

To,

Mr. Muhammad Wasim Khan  
M/S Pakistan Wire Industries (Pvt) Limited  
Karachi

Reference # CED/TFL **7254** (Dr. Rizwan Riaz)  
Reference of the request letter # WRD/006

Dated: 23-07-2025  
Dated: 23-07-2025

**Tension Test Report** (Page – 1/1)

Date of Test 28-07-2025

Description Steel Wire Rope (UG H/C) Tensile Test

Sr. No.	Nominal Diameter	Measured weight			Breaking Load	Remarks / Coil No.
	(mm)	Weight (g)	Length (cm)	(kg/m)	(kg)	
1	14 (6*19)	813	117.2	0.69	10200	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
<b>Only one sample for test</b>						
-	-	-	-	-	-	-

Witness by Muhammad Wasim Khan (Pakistan Wire Industries)

Test Performed and Verified by:

To,

Mr. Ali Irfan  
SP Nizam

Reference # CED/TFL 7257 (Dr. Rizwan Riaz)  
Reference of the request letter # Nil

Dated: 23-07-2025  
Dated: 23-07-2025

**Tension Test Report** (Page – 1/1)

Date of Test 28-07-2025

Description Steel Wire Rope Tensile Test

Sr. No.	Nominal Diameter	Measured weight			Breaking Load	Remarks / Coil No.
	(mm)	Weight (g)	Length (cm)	(kg/m)	(kg)	
1	18	3360	292.0	1.15	16300	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
<b>Only one sample for test</b>						
-	-	-	-	-	-	-

Test Performed and Verified by:

To,  
 Resident Engineer (Metroplan-Asian JV)  
 Metroplan-Asian JV  
 Re-construction of Old P&D Building-Tower A  
 (Aziz Steel)

Reference # CED/TFL 7268 (Dr. Rizwan Riaz) Dated: 24-07-2025  
 Reference of the request letter # MetroplanAsian-JV/(Old P&D)/Tower-A/RE-1 Dated: 24-07-2025

**Tension Test Report** (Page-1/1)

Date of Test 28-07-2025  
 Gauge Length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Actual Weight Per Unit Length (lb/ft)	Nominal Size (#)	Actual Diameter (inch)	Area (in <sup>2</sup> )		Yield Load (kN)	Breaking Load (kN)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
				Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.366	3	0.370	0.110	0.108	33.20	49.00	67824	69332	100102	102327	1.3	16.3	-
2	0.366	3	0.370	0.110	0.107	33.00	48.70	67416	69026	99489	101865	1.3	16.3	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Note: Only 2 Samples for Tensile and 1 Samples for Bend test**

Bend Test	
# 3 Bar Bend Test Through 180 Degree is Satisfactory	

Test Performed and Verified by:

To,

Mr. M. Usman Rauf (Resident Engineer)

Nespak (Pvt.) Ltd.

Restoration / Improvement of Road From Chunian to Hujra Road Length = 17.50 Km in District Kasur

Reference # CED/TFL 7269 (Dr. Rizwan Riaz)

Dated: 24-07-2025

Reference of the request letter # 4084/103/MUR/104/54

Dated: 12-06-2025

### Tension Test Report (Page-1/2)

Date of Test 28-07-2025

Gauge Length 8 inches

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

Sr. No.	Actual Weight Per Unit Length (lb/ft)	Nominal Size (#)	Actual Diameter (inch)	Area (in <sup>2</sup> )		Yield Load (kN)	Breaking Load (kN)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
				Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.378	3	0.376	0.110	0.111	33.70	49.50	68846	68143	101124	100092	1.4	17.5	-
2	0.392	3	0.383	0.110	0.115	36.00	50.70	73544	70243	103575	98926	1.3	16.3	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Note: Only 2 Samples for Tensile and 1 Samples for Bend test**

#### Bend Test

# 3 Bar Bend Test Through 180 Degree is Satisfactory

Test Performed and Verified by:

To,  
 Mr. M. Saleem  
 Badar Traders

Reference # CED/TFL 7270 (Dr. Rizwan Riaz)  
 Reference of the request letter # Nil

Dated: 24-07-2025  
 Dated: 24-07-2025

**Tension Test Report** (Page-1/1)

Date of Test 28-07-2025  
 Gauge Length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Actual Weight Per Unit Length (lb/ft)	Nominal Size (#)	Actual Diameter (inch)	Area (in <sup>2</sup> )		Yield Load (kN)	Breaking Load (kN)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
				Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.366	3	0.370	0.110	0.107	37.70	46.70	77017	78880	95403	97711	1.0	12.5	-
2	0.365	3	0.370	0.110	0.107	38.20	47.00	78039	80036	96016	98474	0.9	11.3	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Note: Only 2 Samples for Tensile and 1 Samples for Bend test**

<b>Bend Test</b>	
# 3 Bar Bend Test Through 180 Degree is Satisfactory	

Test Performed and Verified by:

To,

Sub Divisional Officer  
Public Health Engg: Sub Division, Bhakkar  
Urban Sewerage/Drainage , PCC Slab Brick Pavement in Bhakkar City

Reference # CED/TFL 7273 (Dr. Rizwan Riaz)  
Reference of the request letter # 157/BK

Dated: 24-07-2025  
Dated: 14-07-2025

**Tension Test Report** (Page-1/2)

Date of Test 28-07-2025  
Gauge Length 8 inches  
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Actual Weight Per Unit Length (lb/ft)	Nominal Size (#)	Actual Diameter (inch)	Area (in <sup>2</sup> )		Yield Load (kN)	Breaking Load (kN)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
				Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.404	3	0.389	0.110	0.119	36.50	48.70	74566	69106	99489	92205	0.6	7.5	-
2	0.403	3	0.389	0.110	0.119	36.50	50.50	74566	69183	103166	95719	0.7	8.8	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Note: Only 2 Samples for Tensile and 1 Samples for Bend test**

<b>Bend Test</b>	
# 3 Bar Bend Test Through 180 Degree is Satisfactory	

Test Performed and Verified by:

To,

Sub Divisional Officer  
 Public Health Engg: Sub Division, Bhakkar  
 Urban Sewerage / Drainage , PCC Slab Brick Pavement in Bhakkar City

Reference # CED/TFL **7273** (Dr. Rizwan Riaz)  
 Reference of the request letter # 157/BK

Dated: 24-07-2025  
 Dated: 14-07-2025

**Tension Test Report** (Page -2/2)

Date of Test 28-07-2025  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test

Sr. No.	Weight	Diameter/ Size (#)		Area (in <sup>2</sup> )	Yield load (kN)	Breaking Load (kN)	Yield Stress (psi)	Ultimate Stress (psi)	Elongation (inch)	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual								
1	0.225	1/4	0.290	0.066	16.00	22.20	54474	75582	1.50	18.8	-
2	0.222	1/4	0.288	0.065	16.20	22.00	55798	75775	1.50	18.8	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
<b>Note: only two samples for tensile test</b>											
Bend Test											

Test Performed and Verified by:

To,

Mr. Muhammad Hummayun Umair (Manager Operations)  
Air Link Communication Ltd.  
Construction Project at Sunday Green  
(Ittefaq Steel)

Reference # CED/TFL 7274 (Dr. Rizwan Riaz)

Dated: 25-07-2025

Reference of the request letter # Nil

Dated: 25-07-2025

**Tension Test Report** (Page-1/1)

Date of Test 28-07-2025

Gauge Length 8 inches

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

Sr. No.	Actual Weight Per Unit Length (lb/ft)	Nominal Size (#)	Actual Diameter (inch)	Area (in <sup>2</sup> )		Yield Load (kN)	Breaking Load (kN)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
				Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.371	3	0.373	0.110	0.109	32.70	48.20	66803	67386	98468	99327	1.2	15.0	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Note: Only 1 Samples for Tensile and 1 Samples for Bend test**

**Bend Test**

# 3 Bar Bend Test Through 180 Degree is Satisfactory

Test Performed and Verified by:

To,  
 Engr. Muhammad Akram (Resident Engineer)  
 M/s CEC  
 Construction of DHA Underpass Peshawar

Reference # CED/TFL **7275** (Dr. Rizwan Riaz)  
 Reference of the request letter # Nil

Dated: 25-07-2025  
 Dated: 25-07-2025

**Tension Test Report** (Page -1/2)

Date of Test 28-07-2025  
 Gauge length 600 mm  
 Description Steel Strand Tensile Test as per ASTM A-416

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/1000m)	(kg/1000m)	(kg)	(kN)	(kg)	(kN)	GPa		
1	12.70 (1/2")	780.0	787.0	18400	180.50	19500	191.30	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
<b>Only one sample for Test</b>										

- 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

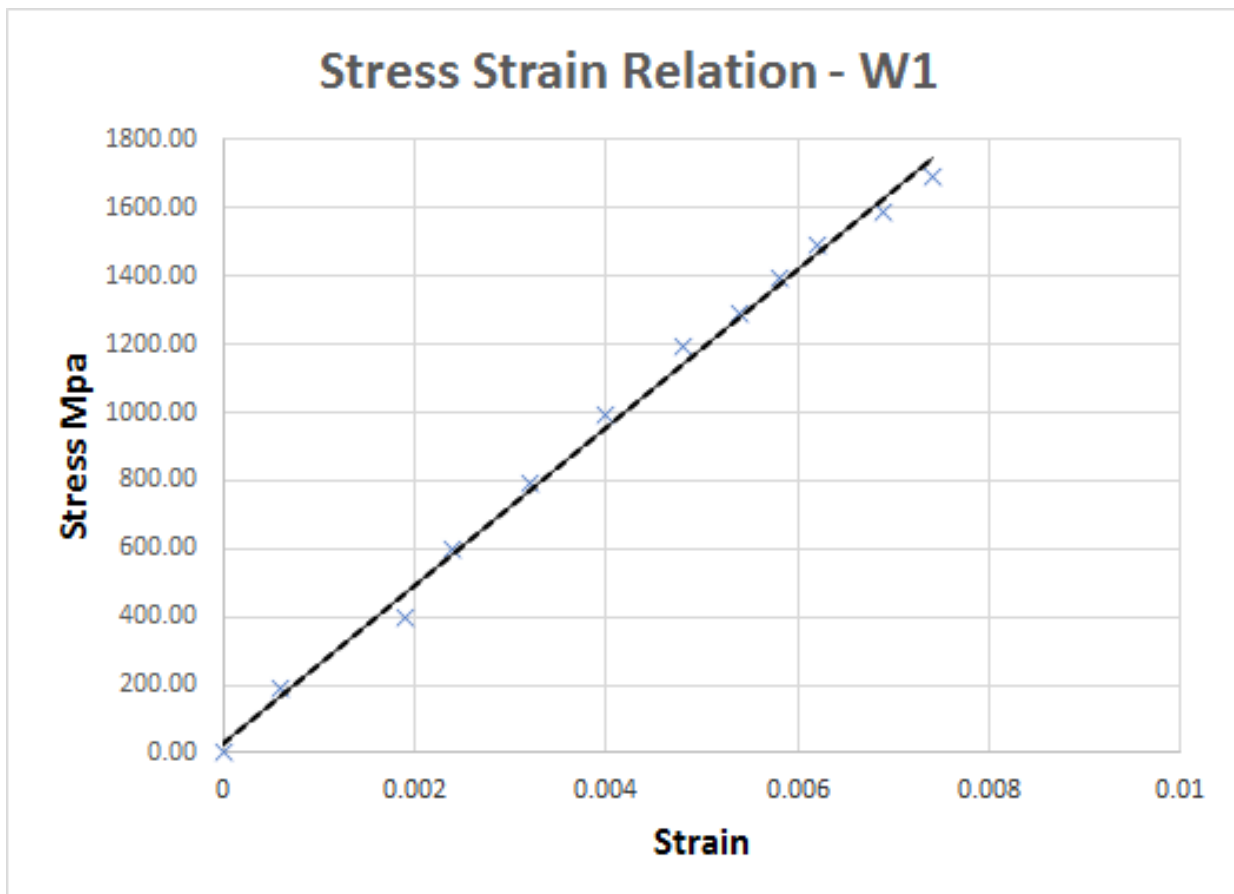
Test Performed and Verified by:

To,  
Engr. Muhammad Akram (Resident Engineer)  
M/s CEC  
Construction of DHA Underpass Peshawar

Reference # CED/TFL 7275 (Dr. Rizwan Riaz)  
Reference of the request letter # Nil

Dated: 25-07-2025  
Dated: 25-07-2025

**Graph** (Page – 2/2)



Test Performed and Verified by:

To,

Resident Engineer

ESS-I-AAR Consultant

Rehabilitation of PD Khan to Choa Saidan Shah Via Khewra (Balance Portion) Tehsil P.D Khan & Choa Saiden Shah (Length = 21.15 KM) (Nomi Steel)

Reference # CED/TFL 7277 (Dr. Rizwan Riaz)

Dated: 25-07-2025

Reference of the request letter # 1231

Dated: 13-07-2025

### Tension Test Report (Page-1/1)

Date of Test 28-07-2025

Gauge Length 8 inches

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

Sr. No.	Actual Weight Per Unit Length (lb/ft)	Nominal Size (#)	Actual Diameter (inch)	Area (in <sup>2</sup> )		Yield Load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
				Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.377	3	0.375	0.110	0.111	2820	3940	56503	56135	78943	78430	1.7	21.3	-
2	0.377	3	0.376	0.110	0.111	2900	4000	58105	57640	80145	79504	1.6	20.0	-
3	4.345	10	1.275	1.270	1.277	26600	43200	46163	45915	74971	74569	2.1	26.3	-
4	4.360	10	1.277	1.270	1.281	27400	43400	47551	47133	75318	74656	2.2	27.5	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Only 4 Samples for Tensile and 2 Samples for Bend test

#### Bend Test

# 3 Bar Bend Test Through 180 Degree is Satisfactory

# 10 Bar Bend Test Through 180 Degree is Satisfactory

Test Performed and Verified by:

To,

Sub Divisional Officer

Highway Sub Division P.D Khan

Rehabilitation of PD Khan to Choa Saidan Shah Via Khewra (Balance Portion) Tehsil P.D Khan & Choa Saiden Shah Length = 21.15 KM District Jhelum & Chakwal (Nomi Steel)

Reference # CED/TFL 7278 (Dr. Rizwan Riaz)

Dated: 25-07-2025

Reference of the request letter # 345/P

Dated: 11-07-2025

### Tension Test Report (Page-1/1)

Date of Test 28-07-2025

Gauge Length 8 inches

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

Sr. No.	Actual Weight Per Unit Length (lb/ft)	Nominal Size (#)	Actual Diameter (inch)	Area (in <sup>2</sup> )		Yield Load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
				Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.380	3	0.377	0.110	0.112	2850	4030	57104	56190	80747	79455	1.6	20.0	-
2	0.379	3	0.376	0.110	0.111	2900	4030	58105	57468	80747	79861	1.7	21.3	-
3	4.316	10	1.271	1.270	1.268	27600	43600	47898	47969	75665	75777	2.1	26.3	Plain Bar
4	4.337	10	1.274	1.270	1.274	27600	43400	47898	47736	75318	75063	2.2	27.5	Plain Bar
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Only 4 Samples for Tensile and 2 Samples for Bend test

#### Bend Test

# 3 Bar Bend Test Through 180 Degree is Satisfactory

# 10 Bar Bend Test Through 180 Degree is Satisfactory

Test Performed and Verified by: