



**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  
 Al-Imam Enterprises (Pvt) Ltd  
 Construction of Penta Square, Phase-V, D.H.A, Lahore

Reference # CED/TFL **35478** (Dr. Qasim Khan) Dated: 08-10-2020  
 Reference of the request letter # Al-Imam/746/PS-1/DHA/LHE/1168 Dated: 08-10-2020

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

Date of Test 12-10-2020  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		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	Nominal	Actual				
1	0.420	10	10.07	0.12	0.123	4000	5700	73487	71470	104719	101900	1.30	16.3	Kamran Steel	
2	0.410	10	9.94	0.12	0.120	3900	5200	71650	71400	95533	95200	1.20	15.0		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<b>Note: only two samples for tensile and one sample for bend test</b>															
Bend Test															
10mm Dia 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  
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- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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To,  
 Chief Resident Engineer, Package- I  
 NESPAK  
 Construction/ Improvement & Rehabilitation of at Grande Works along Lahore Orange Line  
 Metro Train Corridor Package-1 (Section-I) Pakistan Mint to Shalamar Chowk (Right Side)

Reference # CED/TFL **35481** (Dr. Qasim Khan)  
 Reference of the request letter # 4042/13/FAM/Stee-176

Dated: 09-10-2020  
 Dated: 23-09-2020

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

Date of Test 12-10-2020  
 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 <sup>2</sup> )		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	0.368	3	0.371	0.11	0.108	4000	5000	80200	81460	100200	101900	0.90	11.3	Mughal Steel
2	0.375	3	0.375	0.11	0.110	3900	5000	78200	77910	100200	99900	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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To,  
M/S Ittefaq Building Solution (Pvt) Ltd  
Lahore  
(Project: (ATS-02))

Reference # CED/TFL **35482** (Dr. Qasim Khan)  
Reference of the request letter # IBS/ATS/ST00

Dated: 09-10-2020  
Dated: 09-10-2020

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

Date of Test 12-10-2020  
Gauge length 8 inches  
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (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	Nominal	Actual			
1	0.173	1/4	0.255	-----	0.051	1600	2100	-----	69200	-----	90900	0.90	11.3	
2	0.371	3/8	0.373	0.11	0.109	3300	4900	66200	66630	98200	99000	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and two samples for bend test</b>														
Bend Test														
1/4" Dia Bar Bend Test Through 180° is Satisfactory														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
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To,  
M/S Defence Housing Authority.  
Lahore Cantt  
(Extrenal Elec Works, (U/G), Pkg 2 & 4 Prism-9, DHA Phase-IX (M/s NLC)

Reference # CED/TFL **35483** (Dr. Qasim Khan) Dated: 09-10-2020  
Reference of the request letter # 408/241/E/Lab/1001/22 Dated: 08-10-2020

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

Date of Test 12-10-2020  
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 <sup>2</sup> )		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	0.370	3	0.372	0.11	0.109	3300	4800	66200	66880	96200	97300	1.30	16.3	Kamran Steel	
2	0.382	3	0.378	0.11	0.112	3600	5000	72200	70590	100200	98100	1.30	16.3		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<b>Note: only two samples for tensile and one sample for bend test</b>															
Bend Test															
#3 Bar Bend Test Through 180° is Satisfactory															

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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

To,  
Resident Engineer  
PEAS Consulting (Pvt) Ltd  
Construction Supervision of Contract No. BC-2017-18-SS-02 Bridge in Place 04-Cell Culvert at  
km 47+000 to Km 48+000 (KNB//M-10) Periodic Maintenance Work Sindh South Region NHA  
Karachi (Wire Manufacturing Industry Ltd.)

Reference # CED/TFL **35484** (Dr. Qasim Khan)  
Reference of the request letter # PEAS/NHA/SS/077

Dated: 09-10-2020  
Dated: 02-10-2020

**Tension Test Report** (Page – 1/3)

Date of Test 12-10-2020  
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	9.53 (3/8")	432.0	439.0	9500	93.20	10700	104.97	199	>3.50	xx
2	12.70 (1/2")	775.0	789.0	18400	180.50	20200	198.16	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**  
**UET Lahore, Pakistan.**

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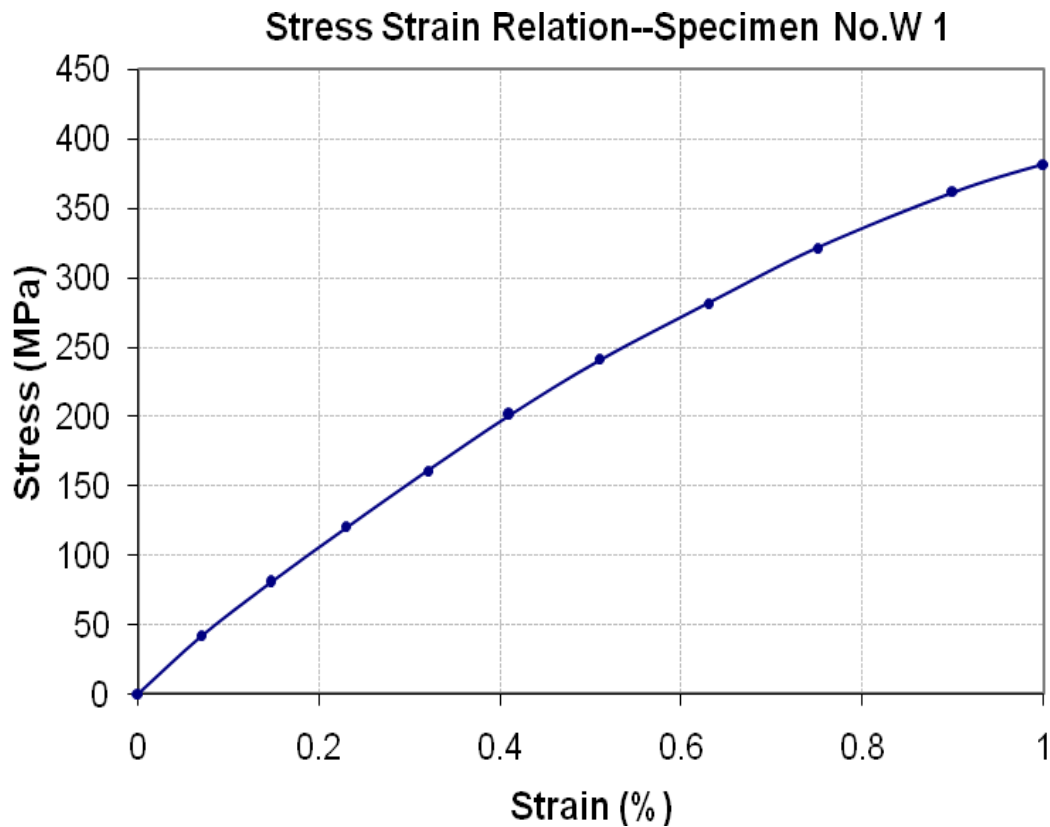
To,  
Resident Engineer  
PEAS Consulting (Pvt) Ltd  
Construction Supervision of Contract No. BC-2017-18-SS-02 Bridge in Place 04-Cell Culvert at  
km 47+000 to Km 48+000 (KNB//M-10) Periodic Maintenance Work Sindh South Region NHA  
Karachi (Wire Manufacturing Industry Ltd.)

Reference # CED/TFL **35484** (Dr. Qasim Khan)  
Reference of the request letter # PEAS/NHA/SS/077

Dated: 09-10-2020

Dated: 02-10-2020

**Graph** (Page – 2/3)



**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

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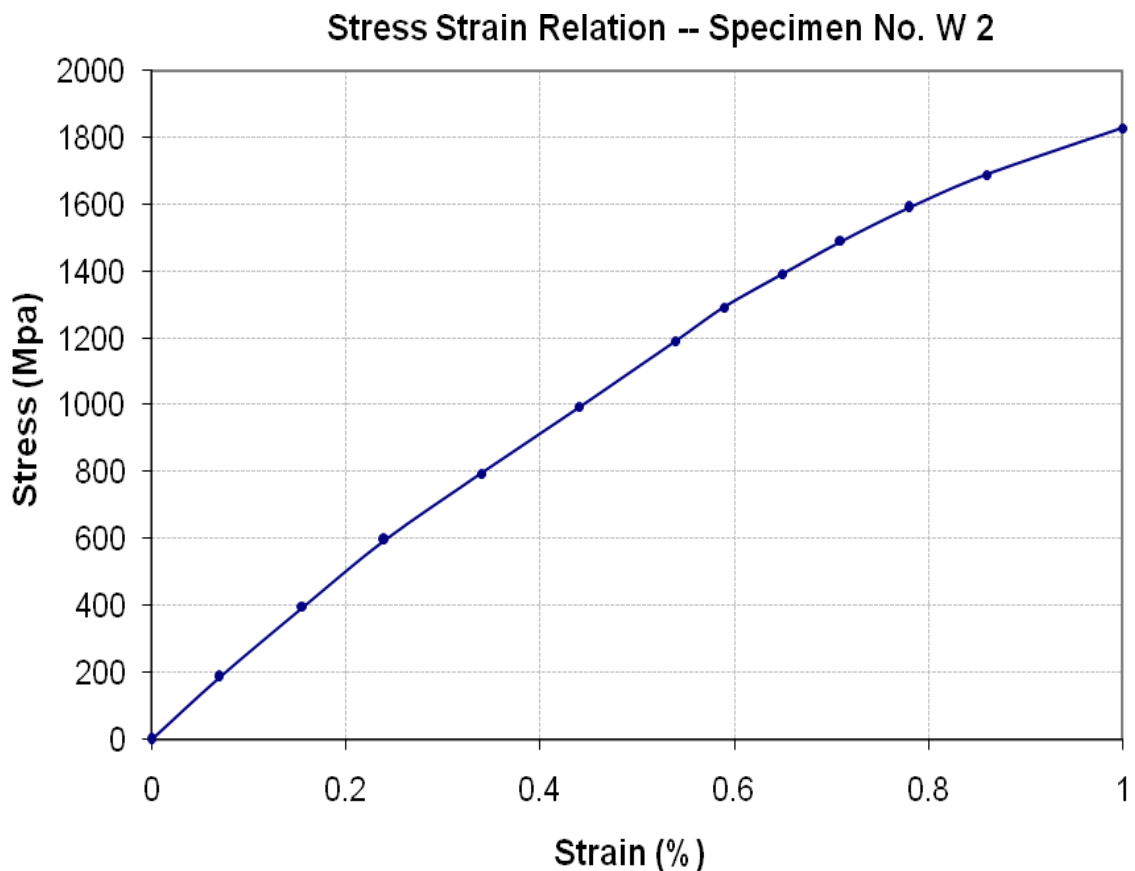
To,  
Resident Engineer  
PEAS Consulting (Pvt) Ltd  
Construction Supervision of Contract No. BC-2017-18-SS-02 Bridge in Place 04-Cell Culvert at  
km 47+000 to Km 48+000 (KNB//M-10) Periodic Maintenance Work Sindh South Region NHA  
Karachi (Wire Manufacturing Industry Ltd.)

Reference # CED/TFL **35484** (Dr. Qasim Khan)  
Reference of the request letter # PEAS/NHA/SS/077

Dated: 09-10-2020

Dated: 02-10-2020

**Graph** (Page – 3/3)



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To,  
M/S Defence Housing Authority.  
Lahore Cantt  
(Infra Dev Works at Sector-Q, Pkg-1, DHA Ph-IX Prism (M/s DHA-C))

Reference # CED/TFL **35485** (Dr. Qasim Khan)  
Reference of the request letter # 408/241/E/Lab/1003/98

Dated: 09-10-2020  
Dated: 09-10-2020

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

Date of Test 12-10-2020  
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 <sup>2</sup> )		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	0.367	3	0.371	0.11	0.108	3600	5700	72200	73480	114300	116400	1.00	12.5	Saeed Kasur
2	0.370	3	0.372	0.11	0.109	3800	5800	76200	77060	116300	117700	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
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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**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
 Project Manager  
 Dupak Properties (Pvt) Ltd  
 Defence view Apartments at Shanghai Road, Lahore

Reference # CED/TFL **35488** (Dr. Usman Akmal)  
 Reference of the request letter # Dupak/DVA/051

Dated: 12-10-2020  
 Dated: 12-10-2020

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

Date of Test 12-10-2020  
 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 <sup>2</sup> )		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	0.365	3	0.370	0.11	0.107	3920	4990	78600	80570	100000	102600	1.20	15.0	
2	0.361	3	0.367	0.11	0.106	3280	4200	65800	68170	84200	87300	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

Witness by M. Jamil Alam (Quality Engineer FF Steel)

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**UET Lahore, Pakistan.**

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To,  
 Resident Engineer  
 Orbit Housing  
 The Springs, Apartment, Lahore

Reference # CED/TFL **35489** (Dr. Asad Ali)  
 Reference of the request letter # Nil

Dated: 12-10-2020  
 Dated: 12-10-2020

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

Date of Test 12-10-2020  
 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 <sup>2</sup> )		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	0.365	3	0.370	0.11	0.107	4560	5320	91400	93560	106600	109200	0.80	10.0	
2	0.368	3	0.371	0.11	0.108	4430	5220	88800	90310	104600	106500	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
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