



**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  
Niaz Arbaaz (Pvt) Ltd  
Galleria Residences

Reference # CED/TFL **2816** (Dr. Ali Ahmed)  
Reference of the request letter # Nil

Dated: 21-02-2023  
Dated: 21-02-2023

**Tension Test Report** (Page -1/2)

Date of Test 22-02-2023  
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	774.0	17900	175.60	19500	191.30	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  
[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



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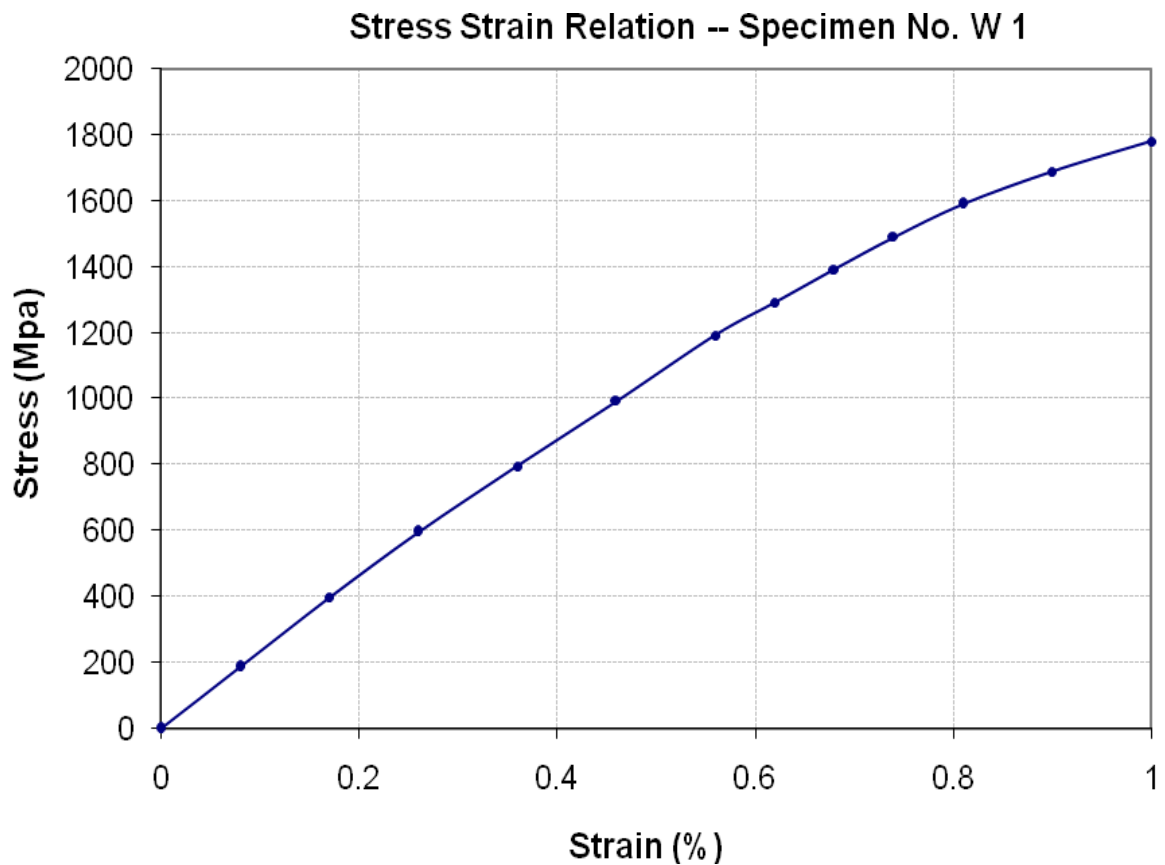
To,

Project Manager  
Niaz Arbaaz (Pvt) Ltd  
Galleria Residences

Reference # CED/TFL **2816** (Dr. Ali Ahmed)  
Reference of the request letter # Nil

Dated: 21-02-2023  
Dated: 21-02-2023

**Graph** (Page – 2/2)



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

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To,

Deputy Manager  
 POWERCHINA SEPCO1, Pakistan  
 Design, Manufacturing, Supply, Installation, Testing and Commission of 220kV Mirpur  
 Khas Substation and Extension at Hala Road Substation.

Reference # CED/TFL **2817** (Dr. Asad Ali)

Dated: 21-02-2023

Reference of the request letter # ADB-200/2018/361

Dated: 20-02-2023

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

Date of Test 22-02-2023

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	0.424	10	10.12	0.12	0.125	3940	5520	72384	69690	101412	97700	1.60	20.0	
2	0.401	10	9.84	0.12	0.118	3570	4810	65587	66780	88368	90000	1.60	20.0	
3	0.423	10	10.11	0.12	0.124	4400	5910	80835	77970	108577	104800	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

**Note: only three samples for tensile and three samples for bend test**

Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														
10mm Dia Bar Bend Test Through 180° is Satisfactory														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

Witness by H. Musheer Khan (Jr. Geologist NESPAK) and M Waheed Sheikh (Power China (SEPCO1))

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To,

Assistant Executive Engineer  
Pakistan Railway, Jhelum  
(Construction of Road Under Pass Bridge (1x74'-9") at km 1374/6-7 vbetween Choa  
Kariala - Kharian Station on Lalamusa – Rawalpindi Section)

Reference # CED/TFL **2821** (Dr. Ali Ahmed)  
Reference of the request letter # 29-W/Buraq City.

Dated: 22-02-2023

Dated: 18-02-2023

**Tension Test Report** (Page -1/2)

Date of Test 22-02-2023  
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	18700	183.45	20400	200.12	199	>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

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**UET Lahore, Pakistan.**

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To,

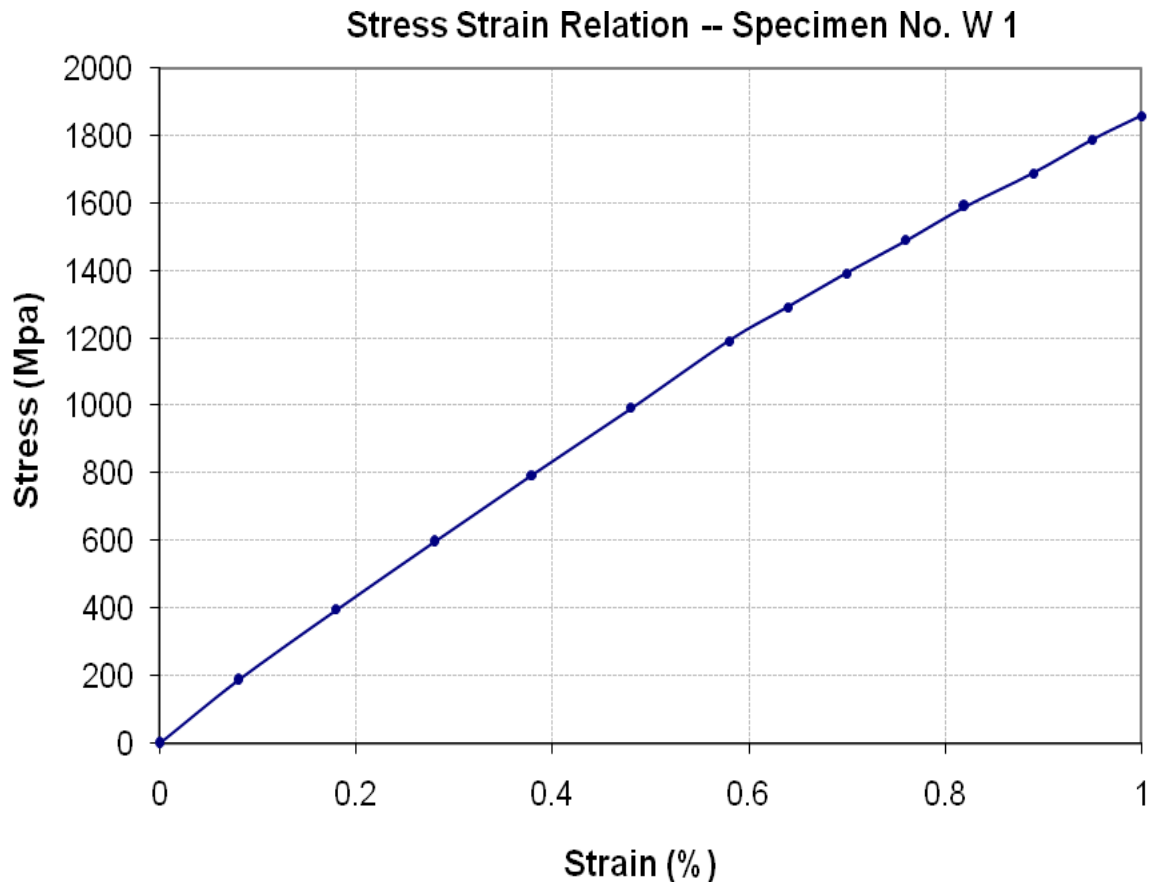
Assistant Executive Engineer  
Pakistan Railway, Jhelum  
(Construction of Road Under Pass Bridge (1x74'-9'') at km 1374/6-7 vbetween Choa  
Kariala - Kharian Station on Lalamusa – Rawalpindi Section)

Reference # CED/TFL **2821** (Dr. Ali Ahmed)  
Reference of the request letter # 29-W/Buraq City.

Dated: 22-02-2023

Dated: 18-02-2023

**Graph** (Page – 2/2)



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**UET Lahore, Pakistan.**

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To,  
 M/S PK Steel Re-Rolling Mill  
 Lahore

Reference # CED/TFL **2823** (Dr. Asad Ali)  
 Reference of the request letter # Nil

Dated: 22-02-2023  
 Dated: 22-02-2023

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

Date of Test 22-02-2023  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile 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	0.396	3	0.385	0.11	0.117	3360	5350	67400	63550	107200	101200	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one samples for tensile test</b>														
Bend Test														

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