



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
 Highway Sub Division
 Gojra

“Dualization of Faisalabad – Jhang Road (Section) Dandewal to Chiraghabad (km no. 169.05 to 170.35 and 170.55 to 170.75) Length 1.50 km District Toba Tek Singh.

Reference # CED/TFL **37197** (Dr. Rizwan Azam)

Dated: 13-10-2021

Reference of the request letter # 11

Dated: 05-10-2021

Tension Test Report (Page -1/1)

Date of Test 18-10-2021

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	0.357	3	0.366	0.11	0.105	4500	5400	90200	94460	108200	113400	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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Test Floor Laboratory
Department of Civil Engineering
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Pakistan. Ph: 92-42-99029202

To,
M/S Muhammad Sadiq Associates
Lahore Cantt

Reference # CED/TFL **37201** (Dr. Rizwan Azam)
Reference of the request letter # Nil

Dated: 13-10-2021
Dated: 13-10-2021

Tension Test Report (Page -1/1)

Date of Test 18-10-2021
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	0.363	3	0.369	0.11	0.107	3100	4700	62200	64010	94200	97100	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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STRUCTURAL ENGINEERING DIVISION
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To,
 Resident Engineer
 Fort Munro Cadet College
 Construction of Fort Munro Cadet College / Public School Complex, DG Khan (Phase-1,
 Package-1)

Reference # CED/TFL **37204** (Dr. Rizwan Azam) Dated: 13-10-2021
 Reference of the request letter # AHQ/74260/2/52/Trg/FMCC Dated: 05-10-2021

Tension Test Report (Page -1/1)

Date of Test 18-10-2021
 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	0.383	3	0.378	0.11	0.112	3600	4800	72200	70560	96200	94100	0.90	11.3	FF Steel
2	0.382	3	0.378	0.11	0.112	3600	4800	72200	70610	96200	94200	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and two samples for bend test														
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.

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STRUCTURAL ENGINEERING DIVISION
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To,
M/S Gujranwala Engineering Works
Lahore

Reference # CED/TFL **37218** (Dr. Rizwan Azam)
Reference of the request letter # Nil

Dated: 15-10-2021
Dated: 15-10-2021

Tension Test Report (Page -1/1)

Date of Test 18-10-2021
Gauge length 8 inches
Description Hot Dip Galvanized M.S Wire Tensile Test

Sr. No.	Weight (kg/m)	Diameter/ size		Area (mm ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (MPa) Actual	Ultimate Stress (MPa) Actual	Elongation (inch)	% Elongation	Remarks
		Nominal (mm)	Actual (mm)	Nominal	Actual							
1	0.045	2.95	2.70	-----	5.7	-----	460	-----	786	0.40	5.0	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile test												
Bend Test												

I/C Testing Laboratoires
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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
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To,
 Deputy Director (QCD)
 WASA, LDA, Lahore
 “Construction of Lift Station at Tallat Park, Shaheenabad and Adjoining Abadies, Alongwith
 Sewerage System and PCC in Streets Lahore”(M/s Pacon International)

Reference # CED/TFL **37220** (Dr. Rizwan Azam)
 Reference of the request letter # QCD1438-39

Dated: 15-10-2021
 Dated: 14-10-2021

Tension Test Report (Page -1/1)

Date of Test 18-10-2021
 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	0.371	3	0.373	0.11	0.109	3500	5400	70200	70780	108200	109200	1.10	13.8	
2	0.366	3	0.370	0.11	0.107	3400	5400	68200	69740	108200	110800	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.

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To,
 GM Project
 Ittefaq Building Solutions Pvt. Ltd.
 Fouji Fresh n Freeze at Sahiwal

Reference # CED/TFL 37221 (Dr. Rizwan Azam)
 Reference of the request letter # IBS/CED/FF-03

Dated: 15-10-2021
 Dated: 15-10-2021

Tension Test Report (Page -1/1)

Date of Test 18-10-2021
 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	0.379	3	0.376	0.11	0.111	3600	4800	72200	71310	96200	95100	1.00	12.5	
2	0.371	3	0.372	0.11	0.109	3500	4800	70200	70820	96200	97200	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 Laboratoires
UET Lahore, Pakistan.

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To,
 Resident Engineer
 AZ Engineering Associates
 Construction of Multi Purpose Complex (MPC), Building (Phase-I) at Quaid-E-Azam Business Park (QABP) on M-2 Motorway, Sheikhpura

Reference # CED/TFL **37223** (Dr. Rizwan Azam)
 Reference of the request letter # RE/AZEA/MPC-114

Dated: 18-10-2021
 Dated: 16-10-2021

Tension Test Report (Page -1/1)

Date of Test 18-10-2021
 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	0.408	3	0.391	0.11	0.120	4500	5400	90200	82620	108200	99200	1.10	13.8	Faizan Steel
2	0.408	3	0.391	0.11	0.120	4600	5400	92200	84620	108200	99400	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														

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To,
Resident Engineer
JERs Engineering Consultant
Construction of Metalled Road from Taunsa to Musa Khail Length 35.40 km Stretch to be
Constructed and Linked with Zhob (Package No. 2 & 3)

Reference # CED/TFL **37224** (Dr. Rizwan Azam)
Reference of the request letter # 688

Dated: 18-10-2021
Dated: 14-10-2021

Tension Test Report (Page -1/3)

Date of Test 18-10-2021
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	781.0	17800	174.62	19600	192.28	198	>3.50	xx
2	12.70 (1/2")	775.0	781.0	17300	169.71	19700	193.26	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
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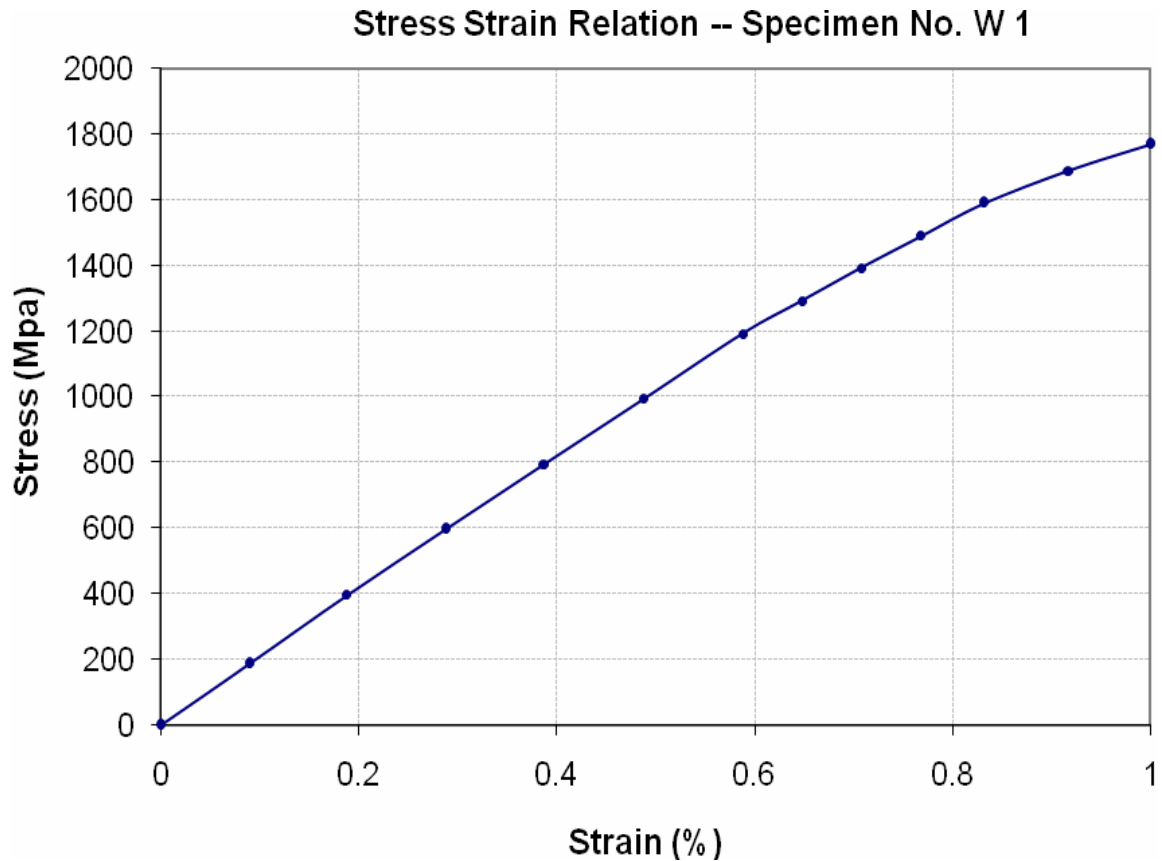
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
JERs Engineering Consultant
Construction of Metalled Road from Taunsa to Musa Khail Length 35.40 km Stretch to be
Constructed and Linked with Zhob (Package No. 2 & 3)

Reference # CED/TFL **37224** (Dr. Rizwan Azam)
Reference of the request letter # 688

Dated: 18-10-2021
Dated: 14-10-2021

Graph (Page – 2/3)



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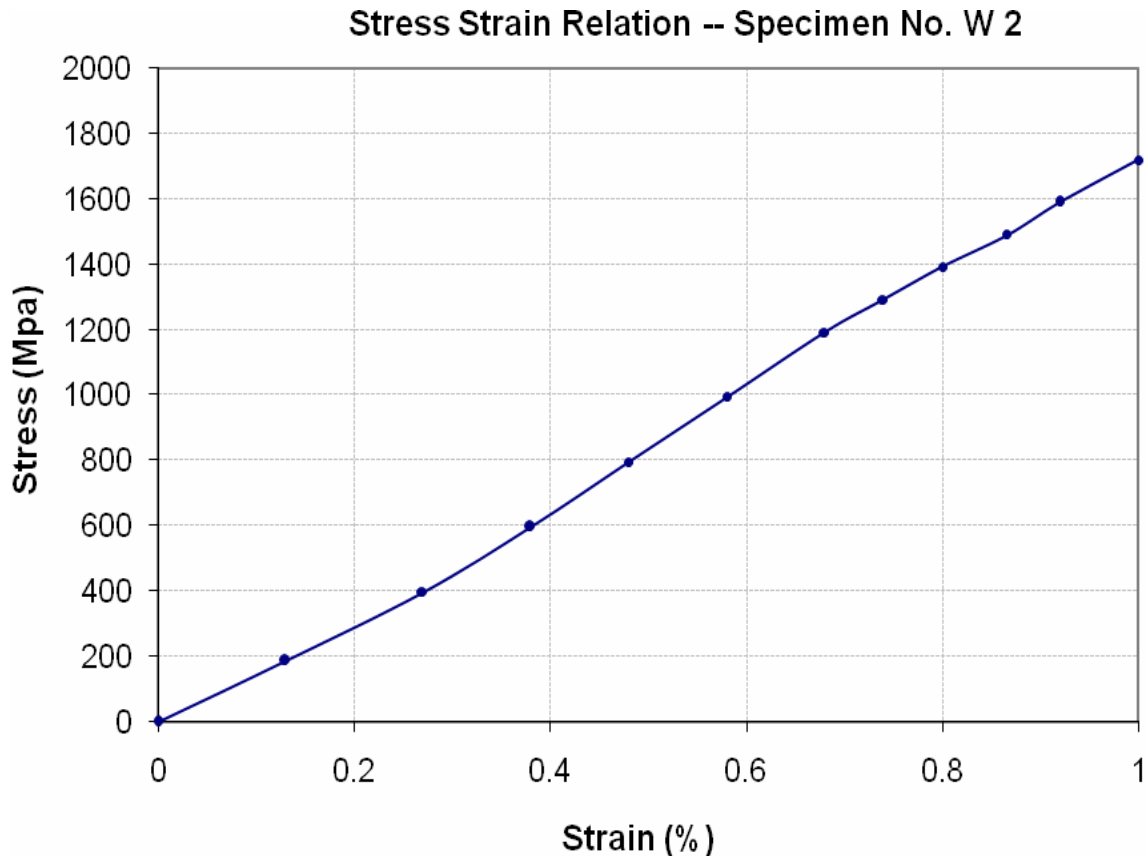
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
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To,
Resident Engineer
JERs Engineering Consultant
Construction of Metalled Road from Taunsa to Musa Khail Length 35.40 km Stretch to be
Constructed and Linked with Zhob (Package No. 2 & 3)

Reference # CED/TFL **37224** (Dr. Rizwan Azam)
Reference of the request letter # 688

Dated: 18-10-2021
Dated: 14-10-2021

Graph (Page – 3/3)



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