



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/08/36833

Dated: 05-08-2021

Dated of Test: 09-08-2021

To
Assistant Director (QCD)
WASA, LDA, Lahore
(M/s Riaz Pipes Factory)

Subject: - **CALIBRATION OF HYDRAULIC JACK WITH GAUGE**
(MARK: TFL/08/36833)

Reference to your Letter No. QCD/1041-42, Dated: 04/08/2021 on the subject cited above. One Hydraulic Jack with Gauge as received by us has been calibrated. The results are tabulated as under:

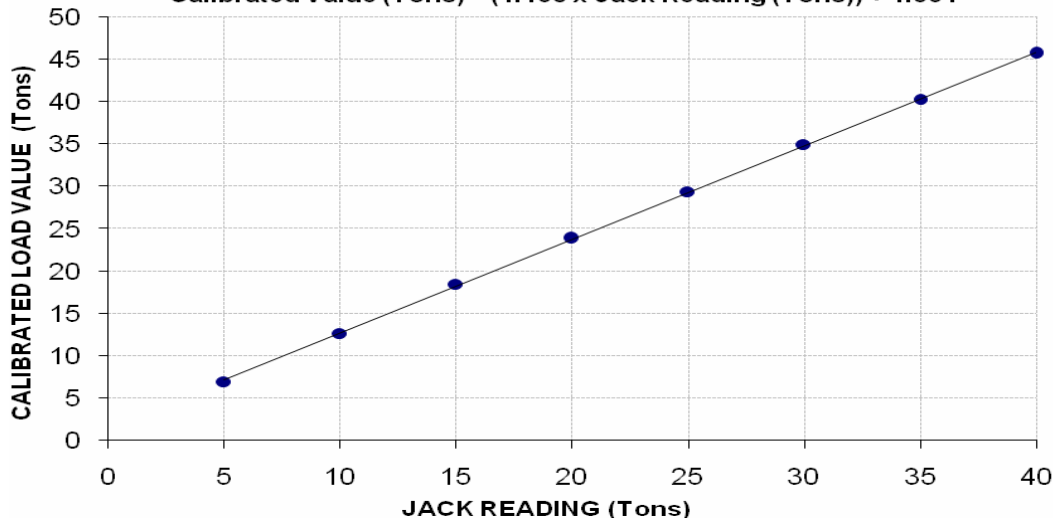
Total Range : Zero - 50 (Ton)
Calibrated Range : Zero - 40 (Ton)

Hydraulic Jack Reading (Ton)	5	10	15	20	25	30	35	40	
Calibrated Load	(kg)	6300	11450	16750	21700	26700	31800	36650	41550
	(Ton)	6.94	12.61	18.44	23.89	29.40	35.01	40.36	45.75

1000 Kg = 1.1011 Ton

Calibration Curve For Jack

Calibrated Value (Tons) = (1.108 x Jack Reading (Tons)) + 1.604



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STRUCTURAL ENGINEERING DIVISION
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To,
M/S China Gezhouba Group Company Limited
Pakistan
Construction of Mohmand Dam Hydropower Project – Contract No. ICB MDHP-01,
Construction of Civil Works Including Design, Supply and Installation of Electrical and
Mechanical Works and Hydraulic Steel Structures.

Reference # CED/TFL **36834** (Dr. Qasim Khan)
Reference of the request letter # MDSYS-121

Dated: 05-08-2021
Dated: 13-07-2021

Tension Test Report (Page – 1/4)

Date of Test 09-08-2021
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	1123.0	25200	247.21	27200	266.83	198	>3.50	xx
2	15.24 (0.6")	1102.0	1131.0	25000	245.25	27000	264.87	199	>3.50	xx
3	15.24 (0.6")	1102.0	1134.0	25700	252.12	27500	269.78	198	>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

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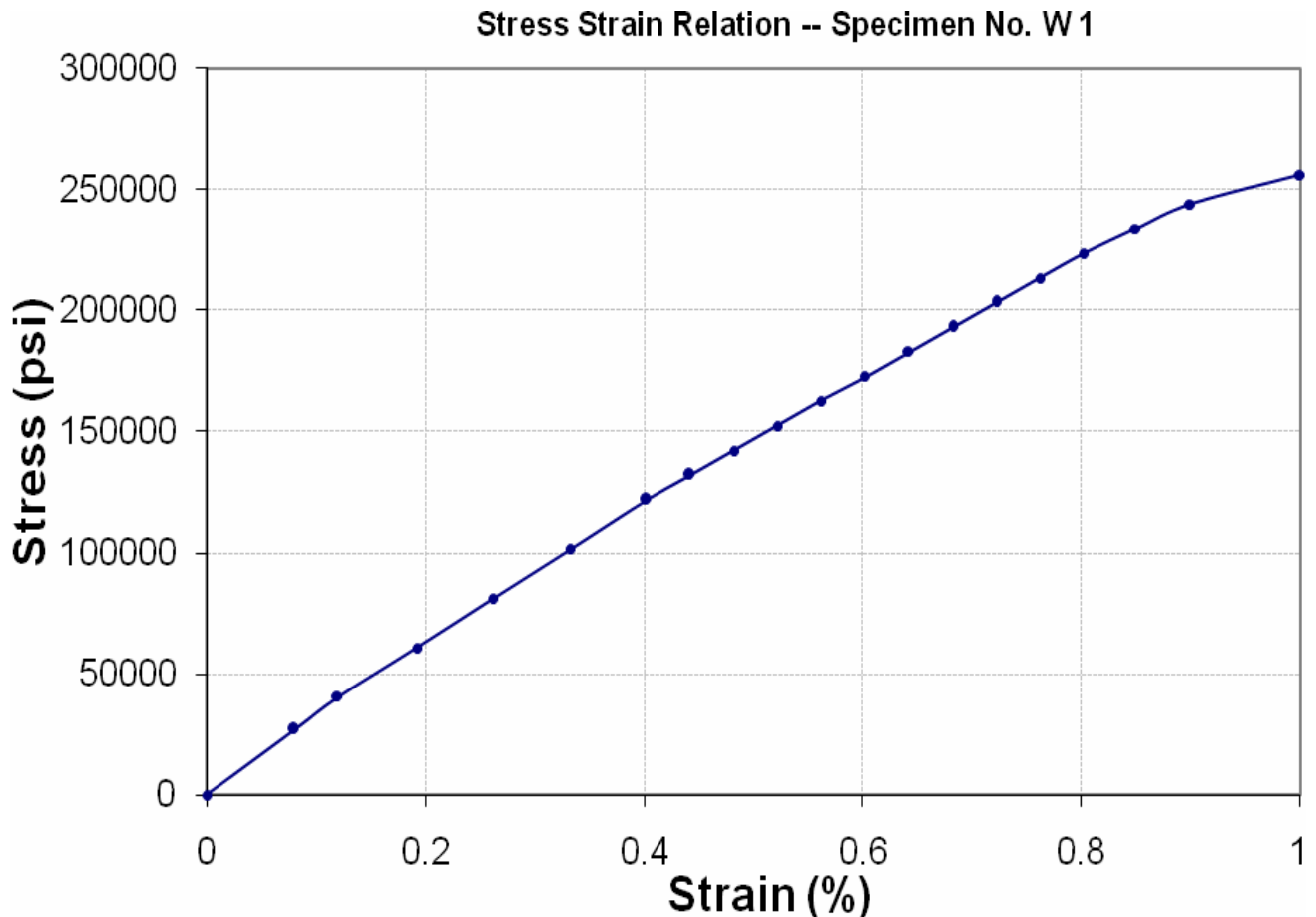
To,
M/S China Gezhouba Group Company Limited
Pakistan
Construction of Mohmand Dam Hydropower Project – Contract No. ICB MDHP-01,
Construction of Civil Works Including Design, Supply and Installation of Electrical and
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Reference # CED/TFL **36834** (Dr. Qasim Khan)
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Dated: 05-08-2021

Dated: 13-07-2021

Graph (Page – 2/4)



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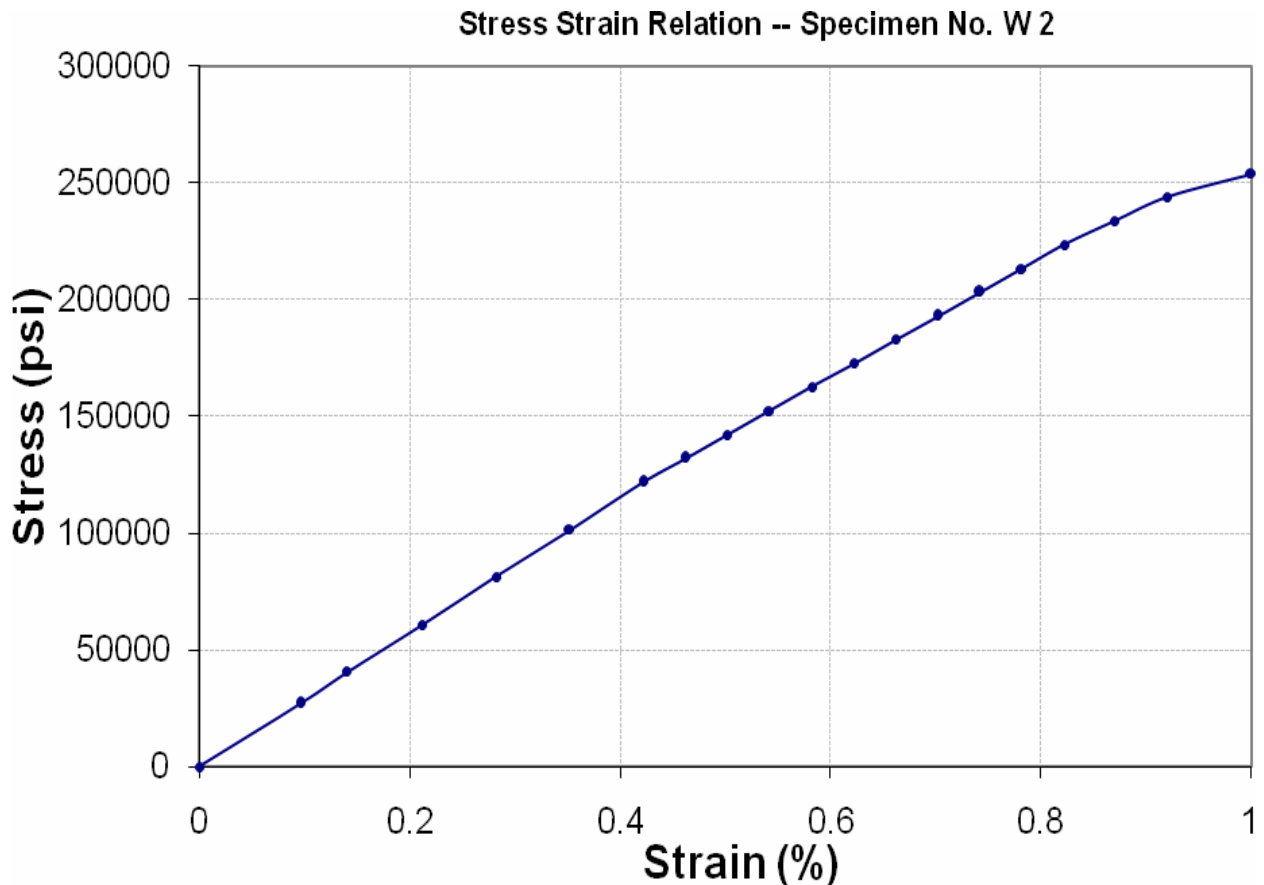
To,
M/S China Gezhouba Group Company Limited
Pakistan
Construction of Mohmand Dam Hydropower Project – Contract No. ICB MDHP-01,
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Dated: 05-08-2021

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Graph (Page – 3/4)



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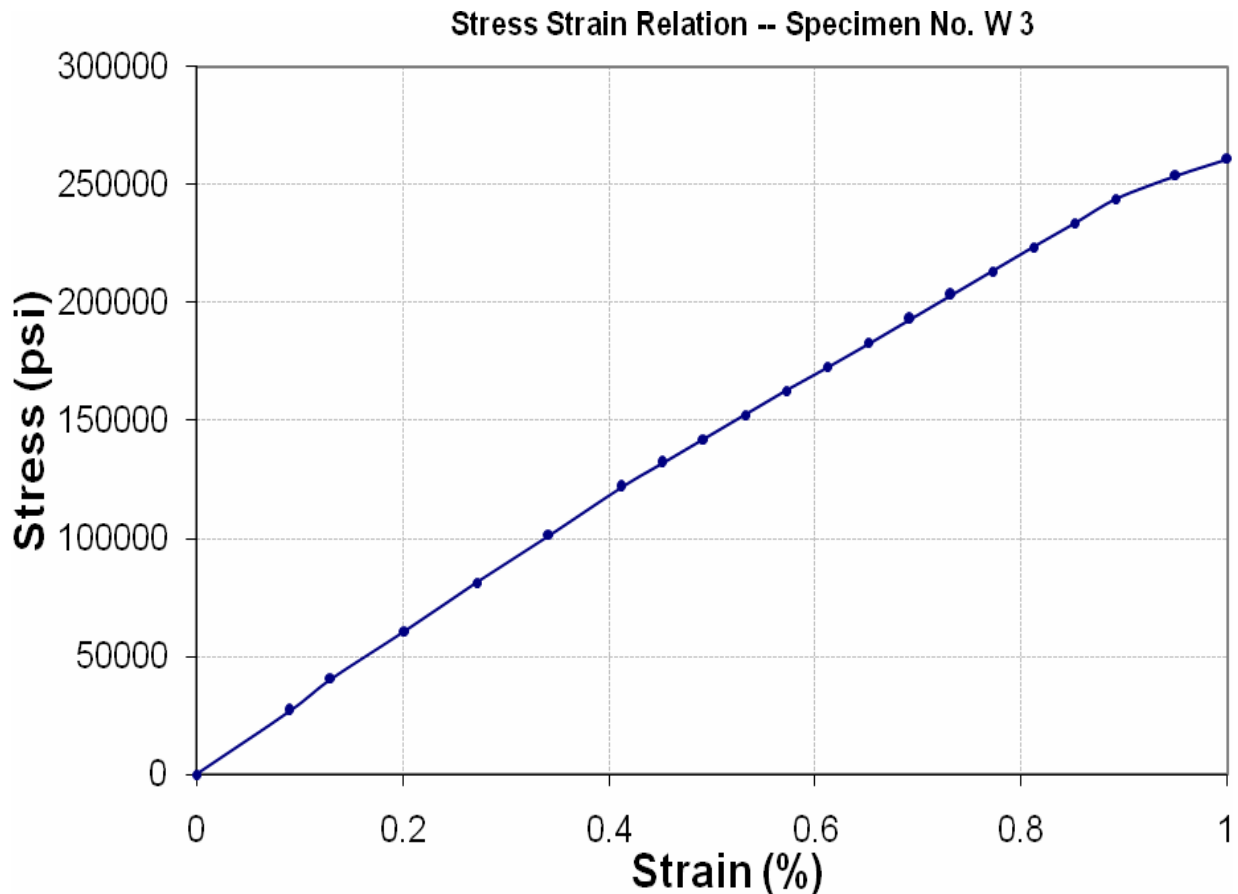
To,
M/S China Gezhouba Group Company Limited
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Construction of Mohmand Dam Hydropower Project – Contract No. ICB MDHP-01,
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Graph (Page – 4/4)



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To,
Sub Divisional Officer
R/O Drainage Sub Division
Sheikhupura
(Rehabilitation of Old Deg Nullah from Deg Diversion Channel to QB Link Canal RD 0+000-103+000)(Wire Manufacturing Industry)

Reference # CED/TFL **36837** (Dr. Qasim Khan)
Reference of the request letter # 534/2-W

Dated: 06-08-2021
Dated: 03-08-2021

Tension Test Report (Page -1/4)

Date of Test 09-08-2021
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	780.0	18000	176.58	19600	192.28	198	>3.50	xx
2	12.70 (1/2")	775.0	782.0	18000	176.58	19700	193.26	198	>3.50	xx
x3	12.70 (1/2")	775.0	783.0	17800	174.62	19400	190.31	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

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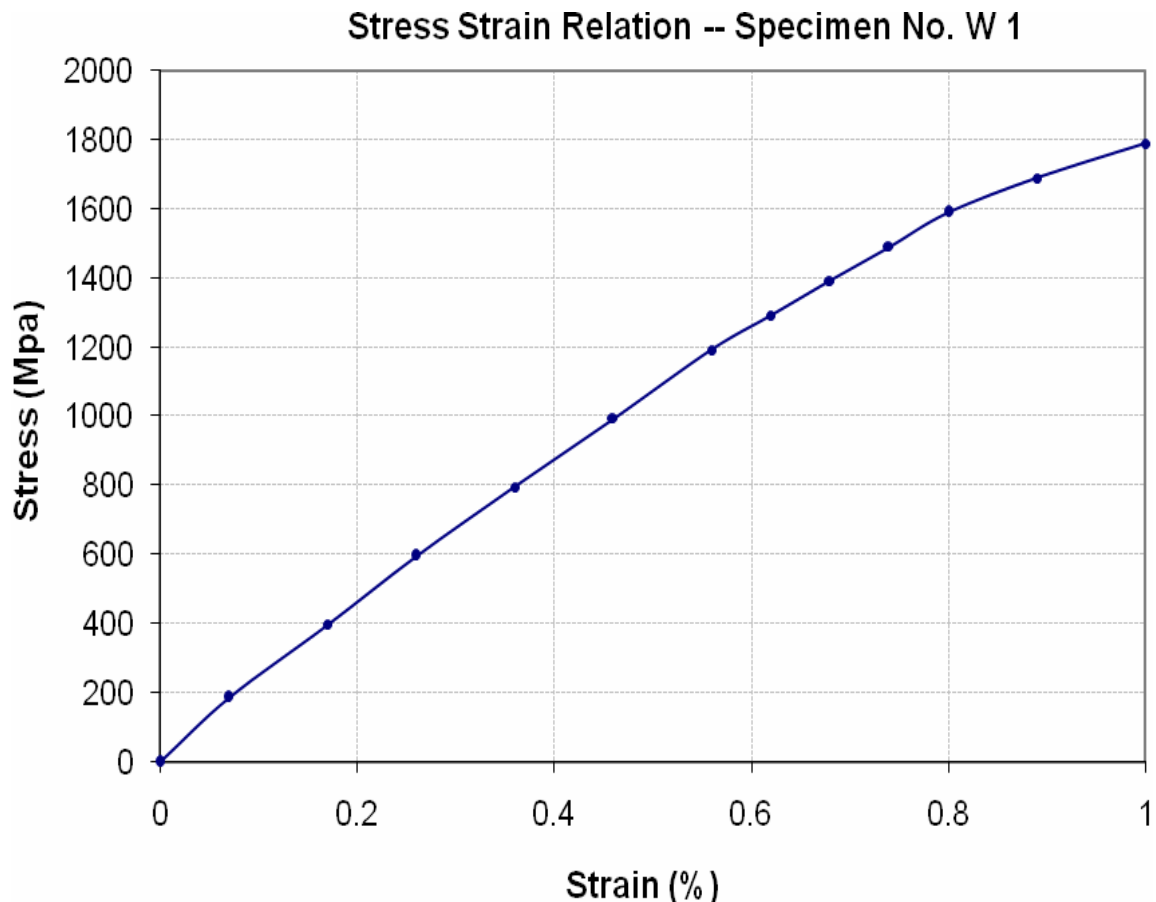
To,
Sub Divisional Officer
R/O Drainage Sub Division
Sheikhupura
(Rehabilitation of Old Deg Nullah from Deg Diversion Channel to QB Link Canal RD 0+000-103+000)(Wire Manufacturing Industry)

Reference # CED/TFL **36837** (Dr. Qasim Khan)
Reference of the request letter # 534/2-W

Dated: 06-08-2021

Dated: 03-08-2021

Graph (Page – 2/4)



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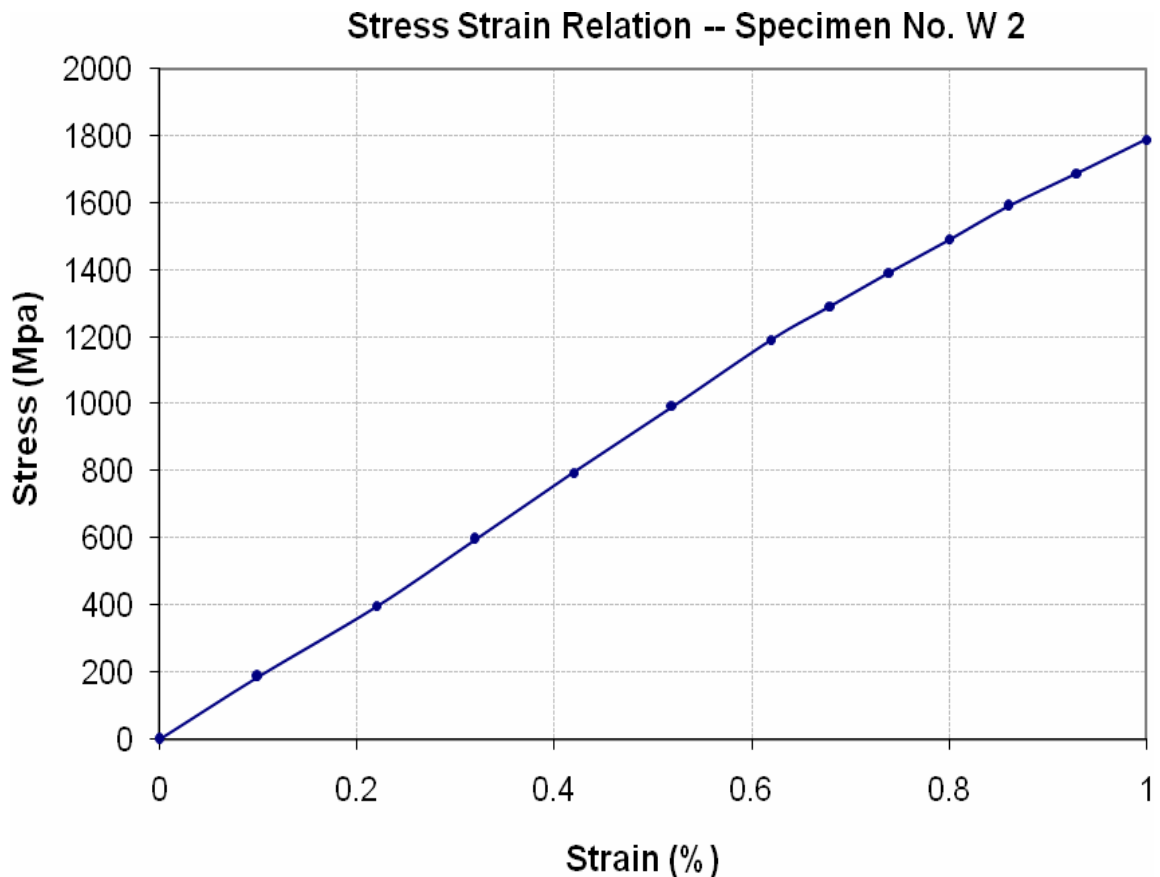
To,
Sub Divisional Officer
R/O Drainage Sub Division
Sheikhupura
(Rehabilitation of Old Deg Nullah from Deg Diversion Channel to QB Link Canal RD 0+000-103+000)(Wire Manufacturing Industry)

Reference # CED/TFL **36837** (Dr. Qasim Khan)
Reference of the request letter # 534/2-W

Dated: 06-08-2021

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Graph (Page – 3/4)



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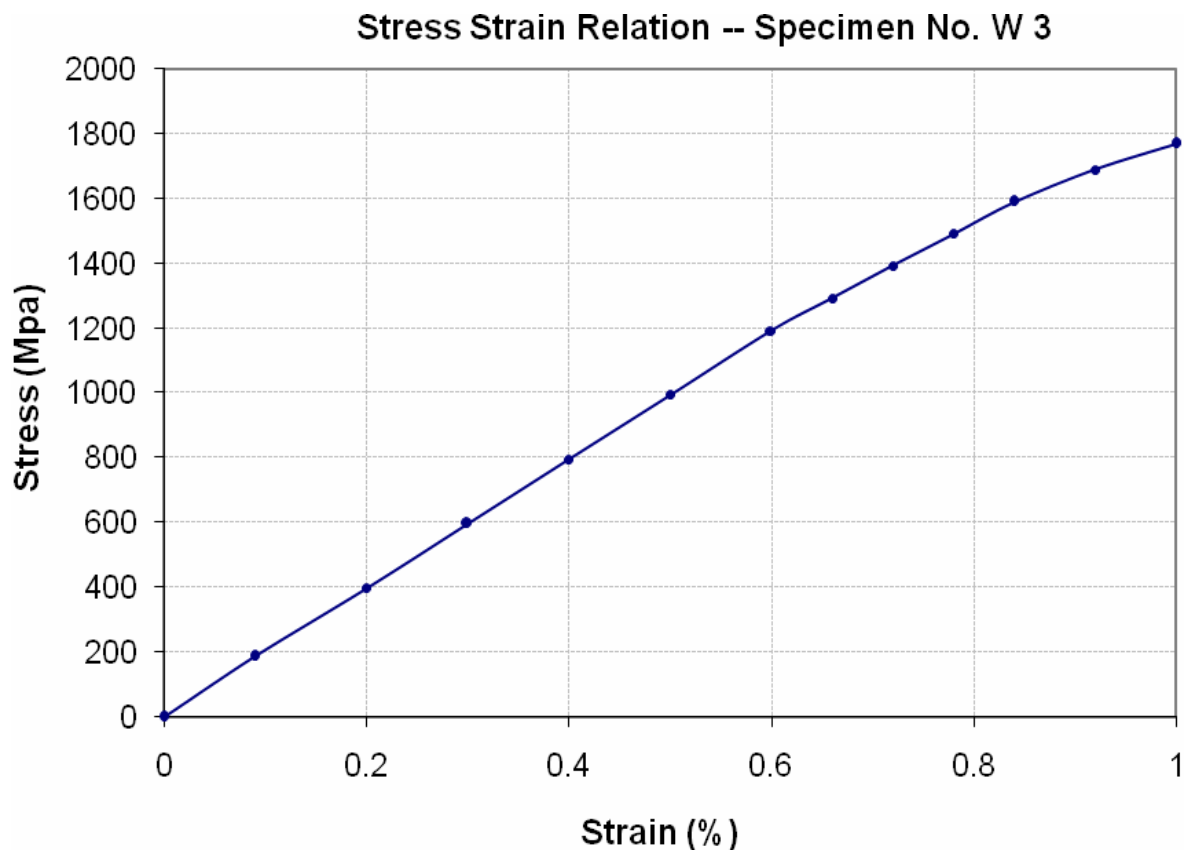
To,
Sub Divisional Officer
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Sheikhupura
(Rehabilitation of Old Deg Nullah from Deg Diversion Channel to QB Link Canal RD 0+000-103+000)(Wire Manufacturing Industry)

Reference # CED/TFL **36837** (Dr. Qasim Khan)
Reference of the request letter # 534/2-W

Dated: 06-08-2021

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Graph (Page – 4/4)



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To,
M/S Taj Gasoline Oil Depot
Habibabad

Reference # CED/TFL **36838** (Dr. Qasim Khan)
Reference of the request letter # Nil

Dated: 06-08-2021
Dated: 06-08-2021

Tension Test Report (Page -1/1)

Date of Test 09-08-2021
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	0.406	10	9.91	0.12	0.119	3600	4900	66138	66430	90021	90500	1.40	17.5	
2	0.421	10	10.09	0.12	0.124	3800	5000	69812	67630	91858	89000	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														

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To,
 Sr. Manager (Civil)
 Lucky Cement Limited, PEZU
 8000 TPD Line-2 at Lucky Cement Limited, PEZU

Reference # CED/TFL **36842** (Dr. Qasim Khan)
 Reference of the request letter # LCL/Civil/Line-2/2021/7/513

Dated: 06-08-2021
 Dated: 05-08-2021

Tension Test Report (Page -1/1)

Date of Test 09-08-2021
 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	0.376	10	9.53	0.12	0.111	3300	5000	60627	65730	91858	99600	1.60	20.0	Moiz Steel
2	0.390	10	9.70	0.12	0.115	3400	5300	62464	65380	97370	102000	1.50	18.8	
3	0.416	10	10.02	0.12	0.122	5000	6000	91858	90100	110230	108200	0.75	9.4	Naveen Steel
4	0.413	10	9.98	0.12	0.121	5000	6000	91858	90830	110230	109000	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only four samples for tensile and two samples for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

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To,
 Assistant Project Director
 PMU SBP Sahiwal
 Provision of Indoor Gym Facilities at Tehsil Chichawatni, District Sahiwal

Reference # CED/TFL **36843** (Dr. Qasim Khan) Dated: 06-08-2021
 Reference of the request letter # APD/PMU/SBP/SWL/21/200 Dated: 02-08-2021

Tension Test Report (Page -1/1)

Date of Test 09-08-2021
 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	0.380	3/8	0.377	0.11	0.112	3800	4700	76200	75020	94200	92800	1.10	13.8	
2	0.386	3/8	0.380	0.11	0.113	3400	4600	68200	66070	92200	89400	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

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To,
 Construction Manager
 Zameen Aurum
 Construction of Zameen Aurum at Plot No. 15 Block, Gulberg-III, Main Feroze Pur Road,
 Lahore

Reference # CED/TFL **36848** (Dr. Qasim Khan)
 Reference of the request letter # ZD/ZA/STR011

Dated: 09-08-2021
 Dated: 09-08-2021

Tension Test Report (Page -1/1)

Date of Test 09-08-2021
 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	0.437	3	0.405	0.11	0.129	3740	5000	75000	64140	100200	85800	1.50	18.8	Pak Steel
2	0.391	3	0.383	0.11	0.115	3620	4760	72600	69390	95400	91300	1.40	17.5	
3	4.137	10	1.244	1.27	1.216	38600	52400	67000	69960	91000	95000	1.60	20.0	
4	4.162	10	1.248	1.27	1.223	38400	51800	66700	69180	89900	93400	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only four 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														

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