



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

Ref: CED/TFL/03/989

Dated: 02-03-2022

Dated of Test: 15-03-2022

To
Deputy Director Technical
Anti-Corruption Establishment
Regional, Gujranwala
(Sewerage/Drainage at Jinnah Road, Raja Colony, Gulzar Colony, Khokhri, Satellite Town, Pasrur Road, Model Town, Islamabad, Kotly Rustum, Hafizabad Road, Garjakh and Allied Areas)

Subject: TESTING OF R.C.C. PIPE [ASTM-C76 - 08a]

Reference to your letter No. ACE-GR-DDT/928, dated 21.02.2022 on the subject cited above. One R.C.C. Pipe as received by us has been tested. The results are tabulated as under.

Sr. No	Nominal Size	Total Length	Loaded Length	External Diameter	Internal Diameter	Wall Thickness	Proof load	Ultimate Load	Proof Stress	Ultimate Stress
	(inch)	(foot)	(foot)	(inch)	(inch)	(inch)	(kg)	(kg)	Pound/Linear foot/foot	Pound/Linear foot/foot
1	30	8.04	7.75	36.61	29.27	3.67	17170	26300	2002	3067

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 Director (Engg)
 Walled City of Lahore Authority
 “Rehabilitation of Historical site Hazrat Baha UD Din Zikriya (R.A) at Multan”

Reference # CED/TFL **1048** (Dr. Rizwan Azam) Dated: 11-03-2022
 Reference of the request letter # Conv. Wing/WCLA/B.Z/2021 Dated: 10-03-2022

Tension Test Report (Page -1/1)

Date of Test 14-03-2022
 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	0.376	3/8	0.375	0.11	0.111	3800	4600	76200	75730	92200	91700	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample 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,
 Sub Divisional Officer
 Buildings Sub Division No. 15
 Lahore
 (Construction of Two More Floor for Establishment of High Court Offices at Judicial Academy
 Fan Road, Lahore)
 Reference # CED/TFL **1052** (Dr. Rizwan Azam) Dated: 11-03-2022
 Reference of the request letter # 1428 Dated: 05-03-2022

Tension Test Report (Page -1/1)

Date of Test 14-03-2022
 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	0.368	3/8	0.371	0.11	0.108	3300	4600	66200	67270	92200	93800	1.40	17.5	
2	0.367	3/8	0.371	0.11	0.108	3300	4700	66200	67380	94200	96000	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,
M/S Imperium Hospitality (Pvt) Limited
Gulberg II, Lahore

Reference # CED/TFL **1053** (Dr. MN Rizwan Riaz)
Reference of the request letter # IHPL/Steel/0176

Dated: 11-03-2022
Dated: 08-03-2022

Tension Test Report (Page -1/1)

Date of Test 15-03-2022
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 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	0.386	3	0.380	0.11	0.114	4130	5350	82800	80190	107200	103900	1.00	12.5	PCS
2	0.388	3	0.381	0.11	0.114	4230	5400	84800	81840	108200	104500	1.10	13.8	
3	0.385	3	0.380	0.11	0.113	4100	5250	82200	79830	105200	102300	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only three samples for tensile and two samples for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														
#3 Bar Bend Test Through 180° is Satisfactory														

Witness by Engr. Ali Husnain Khan (Kingcreate Builders) & Engr. Rafi Ullah (IHPL)

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
AZ Engineering Associates
Construction of Flyover at Shahabpur Chowk Defence Road Sialkot in District Sialkot

Reference # CED/TFL **1056** (Dr. Rizwan Azam)
Reference of the request letter # AZEA/SLK/SF/22/20

Dated: 11-03-2022
Dated: 09-03-2022

Tension Test Report (Page -1/4)

Date of Test 14-03-2022
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	778.0	18500	181.49	20400	200.12	198	<3.50 Not ok	xx
2	12.70 (1/2")	775.0	776.0	17700	173.64	20000	196.20	199	<3.50 Not ok	xx
3	12.70 (1/2")	775.0	773.0	17000	166.77	18900	185.41	199	<3.50 Not ok	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.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



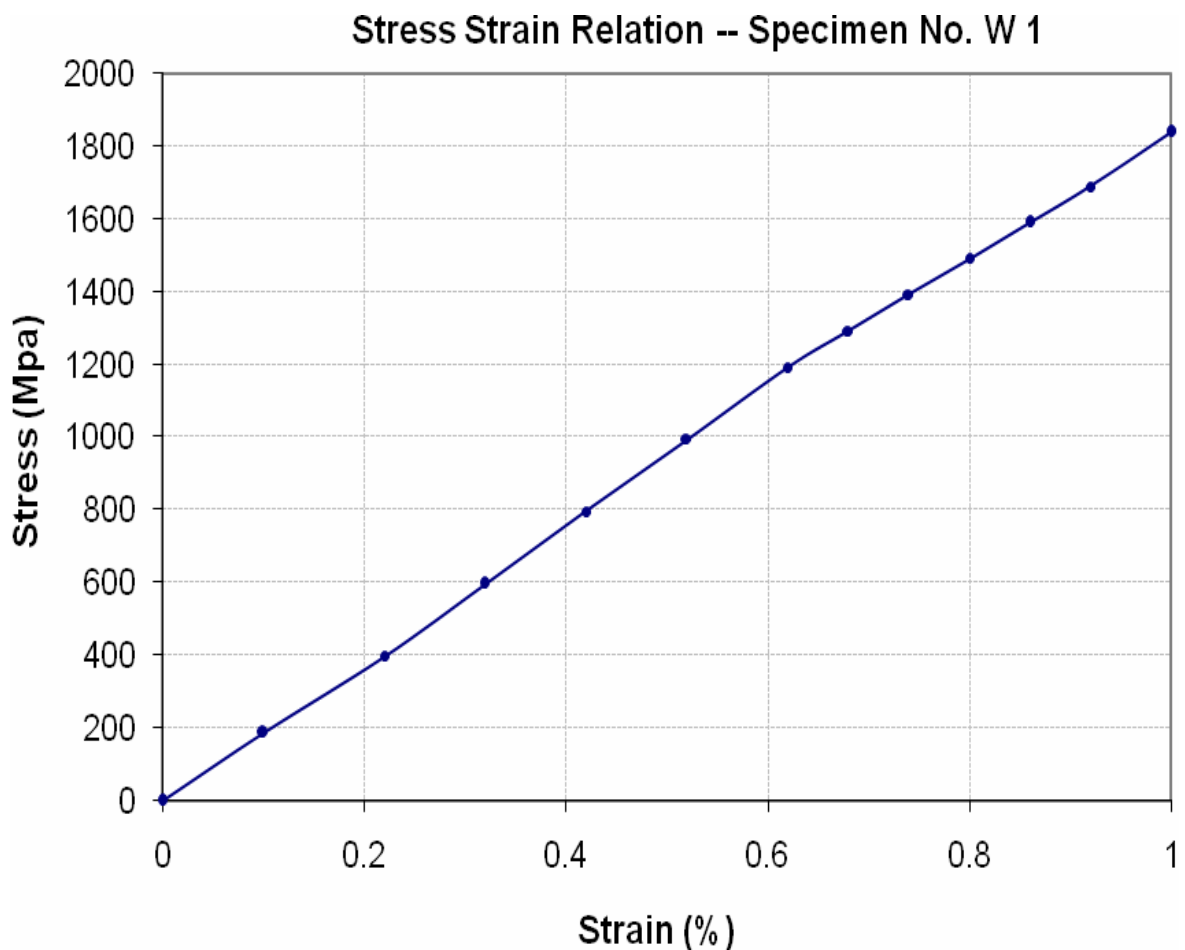
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
AZ Engineering Associates
Construction of Flyover at Shahabpur Chowk Defence Road Sialkot in District Sialkot

Reference # CED/TFL **1056** (Dr. Rizwan Azam)
Reference of the request letter # AZEA/SLK/SF/22/20

Dated: 11-03-2022
Dated: 09-03-2022

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



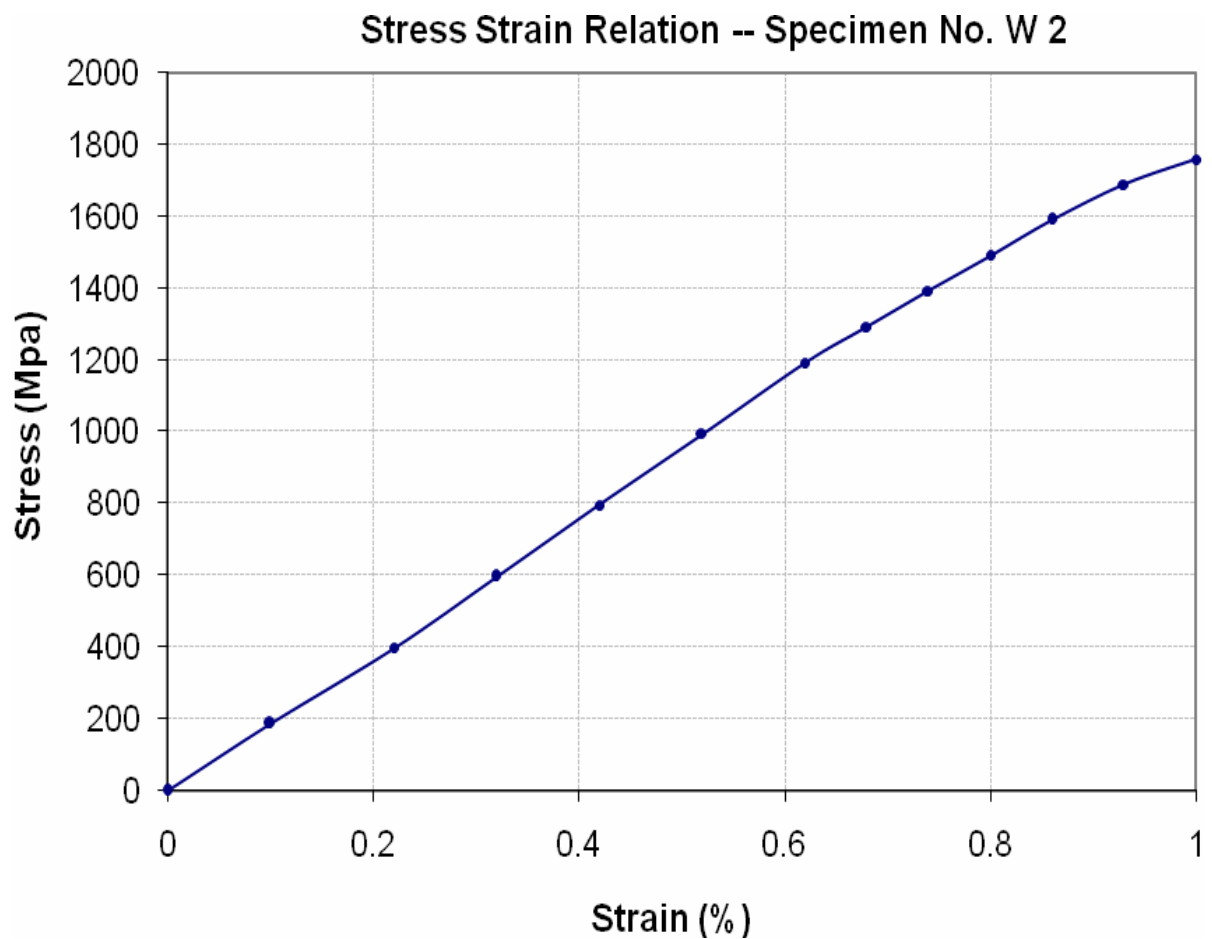
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
AZ Engineering Associates
Construction of Flyover at Shahabpur Chowk Defence Road Sialkot in District Sialkot

Reference # CED/TFL **1056** (Dr. Rizwan Azam)
Reference of the request letter # AZEA/SLK/SF/22/20

Dated: 11-03-2022
Dated: 09-03-2022

Graph (Page – 2/4)



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



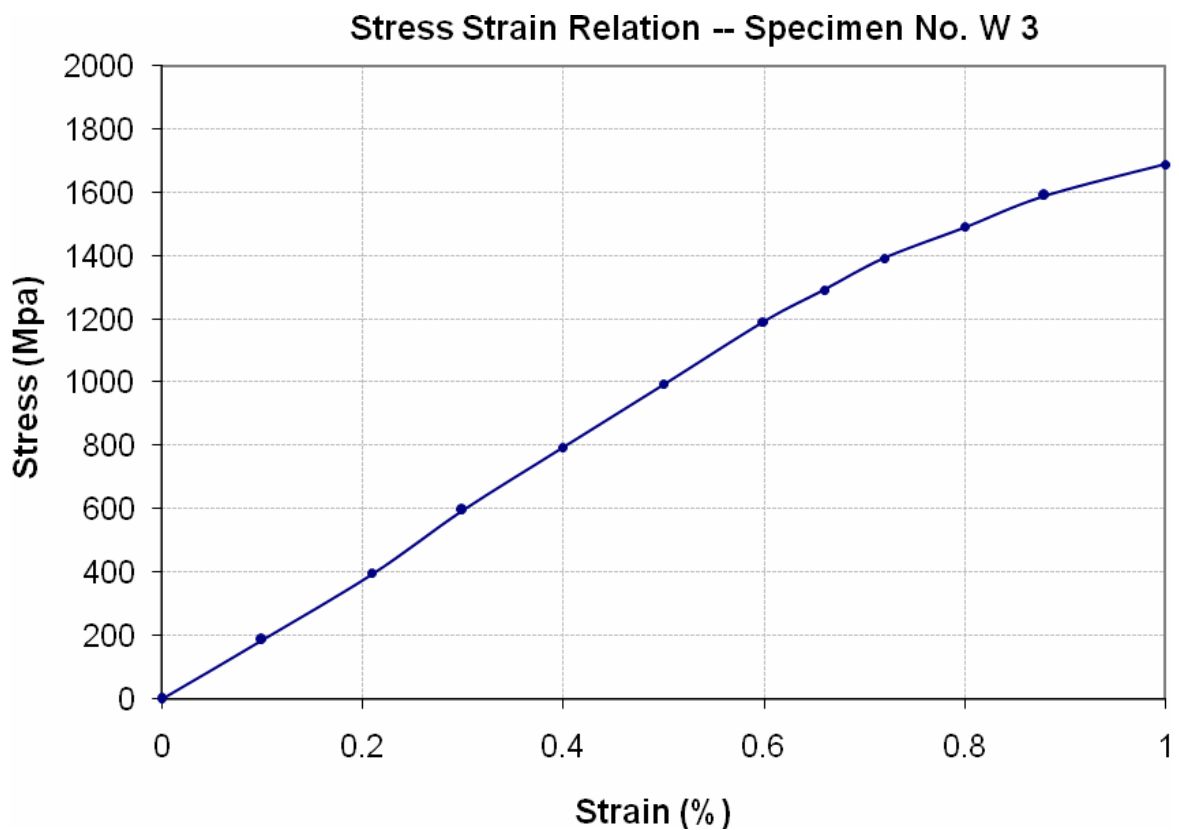
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
AZ Engineering Associates
Construction of Flyover at Shahabpur Chowk Defence Road Sialkot in District Sialkot

Reference # CED/TFL **1056** (Dr. Rizwan Azam)
Reference of the request letter # AZEA/SLK/SF/22/20

Dated: 11-03-2022
Dated: 09-03-2022

Graph (Page – 4/4)



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
Highway Sub Division Taunsa
Construction of Pile Foundation Bridge at SangharNullah Basti Mundrani Length = 275 Rft
Tehsil Taunsa District Dera Ghazi Khan

Reference # CED/TFL **1064** (Dr. M Rizwan Riaz)
Reference of the request letter # 1279/T

Dated: 14-03-2022
Dated: 27-12-2021

Tension Test Report (Page -1/2)

Date of Test 15-03-2022
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	783	17500	171.68	19400	190.31	199	>3.50	xxx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-

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



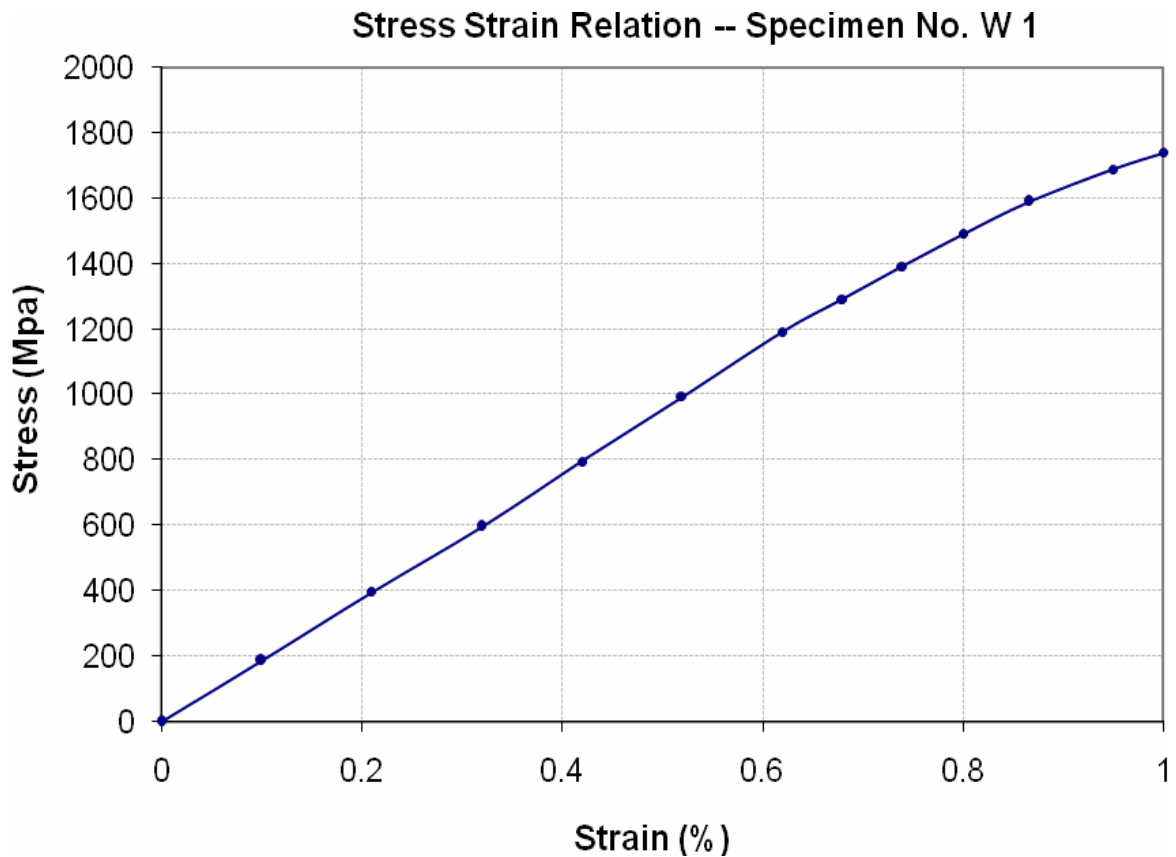
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Sub Divisional Officer
Highway Sub Division Taunsa
Construction of Pile Foundation Bridge at Sanghar Nullah Basti Mundrani Length = 275 Rft
Tehsil Taunsa District Dera Ghazi Khan

Reference # CED/TFL **1064** (Dr. M Rizwan Riaz)
Reference of the request letter # 1279/T

Dated: 14-03-2022
Dated: 27-12-2021

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,
DGM (Lab)
Future Developments Holdings (Pvt) Limited
Development of Capital Smart City, Islamabad

Reference # CED/TFL **1065** (Dr. M Rizwan Riaz)
Reference of the request letter # FDHL/CSC/03/2022/0224

Dated: 14-03-2022
Dated: 14-03-2022

Tension Test Report (Page -1/4)

Date of Test 15-03-2022
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	17200	168.73	19900	195.22	199	>3.50	23473
2	12.70 (1/2")	775.0	787.0	17000	166.77	19000	186.39	198	>3.50	23481
3	12.70 (1/2")	775.0	785.0	17700	173.64	19200	188.35	199	>3.50	23487
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
Only three samples for Test										

Witness by Abrar Hussain (Structure Inspector NESPAK (CSC) and Abdul Rehman (DGM - (Lab) HRL (FDH) (QA/QC))

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



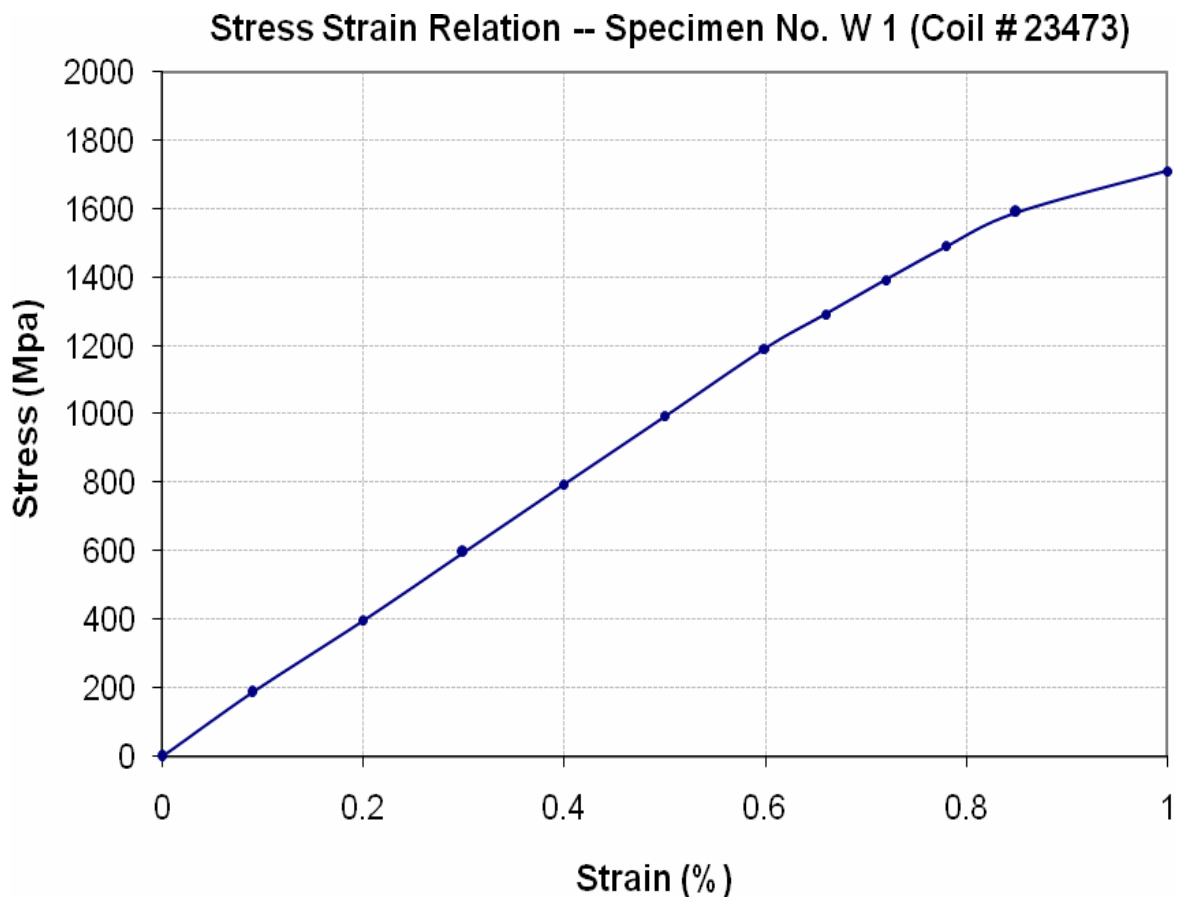
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
DGM (Lab)
Future Developments Holdings (Pvt) Limited
Development of Capital Smart City, Islamabad

Reference # CED/TFL **1065** (Dr. M Rizwan Riaz)
Reference of the request letter # FDHL/CSC/03/2022/0224

Dated: 14-03-2022
Dated: 14-03-2022

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



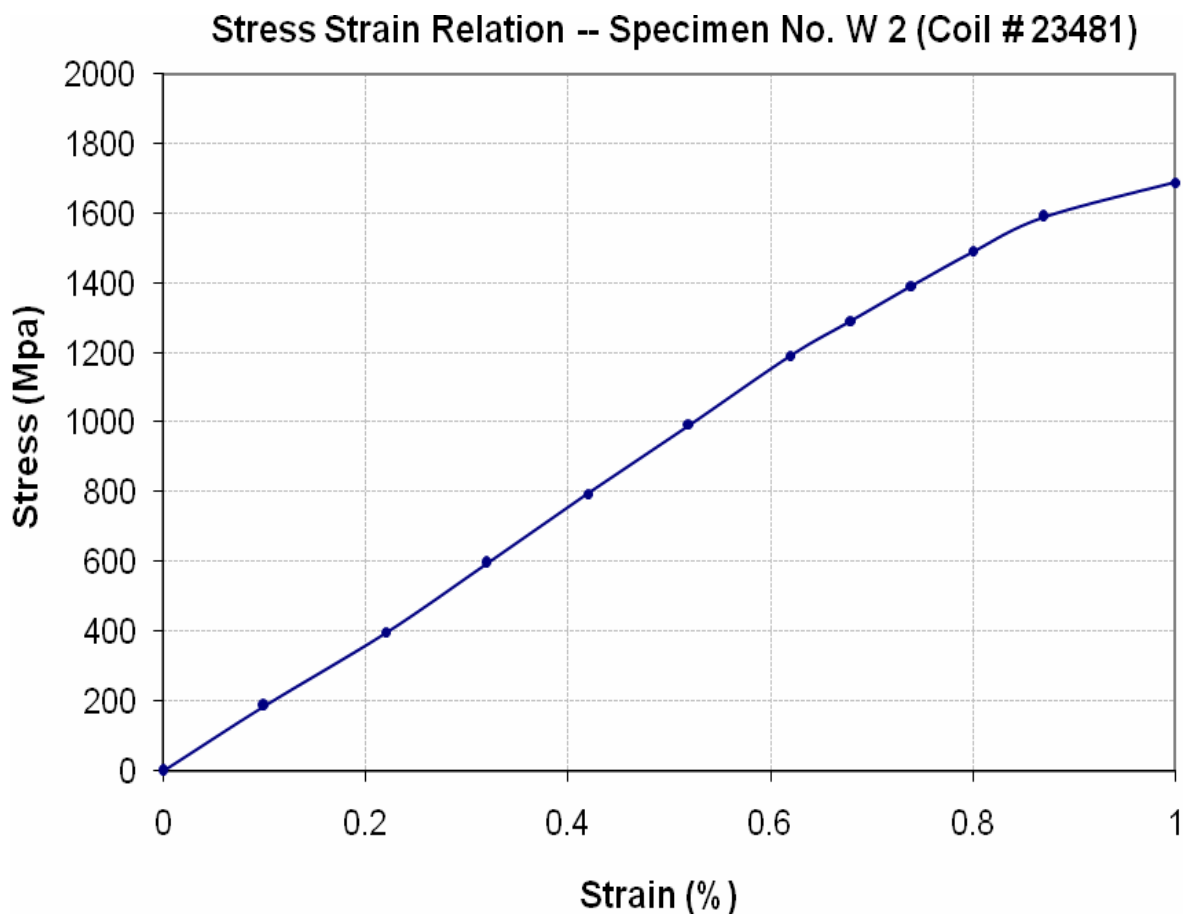
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
DGM (Lab)
Future Developments Holdings (Pvt) Limited
Development of Capital Smart City, Islamabad

Reference # CED/TFL **1065** (Dr. M Rizwan Riaz)
Reference of the request letter # FDHL/CSC/03/2022/0224

Dated: 14-03-2022
Dated: 14-03-2022

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



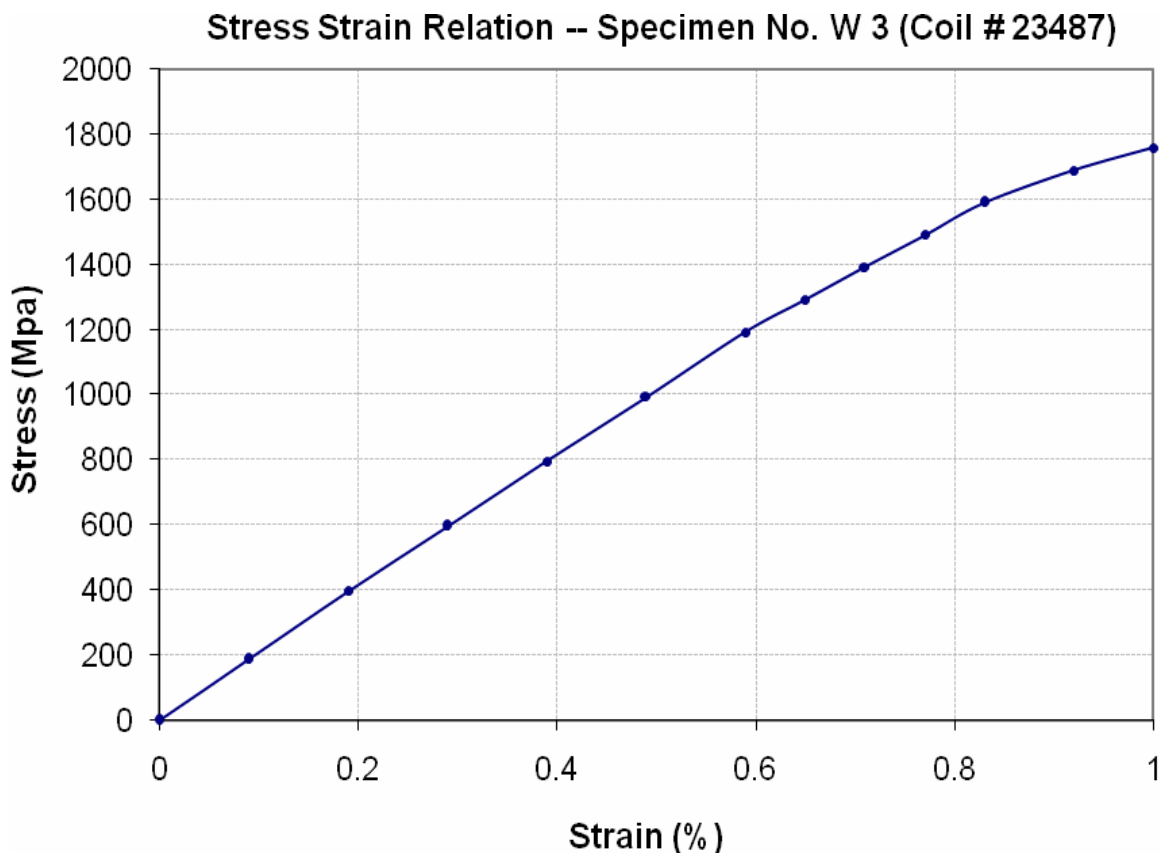
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
DGM (Lab)
Future Developments Holdings (Pvt) Limited
Development of Capital Smart City, Islamabad

Reference # CED/TFL **1065** (Dr. M Rizwan Riaz)
Reference of the request letter # FDHL/CSC/03/2022/0224

Dated: 14-03-2022
Dated: 14-03-2022

Graph (Page – 4/4)



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,
M/S Sui North Gas Pipelines Limited
Lahore
(Supply, Installation, Commissioning and Maintenance of Weigh Bridge at Uch Sharif)

Reference # CED/TFL **1069** (Dr. Irfan ul Hussan)
Reference of the request letter # CC/W. Bridge/Uch Sharif

Dated: 15-03-2022
Dated: 15-03-2022

Tension Test Report (Page -1/1)

Date of Test 14-03-2022
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	0.377	3/8	0.376	0.11	0.111	3310	4330	66400	65770	86800	86100	0.80	10.0	
2	0.377	3/8	0.376	0.11	0.111	3430	4590	68800	68220	92000	91300	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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

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