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/06/5224 Dated: 06-06-2024

Dated of Test: 12-06-2024

To

Resident Engineer
NESPAK
Infrastructure Development at Chahar Bagh under Ravi Riverfront Urban Development Project.

Subject: **TESTING OF R.C.C. PIPE [ASTM-C76 – 08a]** (Page # 1/1)

Reference to your letter No. 4559/13/MAA/09/348, dated 10.05.2024 on the subject cited above. One R.C.C. Pipes 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	36	8.02	7.69	44.17	35.93	4.12	22250	30780	2129	2946

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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To,

Project Manager
Halmore Properties Pvt. Ltd.
Construction of Halmore Apartments at Plot No. 11, Block B3, Gulberg-III, Tipu Road, Lahore.

Reference # CED/TFL **5241** (Dr. Asad Ali) Dated: 11-06-2024
Reference of the request letter# HPPL/UET/24/06/020 Dated: 11-06-2024

Tension Test Report (Page -1/1)

Date of Test 12-06-2024
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	0.370	3	0.372	0.11	0.109	3380	4940	67800	68500	99000	100200	1.20	15.0	SJ Steel
2	0.370	3	0.372	0.11	0.109	3260	4810	65400	66120	96400	97600	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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To,

Resident Engineer
NESPAK
Kotla Mosa Khan to Kachi Mor Ans Flyover at Firdus Cinema Phatak,
DistrictBahawalpur

Reference # CED/TFL **5243** (Dr. Safeer Abbas) Dated: 11-06-2024
Reference of the request letter # RE/MSA/BWP/25 Dated: 30-05-2024

Tension Test Report (Page # 1/1)

Date of Test 12-06-2024
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	4.315	10	1.271	1.27	1.268	37800	53200	65600	65690	92400	92500	1.50	18.8	Sheikhoo Steel
2	4.303	10	1.269	1.27	1.265	38200	53600	66300	66570	93100	93400	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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

Bend Test

#10 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
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To,

Resident Engineer
ZEERUK – LOYA – MINHA Jv.
Development of Islamabad Expressway PWD Underpass to GT Road Including Bhander Bridge, Japan Road Underpass & Soan Bridge. (WMI)

Reference # CED/TFL **5249** (Dr. Safeer Abbass) Dated: 11-06-2024
Reference of the request letter # ZI/RE/FWO/P-N-5/24/318 Dated: 07-06-2024

Tension Test Report (Page -1/3)

Date of Test 12-06-2024
Gauge length 600 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")**	**780.0**	**780.0**	**18000**	**176.58**	**19500**	**191.30**	**198**	**>3.50**	**25474**
2	**12.70 (1/2")**	**780.0**	**783.0**	**18200**	**178.54**	**19700**	**193.26**	**199**	**>3.50**	**25477**
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
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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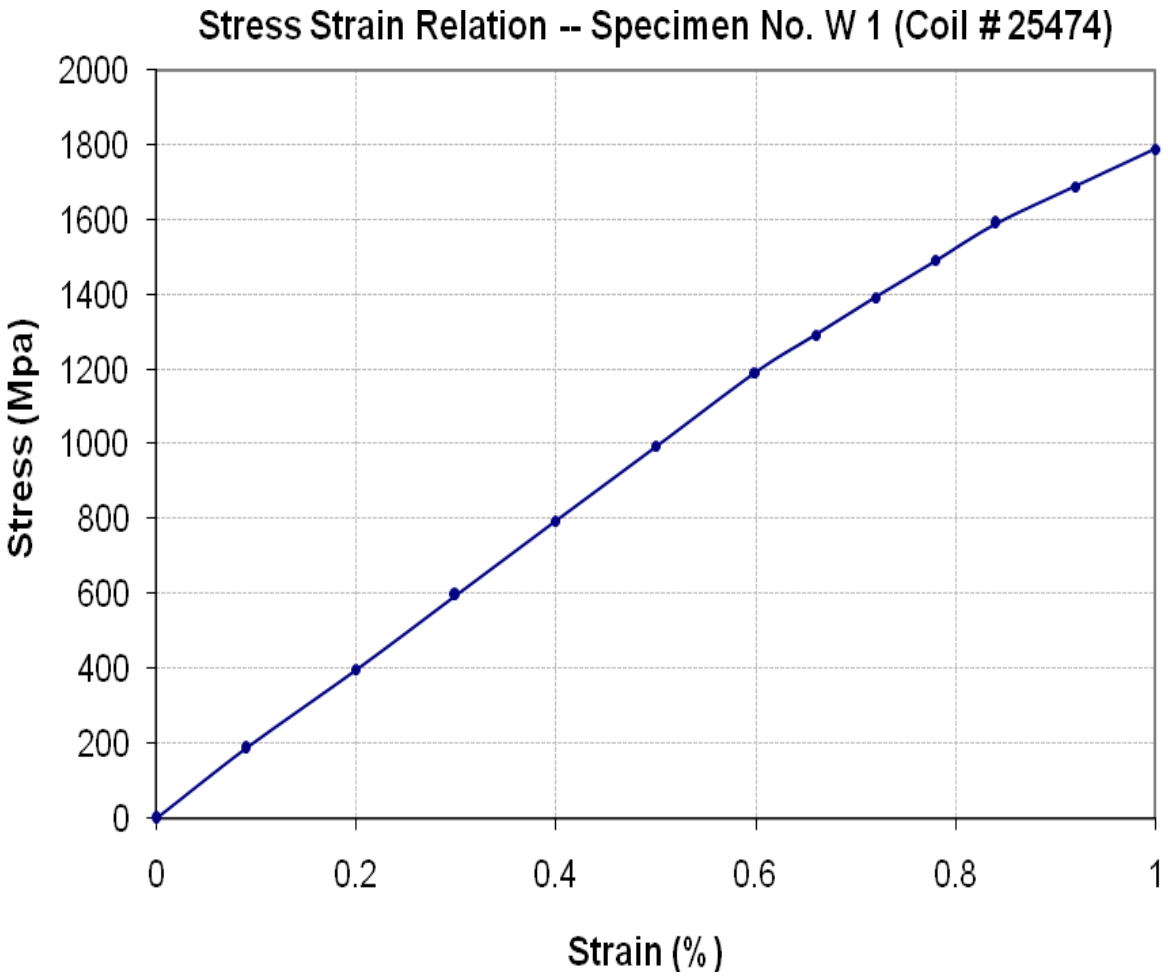
To,

Resident Engineer
ZEERUK – LOYA – MINHA Jv.
Development of Islamabad Expressway PWD Underpass to GT Road Including Bhander Bridge, Japan Road Underpass & Soan Bridge. (WMI)

Reference # CED/TFL **5249** (Dr. Safeer Abbass) Dated: 11-06-2024
Reference of the request letter # ZI/RE/FWO/P-N-5/24/318 Dated: 07-06-2024

Graph (Page – 2/3)



I/C Testing Laboratoires
UET Lahore, Pakistan.

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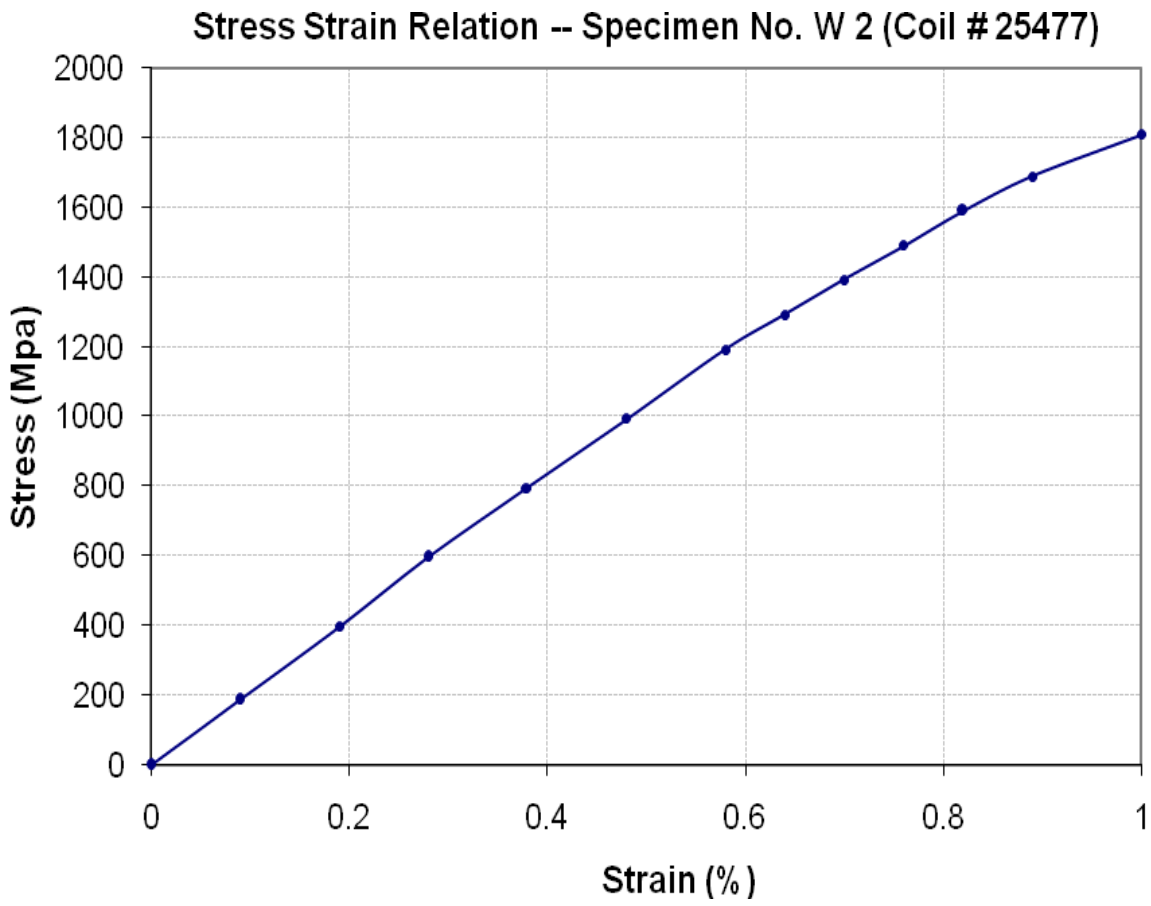
Graph (Page – 3/3)



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To,

Resident Engineer,
Orbit Developers Private Limited
The Spring Atrium, Gulberg Lahore.

Reference # CED/TFL **5250** (Dr. Asad Ali) Dated: 12-06-2024
Reference of the request letter# NIL Dated: 12-06-2024

Tension Test Report (Page -1/1)

Date of Test 12-06-2024
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	0.365	3	0.370	0.11	0.107	3350	5050	67200	68780	101200	103700	0.90	11.3	
2	0.366	3	0.370	0.11	0.108	3310	5120	66400	67810	102600	104900	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														

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