



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

To,

Dasu Hydropower Project CGGC Lab Manager
M/S China Gezhouba Group C., Ltd.
CGGC Dasu Hydropower Project Management in Pakistan
Dasu Hydropower Project

Reference # CED/TFL **5978** (Dr. M Rizwan Riaz)
Reference of the request letter # Nil

Dated: 11-11-2024
Dated: 10-11-2024

Tension Test Report (Page – 1/3)

Date of Test 25-11-2024
Gauge length 600 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")	1100.0	1127.0	24800	243.29	27300	267.81	198	>3.50	A
2	15.24 (0.6")	1100.0	1123.0	-----	-----	10000	98.10	-----	<3.50 Not ok	B
3	15.24 (0.6")	1100.0	1130.0	24100	236.42	27400	268.79	199	>3.50	C
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
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:

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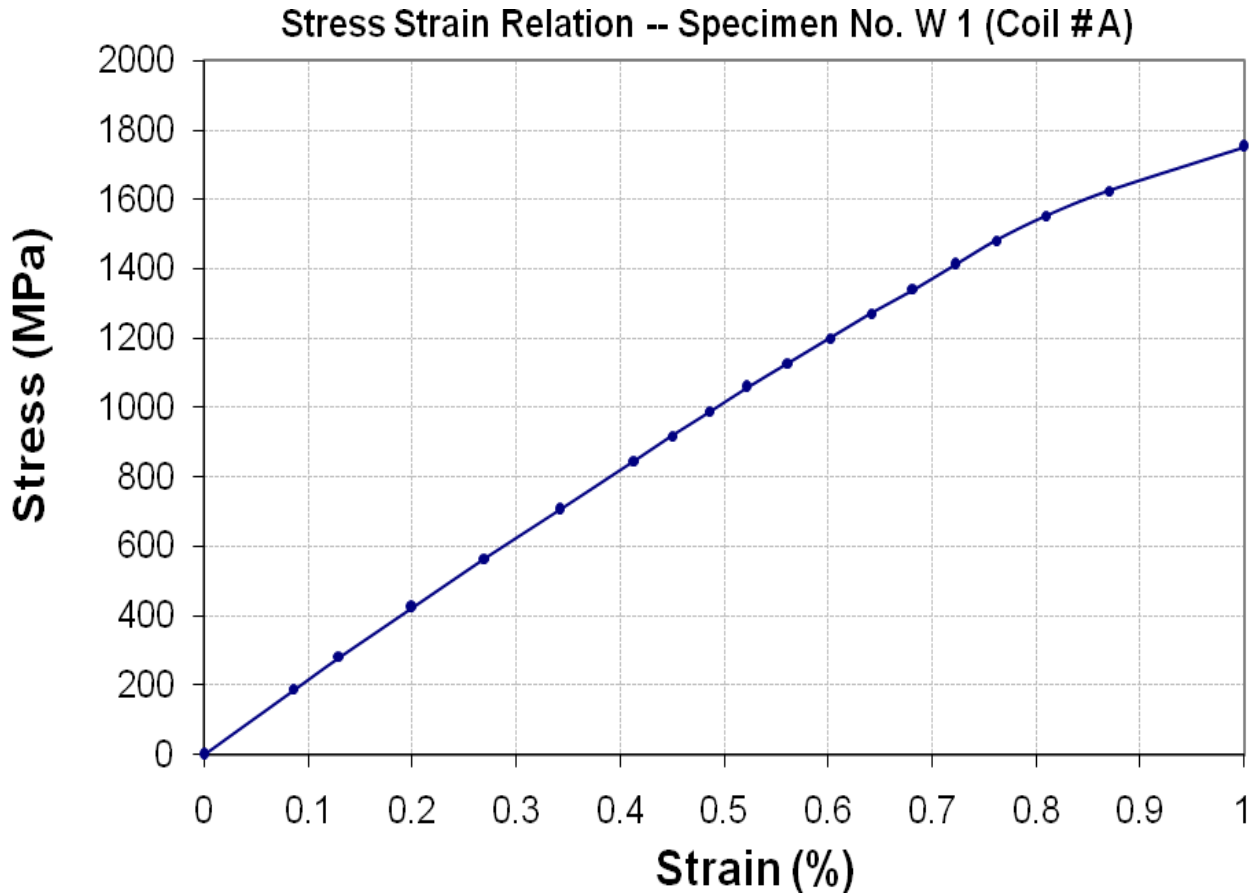
To,

Dasu Hydropower Project CGGC Lab Manager
M/S China Gezhouba Group C., Ltd.
CGGC Dasu Hydropower Project Management in Pakistan
Dasu Hydropower Project

Reference # CED/TFL **5978** (Dr. M Rizwan Riaz)
Reference of the request letter # Nil

Dated: 11-11-2024
Dated: 10-11-2024

Graph (Page – 2/3)



I/C Testing Laboratoires
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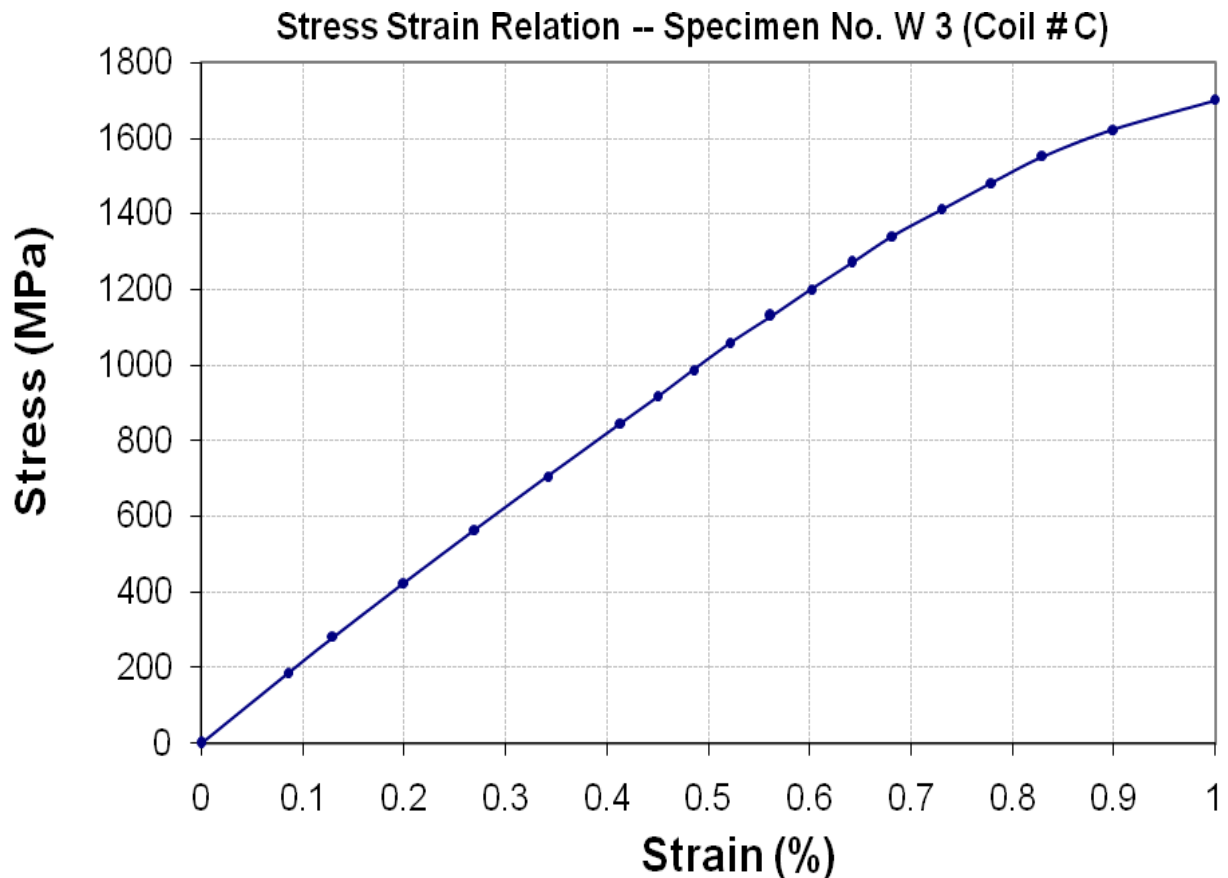
Reference # CED/TFL **5978** (Dr. M Rizwan Riaz)

Dated: 11-11-2024

Reference of the request letter # Nil

Dated: 10-11-2024

Graph (Page – 3/3)



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To,

M/S China Gezhouba Group C., Ltd.
CGGC Dasu Hydropower Project Management in Pakistan
Dasu Hydropower Project

Reference # CED/TFL **5983** (Dr. M Rizwan Riaz)

Dated: 12-11-2024

Reference of the request letter # CGGC/MW-1/MW-2/MI/AFI/2024-210

Dated: 10-11-2024

Tension Test Report (Page – 1/4)

Date of Test 25-11-2024

Gauge length 600 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, GPa	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)			
1	15.24 (0.6")	1100.0	1133.0	24500	240.35	27400	268.79	198	>3.50	xx
2	15.24 (0.6")	1100.0	1122.0	24100	236.42	27400	268.79	199	>3.50	xx
3	15.24 (0.6")	1100.0	1123.0	24400	239.36	27500	269.78	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,

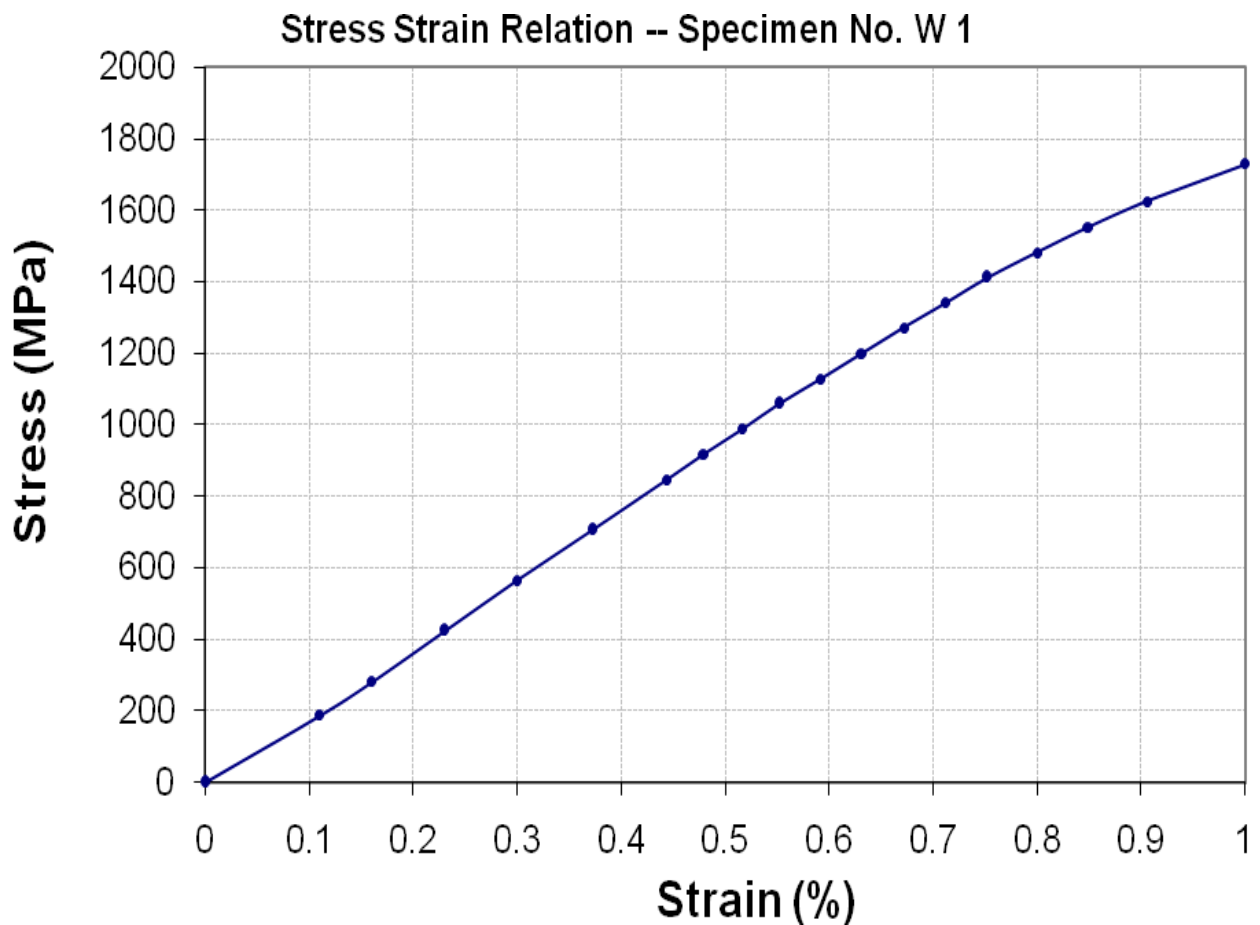
M/S China Gezhouba Group C., Ltd.
CGGC Dasu Hydropower Project Management in Pakistan
Dasu Hydropower Project

Reference # CED/TFL **5983** (Dr. M Rizwan Riaz)

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Reference of the request letter # CGGC/MW-1/MW-2/MI/AFI/2024-210 Dated: 10-11-2024

Graph (Page – 2/4)



I/C Testing Laboratories
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CGGC Dasu Hydropower Project Management in Pakistan
Dasu Hydropower Project

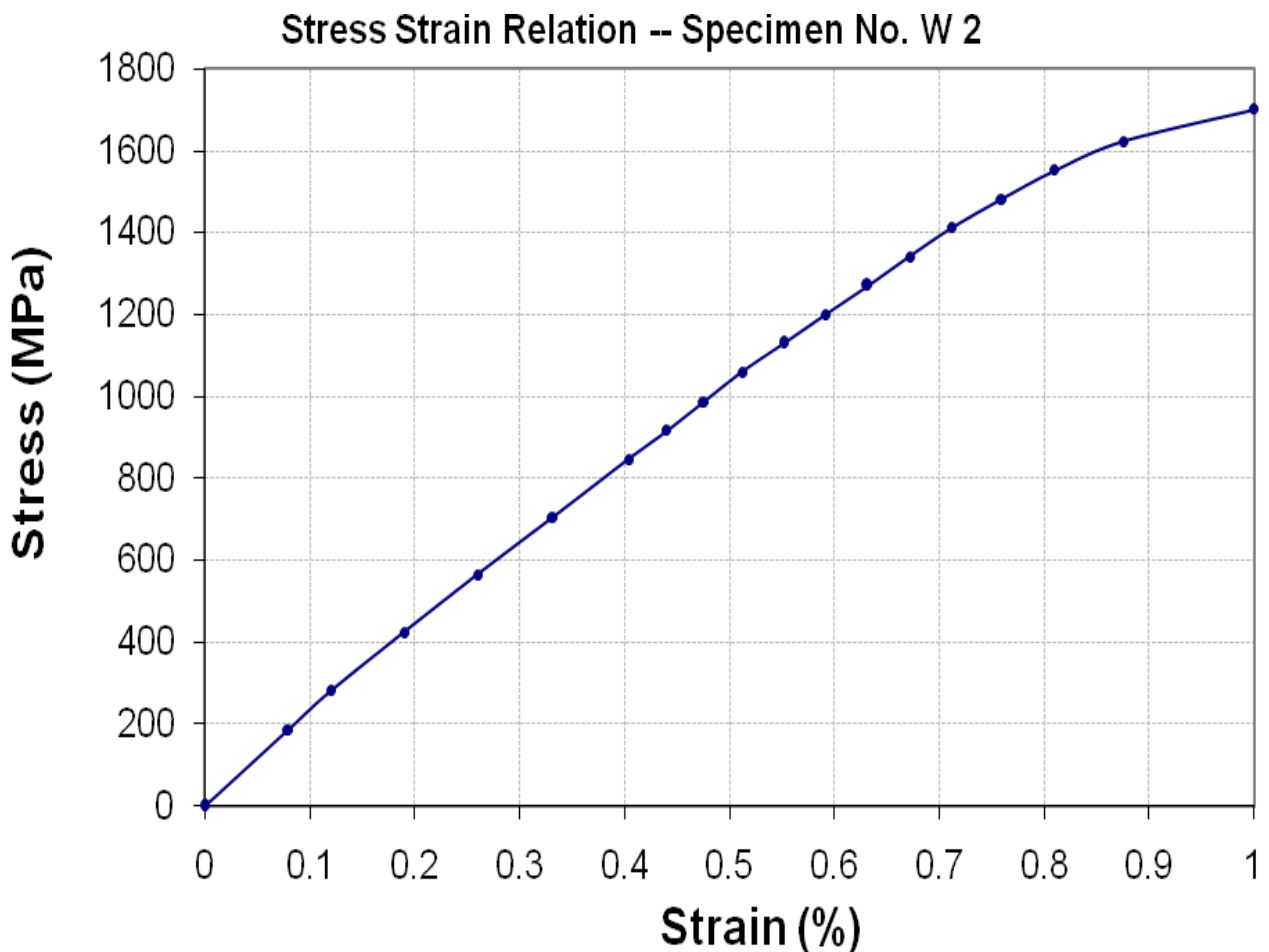
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Dated: 10-11-2024

Graph (Page – 3/4)



I/C Testing Laboratories
UET Lahore, Pakistan.

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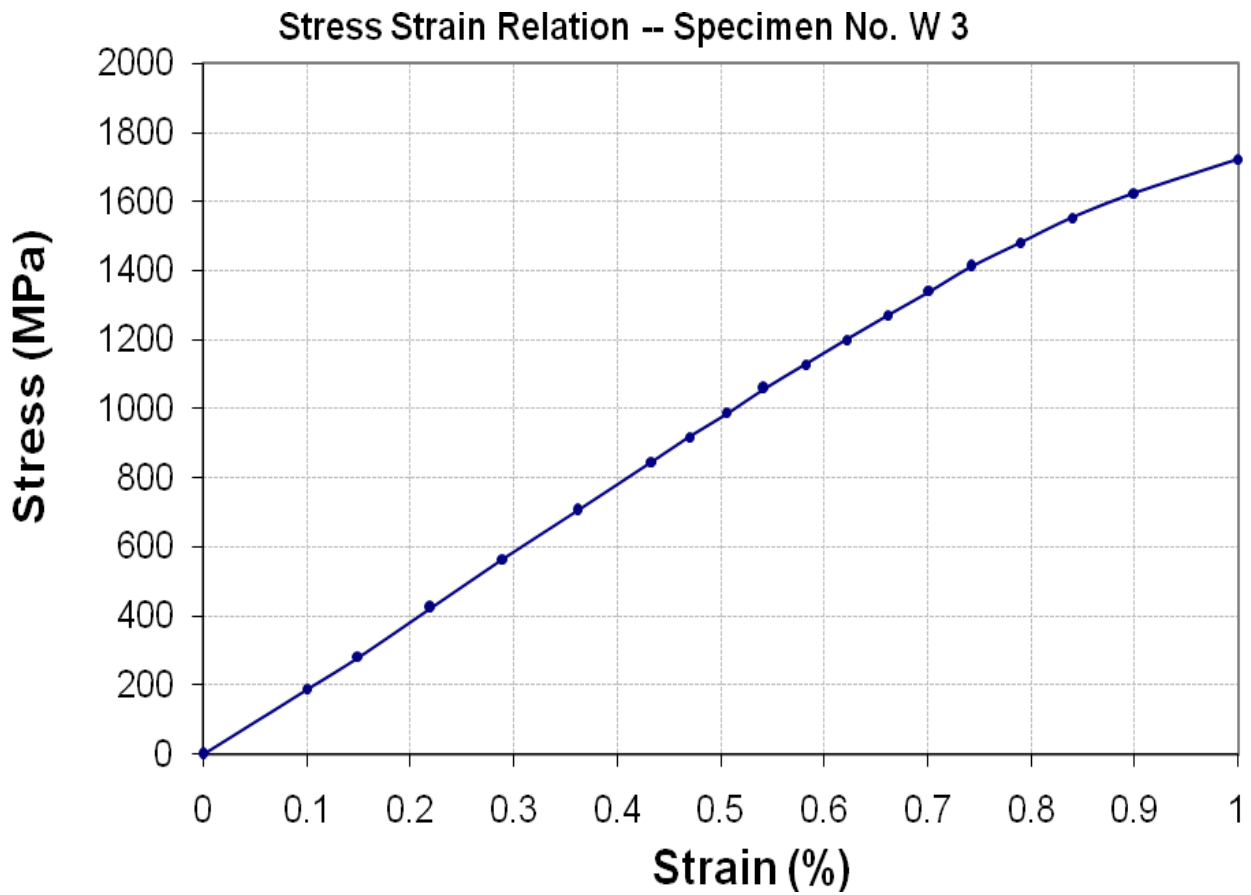
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Graph (Page – 4/4)



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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 (RRR)

Dualization of Muzaffargarh Road (Jauharabad Chowk Girote) Length 25.25 km in District Khushab, 1. Group -I km no. 0.00 to 8.00 = 8 km 2. Group –II & III km no. 8.00 to 25.25 = 17.25 km. (WMI)

Reference # CED/TFL **6014** (Dr. M Rizwan Riaz)

Dated: 18-11-2024

Reference of the request letter # 4376/JQK/24/7132

Dated: 16-10-2024

Tension Test Report (Page -1/3)

Date of Test 25-11-2024

Gauge length 600 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")	780.0	781.0	18100	177.56	20000	196.20	198	>3.50	xx
2	12.70 (1/2")	780.0	782.0	17100	167.75	19000	186.39	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	

Only two samples for Test

Note:

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

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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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 (RRR)

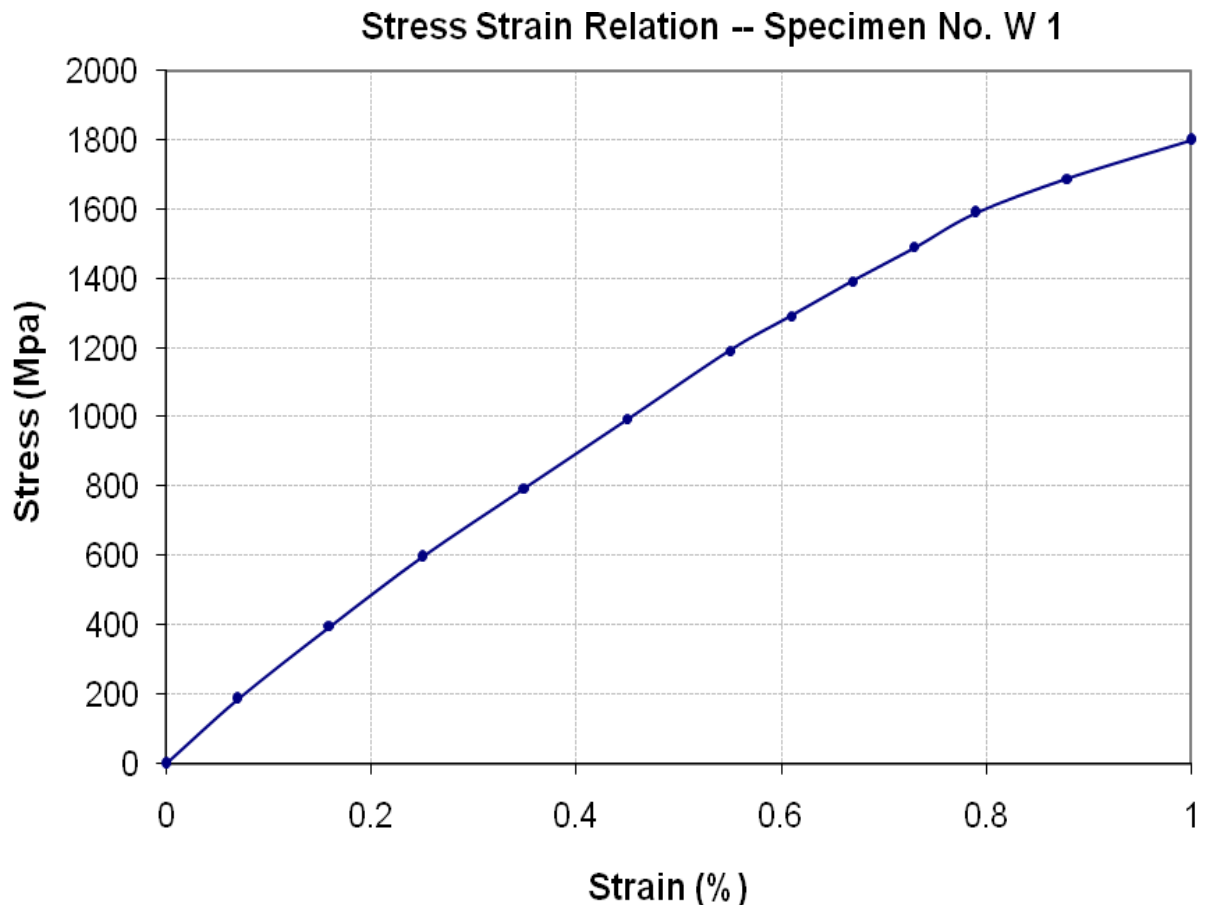
Dualization of Muzaffargarh Road (Jauharabad Chowk Girote) Length 25.25 km in
District Khushab, 1. Group -I km no. 0.00 to 8.00 = 8 km 2. Group -II & III km no. 8.00
to 25.25 = 17.25 km. (WMI)

Reference # CED/TFL **6014** (Dr. M Rizwan Riaz)
Reference of the request letter # 4376/JQK/24/7132

Dated: 18-11-2024

Dated: 16-10-2024

Graph (Page – 2/3)



I/C Testing Laboratoires
UET Lahore, Pakistan.

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Pakistan. Ph: 92-42-99029202

To,

Resident Engineer

NESPAK (RRR)

Dualization of Muzaffargarh Road (Jauharabad Chowk Girote) Length 25.25 km in District Khushab, 1. Group -I km no. 0.00 to 8.00 = 8 km 2. Group -II & III km no. 8.00 to 25.25 = 17.25 km. (WMI)

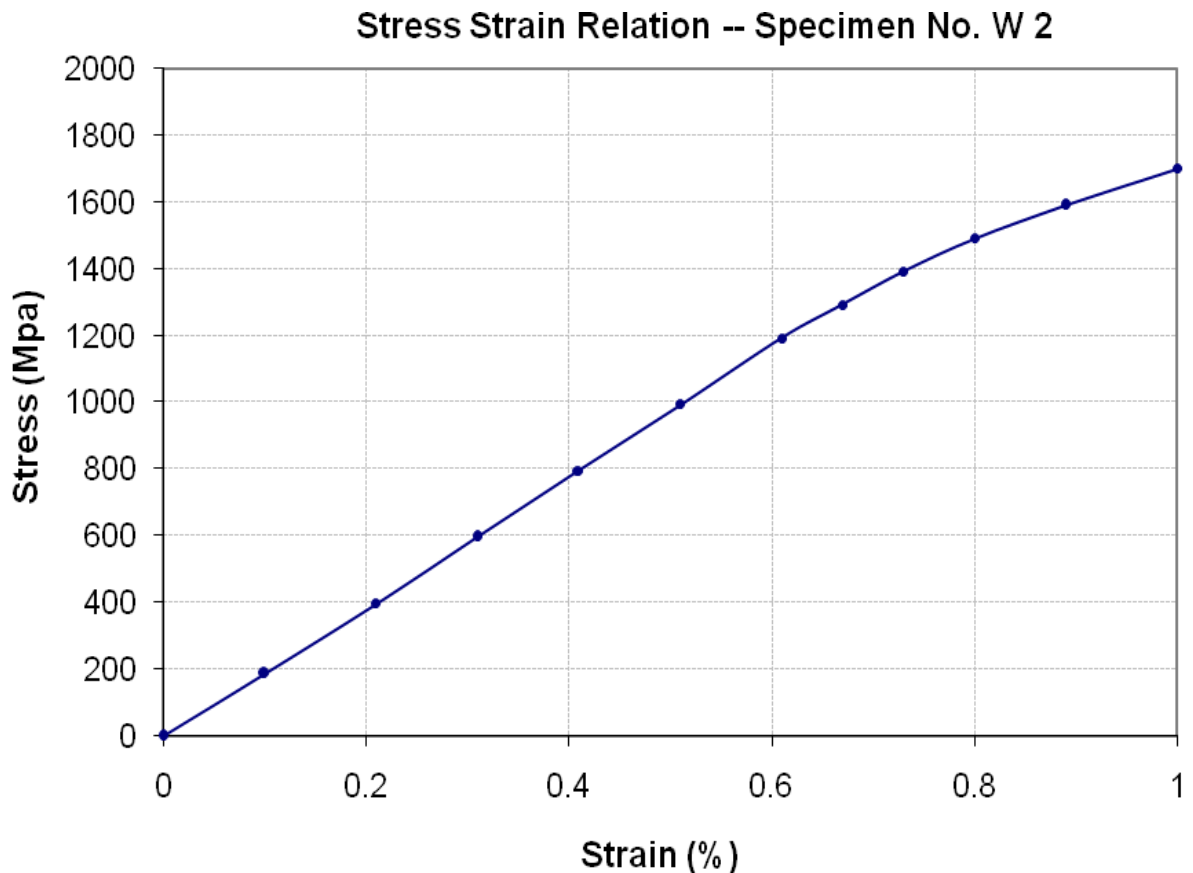
Reference # CED/TFL **6014** (Dr. M Rizwan Riaz)

Dated: 18-11-2024

Reference of the request letter # 4376/JQK/24/7132

Dated: 16-10-2024

Graph (Page – 3/3)



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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,

Incharch (Civil)
For Managing Director
Sui Northern Gas Pipelines Limited.
Construction of Boundary Wall at K-3 Choukiwala Near Tounsa.

Reference # CED/TFL **6037** (Dr. M Rizwan Riaz)
Reference of the request letter # CC/UB.W/K-3/05

Dated: 22-11-2024
Dated: 22-11-2024

Tension Test Report (Page -1/1)

Date of Test 25-11-2023
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	0.374	3/8	0.374	0.11	0.110	3720	4890	74600	74650	98000	98200	1.40	17.5	
2	0.373	3/8	0.374	0.11	0.110	3770	4860	75600	75710	97400	97600	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														
Bend Test														

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,
Senior Project Manager
Infrastructure Development Authority of The Punjab
Lahore

Reference # CED/TFL **6039** (Dr. M Rizwan Riaz)

Dated: 22-11-2024

Reference of the request letter # PD(NSICTR)/Package-A/2024/20773

Dated: 21-11-2024

Tension Test Report (Page -1/1)

Date of Test 25-11-2024

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	0.366	3	0.370	0.11	0.108	3640	4910	73000	74610	98400	100700	1.20	15.0	Kamran Steel
2	0.366	3	0.370	0.11	0.108	3740	4960	75000	76660	99400	101700	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,

M/S M. Saleem Construction Company
Sheikhupura
(Construction of Mazzrune Floor at Tapal Tea Pvt. Ltd.)

Reference # CED/TFL **6040** (Dr. M Rizwan Riaz)
Reference of the request letter # Nil

Dated: 25-11-2024
Dated: 25-11-2024

Tension Test Report (Page -1/1)

Date of Test 26-11-2024
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	0.375	3	0.375	0.11	0.110	3640	4760	73000	72760	95400	95200	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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.

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