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/06/1643 Dated: 01-07-2022

Dated of Test: 06-07-2022

To

GM Development
Vision Developers Pvt. Ltd.
Park View City Lahore

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

Reference to your letter No. Nil, dated 27.06.2022 on the subject cited above. Two R.C.C. Pipes as received by us have 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	9	7.74	7.22	12.32	8.79	1.77	13000	18200	5424	7593
2	9	7.79	7.30	12.36	8.76	1.80	12500	16600	5174	6871

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
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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
Union Developers
Construction of Union Luxury Apartments, Etihad Town, Lahore

Reference # CED/TFL **1663** (Dr. Ali Ahmed) Dated: 05-07-2022
Reference of the request letter # UA/SO/2022/023 Dated: 05-07-2022

Tension Test Report (Page -1/1)

Date of Test 06-07-2022
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.374	3	0.374	0.11	0.110	4200	4900	84200	84140	98200	98200	0.80	10.0	Afco Steel
2	0.374	3	0.374	0.11	0.110	3800	4800	76200	76160	96200	96200	0.80	10.0	
3	0.374	3	0.374	0.11	0.110	3700	4800	74200	74150	96200	96200	0.80	10.0	
4	0.373	3	0.374	0.11	0.110	3900	4800	78200	78360	96200	96500	0.75	9.4	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only four samples for tensile and two samples for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
Engineer's Representative
Infrastructure Development Authority of The Punjab
Construction of Training Labortary at Punjab Forensic Science Agency (PFSA), Lahore

Reference # CED/TFL **1667** (Dr. Ali Ahmed) Dated: 05-07-2022
Reference of the request letter # TE(PFSA)/IDAP/SO/2022/14531 Dated: 04-06-2022

Tension Test Report (Page -1/1)

Date of Test 06-07-2022
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.360	3	0.367	0.11	0.106	3400	4600	68200	70750	92200	95800	0.80	10.0	FF Steel
2	0.356	3	0.365	0.11	0.105	3500	4600	70200	73640	92200	96800	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: only two samples for tensile and one sample for bend test

Bend Test

#3 Bar Bend Test Through 180º is Satisfactory

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
Quantity Surveyor
Linker Developers (Pvt) Ltd
Construction of ETP at US Apparel – 1 R

Reference # CED/TFL **1668** (Dr. Ali Ahmed) Dated: 05-07-2022
Reference of the request letter # Nil Dated: 02-07-2022

Tension Test Report (Page -1/1)

Date of Test 06-07-2022
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.490	3	0.428	0.11	0.144	5100	6500	102200	78090	130300	99600	1.30	16.3	Afco Steel
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
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STRUCTURAL ENGINEERING DIVISION

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

To,
Procurement Officer
Al-Raheem Developers
12 Marla Commercial Plaza Al Raheem Garden Housing Scheme Phsae-5, Lahore

Reference # CED/TFL **1669** (Dr. Ali Ahmed) Dated: 05-07-2022
Reference of the request letter # Nil Dated: 05-07-2022

Tension Test Report (Page -1/1)

Date of Test 06-07-2022
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.352	3	0.363	0.11	0.104	3700	4700	74200	78730	94200	100000	0.50	6.3	Koh-e-Noor Steel
2	0.371	3	0.373	0.11	0.109	4800	5800	96200	96910	116300	117100	0.50	6.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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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
Mianwali
(Construction of Bridge on Adhi Kot Minor Dera Langrialan wala Moza Shadia District Mianwali)
Reference # CED/TFL **1670** (Dr. Ali Ahmed) Dated: 05-07-2022
Reference of the request letter # 511/SDO/Mwl Dated: 10-05-2022

Tension Test Report (Page -1/2)

Date of Test 06-07-2022
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**	**783.0**	**17500**	**171.68**	**19700**	**193.26**	**198**	**>3.50**	**xx**
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
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:
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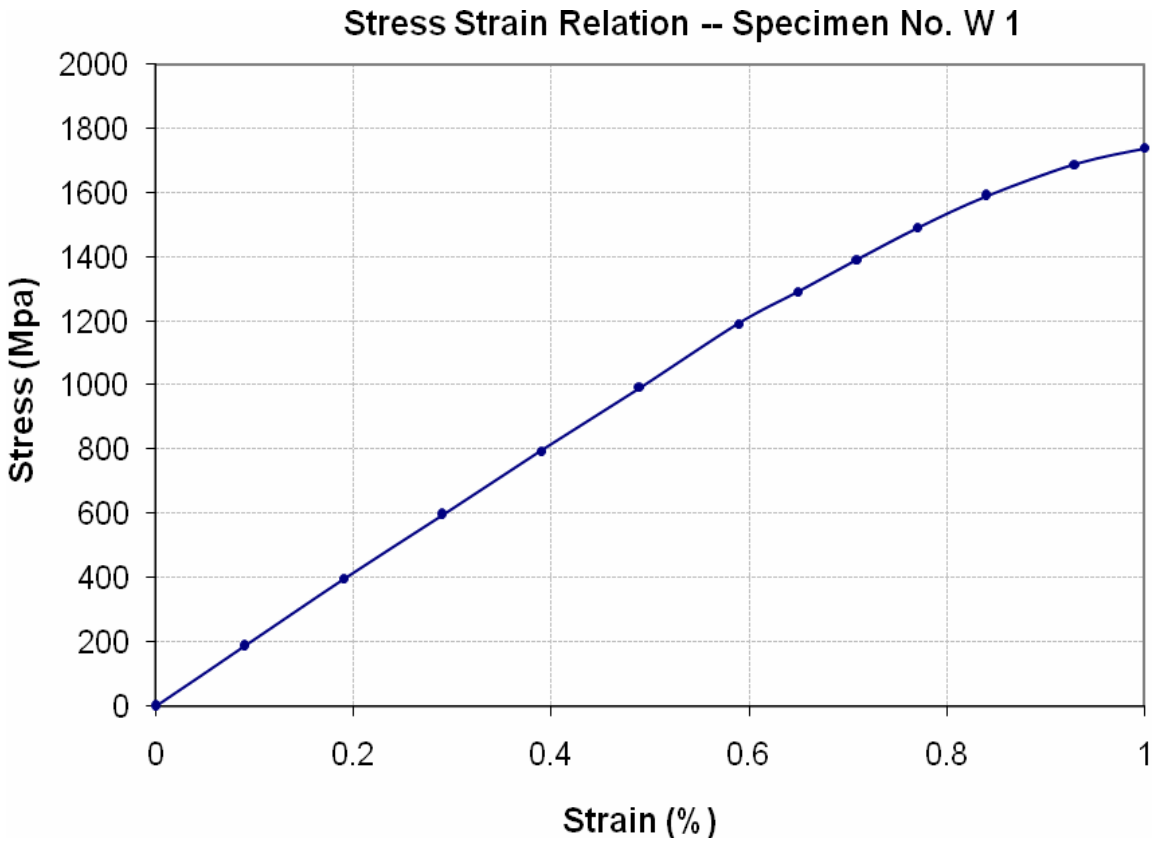
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Sub Divisional Officer
Highway Sub Division
Mianwali
(Construction of Bridge on Adhi Kot Minor Dera Langrialan wala Moza Shadia District Mianwali)

Reference # CED/TFL **1670** (Dr. Ali Ahmed) Dated: 05-07-2022
Reference of the request letter # 511/SDO/Mwl Dated: 10-05-2022

Graph (Page – 2/2)



I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
Chief Engineer
Zaitoon
New Lahore City, Lahore
Construction of 9 Houses 71, 73, 74, 75, 77, 78, 80, 81 & 82 Zaitoon City

Reference # CED/TFL **1676** (Dr. Ali Ahmad) Dated: 06-07-2022
Reference of the request letter # ZC/CE/05 Dated: 06-07-2022

Tension Test Report (Page -1/1)

Date of Test 06-07-2022
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.386	3	0.380	0.11	0.113	4100	5600	82200	79670	112300	108900	1.00	12.5	F.F Steel
2	0.388	3	0.381	0.11	0.114	3900	5400	78200	75420	108200	104500	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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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,
Building Sub Division-II
Dera Ghazi Khan.

Reference # CED/TFL **1671** (Dr. Ali Ahmed) Dated: 05-07-2022
Reference of the request letter # 2275 Dated: 16-06-2022

Tension Test Report (Page -1/1)

Date of Test 06-07-2022
Gauge length 8 inches
Description Deformed Steel Bar Tensile Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.386	3/8	0.380	0.11	0.113	4100	5600	82200	79670	112300	108900	1.00	12.5	FF Steel
2	0.388	3/8	0.381	0.11	0.114	3900	5400	78200	75420	108200	104500	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
Site Engineer
Sitara Heights Private Limited, Lahore
"Sitara 3-Jays Tower" Firdous Market Lahore

Reference # CED/TFL **1674** (Dr. Asad Ali) Dated: 06-07-2022
Reference of the request letter # SHPL/3JAYS/LHR/10 Dated: 06-07-2022

Tension Test Report (Page -1/1)

Date of Test 06-07-2022
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.364	3	0.369	0.11	0.107	3210	5010	64400	66150	100400	103300	1.40	17.5	
2	0.360	3	0.367	0.11	0.106	3180	4990	63800	66190	100000	103900	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
Chief Engineer
Zaitoon
New Lahore City, Lahore
Construction of 9 Houses 71, 73, 74, 75, 77, 78, 80, 81 & 82 Zaitoon City

Reference # CED/TFL **1676** (Dr. Ali Ahmad) Dated: 06-07-2022
Reference of the request letter # ZC/CE/05 Dated: 06-07-2022

Tension Test Report (Page -1/1)

Date of Test 06-07-2022
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.374	3	0.374	0.11	0.110	3600	4900	72200	72100	98200	98200	1.00	12.5	F.F Steel
2	0.369	3	0.372	0.11	0.109	3400	4600	68200	69070	92200	93500	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: only two samples for tensile and one sample for bend test

Bend Test

#3 Bar Bend Test Through 180º is Satisfactory

I/C Testing Laboratoires
UET Lahore, Pakistan.

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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,
Sialkot.

Reference # CED/TFL **1679** (Dr. Usman Akmal) Dated: 13-07-2022
Reference of the request letter # 600/S Dated: 29-06-2022

Tension Test Report (Page -1/1)

Date of Test 14-07-2022
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.377	3	0.376	0.11	0.111	4000	5200	80200	79570	104200	103500	0.90	11.3	
2	0.377	3	0.375	0.11	0.111	3900	5100	78200	77660	102200	101600	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: only two samples for tensile and one sample for bend test

Bend Test

#3 Bar Bend Test Through 180º is Satisfactory

I/C Testing Laboratoires
UET Lahore, Pakistan.

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