



**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/01/35955

Dated: 19-01-2021

Dated of Test: 26-01-2021

To  
**Resident Engineer**  
**NESPAK**  
**Rehabilitation of Sewerage System in Area of Defunct UC-89 & 90, PP- 151**

Subject: **TESTING OF R.C.C. PIPE [ASTM-C76 - 08a]** (Page -1/4)

Reference to your letter No. 4084/103/BSAM/104/238, dated 12.01.2021

on the subject cited above. One R.C.C. Pipe as received by us has been tested. The results are tabulated as under.

<b>Sr. No</b>	<b>Nominal Size</b>	<b>Total Length</b>	<b>Loaded Length</b>	<b>External Diameter</b>	<b>Internal Diameter</b>	<b>Wall Thickness</b>	<b>Proof load</b>	<b>Ultimate Load</b>	<b>Proof Stress</b>	<b>Ultimate Stress</b>
	<b>(inch)</b>	<b>(foot)</b>	<b>(foot)</b>	<b>(foot)</b>	<b>(foot)</b>	<b>(inch)</b>	<b>(kg)</b>	<b>(kg)</b>	<b>Pound/Linear foot/foot</b>	<b>Pound/Linear foot/foot</b>
<b>1</b>	<b>9</b>	<b>7.70</b>	<b>7.30</b>	<b>0.90</b>	<b>0.72</b>	<b>1.11</b>	<b>7000</b>	<b>9900</b>	<b>2948</b>	<b>4170</b>

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

Note:

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**NESPAK**  
**Rehabilitation of Sewerage System in Area of Defunct UC-89 & 90, PP- 151**

Subject: **TESTING OF R.C.C. PIPE [ASTM-C76 - 08a]** (Page -2/4)

Reference to your letter No. 4084/103/BSAM/104/231, dated 12.01.2021

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)	(foot)	(foot)	(inch)	(kg)	(kg)	Pound/Linear foot/foot	Pound/Linear foot/foot
1	12	7.72	7.33	1.32	0.96	2.15	11000	17100	3448	5360

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

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Subject: **TESTING OF R.C.C. PIPE [ASTM-C76 - 08a]** (Page -3/4)

Reference to your letter No. 4084/103/BSAM/104/232, dated 12.01.2021

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)	(foot)	(foot)	(inch)	(kg)	(kg)	Pound/Linear foot/foot	Pound/Linear foot/foot
1	18	7.73	7.31	1.91	1.47	2.60	10400	15000	2129	3070

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**UET Lahore, Pakistan.**

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To  
**Resident Engineer**  
**NESPAK**  
**Rehabilitation of Sewerage System in Area of Defunct UC-89 & 90, PP- 151**

Subject: **TESTING OF R.C.C. PIPE [ASTM-C76 - 08a]** (Page -4/4)

Reference to your letter No. 4084/103/BSAM/104/233, dated 12.01.2021

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)	(foot)	(foot)	(inch)	(kg)	(kg)	Pound/Linear foot/foot	Pound/Linear foot/foot
1	24	7.72	7.17	2.50	2.01	2.96	11740	27270	1799	4180

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**UET Lahore, Pakistan.**

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To,  
M/S New Mujahid ALCON Indus. Pvt Ltd.  
Lahore  
(The Qube Lahore)

Reference # CED/TFL **35982** (Dr. Waseem Abbass)  
Reference of the request letter # Nil

Dated: 22-01-2021  
Dated: 22-01-2021

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

Date of Test 26-01-2021  
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	2500	3600	50100	50950	72200	73400	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one sample 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.**

Note:

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To,  
 Resident Engineer  
 ACES (Pvt) Ltd  
 Director Spec Project Branch - RGC  
 DHA Multan  
 Project Manager, National Logistic Cell (NLC)  
 Ring Road - Ramanza Golf Course, DHA Multan  
 Reference # CED/TFL **35983** (Dr. Waseem Abbass)  
 Reference of the request letter # ACE-DHAM-GCRR-269

Dated: 25-01-2021

Dated: 23-01-2021

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

Date of Test 26-01-2021

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	0.424	10	10.12	0.12	0.125	3900	5700	71650	68910	104719	100800	1.20	15.0	FF Steel
2	0.430	10	10.19	0.12	0.126	3900	5600	71650	68020	102881	97700	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
10mm Bar Bend Test Through 180° is Satisfactory														

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

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To,  
 Deputy Director, Engg.  
 Sec I & II, Package –I, LOLMTP  
 LDA, Lahore  
 (Construction of Baghbanpura Police Station GT Road Lahore)

Reference # CED/TFL **35984** (Dr. Waseem Abbass)

Dated: 25-01-2021

Reference of the request letter # DD/PKG-I/LOLMTP/LDA/02

Dated: 06-01-2021

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

Date of Test 26-01-2021

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	0.376	3	0.375	0.11	0.111	3200	4900	64200	63790	98200	97700	1.10	13.8	
2	0.379	3	0.377	0.11	0.111	3300	5000	66200	65320	100200	99000	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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To,  
M/S Ittefaq Construction Associates  
Johar Town, Lahore  
(Respected Naeem Iqbal Sb (Plaza at Johar Town))

Reference # CED/TFL **35985** (Dr. Waseem Abbass)  
Reference of the request letter # Nil

Dated: 25-01-2021  
Dated: 25-01-2021

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

Date of Test 26-01-2021  
Gauge length 8 inches  
Description Deformed Steel Bar Tensile 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	0.377	3	0.376	0.11	0.111	3500	5000	70200	69610	100200	99500	1.30	16.3	Kamran Steel
2	0.394	3	0.384	0.11	0.116	3600	5200	72200	68590	104200	99100	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile test</b>														
Bend Test														

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**UET Lahore, Pakistan.**

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**Pakistan. Ph: 92-42-99029202**

To,  
Project Manager  
Principal Builders  
Construction of Secure Tech Consultancy, I9, Islamabad

Reference # CED/TFL **35988** (Dr. Waseem Abbass)  
Reference of the request letter # PB/PM/STC/0011

Dated: 26-01-2021  
Dated: 26-01-2021

**Tension Test Report** (Page -1/2)

Date of Test 26-01-2021  
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	792.0	18000	176.58	20100	197.18	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
<b>Only one sample for Test</b>										

Witness by Zakir Hussain (Halcrow Pakistan Pvt Ltd) & Imtiaz Hussain (M.E. Principal Builder)

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**  
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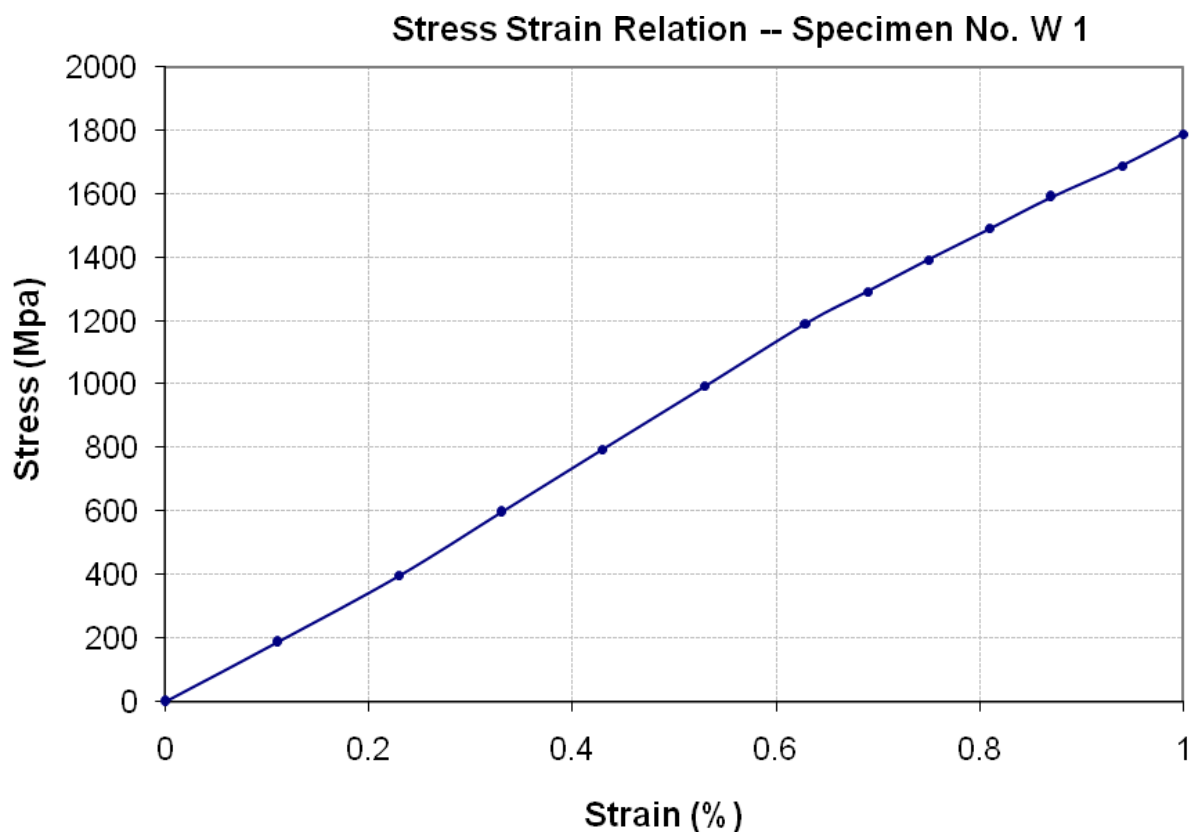
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**University of Engineering and Technology Lahore, 54890**  
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To,  
Project Manager  
Principal Builders  
Construction of Secure Tech Consultancy, I9, Islamabad

Reference # CED/TFL **35988** (Dr. Waseem Abbass)  
Reference of the request letter # PB/PM/STC/0011

Dated: 26-01-2021  
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**Graph** (Page – 2/2)



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