



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
ESS-I-AAR Consultant
Construction of Flyover at Railway Track Khan Pur District Rahim Yar Khan

Reference # CED/TFL **2635** (Dr. Safer Abbass)
Reference of the request letter # RE/ADP/R.Y.K/3346

Dated: 17-01-2023
Dated: 29-12-2022

Tension Test Report (Page -1/4)

Date of Test 24-01-2023
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	784.0	17600	172.66	19500	191.30	198	>3.50	xx
2	12.70 (1/2")	775.0	776.0	17500	171.68	19300	189.33	199	>3.50	xx
3	12.70 (1/2")	775.0	784.0	17500	171.68	19300	189.33	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 Laboratories
UET Lahore, Pakistan.

Note:

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Department of Civil Engineering
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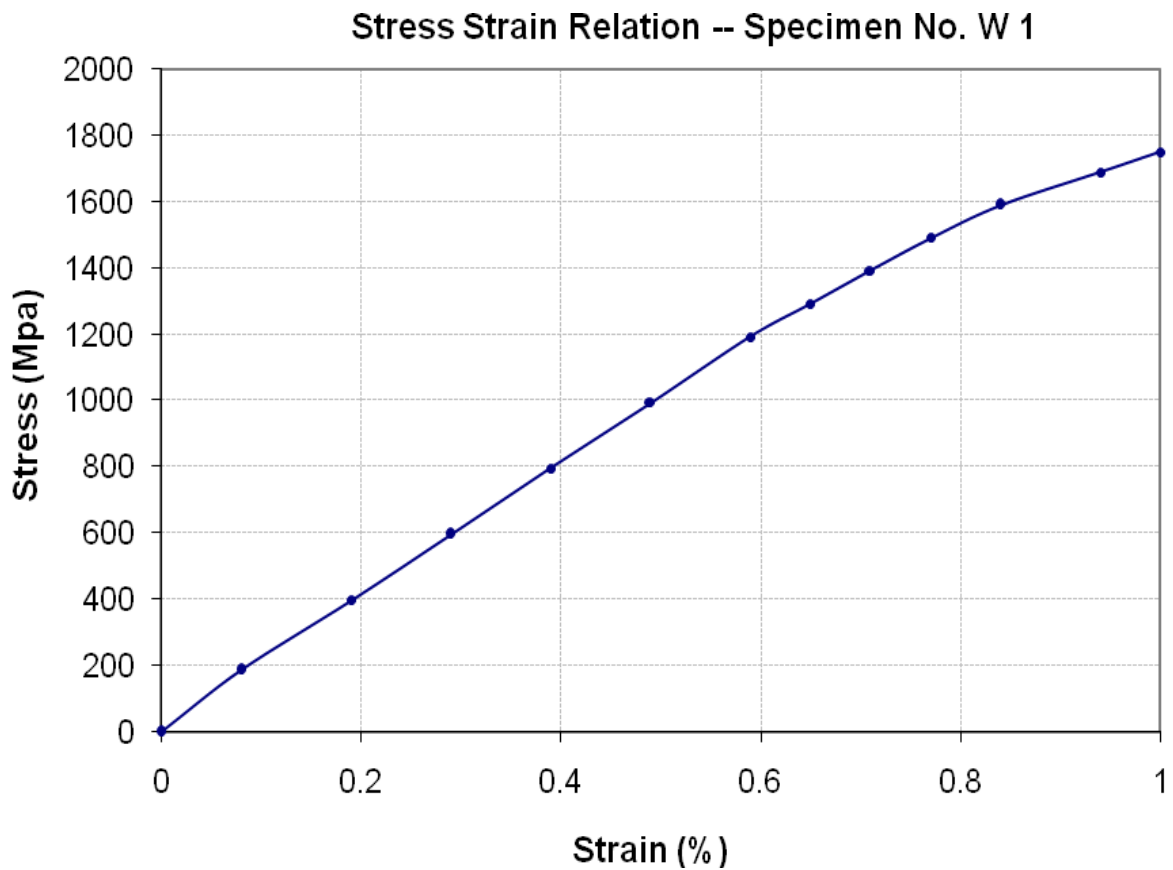
To,

Resident Engineer
ESS-I-AAR Consultant
Construction of Flyover at Railway Track Khan Pur District Rahim Yar Khan

Reference # CED/TFL **2635** (Dr. Safer Abbass)
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Dated: 17-01-2023
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Graph (Page – 2/4)



I/C Testing Laboratoires
UET Lahore, Pakistan.

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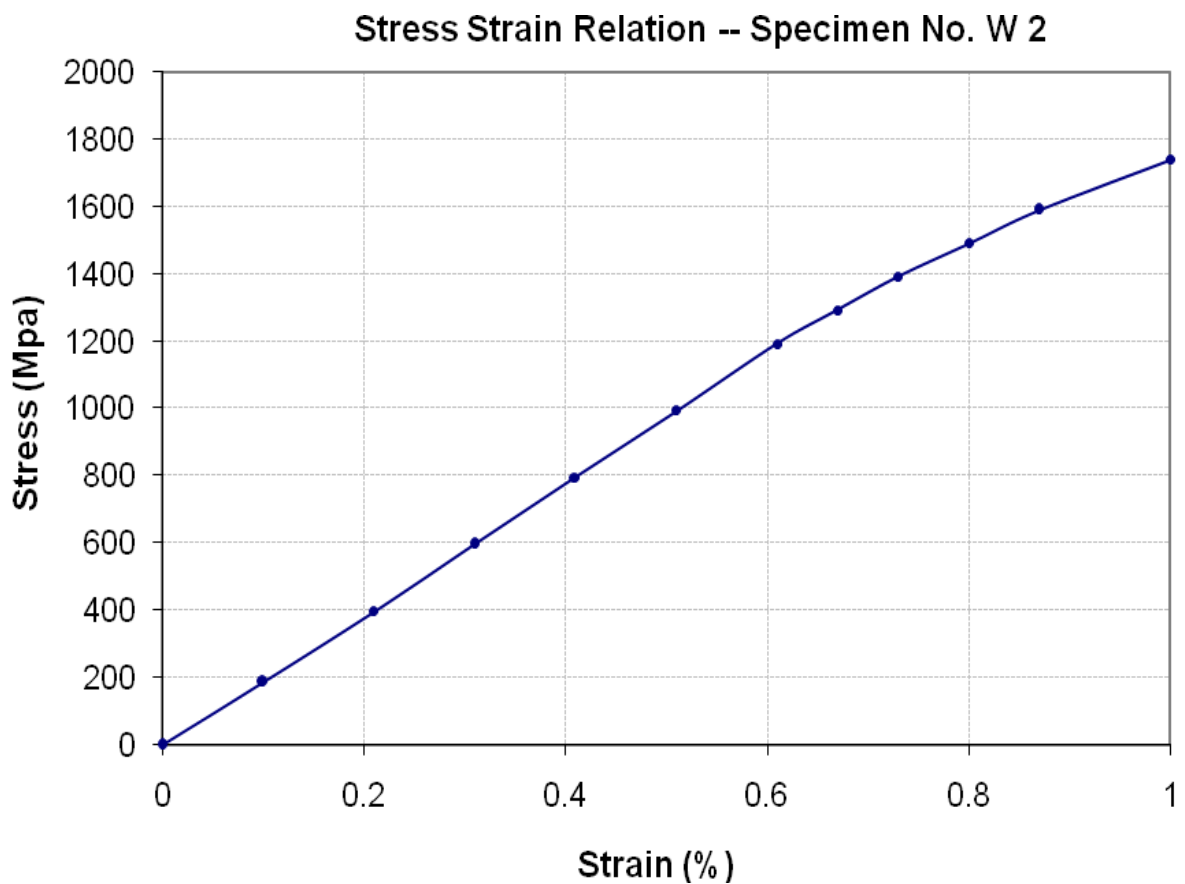
To,

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Graph (Page – 3/4)



I/C Testing Laboratories
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ESS-I-AAR Consultant
Construction of Flyover at Railway Track Khan Pur District Rahim Yar Khan

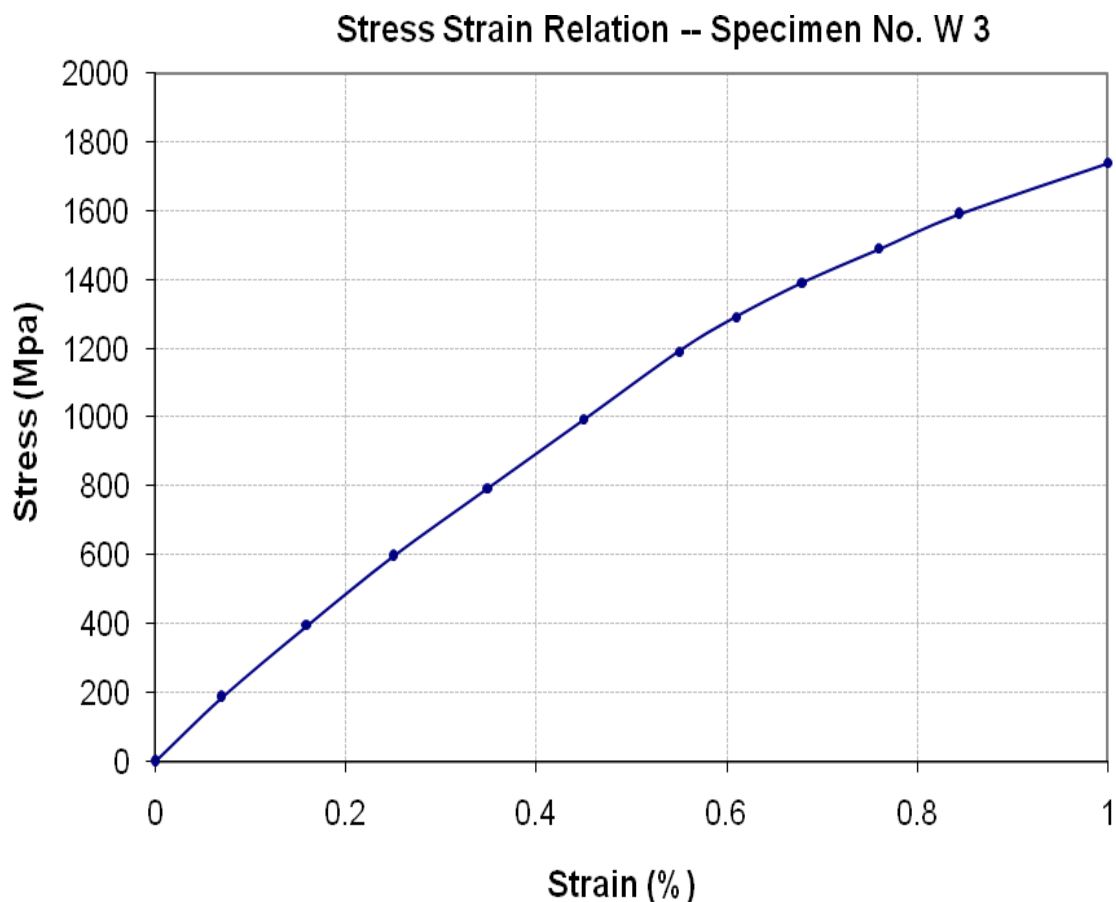
Reference # CED/TFL **2635** (Dr. Safer Abbass)

Dated: 17-01-2023

Reference of the request letter # RE/ADP/R.Y.K/3346

Dated: 29-12-2022

Graph (Page – 4/4)



Ref: CED/TFL/01/2649

Dated: 19-01-2023

Dated of Test: 24-01-2023

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

Assistant Director (QCD)
WASA, LDA, Lahore
(M/s Hammad RCC Pipe Factory)

Subject: - CALIBRATION OF HYDRAULIC JACK WITH GAUGE
(MARK: TFL/01/2649)

Reference to your Letter No. QCD/2328-29, Dated: 28/11/2022 on the subject cited above. One Hydraulic Jack with Gauge as received by us has been calibrated. The results are tabulated as under:

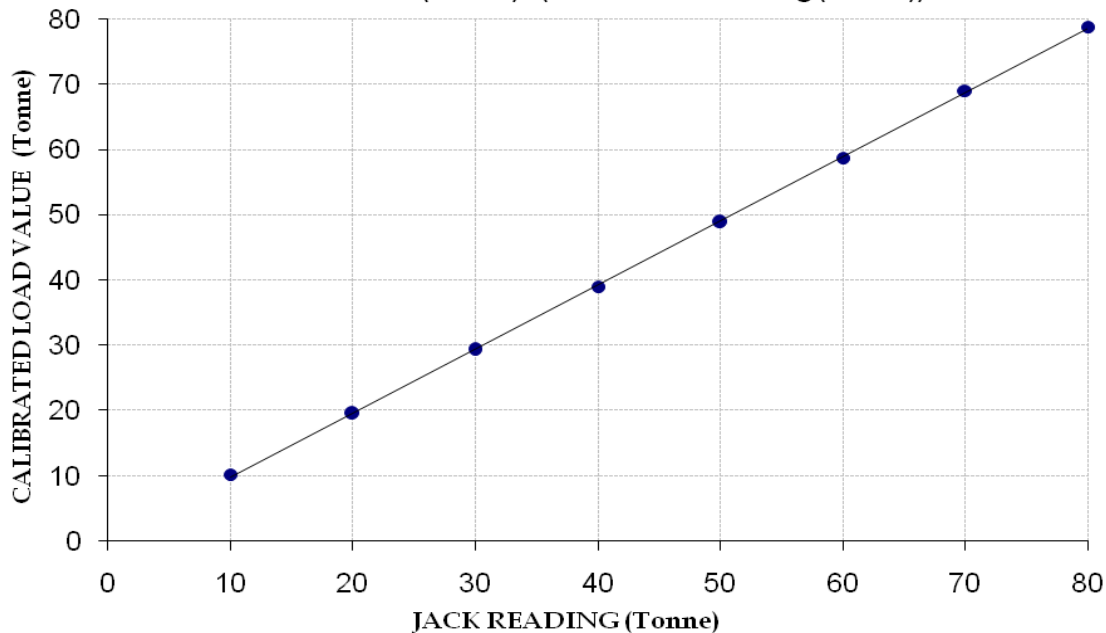
Total Range : Zero - 100 (Tonne)
Calibrated Range : Zero - 80 (Tonne)

Hydraulic Jack Reading (Tonne)	10	20	30	40	50	60	70	80	
Calibrated Load	(kg)	10200	19500	29300	39000	48800	58700	69000	78800
	(Tonne)	10.20	19.50	29.30	39.00	48.80	58.70	69.00	78.80

1 Tonne = 1000 kg

Calibration Curve For Jack

Calibrated Value (Tonne) = (0.983 x Jack Reading (Tonne)) - 0.071



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,
 Resident Engineer
 NESPAK
 Construction of Underpass at Samanabad Morr

Reference # CED/TFL **2654** (Dr. M Kashif) Dated: 19-01-2023
 Reference of the request letter # 4403/03/AZ/Lab/Steel-0012 Dated: 11-01-2023

Tension Test Report (Page -1/1)

Date of Test 24-01-2023
 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	0.391	3	0.382	0.11	0.115	3500	4900	70200	67170	98200	94100	1.50	18.8	FF Steel
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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.

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,

Sub Divisional Officer
 Buildings Sub Division No. 2
 Multan
 (Establishment of 200 Bedded Mother & Child Hospital at Ghalla Godam Multan (Group No.01) Main Building etc.)

Reference # CED/TFL **2655** (Dr. M Kashif)
 Reference of the request letter # 1163/SDO 2nd

Dated: 20-01-2023
 Dated: 02-01-2023

Tension Test Report (Page -1/1)

Date of Test 24-01-2023
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in ²)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.377	3	0.376	0.11	0.111	3400	5100	68200	67650	102200	101500	0.90	11.3	
2	0.374	3	0.374	0.11	0.110	3400	5000	68200	68090	100200	100200	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.

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,

Sub Divisional Officer
Buildings Sub Division No. 15
Lahore
(Construction of Bachelor Accommodation and Judicial Rest House at Dharampura,
District Lahore.)

Reference # CED/TFL **2656** (Dr. M Kashif)
Reference of the request letter # 2618

Dated: 20-01-2023
Dated: 18-01-2023

Tension Test Report (Page -1/1)

Date of Test 24-01-2023
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	0.420	3	0.396	0.11	0.123	3900	5700	78200	69660	114300	101800	1.50	18.8	
2	0.412	3	0.393	0.11	0.121	4000	5500	80200	72720	110200	100000	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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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
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University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,

Director Project
Ghurki Trust & Teaching Hospital
Lahore
(Construction of Ghurki Medical and Dental College)

Reference # CED/TFL **2657** (Dr. M Kashif)
Reference of the request letter # Nil

Dated: 20-01-2023
Dated: 19-01-2023

Tension Test Report (Page -1/1)

Date of Test 24-01-2023
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	0.381	3	0.377	0.11	0.112	3500	4900	70200	68940	98200	96600	1.40	17.5	
2	0.378	3	0.376	0.11	0.111	3500	4900	70200	69470	98200	97300	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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Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,

ADH (Works) – IILahore
 Army Offrs Housing Complex
 Sec F Askari-X Airport Rd Lahore

Reference # CED/TFL **2658** (Dr. M Kashif)
 Reference of the request letter # HD/Gen/C/ADH-II

Dated: 20-01-2023
 Dated: 20-01-2023

Tension Test Report (Page -1/1)

Date of Test 24-01-2023
 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	0.375	3/8	0.375	0.11	0.110	3400	5100	68200	67990	102200	102000	1.10	13.8	SJ Steel
2	0.372	3/8	0.373	0.11	0.109	3400	5000	68200	68560	100200	100900	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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 Building Standards
 Lahore
 (Extension of Ware House Buildings)
 (Allied Engineering & Services, Multan Road, Lahore)

Reference # CED/TFL **2659** (Dr. M Kashif)

Dated: 20-01-2023

Reference of the request letter # GT/LTR/230120-009

Dated: 20-01-2023

Tension Test Report (Page -1/1)

Date of Test 24-01-2023

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	4500	5400	90200	88740	108200	106500	0.90	11.3	
2	0.385	3	0.379	0.11	0.113	4500	5300	90200	87730	106200	103400	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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.

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Pakistan. Ph: 92-42-99029202

To,

Addl Dir Works (South)
Works Sec (South) CWO
Mlir Cantt. Karachi

Reference # CED/TFL **2660** (Dr. M Rizwan Riaz)
Reference of the request letter # 1637Brdg/Culv/34

Dated: 20-01-2023
Dated: 16-01-2023

Tension Test Report (Page -1/3)

Date of Test 24-01-2023
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	784.0	18100	177.56	19400	190.31	199	>3.50	xx
2	12.70 (1/2")	775.0	783.0	18100	177.56	19600	192.28	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

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UET Lahore, Pakistan.

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To,

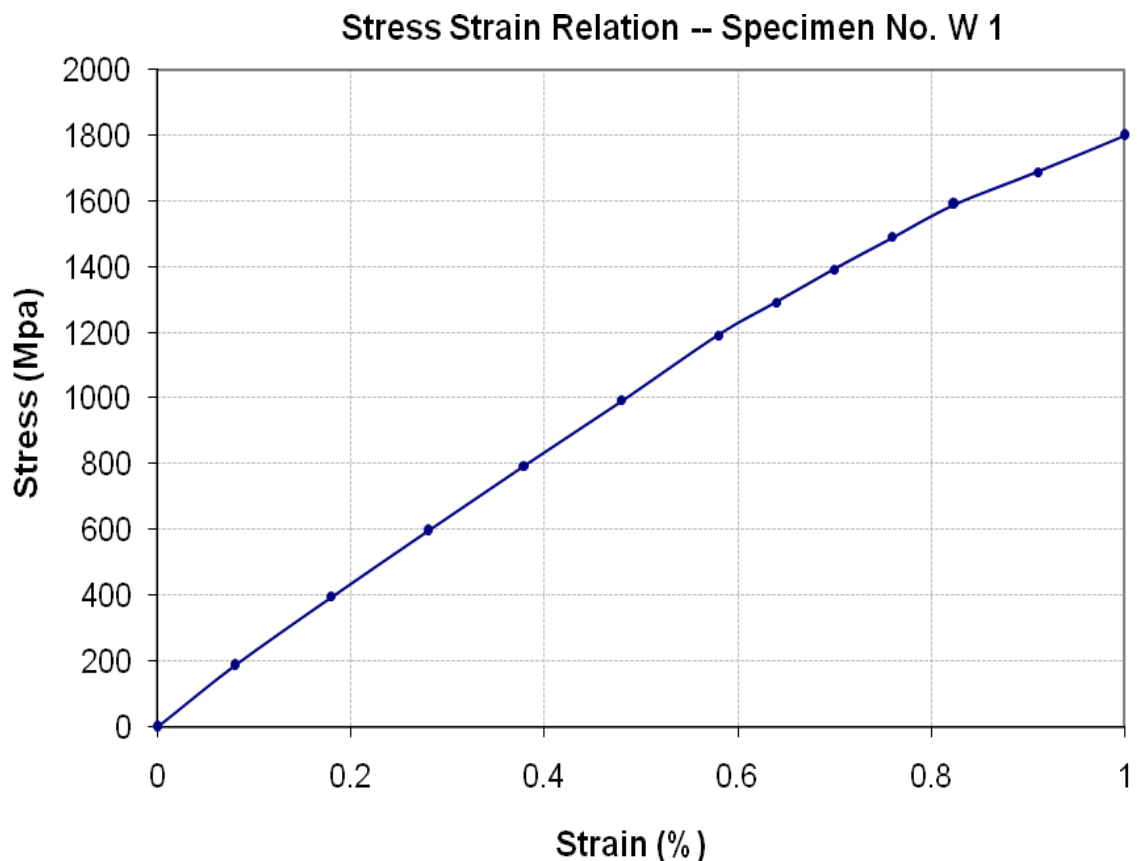
Addl Dir Works (South)
Works Sec (South) CWO
Mlir Cantt. Karachi

Reference # CED/TFL **2660** (Dr. M Rizwan Riaz)
Reference of the request letter # 1637Brdg/Culv/34

Dated: 20-01-2023

Dated: 16-01-2023

Graph (Page – 2/3)



I/C Testing Laboratoires
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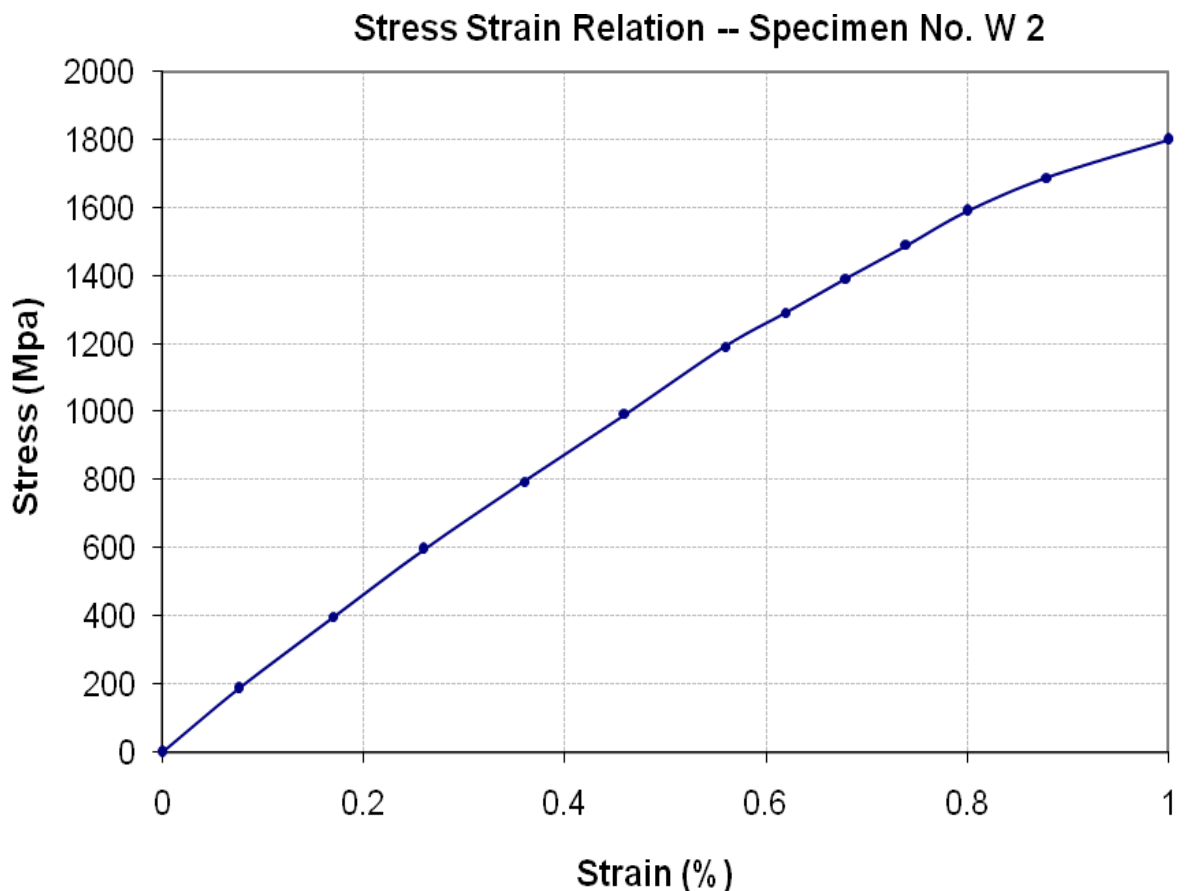
To,

Addl Dir Works (South)
Works Sec (South) CWO
Mlir Cantt. Karachi

Reference # CED/TFL **2660** (Dr. M Rizwan Riaz)
Reference of the request letter # 1637Brdg/Culv/34

Dated: 20-01-2023
Dated: 16-01-2023

Graph (Page – 3/3)



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
 Building Sub Division No. 2
 Lahore
 (Construction of Boundary Wall Around Safari Zoo Raiwind Lahore)

Reference # CED/TFL **2661** (Dr. M Kashif)
 Reference of the request letter # 1281 – 2nd

Dated: 20-01-2023
 Dated: 27-09-2022

Tension Test Report (Page -1/1)

Date of Test 24-01-2023
 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	0.386	3/8	0.380	0.11	0.113	3700	5000	74200	71910	100200	97200	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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
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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
 Dualization of Sargodha Khushab Mianwali Road (Group-I from km 206.94 to 211.50 = 4.56 km)

Reference # CED/TFL **2662** (Dr. M Kashif)

Dated: 20-01-2023

Reference of the request letter # RE/4376-E/MH/4a/215

Dated: 14-01-2023

Tension Test Report (Page -1/2)

Date of Test 24-01-2023

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	5.179	11	1.392	1.56	1.522	44000	63800	62200	63710	90200	92400	1.70	21.3	FF Steel
2	5.308	11	1.409	1.56	1.560	44000	65600	62200	62160	92700	92700	1.70	21.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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
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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

Dualization of Sargodha Khushab Mianwali Road (Group-I from km 206.94 to 211.50 = 4.56 km)

Reference # CED/TFL **2662** (Dr. M Kashif)

Dated: 20-01-2023

Reference of the request letter # RE/4376-E/MH/4a/211

Dated: 12-01-2023

Tension Test Report (Page -2/2)

Date of Test 24-01-2023

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	5.349	11	1.415	1.56	1.572	43600	64800	61600	61120	91600	90900	1.60	20.0	Pak Steel
2	5.346	11	1.415	1.56	1.571	43600	64600	61600	61150	91300	90700	1.70	21.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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
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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 PK Steel
 Lahore

Reference # CED/TFL **2664** (Dr. M Kashif)
 Reference of the request letter # Nil

Dated: 23-01-2023
 Dated: 23-01-2023

Tension Test Report (Page -1/1)

Date of Test 24-01-2023
 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	3700	4700	74200	73000	94200	92800	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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 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

Ref: CED/TFL/01/2665

Dated: 23-01-2023

Date of Test: 24-01-2023

To,

Resident Engineer
NESPAK

Construction Supervision of ADP Scheme No. 1745/190556 (2020-21) "F/S Design & Reconst: of Bridge Sh: Lot No. 2 (i) Package -IV Aghan Pur Bridge (S-10) Aloch Puran Bridge (S-10-A), Chena Bridge (S-10-A)

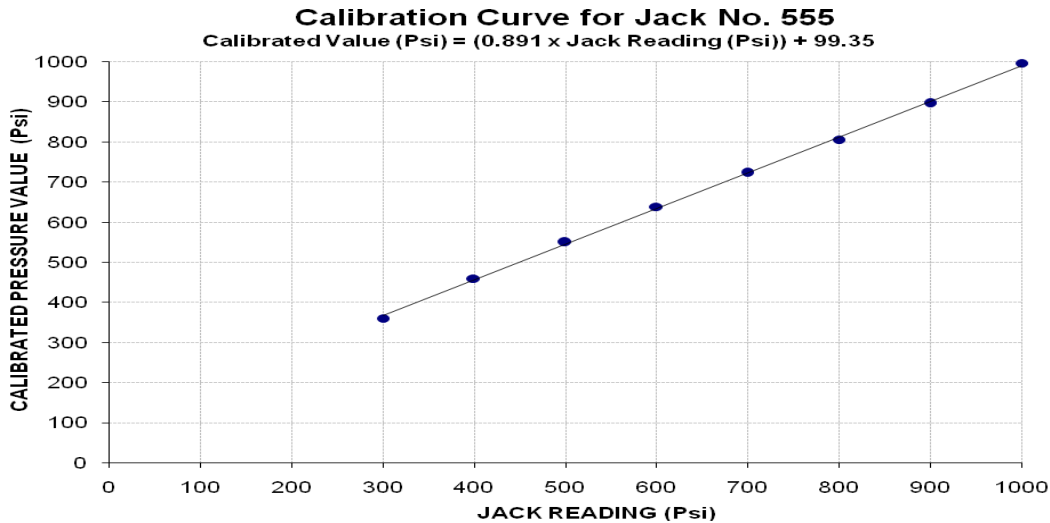
Subject: - CALIBRATION OF HYDRAULIC JACK WITH PRESSURE GAUGE
(MARK: TFL/01/2665) (Page # 1/3)

Reference to your Letter No. 4311/PKHA/NS/23/265, Dated: 18/01/2023 on the subject cited above. One Hydraulic Jack No. 555 with Pressure Gauge No. EN 837-1 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 6000 (Psi)
Calibrated Range : Zero - 1000 (Psi)

Jack Reading (Psi)	300	400	500	600	700	800	900	1000
Calibrated Load (kg)	67800	86600	103600	120200	136200	151800	168800	187600
Calibrated Pressure (Psi)	360	460	550	639	724	806	897	997

The Ram Area for Calibration = 415 in²



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

Ref: CED/TFL/01/2665

Dated: 23-01-2023

Date of Test: 24-01-2023

To,

Resident Engineer
NESPAK

Construction Supervision of ADP Scheme No. 1745/190556 (2020-21) "F/S Design & Reconst: of Bridge Sh: Lot No. 2 (i) Package -IV Aghan Pur Bridge (S-10) Aloch Puran Bridge (S-10-A), Chena Bridge (S-10-A)

Subject: - **CALIBRATION OF PRESSURE GAUGE (MARK: TFL/01/2665)** (Page # 2/3)

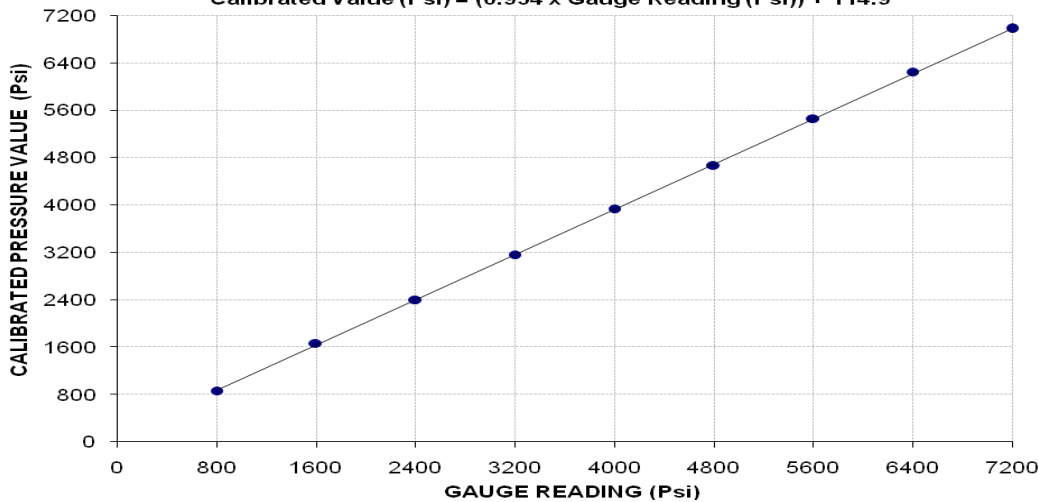
Reference to your Letter No. 4311/PKHA/NS/23/265, Dated: 18/01/2023 on the subject cited above. One Pressure Gauge No. EN 837-1 (KI 1.6) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 15000 (Psi)
Calibrated Range : Zero - 5500 (Psi)

Pressure Gauge Reading (Psi)	800	1600	2400	3200	4000	4800	5600	6400	7200
Calibrated Load (kg)	12100	23200	33400	44000	54800	65000	76000	87000	97100
Calibrated Pressure (Psi)	869	1667	2399	3161	3936	4669	5459	6250	6975

The Ram Area for Calibration = 198 cm²

Calibration Curve for Pressure Gauge EN 837-1
Calibrated Value (Psi) = (0.954 x Gauge Reading (Psi)) + 114.9



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

Ref: CED/TFL/01/2665

Dated: 23-01-2023

Date of Test: 24-01-2023

To,

Resident Engineer

NESPAK

Construction Supervision of ADP Scheme No. 1745/190556 (2020-21) "F/S Design & Reconst: of Bridge Sh: Lot No. 2 (i) Package -IV Aghan Pur Bridge (S-10) Aloch Puran Bridge (S-10-A), Chena Bridge (S-10-A)

Subject: - CALIBRATION OF DIAL GAUGES (MARK: TFL/01/2665) (Page # 3/3)

Reference to your Letter No. 4311/PKHA/NS/23/265, Dated: 18/01/2023 on the subject cited above. Four Dial Gauges as received by us have been calibrated on standard calibration device. The results are tabulated as under.

Total Range : Zero - 100 (mm)
Calibrated Range : Zero - 50 (mm)

Standard Reading	Dial Gauge Readings		
	Dial Gauge No. I (4C18942)	Dial Gauge No. II (4C18901)	Dial Gauge No. III (4C19025)
400	390	395	396
800	789	796	797
1200	1189	1196	1197
1600	1589	1597	1598
2000	1988	1998	1998
2400	2387	2399	2399
2800	2788	2800	2799
3200	3188	3199	3198
3600	3588	3600	3600
4000	3990	4002	3999
4400	4390	4400	4399
4800	4790	4801	4799
5000	4990	5000	4999

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
NESPAK

Dualization of Road from Gujranwala to M-2 Interchange at Kot Sawar via Hafizabad km
6.20 to km 80.35 Length 74.15 km in District Gujranwala & Hafizabad (Section km
40.20 – 55.40, L=15.20 km)

Reference # CED/TFL **2666** (Dr. Irfan ul Hussan)

Dated: 23-01-2023

Reference of the request letter # SA-466F/103/GH/ML/Lab/62

Dated: 03-01-2023

Tension Test Report (Page -1/4)

Date of Test 24-01-2023

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	784.0	17600	172.66	19300	189.33	199	>3.50	xx
2	12.70 (1/2")	775.0	786.0	17900	175.60	19300	189.33	199	>3.50	xx
3	12.70 (1/2")	775.0	787.0	17700	173.64	19700	193.26	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.

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
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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

Dualization of Road from Gujranwala to M-2 Interchange at Kot Sawar via Hafizabad km
6.20 to km 80.35 Length 74.15 km in District Gujranwala & Hafizabad (Section km
40.20 – 55.40, L=15.20 km)

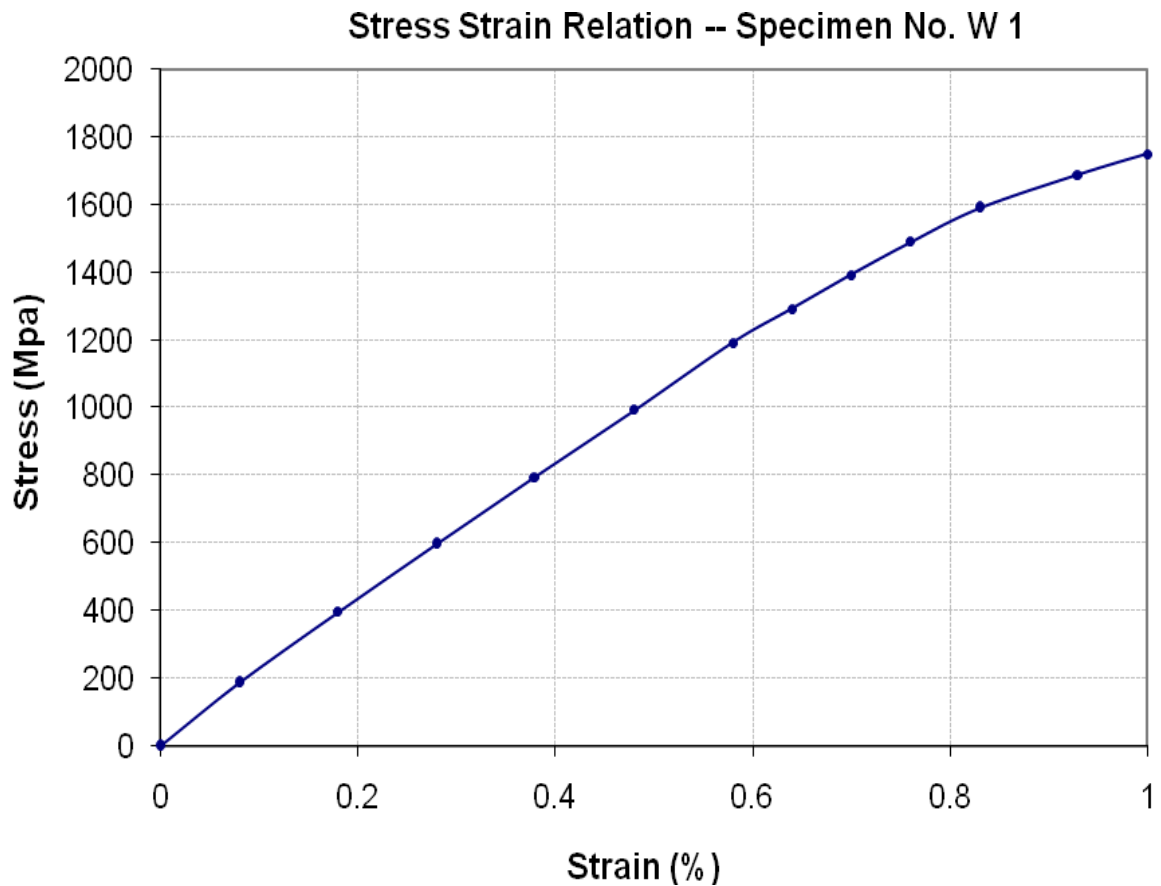
Reference # CED/TFL **2666** (Dr. Irfan ul Hussan)

Dated: 23-01-2023

Reference of the request letter # SA-466F/103/GH/ML/Lab/62

Dated: 03-01-2023

Graph (Page – 2/4)



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,

Resident Engineer
NESPAK

Dualization of Road from Gujranwala to M-2 Interchange at Kot Sawar via Hafizabad km
6.20 to km 80.35 Length 74.15 km in District Gujranwala & Hafizabad (Section km
40.20 – 55.40, L=15.20 km)

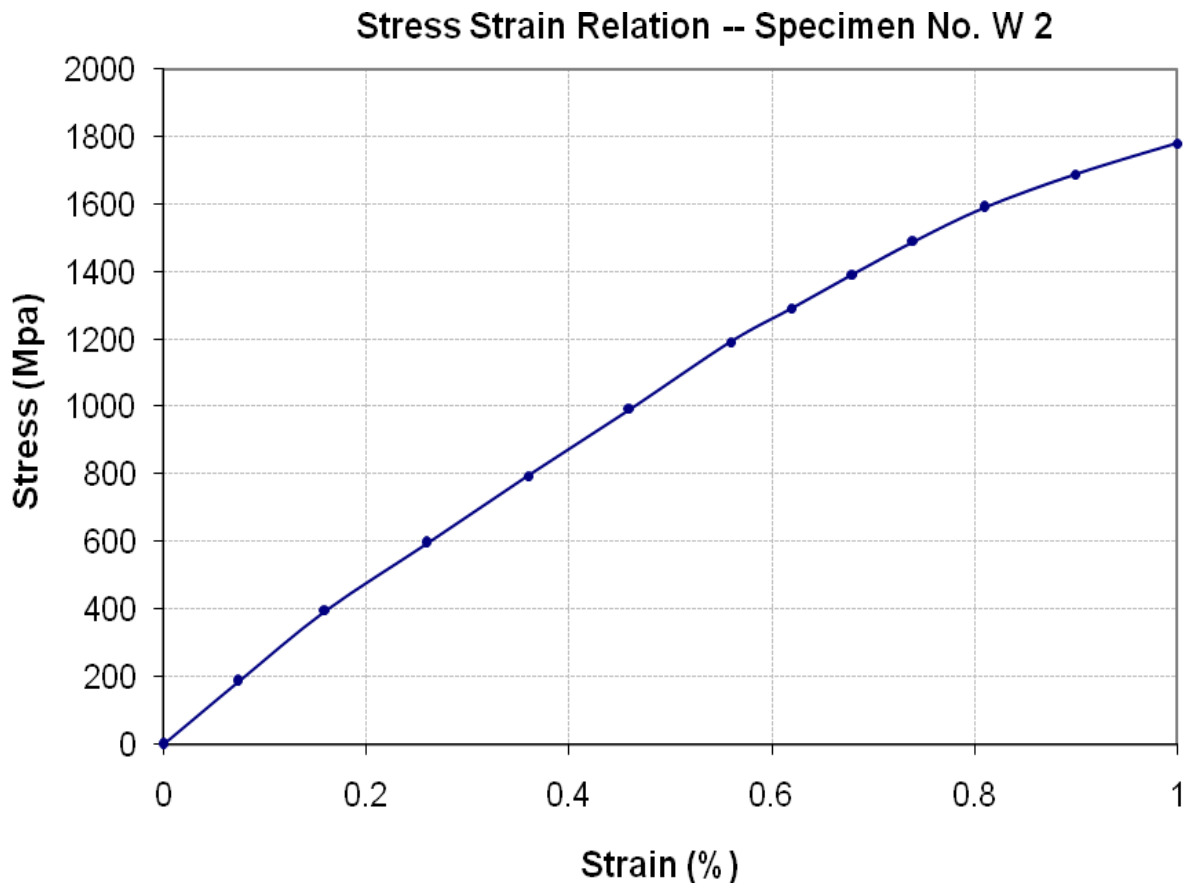
Reference # CED/TFL **2666** (Dr. Irfan ul Hussan)

Dated: 23-01-2023

Reference of the request letter # SA-466F/103/GH/ML/Lab/62

Dated: 03-01-2023

Graph (Page – 3/4)



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,

Resident Engineer
NESPAK

Dualization of Road from Gujranwala to M-2 Interchange at Kot Sawar via Hafizabad km
6.20 to km 80.35 Length 74.15 km in District Gujranwala & Hafizabad (Section km
40.20 – 55.40, L=15.20 km)

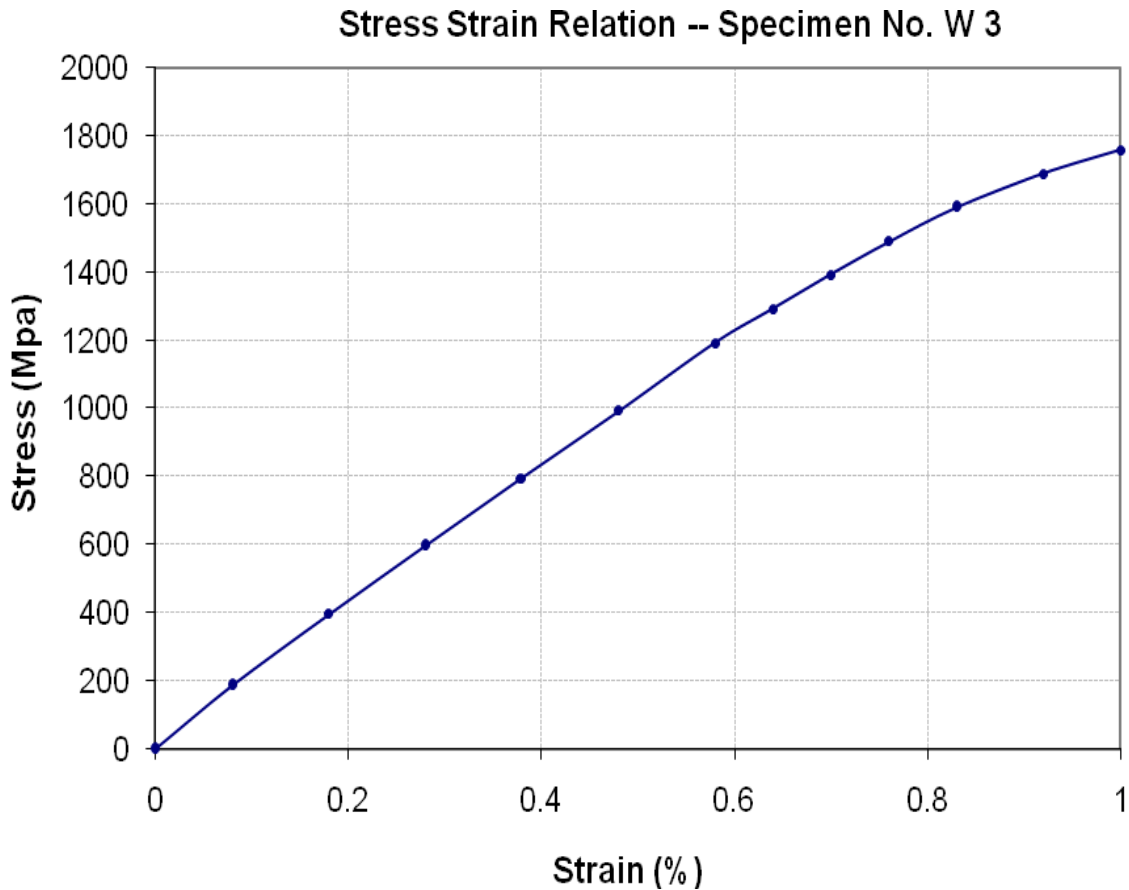
Reference # CED/TFL **2666** (Dr. Irfan ul Hussan)

Dated: 23-01-2023

Reference of the request letter # SA-466F/103/GH/ML/Lab/62

Dated: 03-01-2023

Graph (Page – 4/4)



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
Guarantee Engineers (Pvt) Ltd
FIEDMC, M3 Industrial Estate, Faisalabad

Reference # CED/TFL **2668** (Dr. M Kashif)
Reference of the request letter # HNH/GE/ST/002

Dated: 23-01-2023
Dated: 17-01-2023

Tension Test Report (Page -1/1)

Date of Test 24-01-2023
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 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	0.371	10	9.47	0.12	0.109	3300	4800	60627	66680	88184	97000	1.40	17.5	
2	0.368	10	9.42	0.12	0.108	3300	4800	60627	67280	88184	97900	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
10mm 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
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
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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
Ess-I-AAR

Construction of Metalled Roads and Pile Foundation Bridge on Sangher Nullah for Tehsil Complex, Shah Suleman, Mini Zoo and TEVTA Center etc Length = 4.00 km.

Reference # CED/TFL **2669** (Dr. Asif Hameed)
Reference of the request letter # ADP/2021-22/757

Dated: 23-01-2023

Dated: 05-01-2023

Tension Test Report (Page -1/2)

Date of Test 24-01-2023

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	17800	174.62	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
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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

Ess-I-AAR

Construction of Metalled Roads and Pile Foundation Bridge on Sangher Nullah for Tehsil Complex, Shah Suleman, Mini Zoo and TEVTA Center etc Length = 4.00 km.

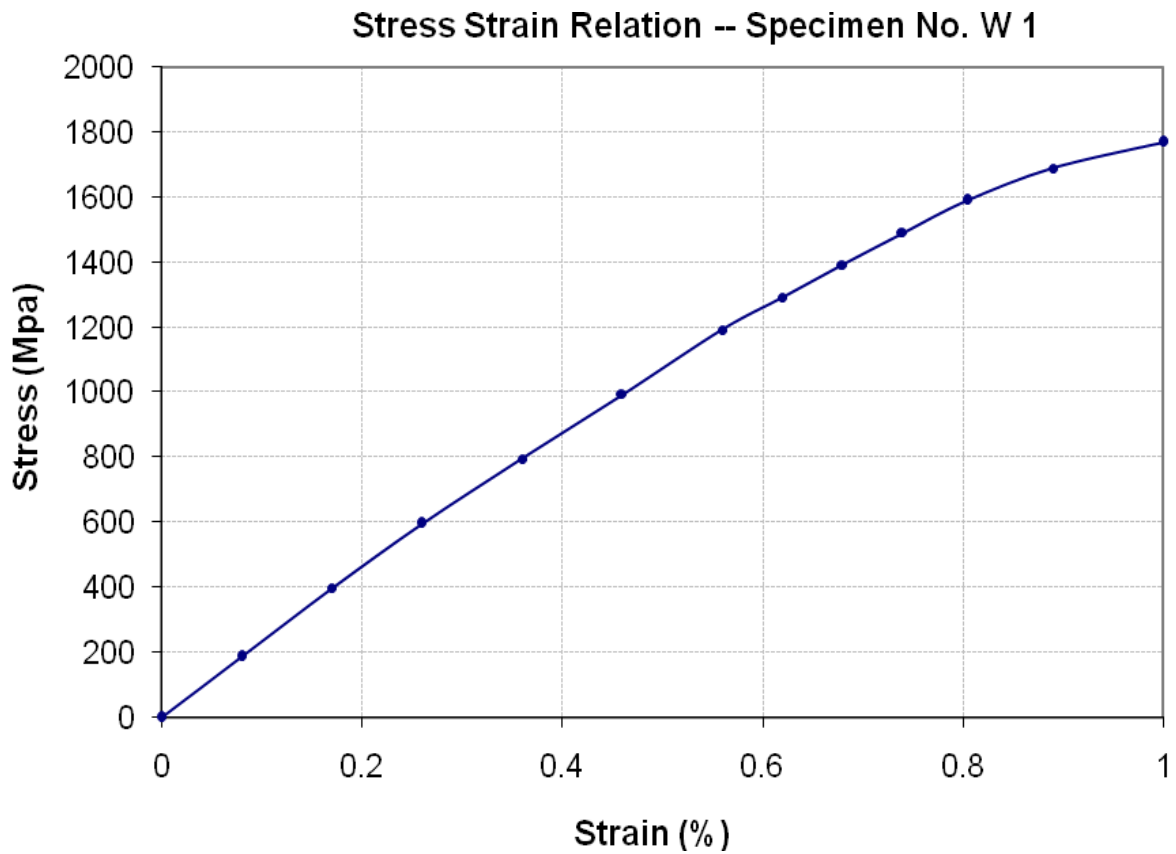
Reference # CED/TFL **2669** (Dr. Asif Hameed)

Dated: 23-01-2023

Reference of the request letter # ADP/2021-22/757

Dated: 05-01-2023

Graph (Page – 2/2)



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,
 Project Manager
 United Lifestyle (Pvt) Ltd.
 High-Rise Building “Skyscrapers United” at Johar Town Lahore

Reference # CED/TFL **2670** (Dr. M Rizwan Riaz)
 Reference of the request letter # ULS/2021-22-23/018

Dated: 24-01-2023
 Dated: 23-01-2023

Tension Test Report (Page -1/1)

Date of Test 24-01-2023
 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	0.395	3	0.384	0.11	0.116	3520	5150	70600	66850	103200	97900	1.00	12.5	
2	0.385	3	0.380	0.11	0.113	3570	5200	71600	69480	104200	101200	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 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,

Project Manager
 OZ Developers
 Construction of High-Rise Building “Bahria Sky” at Bahria Orchard Phase 4, Lahore

Reference # CED/TFL **2671** (Dr. Asad Ali)
 Reference of the request letter # Nil

Dated: 24-01-2023
 Dated: 24-01-2023

Tension Test Report (Page -1/1)

Date of Test 24-01-2023
 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	3230	4560	64800	65380	91400	92300	1.20	15.0	
2	4.302	10	1.269	1.27	1.265	45200	57800	78500	78780	100400	100800	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and two samples for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														
#10 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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