



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
 Repair/Up Gradation of Pedestrian Bridges at Jail Road & Mall Road, Lahore

Reference # CED/TFL **33080** (Dr. Waseem Abbas)
 Reference of the request letter # 3772/RUPB/HRDC/MSW/16

Dated: 16-04-2019
 Dated: 05-04-2019

Tension Test Report (Page – 1/2)

Date of Test 23-04-2019
 Gauge length 2 inches
 Description Square Shape 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	Square Shape Pipe	50x50	29.70x1.70	50.49	1200	1600	233.16	310.87	0.70	35.00	
2		50x50	29.70x1.70	50.49	1150	1500	223.44	291.44	0.70	35.00	
3	Square Shape Pipe	150x150	29.50x2.10	61.95	1700	2100	269.20	332.54	0.70	35.00	
4		150x150	30.40x2.10	63.84	1500	2100	230.50	322.70	0.45	22.50	
5	Square Shape Pipe	50x125	29.70x1.75	51.98	1200	1500	226.49	283.12	0.75	37.50	
6		50x125	29.70x1.75	51.98	1200	1500	226.49	283.12	0.75	37.50	
7	Square Shape Pipe	50x100	29.70x1.80	53.46	1000	1450	183.50	266.08	0.80	40.00	
8		50x100	29.70x1.80	53.46	1000	1400	183.50	256.90	0.75	37.50	
Only Eight Samples for Tensile Test											
Bend Test											

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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To,
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NESPAK
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Reference # CED/TFL **33080** (Dr. Waseem Abbas)
Reference of the request letter # 3772/RUPB/HRDC/MSW/16

Dated: 16-04-2019
Dated: 05-04-2019

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

Date of Test 23-04-2019
Gauge length -----
Description Square Shape Pipe Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	Outer Dimension		Thickness	Remark
					X	Y		
	(mm)	(g)	(cm)	(kg/m)	(mm)	(mm)	(mm)	
1	50x50	1705	79.6	2.14	46.40	45.80	1.80	
2	150x150	5181	54.5	9.51	150.40	150.00	2.10	
3	50x125	3643	84.1	4.33	130.00	50.10	1.70	
4	50x100	2255	62.3	3.62	100.00	50.10	2.00	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only Four Samples for Test								

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To,
Resident Engineer
EA Consulting (Pvt) Ltd
Sukkur – Multan Motorway Project
Section – III (CSCEC)
(Talib Enterprises Lahore)

Reference # CED/TFL **33103** (Dr. Waseem Abbas)
Reference of the request letter # CRE/EA/M.P-III/394-2019

Dated: 18-04-2019

Dated: 18-04-2019

Tension Test Report (Page – 1/1)

Date of Test 23-04-2019
Gauge length 2 inches
Description Aluminum Composite Panel Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Aluminum Composite Panel	28.20x0.75	21.15	650	1050	301.49	487.02	0.50	25.00	
2		32.75x0.75	24.56	700	1100	279.57	439.33	0.50	25.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

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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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Ref: CED/TFL/04/33115

Dated: 22-04-2019

To
M/s Stronghold Pakistan (Private) Ltd
Karachi

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/04/33115) (Page – 1/2)

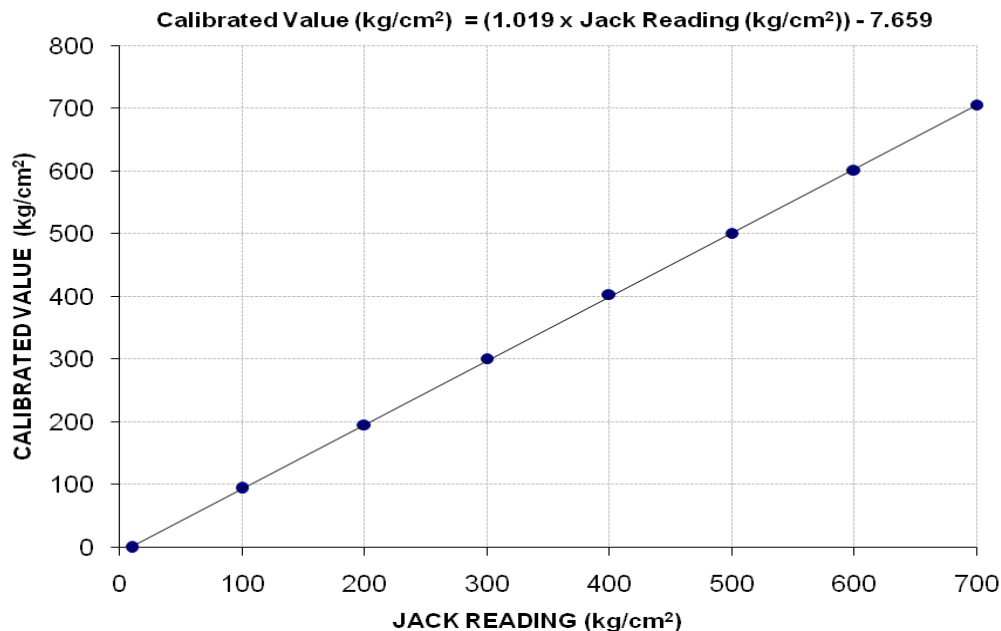
Reference to your Letter No. Nil, dated: 21/04/2019 on the subject cited above. One Hydraulic Jack (Jack No. 070, Pump No. B-1-193) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (kg/cm²)
Calibrated Range : Zero - 700 (kg/cm²)

Hydraulic Jack Reading (kg/cm ²)	10	100	200	300	400	500	600	700
Calibrated Load (kg)	0	25200	52400	80600	107800	134000	160800	188600
Calibrated Pressure (kg/cm ²)	0	94.31	196.11	301.65	403.44	501.50	601.80	705.84

The Ram Area of Jack = 267.2 cm²

Calibration Curve For Jack No. 070



I/C Testing Laboratoires
UET Lahore, Pakistan.

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Pakistan. Ph: 92-42-99029202

Ref: CED/TFL/04/33115

Dated: 22-04-2019

To
M/s Stronghold Pakistan (Private) Ltd
Karachi

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/04/33115) (Page – 2/2)

Reference to your Letter No. Nil, dated: 21/04/2019 on the subject cited above. One Hydraulic Jack (Jack No. 078, Pump No. 213) as received by us has been calibrated. The results are tabulated as under:

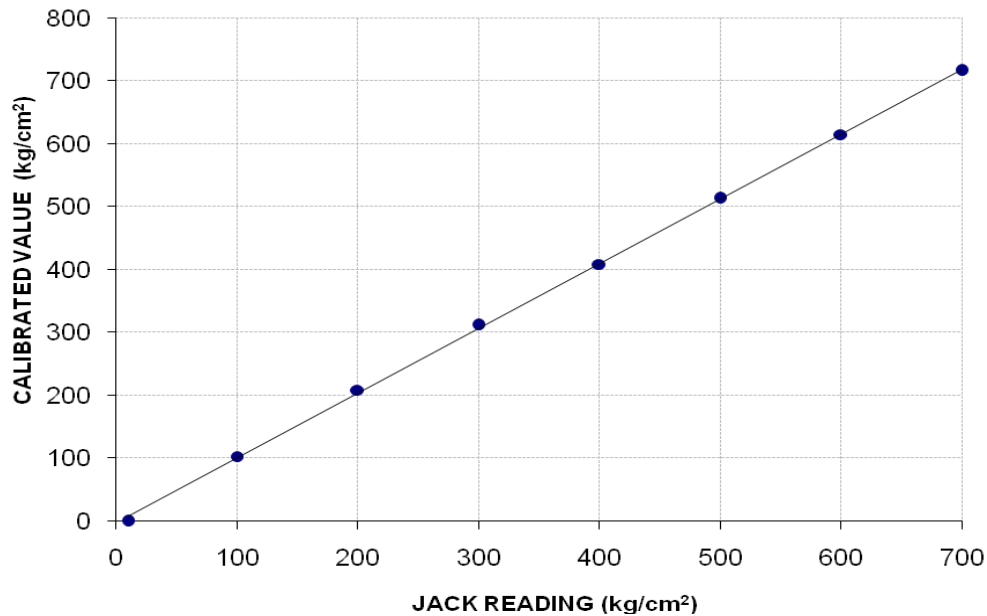
Total Range : Zero - 1000 (kg/cm²)
Calibrated Range : Zero - 700 (kg/cm²)

Hydraulic Jack Reading (kg/cm ²)	10	100	200	300	400	500	600	700
Calibrated Load (kg)	0	27400	55800	83200	109200	137200	164200	191400
Calibrated Pressure (kg/cm ²)	0	102.54	208.83	311.38	408.68	513.47	614.52	716.32

The Ram Area of Jack = 267.2 cm²

Calibration Curve For Jack No. 078

Calibrated Value (kg/cm²) = (1.030 x Jack Reading (kg/cm²)) - 2.481



I/C Testing Laboratories
UET Lahore, Pakistan.

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To,
 Assistant Director (Maint)
 NHA, Lahore

Reference # CED/TFL **33116** (Dr. Waseem Abbas) Dated: 22-04-2019
 Reference of the request letter # U-furn/DD(M)/NHA/LHR/2019 No. 318 Dated: 15-04-2019

Tension Test Report (Page -1/1)
 Date of Test 23-04-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile Test

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	0.341	9	9.07	-----	0.100	1800	2700	-----	39640	-----	59500	1.20	15.0	
2	0.341	9	9.07	-----	0.100	1700	2600	-----	37380	-----	57200	1.80	22.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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

Bend Test

9mm Dia Bar Bend Test Through 180° is Satisfactory

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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To,
M/S Al-Hamd General Engineering Services
Lahore
(For Layyah & Bakkur Site)

Reference # CED/TFL **33117** (Dr. Waseem Abbas)
Reference of the request letter # Nil

Dated: 22-04-2019
Dated: 22-04-2019

Tension Test Report (Page -1/1)

Date of Test 23-04-2019
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	0.412	3	0.392	0.11	0.121	4700	6000	94200	85620	120300	109300	1.20	15.0	
2	0.412	3	0.393	0.11	0.121	4800	6000	96200	87420	120300	109300	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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To,
 Junior Research Officer-I
 Building Research Station
 Lahore
 (Abbas Steel)

Reference # CED/TFL **33118** (Dr. Waseem Abbas)
 Reference of the request letter # 154-R/865

Dated: 22-04-2019
 Dated: 10-04-2019

Tension Test Report (Page -1/1)

Date of Test 23-04-2019
 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	0.384	3	0.379	0.11	0.113	3700	4900	74200	72190	98200	95600	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														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works Prism-9, Pkg-II, III & IV)(M/s NLC)

Reference # CED/TFL **33119** (Dr. Waseem Abbas)
Reference of the request letter # 408/241/E/Lab/536/1107

Dated: 22-04-2019
Dated: 18-04-2019

Tension Test Report (Page -1/1)

Date of Test 23-04-2019
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	0.372	3	0.373	0.11	0.109	3800	5200	76200	76640	104200	104900	0.90	11.3	S.J Steel
2	0.365	3	0.369	0.11	0.107	3900	5200	78200	80220	104200	107000	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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.

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To,
M/S EA Consulting (Pvt) Ltd - CSCEC - AER
Sukuurr - Multan Motorway Section - VII

Reference # CED/TFL **33120** (Dr. Waseem Abbas)
Reference of the request letter # CSCEC/PKM/S7/2019/06

Dated: 22-04-2019

Dated: 03-04-2019

Tension Test Report (Page – 1/2)

Date of Test 23-04-2019

Gauge length -----

Description Chain Link Fabric Wire Tensile Test as per AASHTO-M-181

Sr. No.	Diameter Wire	Breaking Load		Remarks
	(mm)	(kg)	(kN)	
1	3.50	480	4.71	
2	3.50	440	4.32	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
Only Two Samples for Test				

I/C Testing Laboratories
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To,
M/S EA Consulting (Pvt) Ltd - CSCEC - AER
Sukuurr - Multan Motorway Section - VII

Reference # CED/TFL **33120** (Dr. Waseem Abbas)
Reference of the request letter # CSCEC/PKM/S7/2019/06

Dated: 22-04-2019

Dated: 03-04-2019

Diameter Test Report (Page – 2/2)

Date of Test 23-04-2019

Gauge length -----

Description Chain Link Fabric Wire Diameter Test

Sr. No.	Diameter Wire	Remarks
	(mm)	
1	3.50	
-	-	
-	-	
-	-	
-	-	
-	-	
-	-	
Only One Sample for Test		

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UET Lahore, Pakistan.

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