

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

To,

Resident Engineer Zeeruk International (Pvt) Ltd Grade Separated Arrangement at Intersection of 11Th Avenue with Khyaban-e-Iqbal (E-11 Chowk), Islamabad. (United Wire Industry (Pvt) Ltd, Lahore)

Reference # CED/TFL <u>3168 (Dr. M Rizwan Riaz)</u>	Dated: 08-05-2023
Reference of the request letter # RE/Zeeruk/11 th Avenue/23/69	Dated: 05-05-2023

Tension Test Report (Page -1/4)

Date of Test16-05-2023Gauge length640 mmDescriptionSteel Strand Tensile Test as per ASTM A-416-94a

Sr. No.	Nominal Diameter	Nominal Weight	Measured weight	Yield s clause	trength e (6.3)	Brea stre claus	aking ngth e (6.2)	Young's Modulus of Elasticity "E"	Elongation	ırks / Coil No.		
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	GPa	%	Rema		
1	12.70 (1/2")	775.0	781.0	17500	171.68	19100	187.37	199	>3.50	XX		
2	12.70 (1/2")	775.0	781.0	17600	172.66	18800	184.43	199	>3.50	XX		
3	12.70 (1/2")	775.0	781.0	17700	173.64	19000	186.39	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.

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.



STRUCTURAL ENGINEERING DIVISION

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Reference # CED/TFL 3168 (Dr. M Rizwan Riaz)	Dated: 08-05-2023
Reference of the request letter # RE/Zeeruk/11 th Avenue/23/69	Dated: 05-05-2023

Graph (Page – 2/4)



Stress Strain Relation -- Specimen No. W 1

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
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- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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Reference # CED/TFL 3168 (Dr. M Rizwan Riaz)	Dated: 08-05-2023
Reference of the request letter # RE/Zeeruk/11 th Avenue/23/69	Dated: 05-05-2023

Graph (Page – 3/4)



Stress Strain Relation -- Specimen No. W 2

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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Reference # CED/TFL 3168 (Dr. M Rizwan Riaz)	Dated: 08-05-2023
Reference of the request letter # RE/Zeeruk/11 th Avenue/23/69	Dated: 05-05-2023

Graph (Page – 4/4)



Stress Strain Relation -- Specimen No. W 3

Strain (%)

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
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- 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

Resident Engineer NESPAK Construction Supervision of ADP Scheme No. 1745/190556 (2020-21) "F/S Design & Reconst: of Bridge: SH: Lot No. 2 Pakagevi: Doghi Bridge (S-12) (Ibrahim Nizami Wire Industry Lahore) Reference # CED/TFL <u>**3172** (Dr. M Rizwan Riaz)</u> Reference of the request letter # 4311/PKHA/NS/23/287 Dated: 03-05-2023 Dated: 03-05-2023

Tension Test Report (Page -1/2)

Date of Test16-05-2023Gauge length640 mmDescriptionSteel Strand Tensile Test as per ASTM A-416-94a

Sr. No.	Nominal Diameter	Nominal Weight	Measured weight	Yield st clause	trength e (6.3)	Breaking strength clause (6.2)		Young's Modulus of Elasticity "E"	Elongation	rks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	GPa	%	Rema
1	12.70 (1/2")	775.0	775.0	18200	178.54	19600	192.28	199	>3.50	XX
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
				Only one	e sample fo	r 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.



STRUCTURAL ENGINEERING DIVISION

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

Resident Engineer NESPAK Construction Supervision of ADP Scheme No. 1745/190556 (2020-21) "F/S Design & Reconst: of Bridge: SH: Lot No. 2 Pakagevi: Doghi Bridge (S-12) (Ibrahim Nizami Wire Industry Lahore)

Reference # CED/TFL <u>3172 (Dr. M Rizwan Riaz)</u> Reference of the request letter # 4311/PKHA/NS/23/287 Dated: 09-05-2023 Dated: 03-05-2023

Graph (Page – 2/2)



Stress Strain Relation -- Specimen No. W 1

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,

State Grid

Reference # CED/TFL 3183 (Dr. Asad Ali)

Procurement of Plant, Design, Manufacturing, Supply, Installation, Testing & Commissioning of 500kV Maira Switching Station.

	Reference of the request letter # CET/ADB-300B/23/166 Dated: 09-05-2023													
	T	ension	Test]	Repor	t (Pa	age -1/1)								
	Da	ate of T	est	- 16	5-05-202	23								
	Ga	auge ler	ıgth	8	inches									
	De	escriptio	on	D	eformed	Steel Ba	r Tensile	and Bend	l Test as p	per ASTM	I-A615			
Sr. No. Weight		Diam Si	Diameter/ Size		Area (in²)		Breaking Load	Yield Stress (psi)		Ultimat (p	e Stress si)	Elongation	longation	emarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	% E	R
1	0.359	3	0.367	0.11	0.105	3520	4640	70600	73540	93000	97000	1.10	13.8	u
2	0.358	3	0.366	0.11	0.105	3430	4560	68800	71880	91400	95600	1.00	12.5	umra) Steel
-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ka
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			No	te: onl	y two sa	amples fo	or tensile	and two	samples	for bend	test			
							Bend T	est						
#3	Bar Ben	d Test 7	Fhrough	180° i	s Satisfa	ictory								
#3	3 Bar Bend Test Through 180° is Satisfactory													

Witness by Ali Haseeb Shah (CET Engineering) & Fayyaz Karimi (Barqaab Consulting Services)

I/C Testing Laboratoires UET Lahore, Pakistan.

Dated: 09-05-2023

- 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 Project Director PMU Sports Board Punjab Bahawalpur Division Snythetic Athletic Track at Dring Stadium Bahawalpur.

Reference # CED/TFL <u>**3184** (Dr. M Rizwan Riaz)</u> Reference of the request letter # APD/PMU/BWP/23/631 Dated: 15-05-2023 Dated: 03-01-2023

Tension Test Report(Page -1/1)Date of Test16-05-2023Gauge length8 inchesDescriptionDeformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Dian Si (in	neter/ ze ch)	Area (in²)		Area (in ²) Brcaking		Breaking Load	Yield (p	Stress si)	Ultimate Stress (psi)		Elongation	longation	emarks
S 2	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	% E	R	
1	0.430	3/8	0.401	0.11	0.126	4100	6000	82200	71530	120300	104700	1.30	16.3	steel	
2	0.384	3/8	0.379	0.11	0.113	3600	5400	72200	70240	108200	105400	1.40	17.5	FF S	
-	-	I	-	I	-	-	-	-	-	-	-	-	-		
-	-	I	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		6	N	ote: on	ly two s	amples f	or tensile	and one	sample f	or bend	test	ſ	(
							Bend T	est							
3/8	3/8" Dia Bar Bend Test Through 180° is Satisfactory														

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,

Project Manager Q-Links Construction Construction of JGM, OM, BH-3, JH, SH, Eastern Villas Bahria Town Lahore

Reference # CED/TFL <u>3185 (Dr. M Rizwan Riaz)</u>	Dated: 15-05-2023
Reference of the request letter # QLC-BH2-UET-2023-05-LTR-007	Dated: 15-05-2023

Tension Test Report (Page -1/1)

Date of Test Gauge length Description 16-05-2023

8 inches

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

r. No.	Weight	Dian Si	neter/ ze	Aı (iı	rea n²)	Yield load	Breaking Load	Yield (p	Stress si)	Ultimat (p	te Stress si)	Elongation	longation	emarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	% E	R
1	0.400	3	0.387	0.11	0.118	3600	5400	72200	67510	108200	101300	1.20	15.0	J ijar
-	-	-	-	-	-	-	-	-	-	-	-	-	-	Su Su
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			N	ote: on	ly one s	sample fo	or tensile	and one	sample f	or bend t	est		· · · · · · · · · · · · · · · · · · ·	
							Bend T	'est						
#3	Bar Ben	d Test	Through	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,

M/S ARCON Islamabad (Site ID: Rep_e.coPK000646FT, N-3134, 9, 53699, N-3412, 53681, N3-2023-15, 52964, 130)

Reference # CED/TFL **<u>3186</u>** (Dr. M Rizwan Riaz)

Reference of the request letter # Nil

Dated: 15-05-2023 Dated: 15-05-2023

Tension Test Report(Page -1/1)

Date of Test Gauge length Description 16-05-2023

8 inches

Deformed Steel Bar Tensile Test as per ASTM-A615

ir. No.	Weight	Dian Si	neter/ ze	Area (in²)		Yield load	Breaking Load	Yield Stress (psi)		Ultimat (p	e Stress si)	Elongation	longation	emarks	
S	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	H %	R	
1	0.416	10	10.02	0.12	0.122	4000	5000	73487	72160	91858	90200	1.40	17.5		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		r	1		No	te: only o	one samp	le for ten	sile test		1	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.



STRUCTURAL ENGINEERING DIVISION

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

DirectorPaidar Builders (Pvt) LtdLahore(Construction of TCF Unit- 1 Primary School MS. Haseena Raja Campus Pattoki,Lahore-II)Reference # CED/TFL 3189 (Dr. M Rizwan Riaz)Reference of the request letter # PBL/UET/2023-485Dated: 15-05-2023Dated: 11-01-2023

Tension Test Report (Page -1/1)

Date of Test Gauge length Description

16-05-20238 inchesDeformed Steel Bar Tensile and Bend Test as per ASTM-A615

ir. No.	Weight	Dian Si (in	neter/ ze ch)	Area (in²)		Yield load Breaking Load		Yield Stress (psi)		Ultimat (p	e Stress si)	Elongation	longation	emarks
S	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	H %	R
1	0.381	3/8	0.378	0.11	0.112	3600	5200	72200	70830	104200	102400	1.20	15.0	faq eel
-	-	I	-	I	-	-	-	-	-	-	-	-	-	Itte Ste
-	-	I	-	I	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			N	ote: on	ly one s	ample fo	or tensile	and one	sample fo	or Bend t	est			
							Bend T	est						
3/8	" Dia Ba	ar Bend	Test Th	nrough	180° is S	Satisfacto	ry							

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 Sialkot (Construction of Additional Courts in The Remises of Existing Civil Courts Complex at D.C Road Sialkot)

Reference # CED/TFL <u>**3190** (Dr. M Rizwan Riaz)</u> Reference of the request letter # 552/ST Dated: 15-05-2023 Dated: 05-05-2023

Т	ension Test]	Report (Pa	age -1/1)				
Da	ate of Test	16-05-202	23				
Ga	auge length	8 inches					
D	escription	Deformed	l Steel Ba	r Tensile	and Bend Test as	per ASTM-A615	
ight	Diameter/	Area	d load	aking oad	Yield Stress	Ultimate Stress	ation

/ft) Weigh	Diameter/ Size		Aı (iı	rea 1 ²)	Yield loa	Breakin Load	Yield (p	Stress si)	Ultimat (p	æ Stress si)	Elongati	longation	emarks
(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	% E	R
0.374	3	0.374	0.11	0.110	2800	4300	56200	56070	86200	86100	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	I	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	I	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	
		N	ote: on	ly one s	sample fo	or tensile	and one	sample fo	or bend t	est	n	r	
						Bend T	est						
#3 Bar Bend Test Through 180° is Satisfactory													
	Meight Meight Meight	Image: state sta	Image: stateDiameter/ Size (1) $[1]$ $[1]$ <	$I_{Diameter/Size}$ Diameter/SizeAn (in (in Size)) (1) I_{Rin} I_{Rin} I_{Rin} I_{Rin} <	IIIISizeDiameter/SizeArea(in2) (I) $IIIISizeIIIISizeIIIISize(I)IIIISizeIIIIISizeIIIIISize(I)IIIIISizeIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII$	$\stackrel{\text{Ho}}{\text{Size}}$ Diameter/ SizeArea (in²) $\stackrel{\text{Normalize}}{\text{Points}}$ $\stackrel{\text{Normalize}}{\text{Points}}$ (1) $\stackrel{\text{Iem}}{\text{Size}}$ $\stackrel{\text{Iem}}{\text{Iem}}$ $\stackrel{\text{Iem}}{\text{Iem}}$ $\stackrel{\text{Iem}}{\text{Iem}}$ $\stackrel{\text{Res}}{\text{Res}}$ (1) $\stackrel{\text{Iem}}{\text{Size}}$ $\stackrel{\text{Iem}}{\text{Iem}}$ $\stackrel{\text{Iem}}{\text{Iem}}$ $\stackrel{\text{Iem}}{\text{Res}}$ $\stackrel{\text{Res}}{\text{Res}}$ (1) $\stackrel{\text{Iem}}{\text{Size}}$ $\stackrel{\text{Iem}}{\text{Size}}$ $\stackrel{\text{Iem}}{\text{Res}}$ $\stackrel{\text{Res}}{\text{Res}}$ $\stackrel{\text{Res}}{\text{Res}}$ (1) $\stackrel{\text{Iem}}{\text{Size}}$ $\stackrel{\text{Iem}}{\text{Res}}$ $\stackrel{\text{Iem}}{\text{Res}}$ $\stackrel{\text{Res}}{\text{Res}}$ $\stackrel{\text{Res}}{\text{Res}}$ (1) $\stackrel{\text{Res}}{\text{Size}}$ $\stackrel{\text{Iem}}{\text{Res}}$ $\stackrel{\text{Res}}{\text{Res}}$ $\stackrel{\text{Res}}{\text{Res}}$ $\stackrel{\text{Res}}{\text{Res}}$ (1) $\stackrel{\text{Res}}{\text{Res}}$ <td< td=""><td>$\frac{1}{100}$ NDiameter/ SizeArea (in²)$\frac{30}{120}$ F H N$\frac{11}{100}$ H H N$\frac{11}{100}$ H N$\frac{11}{100}$ H H N$\frac{11}{100}$ H<br< td=""><td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td><td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td><td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td><td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td><td>$\frac{11}{100}$ NDiameter/ SizeArea (in²)$\frac{11}{10}$ P P P P$\frac{11}{10}$ P P P P$\frac{11}{10}$ P P P P$\frac{11}{10}$ P P P P P$\frac{11}{10}$ P<</td><td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td></br<></br></br></br></br></br></br></br></br></br></td></td<>	$\frac{1}{100}$ NDiameter/ SizeArea (in²) $\frac{30}{120}$ F H N $\frac{11}{100}$ H H N $\frac{11}{100}$ H N $\frac{11}{100}$ H H N $\frac{11}{100}$ H H H H H H H H H H H 	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\frac{11}{100}$ NDiameter/ SizeArea (in²) $\frac{11}{10}$ P P P P $\frac{11}{10}$ P P P P $\frac{11}{10}$ P P P P $\frac{11}{10}$ P P P P P $\frac{11}{10}$ P<	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $

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,

FM (Works Div) SUPARCO Construction of RF Equipment Rooms and Antenna Foundations for Paksat MM1 Project at SCF-L.

Reference # CED/TFL 3193 (Dr. M Rizwan Riaz)	Dated: 15-05-2023
Reference of the request letter # (3959) Works/Div/SRDC-L	Dated: 09-05-2023

Tension Test Report (Page -1/1)

Date of Test Gauge length Description 16-05-20238 inchesDeformed Steel Bar Tensile and Bend Test as per ASTM-A615

I Sr. No.	Meight Si		Diameter/ Area Size (in ²)		Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	longation	emarks		
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	% E	R
1	0.417	3	0.395	0.11	0.122	3800	5500	76200	68400	110200	99000	1.30	16.3	
2	0.417	3	0.395	0.11	0.122	3800	5500	76200	68410	110200	99100	1.20	15.0	
-	-	-	-	I	-	•	-	-	-	-	I	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	I	-	•	-	-	-	-	I	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		6	N	ote: on	ly two s	amples f	or tensile	and one	sample f	or bend t	test	1	ſ	n
							Bend T	est						
#3	Bar Ben	d Test	Through	n 180° is	s Satisfa	ictory								

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



STRUCTURAL ENGINEERING DIVISION

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

Resident Engineer NESPAK Construction of Underpass at Samnabad Morr Lahore

Reference # CED/TFL <u>**3198** (Dr. M Rizwan Riaz)</u> Reference of the request letter # 4403/03/AZ/Lab/Steel-45

Dated: 15-05-2023 Dated: 12-04-2023

Tension Test Report (Page -1/2)

Date of Test Gauge length Description 16-05-2023 8 inches Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Arrow Diameter Size		neter/ ze	Aı (iı	rea n²)	Yield load Breaking Load		Yield Stress (psi)		Ultimate Stress (psi)		Elongation	longation	emarks
S	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	% E	Re
1	0.357	3	0.365	0.11	0.105	3500	4700	70200	73570	94200	98800	1.00	12.5	san eel
2	0.360	3	0.367	0.11	0.106	3500	4700	70200	72920	94200	98000	1.00	12.5	Sto Sto
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		1	N	ote: on	ly two s	amples f	or tensile	and one	sample f	or bend	test	1		1
													<u> </u>	
	Bend Test													
#3	Bar Ben	d Test '	Through	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.



STRUCTURAL ENGINEERING DIVISION

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

Resident Engineer NESPAK Construction of Underpass at Samnabad Morr Lahore

Reference # CED/TFL <u>**3198** (Dr. M Rizwan Riaz)</u> Reference of the request letter # 4403/03/AZ/Lab/Steel-36 Dated: 15-05-2023 Dated: 30-03-2023

Tension Test Report (Page -2/2)

Date of Test Gauge length Description 16-05-2023 8 inches Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Diam 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)	% E	R
1	4.184	10	1.251	1.27	1.230	39800	52600	69100	71320	91300	94300	1.70	21.3	steel
2	4.196	10	1.253	1.27	1.233	39000	52000	67700	69690	90300	93000	1.70	21.3	s rs
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			N	ote: on	ly two s	amples f	or tensile	and one	sample f	or bend	test			
							Bend T	est						
#10) Bar Be	nd Test	Throug	gh 180°	is Satis:	factory								

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,

Resident Engineer NESPAK Dualization of Lilla Intercharge (M-2) via P.D Khan to Jhelum I/C Bypasses (2 Nos) Length 128 km, District Jhelum. (Nizami Brothers Pvt Ltd.)

Reference # CED/T	FL <u>3199 (</u>	Dr. M Rizwan I	<u> Riaz)</u>
Reference of the req	uest letter	r # NESPAK/RE	E/JH/23/407

Dated: 15-05-2023 Dated: 13-05-2023

Tension Test Report (Page -1/4) Date of Test 16-05-2023 Gauge length 640 mm Description Steel Strand Tensile Test as per ASTM A-416-94a Modulus of Elasticity "E" Remarks / Coil No. Young's Breaking % Elongation Nominal **Yield strength** Nominal Measured strength Sr. No. weight clause (6.3) Diameter Weight clause (6.2) (kg/km) (mm)(kg/km) (kN)(kg)(kN) GPa (kg)12.70 18400 180.50 19500 191.30 199 1 775.0 778.0 >3.50 XX (1/2") 12.70 2 775.0 776.0 18500 181.49 19500 191.30 199 >3.50 XX (1/2") 12.70 3 18400 180.50 19500 191.30 199 775.0 777.0 >3.50 XX (1/2") -_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ ---_ _ _ -_ _ _

Only three samples for Test

Note:

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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:

You can See your reports On Internet in the following web site 1http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports

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



STRUCTURAL ENGINEERING DIVISION

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

Resident Engineer NESPAK Dualization of Lilla Intercharge (M-2) via P.D Khan to Jhelum I/C Bypasses (2 Nos) Length 128 km, District Jhelum. (Nizami Brothers Pvt Ltd.)

Reference # CED/TFL **<u>3199 (Dr. M Rizwan Riaz)</u>** Reference of the request letter # NESPAK/RE/JH/23/407 Dated: 15-05-2023 Dated: 13-05-2023

Graph (Page - 2/4)



Stress Strain Relation -- Specimen No. W 1

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.



STRUCTURAL ENGINEERING DIVISION

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

Resident Engineer NESPAK Dualization of Lilla Intercharge (M-2) via P.D Khan to Jhelum I/C Bypasses (2 Nos) Length 128 km, District Jhelum. (Nizami Brothers Pvt Ltd.)

Reference # CED/TFL **<u>3199 (Dr. M Rizwan Riaz)</u>** Reference of the request letter # NESPAK/RE/JH/23/407 Dated: 15-05-2023 Dated: 13-05-2023

Graph (Page – 3/4)



Stress Strain Relation -- Specimen No. W 2

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.



STRUCTURAL ENGINEERING DIVISION

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

Resident Engineer NESPAK Dualization of Lilla Intercharge (M-2) via P.D Khan to Jhelum I/C Bypasses (2 Nos) Length 128 km, District Jhelum. (Nizami Brothers Pvt Ltd.)

Reference # CED/TFL **<u>3199 (Dr. M Rizwan Riaz)</u>** Reference of the request letter # NESPAK/RE/JH/23/407 Dated: 15-05-2023 Dated: 13-05-2023

Graph (Page - 4/4)



Stress Strain Relation -- Specimen No. W 3

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

Reference # CED/TFL 3200 (Dr. M Rizwan Riaz)	Dated: 15-05-2023
Reference of the request letter # DBCG/Lab/PF JV/2023/027	Dated: 11-05-2023

Tension Test Report (Page -1/3)

Date of Test16-05-2023Gauge length640 mm

Description

n 640 mm Steel Strand Tensile Test as per ASTM A-416-94a

Sr. No.	Nominal Diameter	Nominal Weight	Measured weight	Yield s clause	trength e (6.3)	Breaking strength clause (6.2)		Young's Modulus of Elasticity "E"	Elongation	ırks / Coil No.		
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	GPa	%	Rema		
1	12.70 (1/2")	775.0	786.0	17700	173.64	19300	189.33	199	>3.50	WS-S4-2022-06A		
2	15.24 (0.6")	1102.0	1119.0	24200	237.40	27400	268.79	199	>3.50	WS-S4-2022-06		
-	-	-	-	-	-	-	-	-	-			
-	-	-	-	-	-	-	-	-	-			
-	-	-	-	-	-	-	-	-	-			
-	-	-	-	-	-	-	-	-	-			
	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:

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.



STRUCTURAL ENGINEERING DIVISION

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

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

Reference # CED/TFL 3200 (Dr. M Rizwan Riaz)Dated: 15-05-2023Reference of the request letter # DBCG/Lab/PF JV/2023/027Dated: 11-05-2023

Graph (Page – 2/3)



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



STRUCTURAL ENGINEERING DIVISION

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

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

Reference # CED/TFL <u>3200 (Dr. M Rizwan Riaz)</u>	Dated: 15-05-2023
Reference of the request letter # DBCG/Lab/PF JV/2023/027	Dated: 11-05-2023

Graph (Page – 3/3)



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,

Engineer Women University D.G Khan University of Education D.G Khan (Construction of Academic Block at University of Education D.G. Khan Sub Campus (University of Education Dera Ghazi Khan)

Reference # CED/TFL <u>**3201** (Dr. M Rizwan Riaz)</u> Reference of the request letter # WU/UEDGK/223/471 Dated: 15-05-2023 Dated: 06-03-2023

Tension Test Report (Page -1/1)

Date of Test 16-05-2023

Gauge length 8 inches

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

ir. No.	Weight	Diam Si	neter/ ze	Aı (iı	rea n ²)	Yield load	Breaking Load	Yield (p	Yield Stress ((psi)		Ultimate Stress (psi)		longation	emarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	3 %	ß
1	0.385	3	0.379	0.11	0.113	3400	5400	68200	66290	108200	105300	0.90	11.3	eel
-	-	-	-	-	-	-	-	-	-	-	-	-	-	an St
-	-	-	-	-	-	-	-	-	-	-	-	-	-	Kis
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Ν	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 [Through	n 180° is	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,

M/S Vision Engineering (Pvt) Ltd Lahore

Reference # CED/TFL <u>**3203** (Dr. M Rizwan Riaz)</u> Reference of the request letter # VECO/2023/0515/7938 Dated: 16-05-2023 Dated: 15-05-2023

Tension Test Report(Page - 1/1)Date of Test16-05-2023Gauge length640 mmDescriptionSteel Strand Tensile Test as per ASTM A-416-94a

Sr. No.	Nominal Diameter	Nominal Weight	Measured weight	Yield st clause	trength e (6.3)	Brea strength (6.	king 1 clause 2)	Elongation	ırks / Coil No.			
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	%	Rema			
1	9.53 (3/8")	432.0	434.0	8900	87.31	10100	99.08	>3.50	XX			
2	9.53 (3/8")	432.0	420.0	9400	92.21	10400	102.02	>3.50	xx			
-	-	-	-	-	-	-	-	-	-			
-	-	-	-	-	-	-	-	-	-			
-	-	-	-	-	-	-	-	-	-			
-	-	-	-	-	-	-	-	-	-			
	Only two samples for Test											

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.



STRUCTURAL ENGINEERING DIVISION

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

Resident Engineer ACE CSM Secretariat Office Building Multan & Allied Work

Reference # CED/TFL <u>**3205** (Dr. Safeer Abbass)</u> Reference of the request letter # ACE/RE/CSM/2023/627 Dated: 16-05-2023 Dated: 11-05-2023

Tension Test Report (Page -1/1)

Date of Test Gauge length Description 16-05-2023 8 inches Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in²)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	longation	emarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)	% E	Re
1	0.378	3	0.376	0.11	0.111	3620	4710	72600	71790	94400	93400	1.20	15.0	ط el
2	0.375	3	0.375	0.11	0.110	3540	4660	71000	70830	93400	93300	1.20	15.0	FI Ste
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	I	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
	Bend Test													
#3	#3 Bar Bend Test Through 180° is Satisfactory													

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.