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

To, Assistant Director (Engg) Zone-II (Khiali) WASA (GDA) Gujranwala

(Upgradation of Disposal Works at Khaiali Sheikhupura Road and RCC Sewer Street Connections from Khiali Bypass to Gujranwala Main Drain in WASA Limit Gujranwala)(M/s Four Star Naru Construction Co.)

Reference # CED/TFL 33768 (Dr. Safeer Abbas)	Dated: 02-09-2019
Reference of the request letter # WASA/ADE-II(Khiali)/134	Dated: 27-08-2019

Tension Test Report (Page -1/1)

Date of Test03-09-2019Gauge length8 inchesDescriptionPlain Steel Bar Tensile and Bend Test as per ASTM-A615

ir. No.	Weight	Dian Si (in	neter/ ze ch)	Aı (iı	rea 1 ²)	Yield load	Breaking Load	Yield (p	Stress si)	Ultimat (p	e Stress si)	Elongation	longation	emarks									
S	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	% E	Ro									
1	0.089	3/16	0.182		0.026	900	1100		75910		92800	0.50	6.3										
-	-	-	-	-	-	-	-	-	-	-	-	-	-										
-	-	-	-	-	-	-	-	-	-	-	-	-	-										
-	-	-	-	-	-	-	-	-	-	-	-	-	-										
-	-	-	-	-	-	-	-	-	-	-	-	-	-										
-	-	-	-	-	-	-	-	-	-	-	-	-	-										
			Ň	ote: on	ly one s	sample fo	or tensile	and one	sample fo	or bend t	est												
							Bend T	est															
3/1	6" Dia E	Bar Ben	d Test 7	Through	180° is	Satisfact	ory																

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

2. The above results pertain to sample /samples supplied to this laboratory.

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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, Laboratory Manager M/S CGGC Sukhi Kinari Project Management in Pakistan 874 MW Sukhi Kinari Power Project

Reference # CED/TFL 33769 (Dr. Ali Ahmed)	
Reference of the request letter # Nil	

Dated: 02-09-2019 Dated: 16-08-2019

Tension Test Report (Page – 1/4)

Date of Test Gauge length Description 03-09-2019 640 mm Steel Strand Tensile Test as per ASTM A-416-94a

Sr. No.	Nominal Diameter	Nominal Weight	Measured weight	Yield strength clause (6.3)		Brea strength (6.	Breaking strength clause (6.2)		Elongation	rks / Coil No.								
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	E, GPa	%	Rema								
1	15.24 (0.6")	1102.0	1133.0	24800	243.29	27300	267.81	198	>3.50	VPW								
2	15.24 (0.6")	1102.0	1134.0	25100	246.23	27500	269.78	199	>3.50	115- SJ-								
3	15.24 (0.6")	1102.0	1135.0	24600	241.33	26600	260.95	198	>3.50	19097								
-	-	-	-	-	-	-	-	-	-									
-	-	-	-	-	-	-	-	-	-									
-	-	-	-	-	-	-	-	-	-									
		•		Only thre	e samples fo	or Test	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

2. The above results pertain to sample /samples supplied to this laboratory.



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

To, Laboratory Manager M/S CGGC Sukhi Kinari Project Management in Pakistan 874 MW Sukhi Kinari Power Project

Reference # CED/TFL **33769** (Dr. Ali Ahmed) Reference of the request letter # Nil Dated: 02-09-2019 Dated: 16-08-2019

Graph (Page – 2/4)



I/C Testing Laboratoires UET Lahore, Pakistan.

- 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



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

To, Laboratory Manager M/S CGGC Sukhi Kinari Project Management in Pakistan 874 MW Sukhi Kinari Power Project

Reference # CED/TFL **33769** (Dr. Ali Ahmed) Reference of the request letter # Nil Dated: 02-09-2019 Dated: 16-08-2019

Graph (Page – 3/4)



I/C Testing Laboratoires UET Lahore, Pakistan.

- 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



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

To, Laboratory Manager M/S CGGC Sukhi Kinari Project Management in Pakistan 874 MW Sukhi Kinari Power Project

Reference # CED/TFL **33769** (Dr. Ali Ahmed) Reference of the request letter # Nil Dated: 02-09-2019 Dated: 16-08-2019

Graph (Page – 4/4)



I/C Testing Laboratoires UET Lahore, Pakistan.

- 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



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 New Administration Block in The Premises of Lahore High Court Lahore)

Reference # CED/TFL **33771** (Dr. Ali Ahmed) Reference of the request letter # 2530 Dated: 02-09-2019 Dated: 31-08-2019

Tension Test Report(Page - 1/2)Date of Test03-09-2019Gauge length640 mmDescriptionSteel Strand Tensile Test as per ASTM A-416-94a

Sr. No.	Nominal Diameter	Nominal Weight	Measured weight	Yield st clause	Yield strength clause (6.3)		Breaking strength clause (6.2)		Elongation	arks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	GPa	%	Rema
1	12.70 (1/2")	775.0	783.0	17400	170.69	19500	191.30	199	>3.50	XX
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
				Only one s	ample for T	est				

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

2. The above results pertain to sample /samples supplied to this laboratory.

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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 New Administration Block in The Premises of Lahore High Court Lahore)

Reference # CED/TFL **33771** (Dr. Ali Ahmed) Reference of the request letter # 2530 Dated: 02-09-2019 Dated: 31-08-2019

Graph (Page – 2/2)



I/C Testing Laboratoires UET Lahore, Pakistan.

- 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



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

To, M/S Shahzad & Company Lahore Road, Sheikhupura (Project: EB4 Amir Cotton Mills)

Reference # CED/TFL **33772** (Dr. Safeer Abbas) Reference of the request letter # Nil Dated: 02-09-2019 Dated: 02-09-2019

Tension Test Report(Page -1/1)Date of Test03-09-2019Gauge length8 inchesDescriptionDeformed Steel Bar Tensile and Bend Test as per ASTM-A615

r. No.	Weight	Diam Si (m	neter/ ze m)	Aı (iı	rea n ²)	Yield load	Breaking Load	Yield (p	Zield Stress Ultimate Stre (psi) (psi)		e Stress si)	Elongation	longation	emarks
S	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	% E	R
1	0.363	10	9.36	0.12	0.107	2800	4000	51441	57820	73487	82600	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			N	lote: on	ly one s	sample fo	or tensile	and one	sample f	or bend t	est			
<u> </u>							Bend T	est						
101	nm Dia	Bar Bei	nd Test	Throug	h 180° i	s Satisfac	ctory							

I/C Testing Laboratoires UET Lahore, Pakistan.

- 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



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

To, Assistant Engineer B & W Department, U.E.T, Lahore Construction of Workshop and Design Center at UET Lahore

Reference # CED/TFL **33774** (Dr. Safeer Abbas) Reference of the request letter # B&W/AEN/1097 Dated: 02-09-2019 Dated: 28-08-2019

Tension Test Report (Page -1/1)

Date of Test Gauge length Description 03-09-2019 8 inches Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

r. No.	Weight	Diameter/ size (in ²)		rea n ²)	Yield load	Breaking Load	Yield (p	Yield Stress (psi)		te Stress si)	Elongation	longation	emarks	
S	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	% E	Re
1	0.386	3	0.380	0.11	0.114	3300	5300	66200	64080	106200	103000	1.20	15.0	
2	0.383	3	0.379	0.11	0.113	3200	5300	64200	62610	106200	103700	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	•	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		ľ	N	ote: on	ly two s	amples f	or tensile	and one	sample f	or bend t	test	1		
							Bend T	est						
#3	Bar Ben	d Test	Fhrough	n 180° is	s Satisfa	ctory								

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

2. The above results pertain to sample /samples supplied to this laboratory.



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

To, Project Manager Gattwala Commercial Hub Construction of Gattwala Commercial Hub, Faisalabad

Reference # CED/TFL **33775** (Dr. Safeer Abbas) Reference of the request letter # G.C.H/MT-01 Dated: 02-09-2019 Dated: 02-09-2019

Tension Test Report (Page -1/1)

Date of Test Gauge length Description 03-09-2019 8 inches Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

r. No.	Weight	Dian si	neter/ ze	Aı (iı	rea n ²)	Yield load	Breaking Load	Yield (p	Stress si)	Ultimat (p	te Stress si)	Elongation	longation	emarks
S	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	H %	Re
1	0.356	3	0.365	0.11	0.105	3300	4400	66200	69430	88200	92600	1.20	15.0	
2	0.356	3	0.365	0.11	0.105	3300	4500	66200	69410	90200	94700	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		I	N	ote: on	ly two s	amples f	or tensile	and one	sample f	or bend	test	I		
							Bend T	`est						
#3	Bar Ben	d Test	Through	n 180° i	s Satisfa	ctory								

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

The above results pertain to sample /samples supplied to this laboratory.

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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 Depac Construction of Dr. Maqbool Ahmed Block, King Edward Medical University (KEMU), Lahore

Reference # CED/TFL **33777**, **783** (Dr. Safeer Abbas) Reference of the request letter # T-26/03/19 Dated: 02-09-2019 Dated: 02-09-2019

Tension Test Report (Page -1/1)

Date of Test Gauge length Description 03-09-2019 8 inches Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

r. No.	Weight	Dian si	neter/ ze	Aı (iı	rea n ²)	Yield load	Breaking Load	Yield (p	Stress si)	Ultimat (p	e Stress si)	Elongation	longation	emarks
S	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	% E	Re
1	0.349	3	0.361	0.11	0.103	3200	4400	64200	68750	88200	94600	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	I	-	•	-	-	-	-	-	-	•	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			N	ote: on	ly one s	sample fo	or tensile	and one	sample fo	or bend t	est			
							Bend T	`est						
#3	Bar Ben	d Test 7	Fhrough	n 180° i	s Satisfa	ictory								

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
- 2. The above results pertain to sample /samples supplied to this laboratory.



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

To, Resident Engineer Peas Consulting (Pvt) Ltd NA's (North-Zone) Project Construction of Bridge at km (34+157) (N-125)

Reference # CED/TFL 33779 (Dr. Ali Ahmed)Dated: 02-09-2019Reference of the request letter # RE/PEAS/NHA/BR-REH/N-125/2017/036 Dated: 31-08-2019

Tension Test Report (Page – 1/2)

Date of Test03-09-2019Gauge length640 mmDescriptionSteel Strand Tensile Test as per ASTM A-416-94a

Sr. No.	Nominal Diameter	Nominal Weight	Measured weight	Yield st clause	Yield strength clause (6.3)		king ngth e (6.2)	Young's Modulus of Elasticity "E"	% Elongation	emarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(KN)	(Kg)	(KN)	GPa		R
1	12.70 (1/2")	775.0	790.0	17600	172.66	19500	191.30	199	>3.50	XX
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
				Only one s	ample for T	est				

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

2. The above results pertain to sample /samples supplied to this laboratory.



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

To, Resident Engineer Peas Consulting (Pvt) Ltd NA's (North-Zone) Project Construction of Bridge at km (34+157) (N-125)

Reference # CED/TFL **33779** (Dr. Ali Ahmed)Dated: 02-09-2019Reference of the request letter # RE/PEAS/NHA/BR-REH/N-125/2017/036 Dated: 31-08-2019

Graph (Page – 2/2)



I/C Testing Laboratoires UET Lahore, Pakistan.

- 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

A HOUSE PLAN

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

To, Managing Director Exellent Builders Gulberg-II, Lahore

Reference # CED/TFL **33780** (Dr. Safeer Abbas) Reference of the request letter # Nil Dated: 03-09-2019 Dated: 03-09-2019

Tension Test Report(Page -1/1)Date of Test03-09-2019

Gauge length Description

8 inches Deformed Steel Bar Tensile Test as per ASTM-A615

ir. No.	Weight	Dian Si (in	neter/ bize (in nch)		rea 1 ²)	Yield load	Breaking Load	Yield (p	Stress si)	Ultimat (p	e Stress si)	Elongation	longation	emarks
S	(lbs/ft)	Nominal	Actual	Nominal	Image: Non-state Image: Non-state<			Actual	Nominal	Actual	(inch)	% E	Re	
1	0.367	3/8	0.371	0.11	0.108	3600	4700	72200	73520	94200	96000	0.75	9.4	
2	0.367	3/8	0.370	0.11	0.108	3500	4700	70200	71570	94200	96100	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	•	-	-	•	
-	-	-	-	-	-	-	-	-	-	•	-	-	-	
			1		Not	e: only t	wo sampl	les for ter	nsile test		I	1	[
							Bend T	est						

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

2. The above results pertain to sample /samples supplied to this laboratory.