



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

To,
 GM
 Professional Construction Services (Pvt) Ltd
 Swimming Pool of SICAS School Building Johar Town Lahore

Reference # CED/TFL **33015** (Dr. Ali Ahmed)
 Reference of the request letter # PCS/19/Eng-26-A

Dated: 08-04-2019
 Dated: 08-04-2019

Tension Test Report (Page -1/1)

Date of Test 09-04-2019
 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	0.376	3	0.375	0.11	0.111	3400	4400	68200	67790	88200	87800	1.00	12.5	
2	0.368	3	0.371	0.11	0.108	3600	4500	72200	73420	90200	91800	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														
Bend Test														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
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To,
M/S Equator Engineering Services
Karach
(CMPAK Project Site ID: 51989, 51826)

Reference # CED/TFL **33016** (Dr. Ali Ahmed)
Reference of the request letter # Equator/Steel/CMPAK/019

Dated: 08-04-2019
Dated: 01-04-2019

Tension Test Report (Page -1/1)

Date of Test 09-04-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (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	0.367	10	9.42	0.11	0.108	3100	4800	62200	63310	96200	98100	1.30	16.3	
2	0.368	10	9.42	0.11	0.108	3100	4900	62200	63250	98200	100000	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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To,
 University Engineer
 University of Sargodha
 Extension of Physics Department, University of Sargodha

Reference # CED/TFL **33005** (Dr. Ali Ahmed)
 Reference of the request letter # SU/P.D(W)/14716

Dated: 05-04-2019
 Dated: 02-04-2019

Tension Test Report (Page -1/1)

Date of Test 09-04-2019
 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	0.366	3/8	0.370	0.11	0.108	3800	4900	76200	77770	98200	100300	1.10	13.8	
2	0.367	3/8	0.371	0.11	0.108	3700	4800	74200	75620	96200	98100	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														
Bend Test														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Test Floor Laboratory
Department of Civil Engineering
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To,
 Executive Engineer/HQ
 P.R H/Q Office Lahore
 Providing/ Construction of RCC Ramp at Cairns Hospital Lahore

Reference # CED/TFL **33017** (Dr. Ali Ahmed)
 Reference of the request letter # W-2/Cairn Hospital

Dated: 08-04-2019
 Dated: 06-04-2019

Tension Test Report (Page -1/1)

Date of Test 09-04-2019
 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	0.375	3	0.375	0.11	0.110	3700	5600	74200	74030	112300	112100	1.00	12.5	
2	0.373	3	0.373	0.11	0.110	3600	5400	72200	72430	108200	108700	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														
Bend Test														

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
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To,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Development Works Sector-E, DHA Ph-IX)(M/s Inland)

Reference # CED/TFL **33018** (Dr. Ali Ahmed)
Reference of the request letter # 408/241/E/Lab/509/101

Dated: 08-04-2019
Dated: 02-04-2019

Tension Test Report (Page -1/1)

Date of Test 09-04-2019
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	0.362	3	0.368	0.11	0.107	3100	4700	62200	64130	94200	97300	0.80	10.0	City Steel
2	0.362	3	0.368	0.11	0.106	3100	4700	62200	64220	94200	97400	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														

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,
 Campus Engineer
 GC University, Lahore
 Construction of Boundary Wall at KSK Campus GCU, Lahore

Reference # CED/TFL **33019** (Dr. Ali Ahmed)
 Reference of the request letter # GCU/Engr/004/P

Dated: 08-04-2019
 Dated: 04-04-2019

Tension Test Report (Page -1/1)

Date of Test 09-04-2019
 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	0.364	3/8	0.369	0.11	0.107	3100	4600	62200	63920	92200	94900	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample 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,
M/S Defence Housing Authority.
Lahore Cantt
(Const of Mosque at Sector-N, DHA Ph-VI)(M/s A to Z Const)

Reference # CED/TFL **33020** (Dr. Ali Ahmed)
Reference of the request letter # 408/241/E/Lab/518

Dated: 08-04-2019
Dated: 08-04-2019

Tension Test Report (Page -1/1)

Date of Test 09-04-2019
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	0.378	3	0.376	0.11	0.111	3000	4600	60200	59540	92200	91300	1.20	15.0	City Steel
2	0.377	3	0.376	0.11	0.111	2900	4600	58200	57700	92200	91600	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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STRUCTURAL ENGINEERING DIVISION
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Department of Civil Engineering
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To,
M/S Design Dimensions
Lahore
(Bank Al-Habib Ltd, Canal Road Premises, Faisalabad)

Reference # CED/TFL **33021** (Dr. Ali Ahmed)
Reference of the request letter # DD/BAHL-CRDFBD/RS/002

Dated: 08-04-2019
Dated: 08-04-2019

Tension Test Report (Page -1/1)

Date of Test 09-04-2019
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	0.369	3	0.372	0.11	0.108	3700	4700	74200	75190	94200	95600	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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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/04/33023

Dated: 08-04-19

To,
Resident Engineer -II & III
Zeeruk International (Pvt) Ltd
Lahore - Sialkot Motorway

Subject: - **CALIBRATION OF HYDRAULIC JACK (MARK: TFL/04/33023)** (Page -1/2)

Reference to your Letter No. LSM/RE-II/St/19-161, Dated: 08/04/2019 on the subject cited above. One Hydraulic Jack (Jack No 3401, Gauge No. AES-3401) as received by us has been calibrated. The results are tabulated as under:

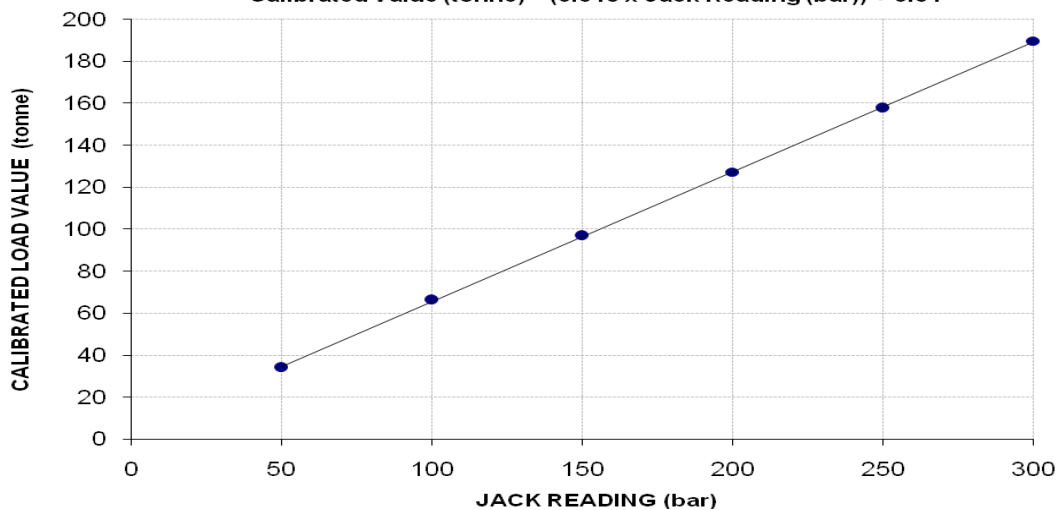
Total Range : Zero - 700 (bar)
Calibrated Range : Zero - 300 (bar)

Hydraulic Jack Reading (bar)	50	100	150	200	250	300	
Calibrated Load	(Kg)	34000	66200	96800	127200	157600	189600
	Tonne	34.00	66.20	96.80	127.20	157.60	189.60
Calibrated Pressure (bar)	55.38	107.83	157.67	207.19	256.70	308.83	

1 Tonne = 1000 Kg, The Ram Area of Jack = 602.09 cm²

Calibration Curve For Jack No. AES 3401

Calibrated Value (tonne) = (0.618 × Jack Reading (bar)) + 3.64



I/C Testing Laboratories
UET Lahore, Pakistan.

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Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
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Ref: CED/TFL/04/33023

Dated: 08-04-19

To,
Resident Engineer -II & III
Zeeruk International (Pvt) Ltd
Lahore - Sialkot Motorway

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/04/33023) (Page -2/2)

Reference to your Letter No. LSM/RE-II/St/19-161, Dated: 08/04/2019 on the subject cited above. One Hydraulic Jack (Jack No 3402, Gauge No. AES-3402) as received by us has been calibrated. The results are tabulated as under:

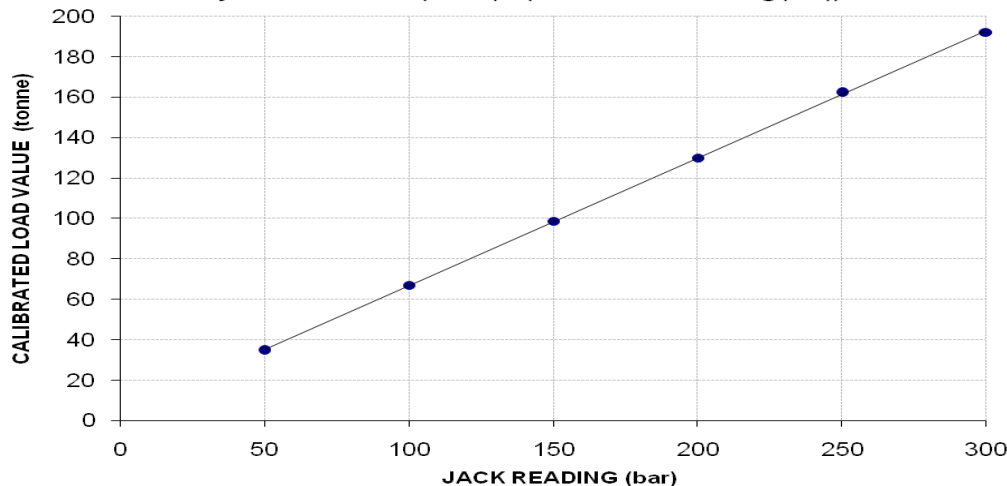
Total Range : Zero - 700 (bar)
Calibrated Range : Zero - 300 (bar)

Hydraulic Jack Reading (bar)	50	100	150	200	250	300	
Calibrated Load	(Kg)	34600	67000	98600	129800	162200	192000
	Tonne	34.60	67.00	98.60	129.80	162.20	192.00
Calibrated Pressure (bar)	56.36	109.13	160.60	211.42	264.20	312.73	

1 Tonne = 1000 Kg, The Ram Area of Jack = 602.09 cm²

Calibration Curve For Jack No. AES 3402

$$y_{\text{Calibrated Value (tonne)}} = (0.630 \times \text{Jack Reading (bar)}) + 3.653$$



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