



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

To,  
 Executive Engineer  
 Highway Division, Gujrat  
 Construction of Bridge and Approach Road at Village Malki Length = 1.05km District Gujrat

Reference # CED/TFL **35530** (Dr. Waseem Abbass)  
 Reference of the request letter # 1551/MCB

Dated: 20-10-2020  
 Dated: 02-09-2020

**Tension Test Report** (Page -1/5)

Date of Test 22-10-2020  
 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	4.169	10	1.249	1.27	1.225	37000	53800	64300	66550	93400	96800	1.50	18.8	
2	4.128	10	1.243	1.27	1.213	37200	54200	64600	67580	94100	98500	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#10 Bar Bend Test Through 180° is Satisfactory														

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

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To,  
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Construction of Bridge and Approach Road at Village Malki Length = 1.05km District Gujrat

Reference # CED/TFL **35530** (Dr. Waseem Abbass)  
Reference of the request letter # 1551/MCB

Dated: 20-10-2020  
Dated: 02-09-2020

**Tension Test Report** (Page – 2/5)

Date of Test 22-10-2020  
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" GPa	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)			
1	12.70 (1/2")	775.0	780.0	18000	176.58	19700	193.26	199	>3.50	xx
2	12.70 (1/2")	775.0	779.0	18100	177.56	19700	193.26	198	>3.50	xx
3	12.70 (1/2")	775.0	781.0	17900	175.60	19700	193.26	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
<b>Only three samples for Test</b>										

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

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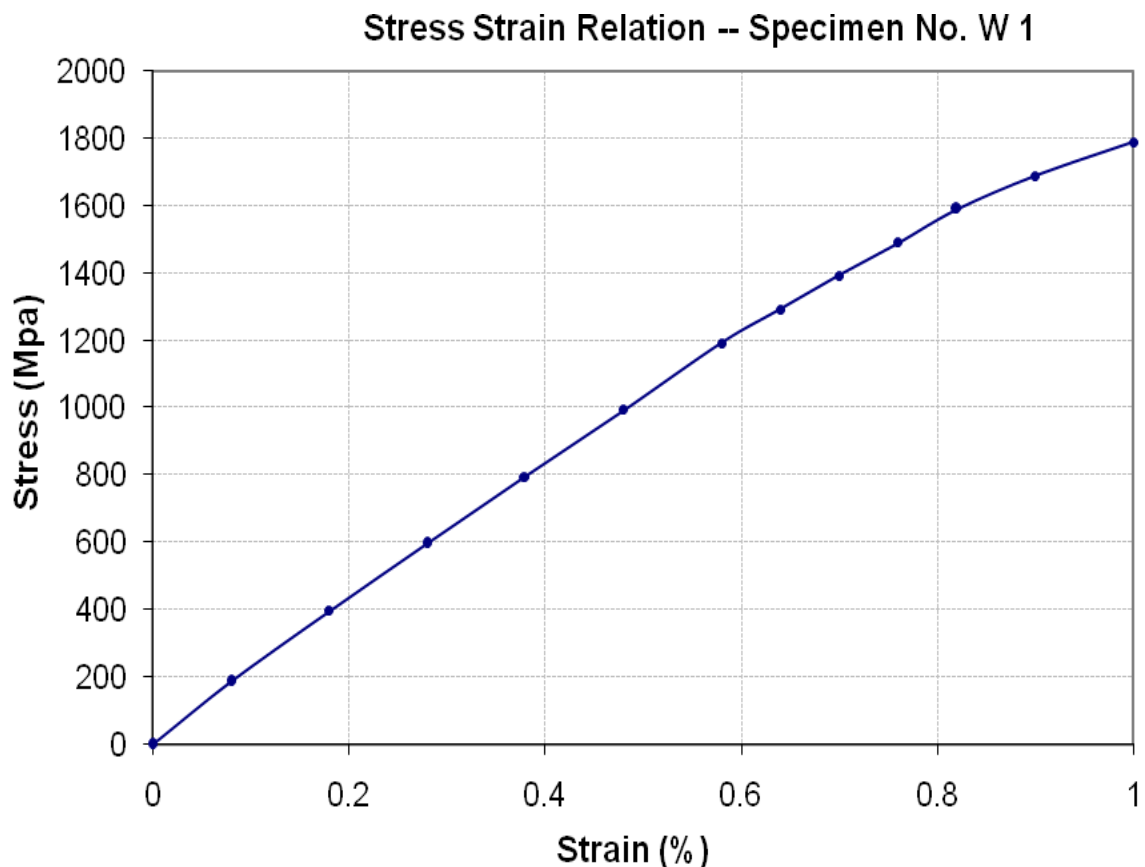
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To,  
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Construction of Bridge and Approach Road at Village Malki Length = 1.05km District Gujrat

Reference # CED/TFL **35530** (Dr. Waseem Abbass)  
Reference of the request letter # 1551/MCB

Dated: 20-10-2020  
Dated: 02-09-2020

**Graph** (Page – 3/5)



**I/C Testing Laboratories**  
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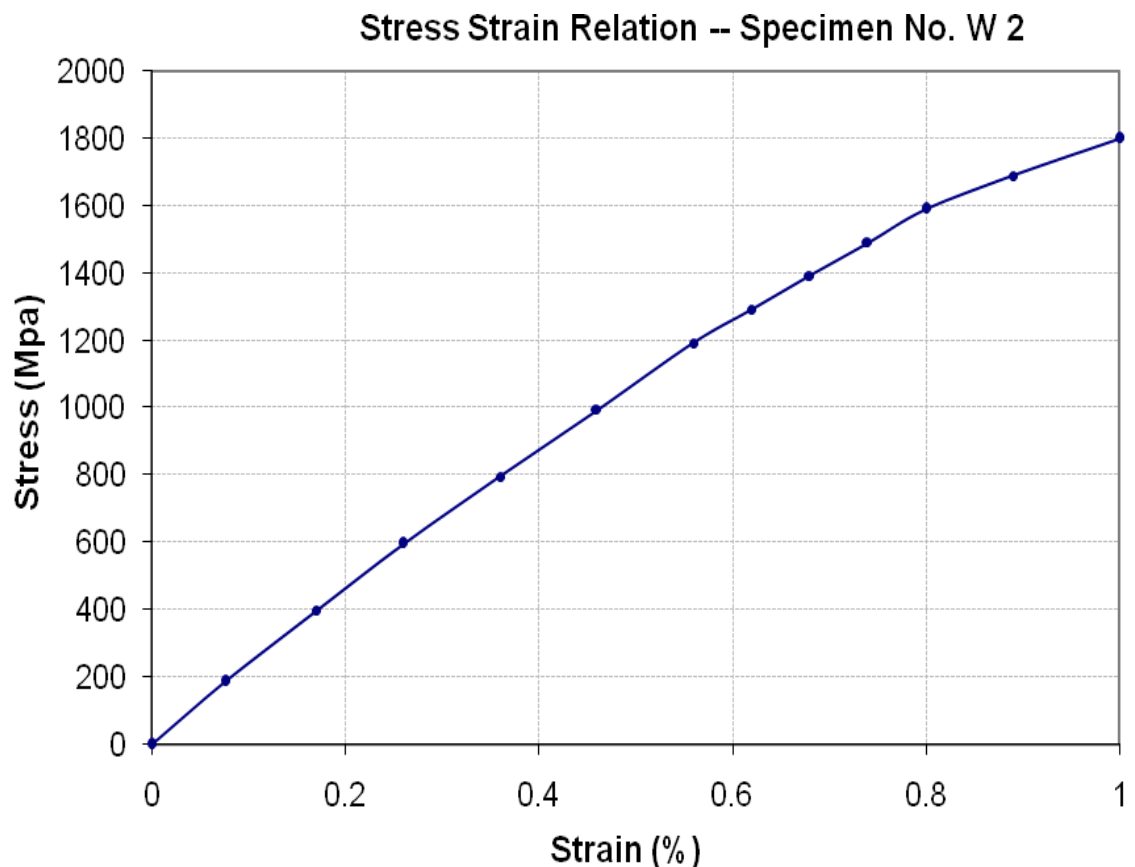
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To,  
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Reference # CED/TFL **35530** (Dr. Waseem Abbass)  
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Dated: 20-10-2020  
Dated: 02-09-2020

**Graph** (Page – 4/5)



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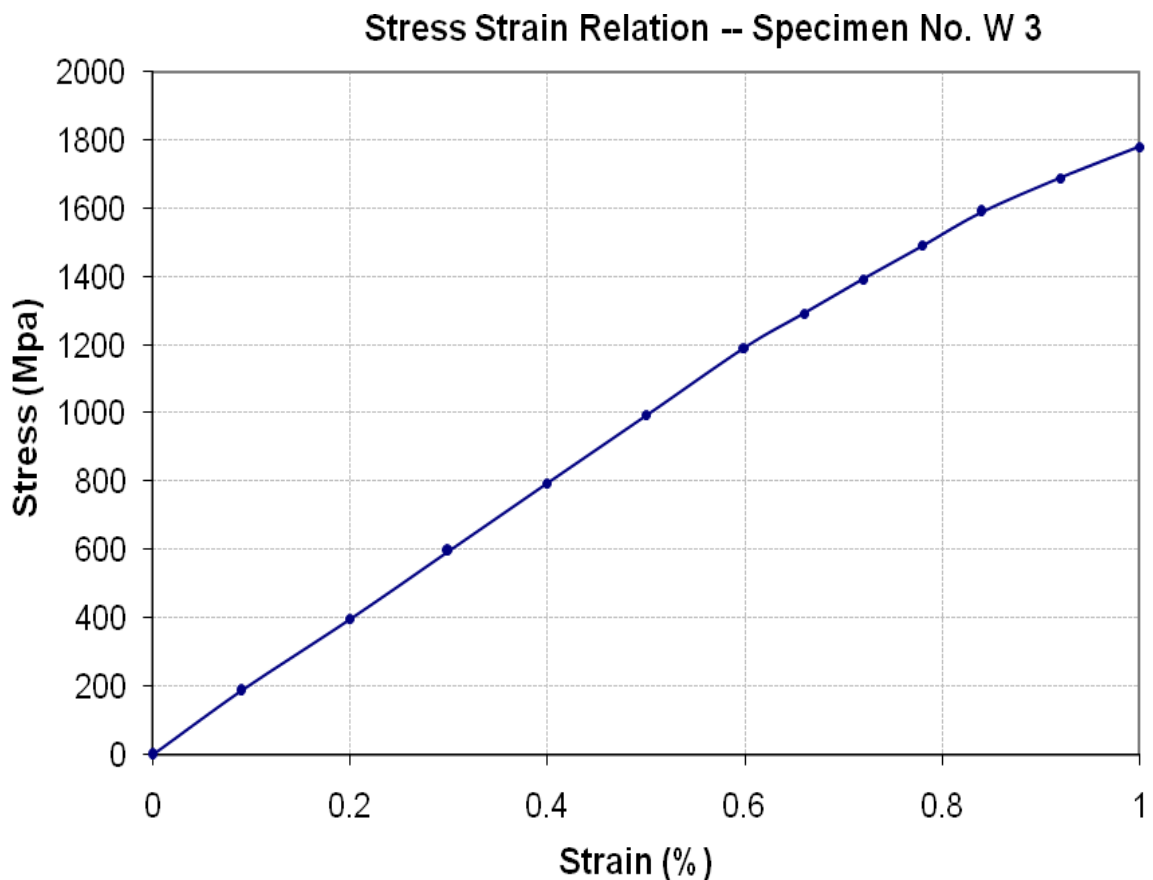
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To,  
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Highway Division, Gujrat  
Construction of Bridge and Approach Road at Village Malki Length = 1.05km District Gujrat

Reference # CED/TFL **35530** (Dr. Waseem Abbass)  
Reference of the request letter # 1551/MCB

Dated: 20-10-2020  
Dated: 02-09-2020

**Graph** (Page – 5/5)



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**UET Lahore, Pakistan.**

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**University of Engineering and Technology Lahore, 54890**  
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Ref: CED/TFL/10/35540

Dated: 20-10-2020

Dated of Test: 22-10-2020

To  
A.P.E.  
State Life Insurance Employees Co-operative Housing Society Ltd.  
Lahore

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

Reference to your letter No. SLIECHS/WSS/UET/BW/01, dated 18.09.2020 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)	(foot)	(foot)	(inch)	(kg)	(kg)	Pound/Linear foot/foot	Pound/Linear foot/foot
1	9	7.79	7.31	0.92	0.73	1.13	8700	10500	3608	4355
2	12	7.75	7.32	1.33	0.98	2.12	13000	14800	3999	4552

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

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To,  
 Sub Divisional Officer  
 Buildings Sub Division  
 Kamalia  
 (Construction of Judicial Complex at Pirmahal District T.T.Singh (Group No. 2))

Reference # CED/TFL **35542** (Dr. Usman Akmal)  
 Reference of the request letter # 1102

Dated: 21-10-2020  
 Dated: 15-10-2020

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

Date of Test 22-10-2020  
 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 <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	0.384	3/8	0.379	0.11	0.113	3890	5050	78000	75950	101200	98600	1.10	13.8	
2	0.385	3/8	0.380	0.11	0.113	3820	4990	76600	74430	100000	97300	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

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

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To,  
 Director Works  
 National Textile University  
 Sheikhpura Road, Faisalabad

Reference # CED/TFL **35543** (Dr. Usman Akmal)  
 Reference of the request letter # NTU/G.H/C.W/20-14

Dated: 21-10-2020  
 Dated: 20-10-2020

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

Date of Test 22-10-2020  
 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 <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	0.375	3/8	0.375	0.11	0.110	3890	4960	78000	77750	99400	99200	1.20	15.0	
2	0.372	3/8	0.373	0.11	0.109	3920	4890	78600	79050	98000	98700	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

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To,  
 Muhammad Anees  
 Site Engineer  
 Steelman International Engineers,  
 Assad Ghouri Residence, House # 763-E, DHA Ph-6, Lahore

Reference # CED/TFL **35545** (Dr. M Rizwan Riaz)  
 Reference of the request letter # Nil

Dated: 22-10-2020  
 Dated: 22-10-2020

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

Date of Test 22-10-2020  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ size		Area (in <sup>2</sup> )		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	4350	5170	87200	89340	103600	106200	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one sample for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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