



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

To,
Chief Resident Engineer
Osmani & Company (Pvt) Ltd
Swat Motorway Project

Reference # CED/TFL **34009** (Dr. Waseem Abbas)
Reference of the request letter # 336/CRE/QAT/SMP/2019

Dated: 14-10-2019
Dated: 25-09-2019

Tension Test Report (Page – 1/1)

Date of Test 16-10-2019
Description Steel Wire Rope Tensile Test

Sr. No.	Diameter	Measured weight	Breaking Load		Remarks / Coil No.
	(mm)	(kg/km)	(kg)	(kN)	
1	25	2240.64	28400	278.60	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
Only one sample for Test					

I/C Testing Laboratories
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.
- 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

To,
Assistant Resident Engineer (A.C.E)
Associated Consulting Engineers - ACE Limited
Construction of Peshawar Bara Bridge Project Khyber Agency

Reference # CED/TFL **3009** (Dr. Waseem Abbas)
Reference of the request letter # Bara Bridge/ACE/ARE-2/19/-021

Dated: 14-10-2019
Dated: 12-10-2019

Tension Test Report (Page – 1/2)

Date of Test 16-10-2019
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	767.0	18300	179.52	19800	194.24	199	>3.50	2
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
Only one sample 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.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



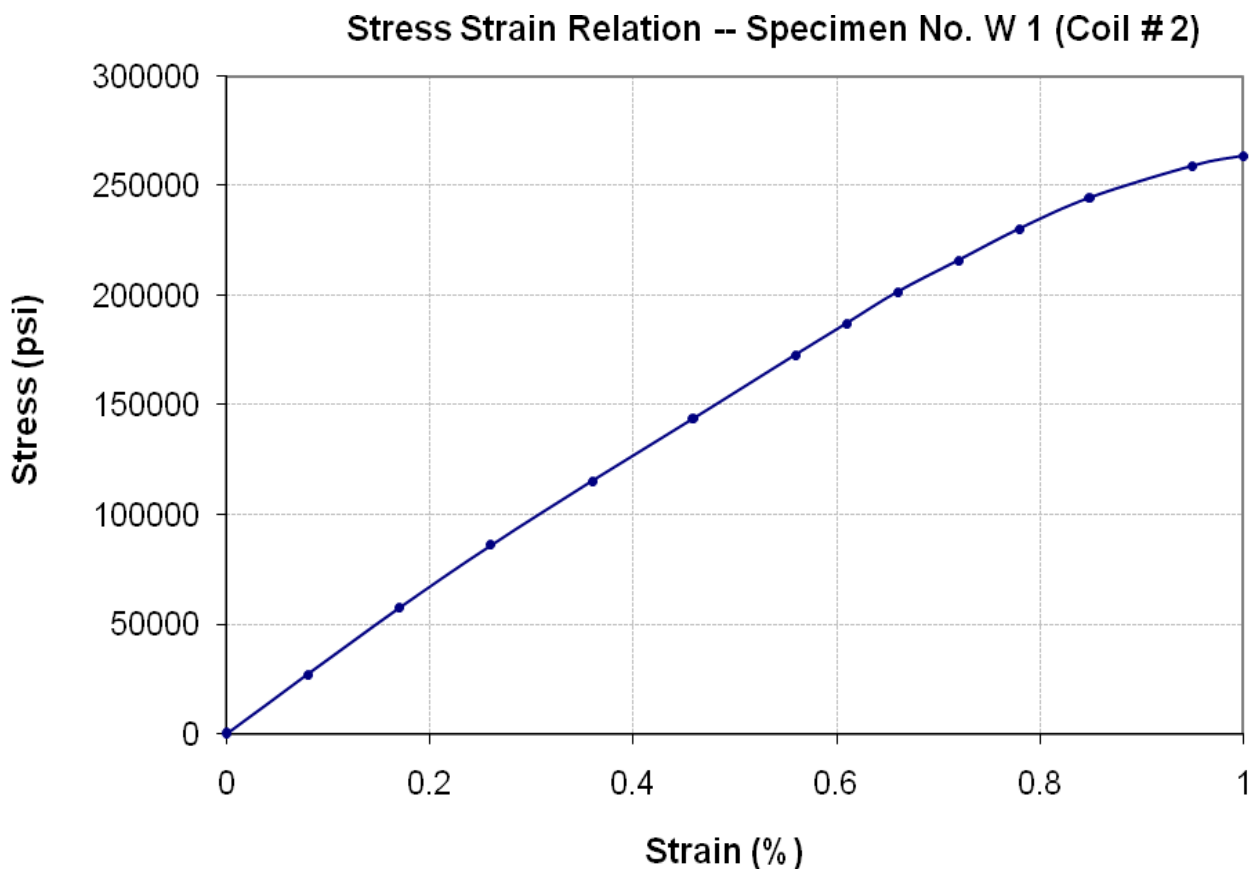
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Assistant Resident Engineer (A.C.E)
Associated Consulting Engineers - ACE Limited
Construction of Peshawar Bara Bridge Project Khyber Agency

Reference # CED/TFL **3009** (Dr. Waseem Abbas)
Reference of the request letter # Bara Bridge/ACE/ARE-2/19/-021

Dated: 14-10-2019
Dated: 12-10-2019

Graph (Page – 2/2)



I/C Testing Laboratories
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.
- 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

To,
Resident Engineer
ABM Engineers
Improvement & Widening of Nizampur - Khohat Road (64 km)

Reference # CED/TFL **3014** (Dr. Waseem Abbas)
Reference of the request letter # ABM/RE/NKR/19/542

Dated: 15-10-2019
Dated: 14-10-2019

Tension Test Report (Page – 1/4)

Date of Test 16-10-2019
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	780.0	17300	169.71	18600	182.47	199	>3.50	xx
2	12.70 (1/2")	775.0	781.0	16800	164.81	18800	184.43	198	>3.50	xx
3	12.70 (1/2")	775.0	782.0	17200	168.73	18800	184.43	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 Laboratories
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.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



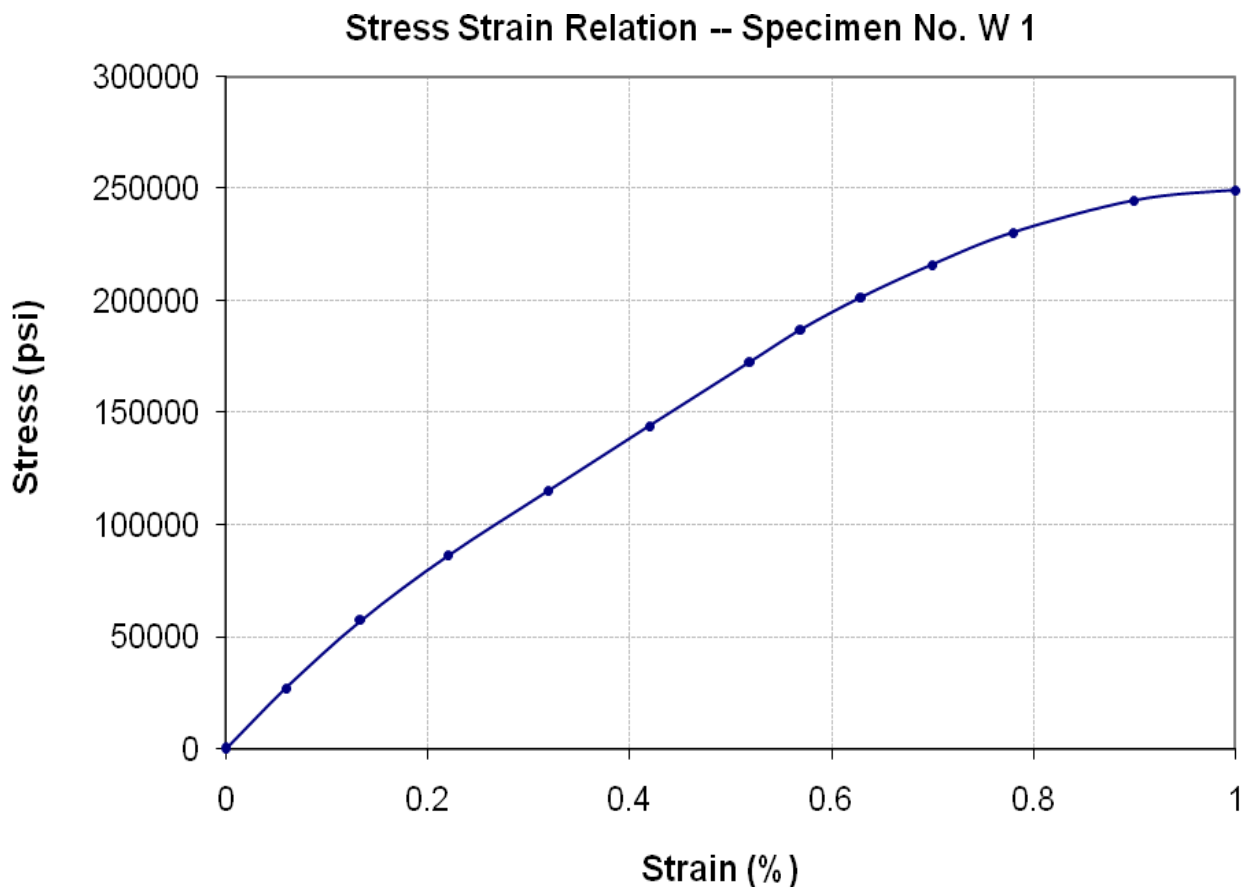
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
ABM Engineers
Improvement & Widening of Nizampur - Khohat Road (64 km)

Reference # CED/TFL **3014** (Dr. Waseem Abbas)
Reference of the request letter # ABM/RE/NKR/19/542

Dated: 15-10-2019
Dated: 14-10-2019

Graph (Page – 2/4)



I/C Testing Laboratories
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.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



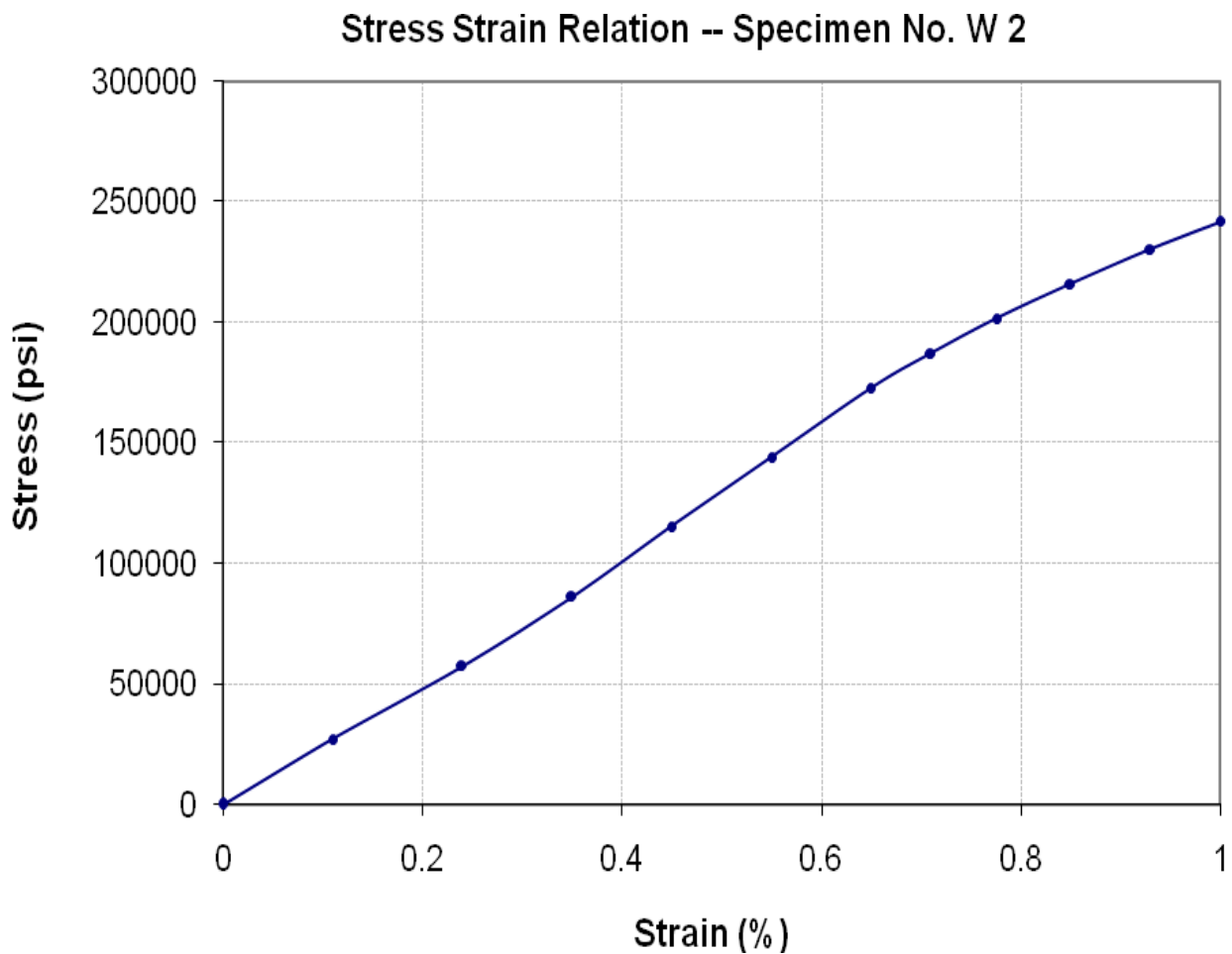
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
ABM Engineers
Improvement & Widening of Nizampur - Khohat Road (64 km)

Reference # CED/TFL **3014** (Dr. Waseem Abbas)
Reference of the request letter # ABM/RE/NKR/19/542

Dated: 15-10-2019
Dated: 14-10-2019

Graph (Page – 2/4)



I/C Testing Laboratories
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.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



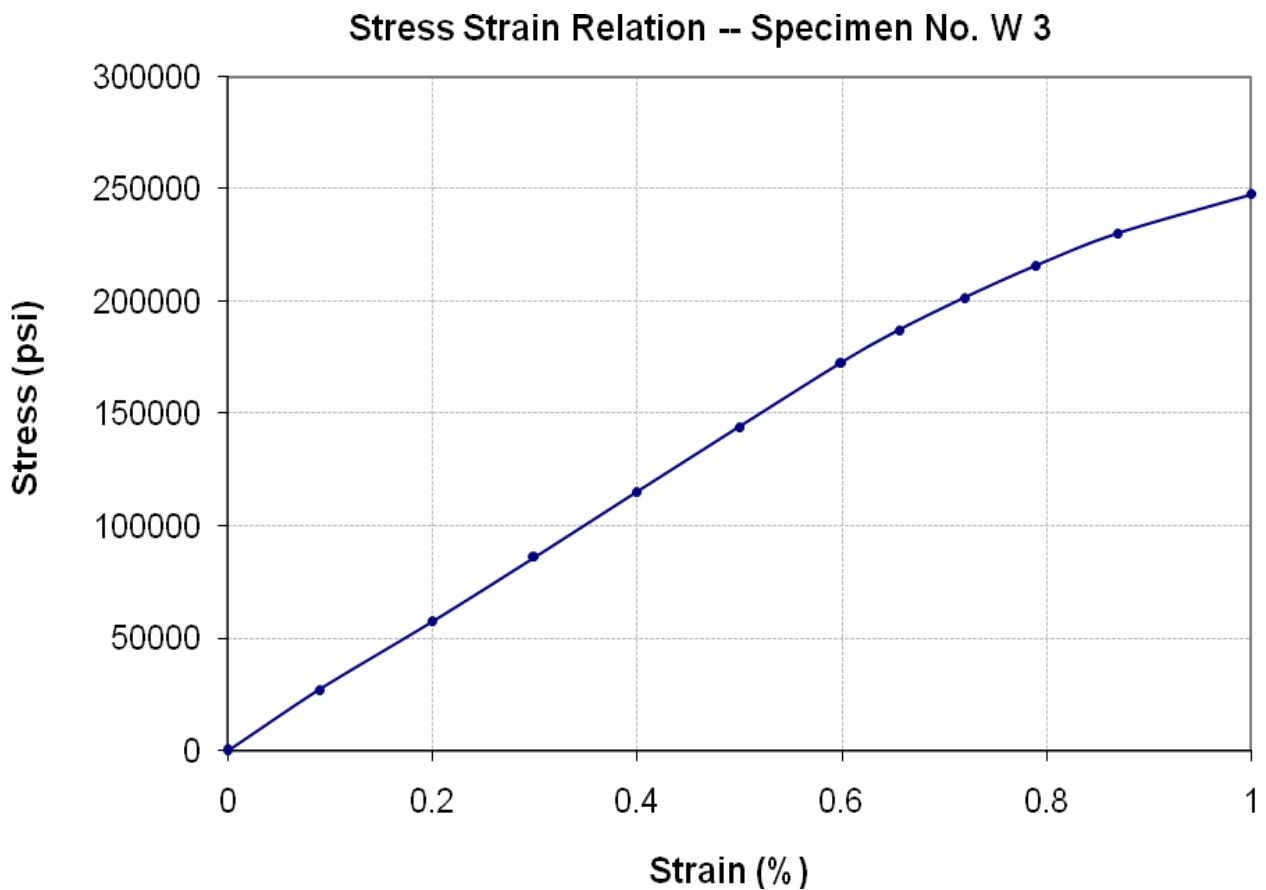
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
ABM Engineers
Improvement & Widening of Nizampur - Khohat Road (64 km)

Reference # CED/TFL **3014** (Dr. Waseem Abbas)
Reference of the request letter # ABM/RE/NKR/19/542

Dated: 15-10-2019
Dated: 14-10-2019

Graph (Page – 2/4)



I/C Testing Laboratories
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.
- 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

To,
 Sub Divisional Officer (Civil)
 GC University Faisalabad
 Construction of Extrenal Development (Sewerage Sump, External Sewerage & Power Cable etc)
 of Hostel #10 at New Campus Government College University, Faisalabad

Reference # CED/TFL **34016** (Dr. Waseem Abbas)
 Reference of the request letter # GCUF/EC/1359

Dated: 15-10-2019
 Dated: 13-09-2019

Tension Test Report (Page -1/1)

Date of Test 16-10-2019
 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 ²)		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	0.366	3/8	0.370	0.11	0.108	3200	4600	64200	65510	92200	94200	0.75	9.4	
2	0.365	3/8	0.370	0.11	0.107	3300	4600	66200	67740	92200	94500	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" 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
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

To,
 Senior Resident Engineer
 ProMag Pvt Ltd
 Civil Works Sector-H DHA Multan

Reference # CED/TFL **34017** (Dr. Waseem Abbas)
 Reference of the request letter # Sec-H/Material/344

Dated: 15-10-2019
 Dated: 14-10-2019

Tension Test Report (Page -1/1)

Date of Test 16-10-2019
 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 ²)		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	0.410	10	9.95	0.12	0.120	3700	5700	67975	67680	104719	104300	1.20	15.0	SJ Steel
2	0.413	10	9.98	0.12	0.121	3800	5800	69812	69060	106556	105500	1.10	13.8	
3	0.409	10	9.93	0.12	0.120	4000	5400	73487	73400	99207	99100	1.10	13.8	Maughal Steel
4	0.411	10	9.96	0.12	0.121	4000	5400	73487	73010	99207	98600	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only four samples for tensile and two samples for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														
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
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

To,
 Senior Resident Engineer
 ProMag Pvt Ltrd
 Infrastructure Works Main Trunk Sewer Package II, DHA Multan
 (Usman Steel)

Reference # CED/TFL **34018** (Dr. Waseem Abbas)
 Reference of the request letter # CRE/Sec-D/340

Dated: 15-10-2019
 Dated: 11-10-2019

Tension Test Report (Page -1/1)

Date of Test 16-10-2019
 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 ²)		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	0.107	5	5.09	-----	0.032	800	1100	-----	55900	-----	76900	1.10	13.8	
2	0.105	5	5.03	-----	0.031	800	1200	-----	57260	-----	85900	1.20	15.0	
3	0.137	6	5.75	-----	0.040	800	1100	-----	43850	-----	60300	1.50	18.8	
4	0.140	6	5.81	-----	0.041	800	1100	-----	42870	-----	59000	1.60	20.0	
5	0.259	8	7.91	-----	0.076	2400	3600	-----	69440	-----	104200	1.00	12.5	
6	0.276	8	8.16	-----	0.081	2300	3500	-----	62490	-----	95100	1.10	13.8	

Note: only Six samples for tensile and three samples for bend test

Bend Test

5mm Dia Bar Bend Test Through 180° is Satisfactory

6mm Dia Bar Bend Test Through 180° is Satisfactory

8mm 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
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

To,
 Acting Project Director
 Air University Multan Campus
 Construction of Academic Block-I, Air University Multan Campus
 (Ittefaq Steel)

Reference # CED/TFL **34019** (Dr. Waseem Abbas) Dated: 15-10-2019
 Reference of the request letter # MUX/AUMC/AB1/2018/118 Dated: 14-10-2019

Tension Test Report (Page -1/1)

Date of Test 16-10-2019
 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 ²)		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	0.375	3/8	0.375	0.11	0.110	3200	4600	64200	63970	92200	92000	1.40	17.5	
2	0.373	3/8	0.374	0.11	0.110	3200	4600	64200	64360	92200	92600	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" 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
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

To,
 Resident Engineer
 NESPAK
 Widening of Bridge at Joray Pull Intersection, Allama Iqbal Town, Lahore
 (Ittefaq Steel)

Reference # CED/TFL **34021** (Dr. Waseem Abbas)
 Reference of the request letter # 4047-R3/13/RK/1/26

Dated: 15-10-2019
 Dated: 14-09-2019

Tension Test Report (Page -1/1)

Date of Test 16-10-2019
 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 ²)		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	0.390	3/8	0.382	0.11	0.115	3200	5000	64200	61600	100200	96300	1.20	15.0	
2	0.387	3/8	0.380	0.11	0.114	3100	5000	62200	60110	100200	97000	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" 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
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

To,
 Project Manager
 Liberty Builders
 Construction of Zee Avenue – Ramada Hotel & Suites 17-A Cooper Road, Lahore
 (Model Power)

Reference # CED/TFL **34025** (Dr. Ali Ahmed)
 Reference of the request letter # CONC-20190716

Dated: 16-10-2019
 Dated: 16-10-2019

Tension Test Report (Page -1/1)

Date of Test 16-10-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile 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	0.369	3	0.372	0.11	0.109	3600	5000	72200	73120	100200	101600	0.90	11.3	
2	0.375	3	0.375	0.11	0.110	4200	5300	84200	83980	106200	106000	0.80	10.0	
3	0.358	3	0.366	0.11	0.105	3300	4500	66200	69190	90200	94400	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only three samples for tensile test														
Bend Test														

Witness by Bilal (Site Supervisor Liberty Builders)

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