



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 (Building)
 NESPAK
 Development of Kartarpur Corridor

Reference # CED/TFL **34132** (Dr. Usman Akmal)

Dated: 05-11-2019

Reference of the request letter # SA-394/DKC/SS.Pipe/Test/HB/124

Dated: 24-10-2019

Tension Test Report (Page – 1/3)

Date of Test 14-11-2019

Gauge length 2 inches

Description Stainless Steel Pipe Steel Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(mm)	(mm)	(mm ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	25	21.40x1.20	25.68	1440	1840	550.09	702.90	0.40	20.00	
2		21.40x1.20	25.68	1360	1800	519.53	687.62	0.50	25.00	
3	50	21.50x1.40	30.10	1520	2240	495.39	730.05	0.70	35.00	
4		21.50x1.40	30.10	1440	2160	469.32	703.97	0.65	32.50	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Four Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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Reference of the request letter # SA-394/DKC/SS.Pipe/Test/HB/124

Dated: 05-11-2019
Dated: 24-10-2019

Weight & Size Test Report (Page – 2/3)

Date of Test 14-11-2019
Gauge length -----
Description Stainless Steel Pipe Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Thickness	Remark
	(mm)	(g)	(cm)	(kg/m)	(mm)	(mm)	(mm)	
1	25	729	100.7	0.72	25.60	23.20	1.20	
2	50	1658	91.20	1.82	50.80	48.00	1.40	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only Two Samples for Test								

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Dated: 05-11-2019
Dated: 24-10-2019

Weight & Size Test Report (Page – 2/3)

Date of Test 14-11-2019
Gauge length -----
Description Elbow Weight and Size Test

Sr. No.	Designation	External Diameter	Internal Diameter	Thickness	Remark
	(mm)	(mm)	(mm)	(mm)	
1	50	50.80	48.00	1.40	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
Only One Sample for Test					

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To,
 Project Manager
 TAISEI CORPORATION
 Widening and Strengthening of National Highway N-70 (RakhiGajj-Bewata Section) 33.84 km
 of East West Road Improvement Project Package-1 (Sta.7+600 to Sta.19+500)

Reference # CED/TFL **34147** (Dr. Usman Akmal)
 Reference of the request letter # TC/OTH/GEN/04159

Dated: 08-11-2019
 Dated: 08-10-2019

Tension Test Report (Page – 1/1)

Date of Test 14-11-2019
 Gauge length 2 inches
 Description W-Section, Vertical Post and Spacer Strip Tensile Test
 as per AASHTOO A-180

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	W-Section	2.66x0.28	0.73	2200	2750	3007.52	3759.40	0.60	30.00	
2		2.65x0.28	0.73	2100	2800	2881.65	3842.20	0.70	35.00	
3	Post	2.67x0.50	1.34	5300	6800	3970.04	5093.63	0.60	30.00	
4		2.67x0.50	1.34	5100	6500	3820.22	4868.91	0.60	30.00	
-	Spacer	2.68x0.51	1.37	5000	6700	3658.18	4901.96	0.60	30.00	
-		2.68x0.51	1.37	4800	6700	3511.85	4901.96	0.60	30.00	
Only Six Samples for Tensile Test										
Bend Test										

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Ref: CED/TFL/11/34152

Dated: 08-11-19

Dated of Test: 14-11-19

To
Sub Divisional Officer
Public Health Engg: Sub Division
Gujrat
(Sewerage Scheme Shadiwal Tehsil & District Gujrat (Court Direction))

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

Reference to your letter No. 650/GT, dated 16.09.2019 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
	(mm)	(m)	(m)	(mm)	(mm)	(mm)	(kg)	(kg)	N/m/mm	N/m/mm
1	685.8 (27")	2.428	2.333	847.00	691.66	77.67	14910	19860	90.64	120.74

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To,
Resident Engineer/Team Leader
Prime Engineering Consultancy
Kallurkot Bridge Project
Construction of 4 Lane Bridge over River Indus Connecting Kallur Kot with D.I Khan

Reference # CED/TFL **34168** (Dr. Usman Akmal)
Reference of the request letter # KK-DIK-BR-PJ/2019/083

Dated: 12-11-2019
Dated: 11-11-2019

Tension Test Report (Page – 1/3)

Date of Test 14-11-2019
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	776.0	18600	182.47	20100	197.18	199	>3.50	xx
2	12.70 (1/2")	775.0	777.0	18000	176.58	20000	196.20	198	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
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

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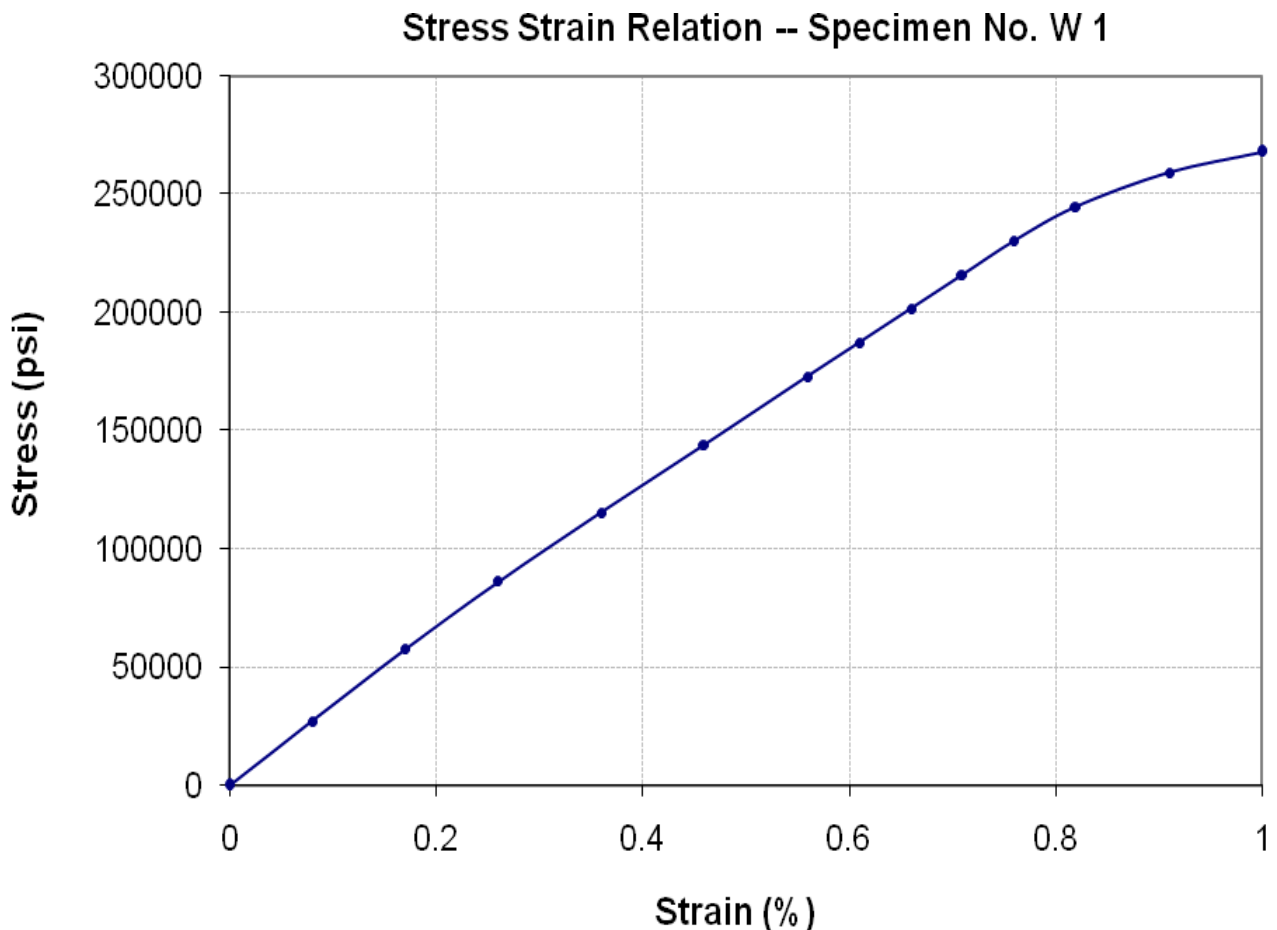
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Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer/Team Leader
Prime Engineering Consultancy
Kallurkot Bridge Project
Construction of 4 Lane Bridge over River Indus Connecting Kallur Kot with D.I Khan

Reference # CED/TFL **34168** (Dr. Usman Akmal)
Reference of the request letter # KK-DIK-BR-PJ/2019/083

Dated: 12-11-2019
Dated: 11-11-2019

Graph (Page – 2/3)



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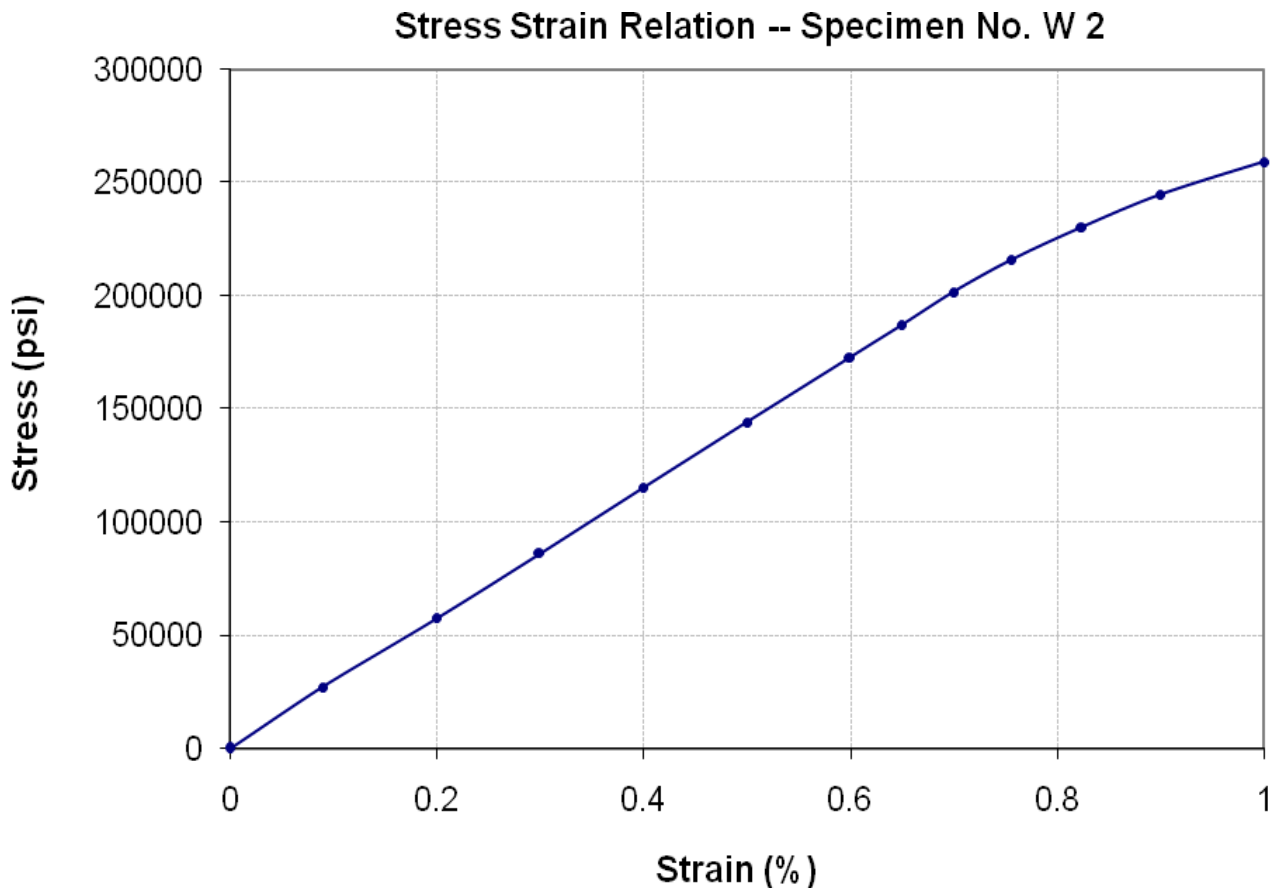
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To,
Resident Engineer/Team Leader
Prime Engineering Consultancy
Kallurkot Bridge Project
Construction of 4 Lane Bridge over River Indus Connecting Kallur Kot with D.I Khan

Reference # CED/TFL **34168** (Dr. Usman Akmal)
Reference of the request letter # KK-DIK-BR-PJ/2019/083

Dated: 12-11-2019
Dated: 11-11-2019

Graph (Page – 3/3)



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To,
M/S Building Standards
Lahore
(Construction of SS Tower in Bahawalpur)

Reference # CED/TFL **34173** (Dr. Usman Akmal)
Reference of the request letter # GT/LTR/191112-065

Dated: 12-11-2019
Dated: 12-11-2019

Tension Test Report (Page -1/1)

Date of Test 14-11-2019
Gauge length 2 inches
Description Tor Steel Bar Tensile Test as per BS-4461

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		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	0.316	10	8.74	0.12	0.093	2170	2900	39867	51430	53278	68800	0.50	25.0	30-31
2	0.397	10	9.79	0.12	0.117	3260	4200	59892	61560	77161	79400	0.50	25.0	28-19
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Note: only two samples for tensile test														
Bend Test														

I/C Testing Laboratoires
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To,
 Assistant Executive Engineer-IV
 Central Civil Division No. II
 Pak P.W.D., Lahore
 (Construction of Warehouse for MCC at Thokar Niaz Baig Lahore)(FF Steel)

Reference # CED/TFL **34176** (Dr. Usman Akmal)
 Reference of the request letter # AEE-IV/LCCD-II/43

Dated: 13-11-2019
 Dated: 11-11-2019

Tension Test Report (Page -1/1)

Date of Test 14-11-2019
 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	4000	5200	80200	79540	104200	103400	1.00	12.5	
2	0.379	3/8	0.377	0.11	0.111	4100	5200	82200	81090	104200	102900	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														
Bend Test														

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To,
Sub Divisional Officer
Highway Sub Division
Shahpur
(Construction of Road from Rajja Awan to Noor Pur Khokhran Length 5.40 km Tehsil Sahiwal
District Sargodha)

Reference # CED/TFL **34177** (Dr. Usman Akmal)
Reference of the request letter # 486/SP

Dated: 13-11-2019
Dated: 11-10-2019

Tension Test Report (Page – 1/1)

Date of Test 14-11-2019
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)		% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)		
1	12.70 (1/2")	775.0	784.0	17500	171.68	19600	192.28	>3.50	xx
2	12.70 (1/2")	775.0	786.0	17700	173.64	19600	192.28	>3.50	xx
-	12.70 (1/2")	775.0	785.0	17700	173.64	19500	191.30	>3.50	xx
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-

Only three samples for Test

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To,
 Resident Engineer
 Orbit Housing
 The Spring Apartment Homes

Reference # CED/TFL **34180** (Dr. Usman Akmal)
 Reference of the request letter # Nil

Dated: 14-11-2019
 Dated: 14-11-2019

Tension Test Report (Page -1/1)

Date of Test 14-11-2019
 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	0.385	3	0.379	0.11	0.113	4300	5200	86200	83800	104200	101400	0.80	10.0	
2	0.376	3	0.375	0.11	0.111	4200	5300	84200	83780	106200	105800	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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