



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
Diamer Basha Consultants Group (DBCg)
NESPAK - ACE -MMP - MWH - ROYRY - DOLSAR Jv
Diamer Basha Dam Project

Reference # CED/TFL **2843** (Dr. M Rizwan Riaz)
Reference of the request letter # DBCg/Lab/PF JV/2023/005

Dated: 24-02-2023
Dated: 21-02-2023

Tension Test Report (Page -1/3)

Date of Test 28-02-2023
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	781	17000	166.77	19100	187.37	199	>3.50	WS-S4-2022-04A
2	15.24 (0.6")	1102.0	1117	24900	244.27	27300	267.81	198	>3.50	WS-S4-2022-04
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
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 Laboratories
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Note:

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To,

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Diamer Basha Consultants Group (DBCg)
NESPAK - ACE -MMP - MWH - ROYRY - DOLSAR Jv
Diamer Basha Dam Project

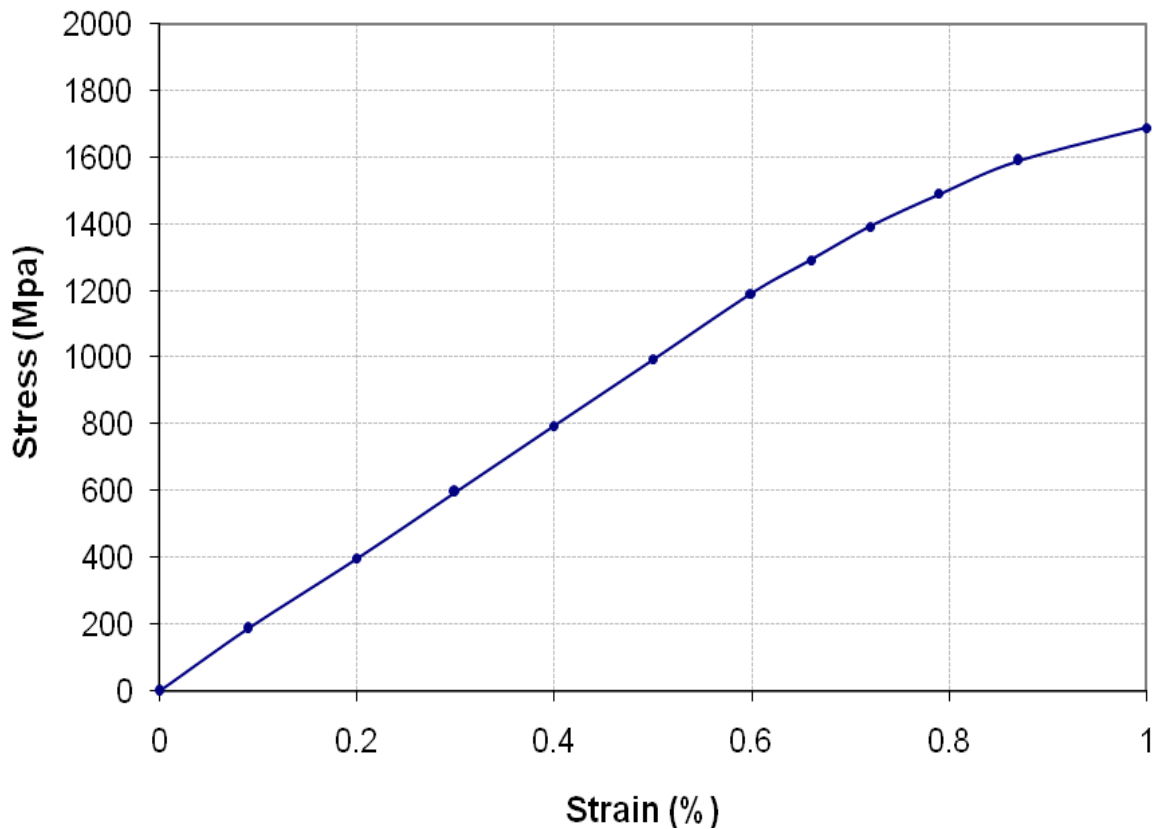
Reference # CED/TFL **2843** (Dr. M Rizwan Riaz)
Reference of the request letter # DBCG/Lab/PF JV/2023/005

Dated: 24-02-2023

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Graph (Page – 2/3)

Stress Strain Relation -- Specimen No. W 1 (WS-S4-2022-04A)



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To,

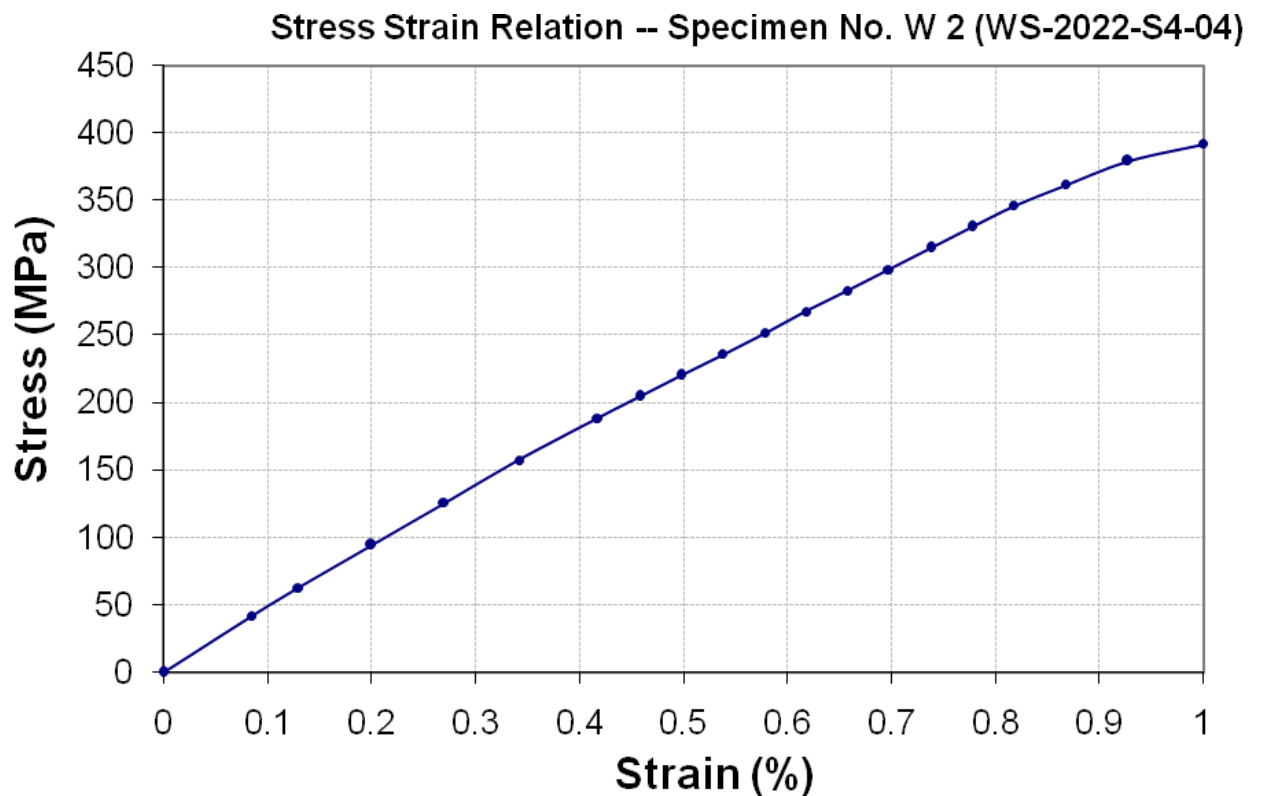
Resident Engineer
Diamer Basha Consultants Group (DBCG)
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Dated: 24-02-2023

Dated: 21-02-2023

Graph (Page – 3/3)



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STRUCTURAL ENGINEERING DIVISION
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To,
 Assistant Director
 Defence Housing Authority
 Gujranwala
 “Construction of Villas (Block – A & D)”

Reference # CED/TFL **2844** (Dr. M Eizwan Riaz)
 Reference of the request letter # 111/3/AD Bldgs/Gen/33

Dated: 27-02-2023
 Dated: 27-02-2023

Tension Test Report (Page -1/2)

Date of Test 28-02-2023
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		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	0.374	0.11	0.110	3200	5200	64200	64050	104200	104100	1.20	15.0	Siraj Steel
2	0.373	3	0.374	0.11	0.110	3200	5100	64200	64340	102200	102600	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,
 Assistant Director
 Defence Housing Authority
 Gujranwala
 “Construction of Villas (Block – A & D)”

Reference # CED/TFL **2844** (Dr. M Eizwan Riaz)
 Reference of the request letter # 111/3/AD Bldgs/Gen/34

Dated: 27-02-2023
 Dated: 27-02-2023

Tension Test Report (Page -2/2)

Date of Test 28-02-2023
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		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	0.362	3	0.368	0.11	0.106	3000	4700	60200	62150	94200	97400	1.50	18.8	AK Steel
2	0.364	3	0.369	0.11	0.107	3000	4800	60200	61860	96200	99000	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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UET Lahore, Pakistan.

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To,

PD North-III
 WASO-PAEC
 Chashma

“Construction of 120 Rooms Residential Building for Friendship at FFP Site”

Reference # CED/TFL **2846** (Dr. M Rizwan Riaz)

Dated: 27-02-2023

Reference of the request letter # WASO-CMD-LOI-158/C/261

Dated: 07-02-2023

Tension Test Report (Page -1/1)

Date of Test 28-02-2023

Gauge length 8 inches

Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		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	0.397	3	0.385	0.11	0.117	3100	4800	62200	58610	96200	90800	1.40	17.5	SJ Steel
2	0.384	3	0.379	0.11	0.113	3000	4600	60200	58560	92200	89800	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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
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To,
Material Engineer
Banu Mukhtar Contracting (Pvt) Ltd
Burj – 1 by Ajwa Builders.

Reference # CED/TFL **2847** (Dr. M Eizwan Riaz)
Reference of the request letter # DOC-BMC/AJWA/043

Dated: 27-02-2023
Dated: 27-02-2023

Tension Test Report (Page -1/1)

Date of Test 28-02-2023
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		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	3100	4600	62200	62010	92200	92100	1.20	15.0	SJ Steel
2	0.359	3	0.367	0.11	0.106	3000	4400	60200	62680	88200	92000	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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 Laboratoires
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Pakistan. Ph: 92-42-99029202

To,
 Abdul Qadir Ali
 80-81 L Model Town Extension, Lahore

Reference # CED/TFL **2850** (Dr. M Eizwan Riaz)
 Reference of the request letter # Nil

Dated: 27-02-2023
 Dated: 27-02-2023

Tension Test Report (Page -1/1)

Date of Test 28-02-2023
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		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	0.376	3	0.375	0.11	0.111	3500	5200	70200	69810	104200	103800	1.30	16.3	SJ Steel
2	0.369	3	0.372	0.11	0.108	3400	5100	68200	69110	102200	103700	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,
 Abdul Qadir Ali
 42 A Gulberg III Lahore

Reference # CED/TFL **2851** (Dr. M Eizwan Riaz)
 Reference of the request letter # Nil

Dated: 27-02-2023
 Dated: 27-02-2023

Tension Test Report (Page -1/1)

Date of Test 28-02-2023
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		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	0.360	3	0.367	0.11	0.106	3100	5200	62200	64620	104200	108400	1.00	12.5	SJ Steel
2	0.364	3	0.369	0.11	0.107	3200	5300	64200	65970	106200	109300	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														

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