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
<b>Bend Test</b>														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

Witness by Sohaib Ali (Sub Engineer, NESPAK)

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

Note:

- 1- You can See your reports On Internet in the following web site  
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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,  
 Resident Engineer  
 NESPAK

Laying of RCC Sewer in Unserved Areas UC No. 69, 70, 74, 75, 76, 77, 78, 79, 80, 81, 82, 90, & 95 of WASA Multan

Reference # CED/TFL **1886** (Dr. M Rizwan Riaz)  
 Reference of the request letter # 4362/11/IA/01/186

Dated: 02-09-2022  
 Dated: 24-08-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
 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 <sup>2</sup> )		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	0.227	1/4	0.291	-----	0.067	1700	2400	-----	56150	-----	79300	1.40	17.5	
2	0.225	1/4	0.290	-----	0.066	1800	2300	-----	59960	-----	76700	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and two samples for bend test</b>														
Bend Test														
1/4" Dia Bar Bend Test Through 180° is Satisfactory														
1/4" Dia 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  
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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,  
 Resident Engineer  
 NESPAK  
 Widening Improvement of Road from Lodhran to Jalal Pur Road Connection KLM via Bahadur  
 Pur Length 39.80 km in District Lodhran

Reference # CED/TFL **1887** (Dr. M Rizwan Riaz)  
 Reference of the request letter # 4108/CRE/MZ/L-J/409

Dated: 02-09-2022  
 Dated: 30-08-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
 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 <sup>2</sup> )		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	3000	4600	60200	60880	92200	93400	1.40	17.5	ANS Steel
2	0.372	3	0.373	0.11	0.109	3000	4600	60200	60540	92200	92900	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
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**

Ref: CED/TFL/09/1888

Dated: 05-09-2022

Date of Test: 06-09-2022

To,

**GD Housing**  
**General Headquarters**  
**AG's Branch (Housing Dte)**  
**Pile Foundation Design - Apartment Block No. 10 (2B+G+18) at Sec-D, Ask-XI,**  
**Lhr**

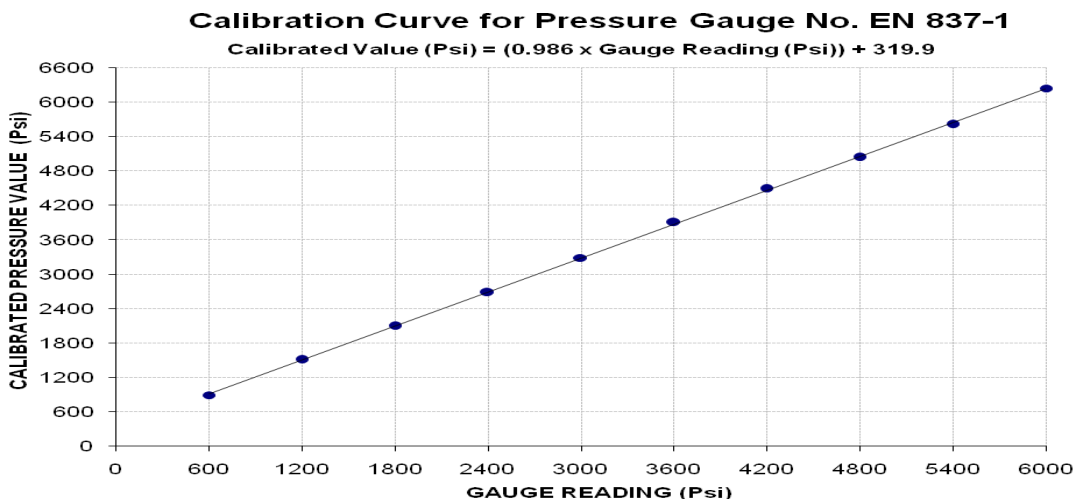
Subject: - CALIBRATION OF PRESSURE GAUGE (MARK: TFL/08/1888) (Page # 1/2)

Reference to your Letter No. 30/27/HD/D/Sec-D/Ask-XI/Lhr/Pile, Dated: 01/09/2022 on the subject cited above. One Pressure Gauge No. EN 837-1 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)	600	1200	1800	2400	3000	3600	4200	4800	5400	6000
Calibrated Load (kg)	12400	21000	29200	37300	45700	54300	62500	70100	78100	86900
Calibrated Pressure (Psi)	891	1509	2098	2679	3283	3901	4490	5036	5610	6242

The Ram Area for Calibration = 198 cm<sup>2</sup>



Ref: CED/TFL/09/1888

Dated: 05-09-2022

**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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2. The above results pertain to sample /samples supplied to this laboratory.
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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**

Date of Test: 06-09-2022

To,

**GD Housing**  
**General Headquarters**  
**AG's Branch (Housing Dte)**  
**Pile Foundation Design - Apartment Block No. 10 (2B+G+18) at Sec-D, Ask-XI,**  
**Lhr**

**Subject: - CALIBRATION OF DIAL GAUGES (MARK: TFL/09/1888) (Page # 2/2)**

Reference to your Letter No. 30/27/HD/D/Sec-D/Ask-XI/Lhr/Pile, Dated: 01/09/2022 on the subject cited above. Three Dial Gauges as received by us have been calibrated on standard calibration device. The results are tabulated as under.

**Total Range : Zero - 50 (mm)**  
**Calibrated Range : Zero - 50 (mm)**

<b>Standard Reading</b>	<b>Dial Gauge Readings</b>		
	<b>Dial Gauge No. I (510799)</b>	<b>Dial Gauge No. II (00305656)</b>	<b>Dial Gauge No. III (2115972)</b>
<b>400</b>	<b>396</b>	<b>398</b>	<b>399</b>
<b>800</b>	<b>794</b>	<b>799</b>	<b>795</b>
<b>1200</b>	<b>1192</b>	<b>1198</b>	<b>1197</b>
<b>1600</b>	<b>1592</b>	<b>1598</b>	<b>1595</b>
<b>2000</b>	<b>1996</b>	<b>1999</b>	<b>1996</b>
<b>2400</b>	<b>2397</b>	<b>2399</b>	<b>2395</b>
<b>2800</b>	<b>2797</b>	<b>2799</b>	<b>2795</b>
<b>3200</b>	<b>3197</b>	<b>3199</b>	<b>3195</b>
<b>3600</b>	<b>3597</b>	<b>3600</b>	<b>3596</b>
<b>4000</b>	<b>3997</b>	<b>3999</b>	<b>3995</b>
<b>4400</b>	<b>4399</b>	<b>4399</b>	<b>4396</b>
<b>4800</b>	<b>4799</b>	<b>4799</b>	<b>4795</b>
<b>5000</b>	<b>4999</b>	<b>4999</b>	<b>4994</b>

**I/C Testing Laboratories**  
**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,  
 Project Manager  
 Usman Ibrahim Construction  
 Construction of High-Q Mall at 3-A, Gulberg II, Lahore

Reference # CED/TFL **1890** (Dr. M Rizwan Riaz)  
 Reference of the request letter # QC/HQ/CIVIL/19

Dated: 05-09-2022  
 Dated: 05-09-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
 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 <sup>2</sup> )		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	10	9.74	0.12	0.116	3400	5200	62464	64880	95533	99300	1.20	15.0	
2	0.405	10	9.89	0.12	0.119	3400	5200	62464	62980	95533	96400	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
10mm 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  
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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,  
 Executive Engineer  
 Qadirabad Balloki Link Canal Division  
 Farooqabad  
 (Construction of New QB Link Office Complex Residences and Boundary Wall at Farooqabad)

Reference # CED/TFL **1891** (Dr. M Rizwan Riaz)  
 Reference of the request letter # 806/7-G-I

Dated: 05-09-2022  
 Dated: 03-09-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
 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 <sup>2</sup> )		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	3400	4900	68200	65440	98200	94400	1.60	20.0	Prime Supreme
2	0.381	3	0.378	0.11	0.112	3300	4600	66200	64930	92200	90500	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 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  
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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,  
Resident Engineer  
ZEERUK – LOYA – MIHA jv  
Development of Islamabad Expressway from Korang to PWD Interchange (km 1+300 to 3+200)  
including Railway Bridge

Reference # CED/TFL **1892** (Dr. Usman Akmal)  
Reference of the request letter # ZI/RE/FWO-RB/22/50

Dated: 05-09-2022  
Dated: 18-06-2022

**Tension Test Report** (Page -1/5)

Date of Test 06-09-2022  
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	17500	171.68	19800	194.24	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
<b>Only one sample for Test</b>										

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  
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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**

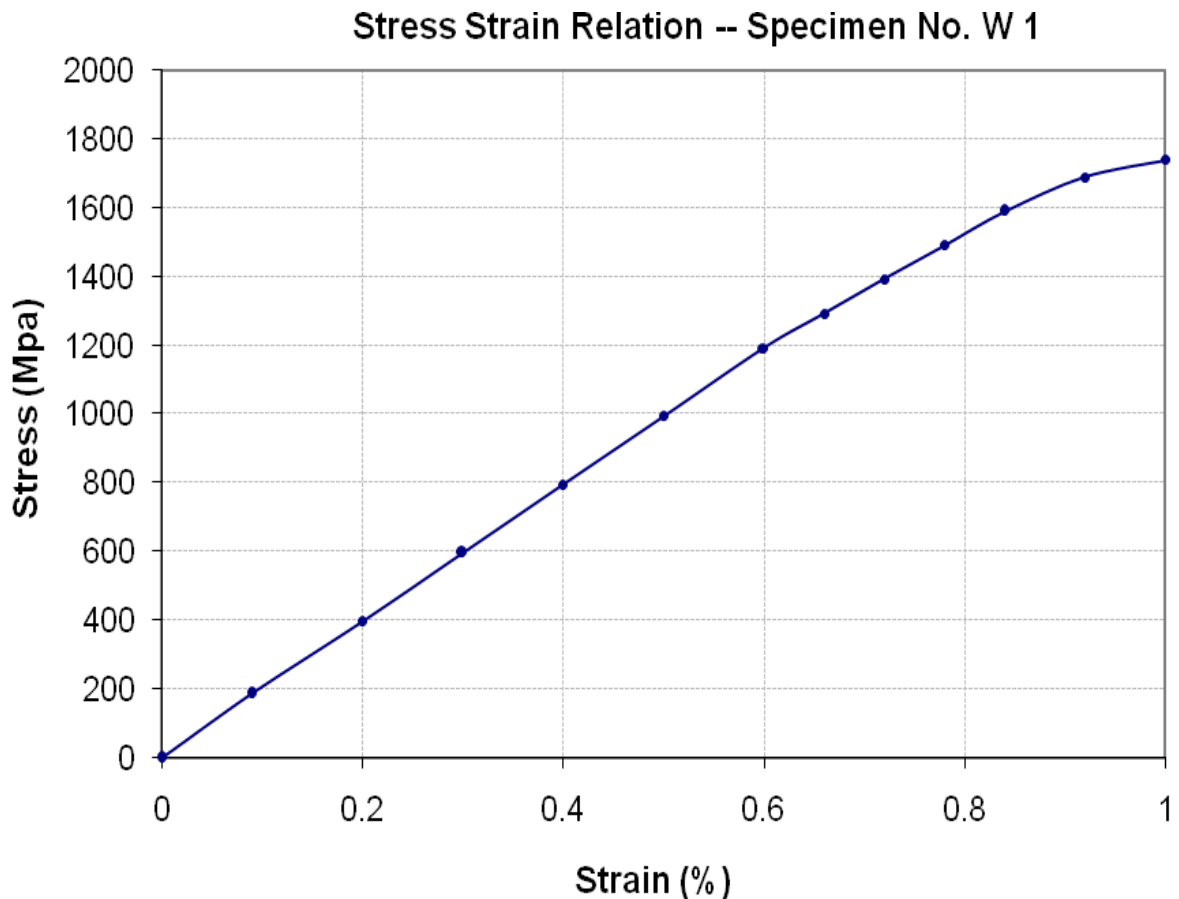
To,  
Resident Engineer  
ZEERUK – LOYA – MIHA jv  
Development of Islamabad Expressway from Korang to PWD Interchange (km 1+300 to 3+200)  
including Railway Bridge

Reference # CED/TFL **1892** (Dr. Usman Akmal)  
Reference of the request letter # ZI/RE/FWO-RB/22/50

Dated: 05-09-2022

Dated: 18-06-2022

**Graph** (Page – 2/5)



**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,  
Resident Engineer  
ZEERUK – LOYA – MIHA jv  
Construction of Korang Bridge & About 1.5 km Approach Road on Islamabad Highway

Reference # CED/TFL **1892** (Dr. Usman Akmal)  
Reference of the request letter # ZI/RE/KB/22/177

Dated: 05-09-2022  
Dated: 18-06-2022

**Tension Test Report** (Page – 3/5)

Date of Test 06-09-2022  
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	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	E, GPa		
1	15.24 (0.6")	1102.0	1109.0	25300	248.19	27000	264.87	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
<b>Only One Sample for Test</b>										

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:

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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**

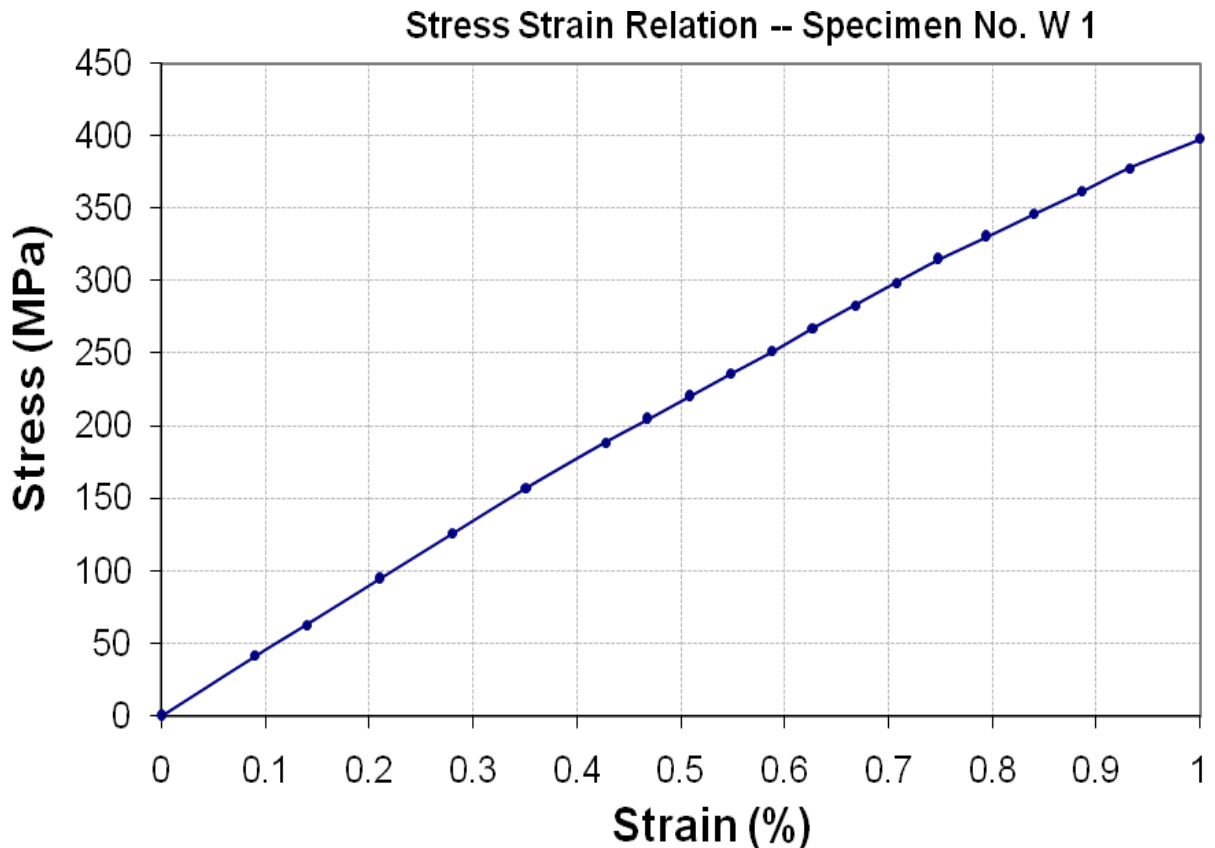
To,  
Resident Engineer  
ZEERUK – LOYA – MIHA jv  
Development of Islamabad Expressway from Korang to PWD Interchange (km 1+300 to 3+200)  
including Railway Bridge

Reference # CED/TFL **1892** (Dr. Usman Akmal)  
Reference of the request letter # ZI/RE/FWO-RB/22/50

Dated: 05-09-2022

Dated: 18-06-2022

**Graph** (Page – 4/5)



**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,  
Resident Engineer  
ZEERUK – LOYA – MIHA jv  
Development of Islamabad Expressway from Korang to PWD Interchange (km 1+300 to 3+200)  
including Railway Bridge

Reference # CED/TFL **1892** (Dr. Usman Akmal)  
Reference of the request letter # ZI/RE/FWO-RB/22/50

Dated: 05-09-2022  
Dated: 18-06-2022

**Size Test Report** (Page – 5/5)  
Date of Test 06-09-2022  
Description Corrugated Sheath Pipe Size Test

Sr. No.	Designation	External Diameter	Wall Thickness	Remark
1	Corrugated Sheath Pipe	78.60	0.35	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
<b>Only One Sample for Test</b>				

**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](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,  
 Director  
 Design Matrix  
 GSH Project

Reference # CED/TFL **1893** (Dr. M Rizwan Riaz)  
 Reference of the request letter # Nil

Dated: 05-09-2022  
 Dated: 05-09-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
 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 <sup>2</sup> )		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	3600	5200	72200	74140	104200	107100	1.10	13.8	JT 6761
2	0.369	3	0.372	0.11	0.109	3800	5300	76200	77180	106200	107700	1.10	13.8	
3	0.362	3	0.368	0.11	0.106	3600	5000	72200	74510	100200	103500	1.00	12.5	TLC 475
4	0.369	3	0.372	0.11	0.108	3900	5200	78200	79240	104200	105700	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only four samples for tensile and two samples for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														
#3 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

Note:

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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 Al Fazal Engineering Pakistan  
Lahore  
(500 kVA Grid Station Faisalabad)(General Electrical)

Reference # CED/TFL **1894** (Dr. Usman Akmal)  
Reference of the request letter # ALF-22-02-0012

Dated: 05-09-2022  
Dated: 05-09-2022

**Tension Test Report** (Page – 1/1)

Date of Test 06-09-2022  
Gauge length 2 inches  
Description Checker Plate & Angle 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)										
1	Checker Plate	140x37x3	24.50x2.70	66.15	1700	2300	252	341	0.60	30.00	
2	Angle	50x50x5	22.20x5.10	113.22	4100	5900	355	511	0.30	15.00	
-		-	-	-	-	-	-	-	-	-	
-		-	-	-	-	-	-	-	-	-	
-		-	-	-	-	-	-	-	-	-	
-		-	-	-	-	-	-	-	-	-	
-		-	-	-	-	-	-	-	-	-	
-		-	-	-	-	-	-	-	-	-	
<b>Only Two Samples for Tensile Test</b>											
<b>Bend Test</b>											

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

Note:

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- 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,  
 Construction Manager  
 One Liberty  
 Gulberg III, Lahore

Reference # CED/TFL **1897** (Dr. Usman Akmal)  
 Reference of the request letter # OL/2022/09/01

Dated: 06-09-2022  
 Dated: 06-09-2022

**Tension Test Report** (Page -1/1)

Date of Test 06-09-2022  
 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 <sup>2</sup> )		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	0.393	3	0.383	0.11	0.115	3200	4900	64200	61110	98200	93600	1.40	17.5	
2	0.388	3	0.381	0.11	0.114	3100	4900	62200	59950	98200	94800	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

Note:

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2. The above results pertain to sample /samples supplied to this laboratory.
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