



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
 NESPAK
 M.Garh – D.G Khan Road

Reference # CED/TFL **32346** (Dr. Waseem Abbas)
 Reference of the request letter # 3949/HA/01/165

Dated: 02-01-2019
 Dated: 18-12-2018

Tension Test Report (Page – 1/2)

Date of Test 07-01-2019
 Gauge length 2 inches
 Description W-Section & Vertical Post Strip Tensile and Bend Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	W-Section	2.57x0.280	0.72	2800	3600	3891.05	5002.78	0.55	27.50	
2	W-Section	2.57x0.280	0.72	2700	3600	3752.08	5002.78	0.50	25.00	
3	Vertical Post	1.95x0.700	1.37	5000	7000	3663.00	5128.21	0.60	30.00	
4	Vertical Post	1.92x0.700	1.34	5200	7000	3869.05	5208.33	0.60	30.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Four Samples for Tensile and Two Samples for Bend Test										
Bend Test										
Strip Taken from W-Section Bend Test Through 180° is Satisfactory										
Strip Taken from W-Section Bend Test Through 180° is Satisfactory										

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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To,
Resident Engineer
NESPAK
M.Garh – D.G Khan Road

Reference # CED/TFL **32346** (Dr. Waseem Abbas)
Reference of the request letter # 3949/HA/01/165

Dated: 02-01-2019
Dated: 18-12-2018

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

Date of Test 07-01-2019
Gauge length -----
Description Vertical Post Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	Web Thickness	Remark
		(g)	(mm)	(kg/m)	(mm)	
1	Vertical Post	1467	100.70	14.57	7.10	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	
Only One Sample for Test						

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UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
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To,
 Resident Engineer
 NESPAK
 Sewerage/ Drainage Scheme from Sialkot Bypass for Aroop, Lohianwala and Mandiala
 Warraich Gujranwala (Group-II)

Reference # CED/TFL **32355** (Dr. Waseem Abbas)
 Reference of the request letter # 3932/GRW/TEST/062

Dated: 03-01-2019
 Dated: 27-12-2018

Tension Test Report (Page -1/1)

Date of Test 07-01-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile 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	0.066	3/16	0.157	-----	0.019	-----	1100	-----	-----	-----	125600	0.50	6.3	
2	0.090	3/16	0.183	-----	0.026	-----	1200	-----	-----	-----	100300	0.50	6.3	
3	0.091	3/16	0.184	-----	0.027	-----	1100	-----	-----	-----	90800	1.20	15.0	
4	0.153	1/4	0.239	-----	0.045	-----	1300	-----	-----	-----	63700	1.60	20.0	
5	0.044	1/4	0.128	-----	0.013	-----	1300	-----	-----	-----	223200	1.70	21.3	
6	0.183	1/4	0.262	-----	0.054	-----	2000	-----	-----	-----	82000	1.20	15.0	
Note: only six samples for tensile test														
Bend Test														

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To,
Executive – Civil Works (TS)
FFC Rawalpindi

Reference # CED/TFL **32356** (Dr. Waseem Abbas)
Reference of the request letter # FFC/CW/TSC/43/Altec

Dated: 03-01-2019

Dated: 31-12-2018

Tension Test Report (Page – 1/1)

Date of Test 07-01-2019

Gauge length -----

Description Steel Wire Rope Tensile Test

Sr. No.	Nominal Diameter	Measured weight	Breaking Load	Remarks / Coil No.
	(mm)	(kg/m)	(kg)	
1	8	0.33	4000	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
Only one sample for Test				

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To,
 Material Engineer
 ACE (Pvt) Ltd
 Rahim Yar Khan
 Construction of Flyover at Feroza Railway Station

Reference # CED/TFL **32362** (Engr. Ubaid Ahmed)
 Reference of the request letter # ACE/RVK/1299

Dated: 04-01-2019
 Dated: 13-11-2018

Tension Test Report (Page -1/1)

Date of Test 07-01-2019
 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	0.380	3/8	0.377	0.11	0.112	3300	5300	66200	65080	106200	104600	1.10	13.8	
2	0.381	3/8	0.377	0.11	0.112	3500	5500	70200	68950	110200	108400	1.00	12.5	
3	4.214	10/8	1.256	1.27	1.239	36000	58400	62500	64070	101400	104000	1.20	15.0	
4	4.126	10/8	1.243	1.27	1.213	34000	55000	59100	61790	95500	100000	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only four samples for tensile and two samples for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														
10/8" Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION
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To,
M/S Defence Housing Authority.
Lahore Cantt
(Construction of 1-Kanal Villas at DRGCC Club House DHA Ph-6)(M/s Linker Developers
(Pvt) Ltd)

Reference # CED/TFL **32363** (Dr. Waseem Abbas)
Reference of the request letter # 408/241/E/Lab/391/276

Dated: 04-01-2019
Dated: 03-01-2019

Tension Test Report (Page -1/1)

Date of Test 07-01-2019
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	0.378	3	0.376	0.11	0.111	3600	5800	72200	71380	116300	115000	1.10	13.8	Ittefaq Steel
2	0.378	3	0.376	0.11	0.111	3600	5800	72200	71400	116300	115100	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 Architect & Partner
 Design Dimensions
 Bank Al Habib Ltd., Canal Road Premises - Faisalabad (Attiq Associates)

Reference # CED/TFL **32364** (Dr. Waseem Abbas)

Dated: 04-01-2019

Reference of the request letter # DD/BAHL-CRDFBD/RS/001

Dated: 03-01-2019

Tension Test Report (Page -1/1)

Date of Test 07-01-2019

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	0.355	3	0.365	0.11	0.104	3500	4700	70200	73910	94200	99300	1.10	13.8	
2	0.357	3	0.365	0.11	0.105	3200	4400	64200	67280	88200	92600	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
Manager Quality
Banu Mukhtar Steel
Lahore

Reference # CED/TFL **32365** (Dr. Waseem Abbas)
Reference of the request letter # BMSL/GL/2019-01

Dated: 04-01-2017
Dated: 03-01-2019

Tension Test Report (Page – 1/1)

Date of Test 07-01-2019
Gauge length 2 inches
Description CS Galvanized Sheet Strip Tensile Test as per ASTM A-653

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	1.50	25.80x1.50	38.70	1600	2000	405.58	506.98	0.40	20.00	
2	1.50	25.80x1.50	38.70	1600	2000	405.58	506.98	0.40	20.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

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

To,
Manager Quality
Banu Mukhtar Steel
Lahore

Reference # CED/TFL **32366** (Dr. Waseem Abbas)
Reference of the request letter # BMSL/GL/2019-02

Dated: 04-01-2017
Dated: 03-01-2019

Tension Test Report (Page – 1/1)

Date of Test 07-01-2019
Gauge length 2 inches
Description CS Galvanized Sheet Strip Tensile Test as per ASTM A-653

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	2.00	25.80x2.00	51.60	1700	2300	323.20	437.27	0.70	35.00	
2	2.00	25.80x2.00	51.60	1700	2300	323.20	437.27	0.70	35.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend 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,
Manager Quality
Banu Mukhtar Steel
Lahore

Reference # CED/TFL 32367 (Dr. Waseem Abbas)
Reference of the request letter # BMSL/GL/2019-03

Dated: 04-01-2017
Dated: 03-01-2019

Tension Test Report (Page – 1/1)

Date of Test 07-01-2019
Gauge length 2 inches
Description CS Galvanized Sheet Strip Tensile Test as per ASTM A-653

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	2.50	25.80x2.45	63.21	1800	2400	279.35	372.47	0.75	37.50	
2	2.50	25.80x2.45	63.21	1700	2400	263.83	372.47	0.70	35.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend 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
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To,
 Resident Engineer
 Al-Imam Enterprises (Pvt) Ltd
 Construction of Penta Square, Phase-V, D.H.A, Lahore
 (FF Steel)

Reference # CED/TFL **32368** (Dr. Waseem Abbas)

Dated: 04-01-2019

Reference of the request letter # Al-Imam/746/PS-1/DHA/LHE/743

Dated: 02-01-2019

Tension Test Report (Page -1/1)

Date of Test 07-01-2019

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 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	0.419	10	10.06	0.11	0.123	4100	5200	82200	73300	104200	93000	1.00	12.5	
2	0.420	10	10.07	0.11	0.124	4200	5500	84200	74940	110200	98200	1.20	15.0	
3	0.420	10	10.07	0.11	0.123	4200	5500	84200	75060	110200	98300	1.20	15.0	
4	0.422	10	10.10	0.11	0.124	4100	5200	82200	72820	104200	92400	1.20	15.0	
5	0.418	10	10.04	0.11	0.123	4000	5600	80200	71840	112300	100600	1.20	15.0	
6	0.420	10	10.07	0.11	0.123	4200	5600	84200	75010	112300	100100	1.30	16.3	

Note: only six samples for tensile and three samples for bend test

Bend Test

10mm Dia Bar Bend Test Through 180° is Satisfactory

10mm Dia Bar Bend Test Through 180° is Satisfactory

10mm Dia Bar Bend Test Through 180° is Satisfactory

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UET Lahore, Pakistan.

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Test Floor Laboratory
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To,
 Resident Engineer
 Al-Imam Enterprises (Pvt) Ltd
 Construction of Penta Square, Phase-V, D.H.A, Lahore
 (Kamran Steel)

Reference # CED/TFL **32369** (Dr. Waseem Abbas)

Dated: 04-01-2019

Reference of the request letter # Al-Imam/746/PS-1/DHA/LHE/726

Dated: 24-12-2018

Tension Test Report (Page -1/1)

Date of Test 07-01-2019

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 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	0.410	10	9.95	0.11	0.120	4000	5300	80200	73220	106200	97100	1.10	13.8	
2	0.402	10	9.86	0.11	0.118	4100	5600	82200	76400	112300	104400	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
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To,
 Project Director
 Integrated Medical Care
 Integrated Medical Care Project, Phase-V, D.H.A, Lahore

Reference # CED/TFL **32370** (Dr. Waseem Abbas)
 Reference of the request letter # IMC-MAK/02

Dated: 04-01-2019
 Dated: 04-01-2019

Tension Test Report (Page -1/1)

Date of Test 07-01-2019
 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	0.403	3	0.388	0.11	0.119	4000	5500	80200	74380	110200	102300	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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UET Lahore, Pakistan.

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Pakistan. Ph: 92-42-99029202

To,
M/S AFD Engineering & Management Consultants
Peshawar

Reference # CED/TFL **32371** (Dr. Waseem Abbas)
Reference of the request letter # AFD/19/004

Dated: 04-01-2019

Dated: 03-01-2019

Tension Test Report (Page – 1/1)

Date of Test 07-01-2019
Gauge length -----
Description Steel Wire Rope Tensile Test

Sr. No.	Nominal Diameter	Measured weight	Breaking Load	Remarks / Coil No.
	(mm)	(kg/m)	(kg)	
1	10	0.47	5700	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
Only one sample for 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,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works Prism-IX, OHWT No. 1 - 5, (Pkg-6 & 7))(M/s FWO)

Reference # CED/TFL 32373 (Dr. Waseem Abbas)
Reference of the request letter # 408/241/E/Lab/393/230

Dated: 04-01-2019
Dated: 04-01-2019

Tension Test Report (Page -1/2)

Date of Test 07-01-2019
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	4.229	10	1.258	1.27	1.243	40600	59800	70500	71980	103800	106100	1.20	15.0	Ittefaq Steel
2	4.234	10	1.259	1.27	1.244	40800	59600	70900	72270	103500	105600	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#10 Bar Bend Test Through 180° 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,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works Prism-IX, OHWT No. 1,3,4 & 5, (Pkg-6 & 7))(M/s FWO)

Reference # CED/TFL 32373 (Dr. Waseem Abbas)
Reference of the request letter # 408/241/E/Lab/394/208

Dated: 04-01-2019
Dated: 04-01-2019

Tension Test Report (Page -2/2)

Date of Test 07-01-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile 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	4.239	10	1.260	1.27	1.246	40200	59000	69800	71110	102400	104400	1.10	13.8	Ittefaq Steel
2	4.201	10	1.254	1.27	1.235	41600	59200	72200	74260	102800	105700	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend 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,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works at Sectro-R, Pkg-1 DHA Ph-IX)(M/s DHA-C Coy)

Reference # CED/TFL 32376 (Dr. Waseem Abbas)
Reference of the request letter # 408/241/E/Lab/390/3647

Dated: 04-01-2019
Dated: 03-01-2019

Tension Test Report (Page -1/1)

Date of Test 07-01-2019
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	0.384	3	0.379	0.11	0.113	3300	5100	66200	64390	102200	99600	1.00	12.5	Saeed Kasur
2	0.387	3	0.381	0.11	0.114	3400	5200	68200	65810	104200	100700	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° 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

Ref: CED/TFL/01/32377

Dated: 04-01-19

To
Assistant Resident Engineer
AZ Engineering Associates
PMU, Sports Board Projects, Faisalabad
Construction of 7x7 Hockey and Football with Floodlights and Courts at Sports Avenue Faisalabad & Up-Gradation of Shahbaz Sharif Park Cricket Ground Jhang Road Faisalabad

Subject: TESTING OF R.C.C. PIPE [BSS-5911/ASTM-C76]

Reference to your letter No. AZ/103/RE/SBP/207, dated 12.12.2018 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	228.6 (9")	2.364	2.226	281.00	224.66	28.17	8000	11200	156.93	219.70

I/C Testing Laboratories
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,
 Resident Engineer
 Amad Anwar & Partners
 Construction of Business Hub on Commercial Broadway Phase VIII (M/s Kingcre Builders)
 (DHA) (Af Steel)

Reference # CED/TFL **32380** (Dr. Waseem Abbas) Dated: 07-01-2019
 Reference of the request letter # 410/8/Business Hub/Ph-VIII/M&F Dated: 07-01-2019

Tension Test Report (Page -1/1)

Date of Test 07-01-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile 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	4.269	10	1.264	1.27	1.255	41600	55800	72200	73060	96900	98000	1.10	13.8	
2	4.216	10	1.256	1.27	1.239	41400	55400	71900	73640	96200	98600	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#10 Bar Bend Test Through 180° 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,
M/S Lahore Cables and Engineering (Pvt) Ltd
Lahore
(Construction of 4-Lane Bridge on River Indus Layyah with Taunsa, Package-I (Main Bridge))

Reference # CED/TFL **32381** (Dr. Waseem Abbas)
Reference of the request letter # LCE/0133-19

Dated: 07-01-2019
Dated: 27-12-2018

Tension Test Report (Page – 1/2)

Date of Test 07-01-2019
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, GPa	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)			
1	15.24 (0.6")	1102.0	1108.0	23700	232.50	27400	268.79	199	>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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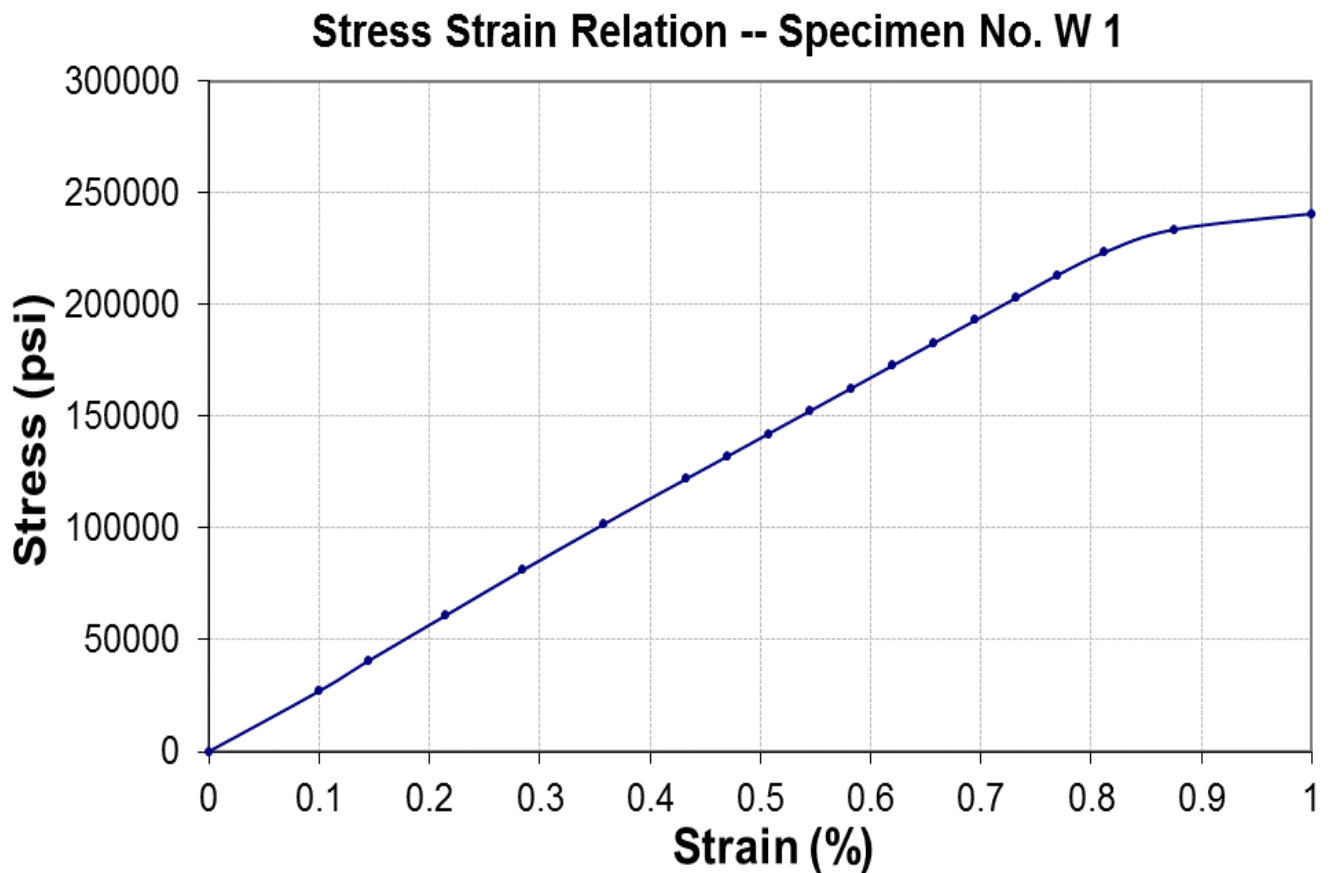
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
M/S Lahore Cables and Engineering (Pvt) Ltd
Lahore
(Construction of 4-Lane Bridge on River Indus Layyah with Taunsa, Package-I (Main Bridge))

Reference # CED/TFL **32381** (Dr. Waseem Abbas)
Reference of the request letter # LCE/0133-19

Dated: 07-01-2019
Dated: 27-12-2018

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,
 Resident Engineer
 NESPAK
 Development of Kartarpur Corridor

Reference # CED/TFL 32383 (Engr. Ubaid Ahmed)
 Reference of the request letter # 3444/DKC/St.Test/SM/02

Dated: 07-01-2019
 Dated: 03-01-2019

Tension Test Report (Page -1/1)

Date of Test 07-01-2019
 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	Heat No.
		Nominal (#)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	4.232	10	1.259	1.27	1.244	41400	54000	71900	73360	93800	95700	1.50	18.8	C-3281
2	4.224	10	1.257	1.27	1.241	40600	54000	70500	72080	93800	95900	1.40	17.5	B-4704
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and two samples for bend test														
Bend Test														
#10 Bar Bend Test Through 180° is Satisfactory														
#10 Bar Bend Test Through 180° is Satisfactory														

Witness Test Report

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,
 M/S Defence Housing Authority.
 Lahore Cantt
 (Infra Dev Works IVY Green Sector-Z DHA Ph-VIII)(M/s MCC Ruba)

Reference # CED/TFL **32389** (Dr. Waseem Abbas)
 Reference of the request letter # 408/241/E/Lab/395/6989

Dated: 08-01-2019
 Dated: 07-01-2019

Tension Test Report (Page -1/1)

Date of Test 09-01-2019
 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	0.376	3	0.375	0.11	0.111	2500	3500	50100	49800	70200	69800	1.60	20.0	Model Steel
2	0.377	3	0.376	0.11	0.111	2500	3500	50100	49730	70200	69700	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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