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 PNHRP (N-95)
SMEC/EGC
Chakdara – Kalam Section (Package I & II)

Reference # CED/TFL **33343** (Dr. Usman Akmal) Dated: 10-06-2019
Reference of the request letter # R5065060/R1/95-2-1/924 Dated: 30-05-2019

Tension Test Report (Page – 1/3)

Date of Test 13-06-2019
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**	**783.0**	**17600**	**172.66**	**19500**	**191.30**	**198**	**>3.50**	**xx**
2	**12.70 (1/2")**	**775.0**	**784.0**	**18200**	**178.54**	**19600**	**192.28**	**199**	**>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

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
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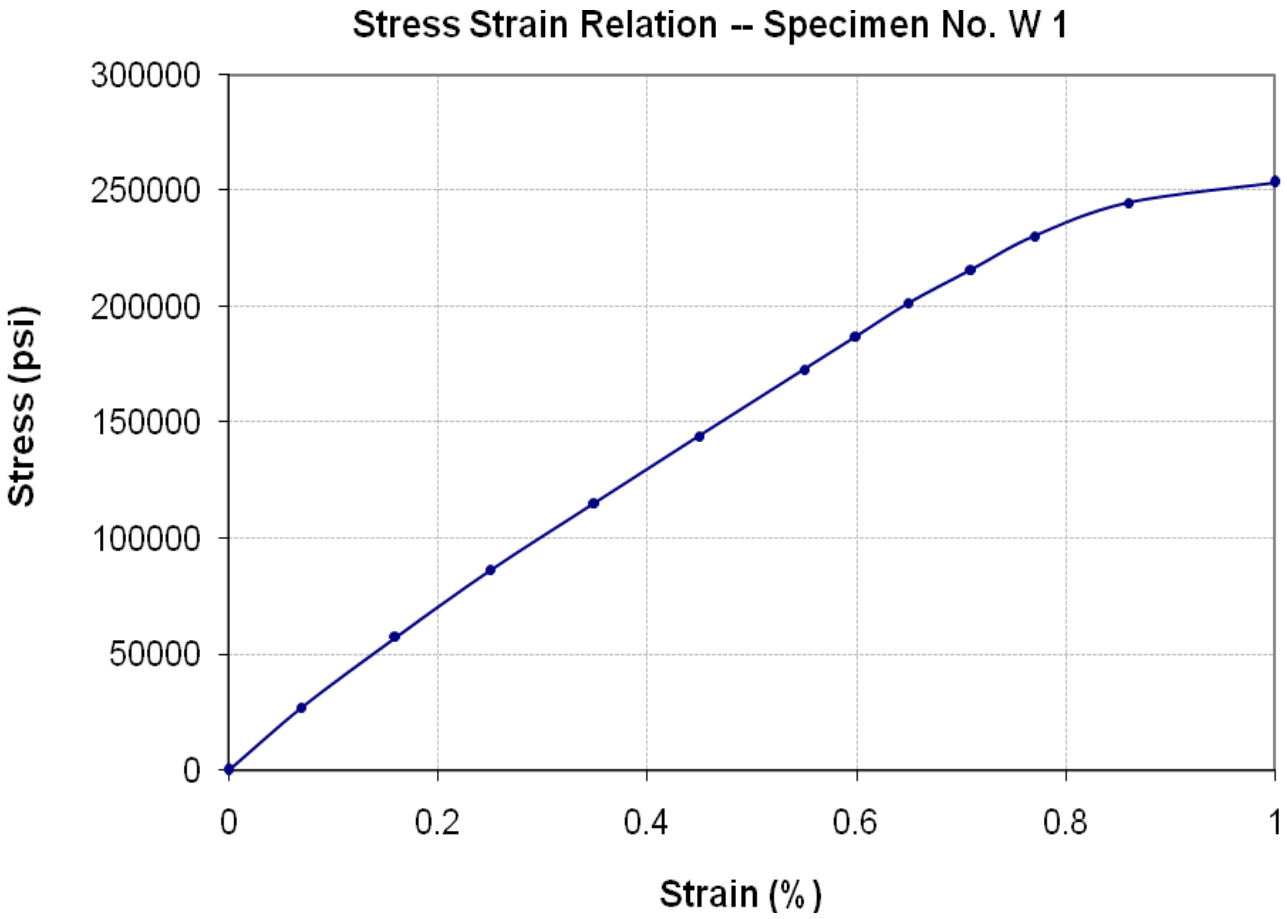
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer PNHRP (N-95)
SMEC/EGC
Chakdara – Kalam Section (Package I & II)

Reference # CED/TFL **33343** (Dr. Usman Akmal) Dated: 10-06-2019
Reference of the request letter # R5065060/R1/95-2-1/924 Dated: 30-05-2019

Graph (Page – 2/3)



I/C Testing Laboratoires
UET Lahore, Pakistan.

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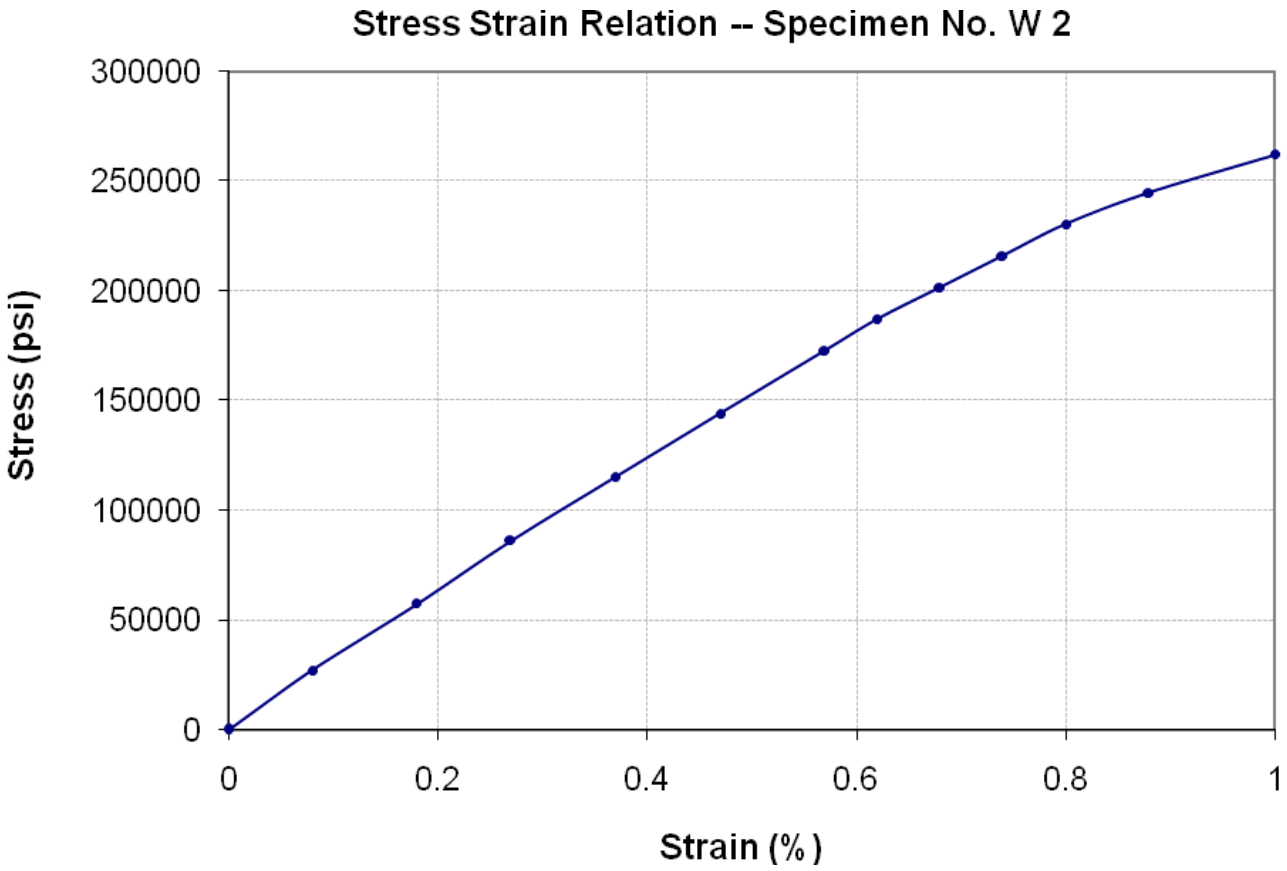
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer PNHRP (N-95)
SMEC/EGC
Chakdara – Kalam Section (Package I & II)

Reference # CED/TFL **33343** (Dr. Usman Akmal) Dated: 10-06-2019
Reference of the request letter # R5065060/R1/95-2-1/924 Dated: 30-05-2019

Graph (Page – 3/3)



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 Potential Engineers (Pvt) Limited
Lahore
(PCC Pole Plant Sadiqabad)

Reference # CED/TFL **33348** (Dr. Usman Akmal) Dated: 11-06-2019
Reference of the request letter # POT/HTLT/SPUN/SDK/253 Dated: 30-05-2019

Tension Test Report (Page – 1/1)

Date of Test 13-06-2019
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	**11.11 (7/16")**	**582.0**	**595.0**	**12300**	**120.66**	**13900**	**136.36**	**>3.50**	**xx**
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
Only one sample for 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
Pakistan. Ph: 92-42-99029202

To,
General Manager (Project)
Orient
Hotel Tower Project FTC Johar Town - Lahore

Reference # CED/TFL **33349** (Dr. Usman Akmal) Dated: 12-06-2019
Reference of the request letter # ORIENT/Izhar/Hotel Tower/Strand/001 Dated: 10-06-2019

Tension Test Report (Page – 1/1)

Date of Test 13-06-2019
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**	**775.0**	**16800**	**164.81**	**18200**	**178.54**	**>3.50**	**xx**
2	**12.70 (1/2")**	**775.0**	**780.0**	**16000**	**156.96**	**17900**	**175.60**	**>3.50**	**xx**
3	**12.70 (1/2")**	**775.0**	**778.0**	**16700**	**163.83**	**18700**	**183.45**	**>3.50**	**xx**
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
Only three samples for Test									

I/C Testing Laboratoires
UET Lahore, Pakistan.

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2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples

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 Indigo Developers
Lahore

Reference # CED/TFL **33352** (Dr. Usman Akmal) Dated: 12-06-2019
Reference of the request letter # Nil Dated: 11-06-2019

Tension Test Report (Page -1/1)

Date of Test 13-06-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in^2)		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	0.378	3	0.376	0.11	0.111	3500	5800	70200	69500	116300	115200	0.90	11.3	
2	0.375	3	0.375	0.11	0.110	3600	5800	72200	71910	116300	115900	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º 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,
Project Manager
Izhar Construction (Pvt) Ltd
Construction of (Ecolean Pakistan Pvt. Ltd Sundar Estate) Lahore

Reference # CED/TFL **33355** (Dr. Usman Akmal) Dated: 12-06-2019
Reference of the request letter # ICPL/EC/041 Dated: 12-06-2019

Tension Test Report (Page -1/1)

Date of Test 13-06-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.386	3/8	0.380	0.11	0.113	3400	4400	68200	66040	88200	85500	1.40	17.5	
2	0.385	3/8	0.380	0.11	0.113	3300	4400	66200	64280	88200	85700	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
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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
G3 Engineering Consultants (Pvt) Ltd
Construction of the Cantonment Board Medical College Near Old CGH Sarfraz Rafiqui Road, Lahore

Reference # CED/TFL **33357** (Dr. Usman Akmal) Dated: 12-06-2019
Reference of the request letter # G3/224/RE-25 Dated: 11-06-2019

Tension Test Report (Page -1/1)

Date of Test 13-06-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.391	3/8	0.383	0.11	0.115	3400	6200	68200	65180	124300	118900	1.00	12.5	
2	0.395	3/8	0.384	0.11	0.116	3300	6300	66200	62660	126300	119700	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180º 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,
Chief Coordination Officer
Amna Inayat Medical College
Lahore

Reference # CED/TFL **33358** (Dr. Usman Akmal) Dated: 12-06-2019
Reference of the request letter # HO/2/19/110 Dated: 11-06-2019

Tension Test Report (Page -1/1)

Date of Test 13-06-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		Area (in^2)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.372	3/8	0.373	0.11	0.109	3000	4800	60200	60540	96200	96900	1.30	16.3	
2	0.373	3/8	0.373	0.11	0.110	3100	4700	62200	62400	94200	94600	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180º 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 Unze Trading (Pvt) Limited
Lahore
(Leasing out MEPCO PC Pole Plant Lodhran for Manufacturing & Providing of Pre-Stressed Cement Concrete Spun Hollow LT & HT Poles)

Reference # CED/TFL **33359** (Dr. Usman Akmal) Dated: 12-06-2019
Reference of the request letter # UNZE/295/2019 Dated: 10-06-2019

Tension Test Report (Page – 1/1)

Date of Test 13-06-2019
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	**11.11 (7/16")**	**582.0**	**599.0**	**12500**	**122.63**	**13900**	**136.36**	**>3.50**	**xx**
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
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

Ref: CED/TFL/06/33361 Dated: 12-06-19

To,
DCRE/RE-1
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project

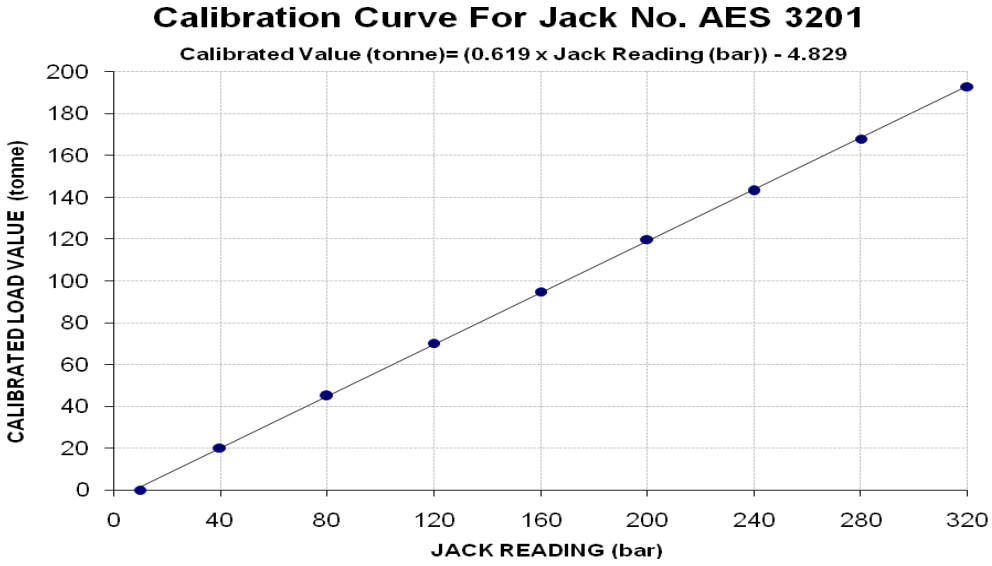
Subject: **- CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33361)** (Page -1/2)

Reference to your Letter No. LSMP/RE-1/2019/851, Dated: 12/06/2019 on the subject cited above. One Hydraulic Jack (Jack No 3201, Gauge No. AES-3201) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 320 (bar)

Hydraulic Jack Reading (bar)		10	40	80	120	160	200	240	280	320
Calibrated Load	(kg)	0	20200	45000	70200	94800	119800	143100	168000	193000
	Tonne	0	20.20	45.00	70.20	94.80	119.80	143.10	168.00	193.00
Calibrated Pressure (bar)		0	32.90	73.30	114.34	154.41	195.13	233.09	273.64	314.36

1 Tonne = 1000 kg, The Ram Area of Jack = 602.09 cm^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

Ref: CED/TFL/06/33361 Dated: 12-06-19

To,
DCRE/RE-1
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project

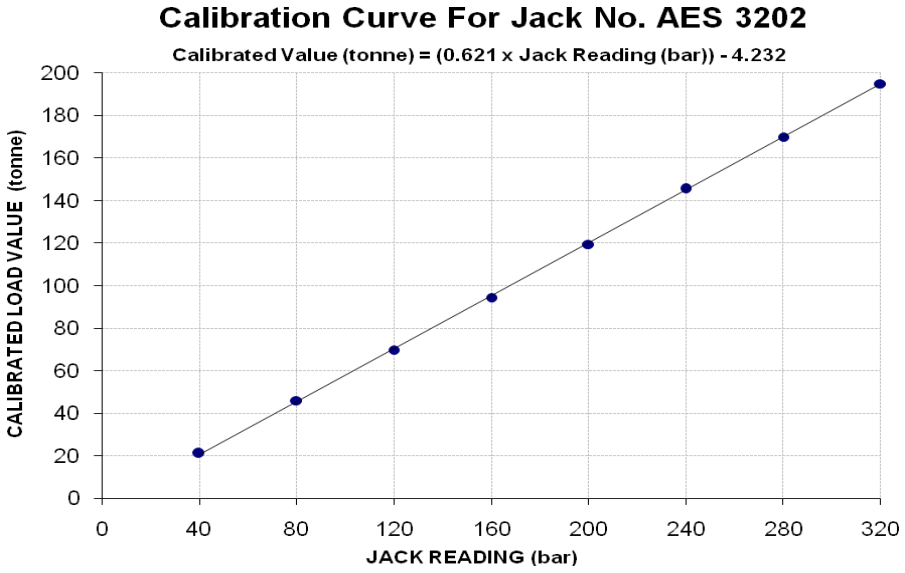
Subject: **- CALIBRATION OF HYDRAULIC JACK (MARK: TFL/06/33361)** (Page -2/2)

Reference to your Letter No. LSMP/RE-1/2019/851, Dated: 12/06/2019 on the subject cited above. One Hydraulic Jack (Jack No 3202, Gauge No. AES-3202) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 320 (bar)

Hydraulic Jack Reading (bar)		**40**	**80**	**120**	**160**	**200**	**240**	**280**	**320**
Calibrated Load	**(kg)**	**21100**	**46000**	**69800**	**94500**	**119500**	**145500**	**170000**	**194900**
	Tonne	**21.10**	**46.00**	**69.80**	**94.50**	**119.50**	**145.50**	**170.00**	**194.90**
Calibrated Pressure (bar)		**34.37**	**74.93**	**113.69**	**153.92**	**194.64**	**236.99**	**276.90**	**317.46**

1 Tonne = 1000 kg, The Ram Area of Jack = 602.09 cm^2



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/06/33369 Dated: 14-06-19

To
Head
Civil Engineering Department
National University of Computer & Emerging Sciences, Lahore

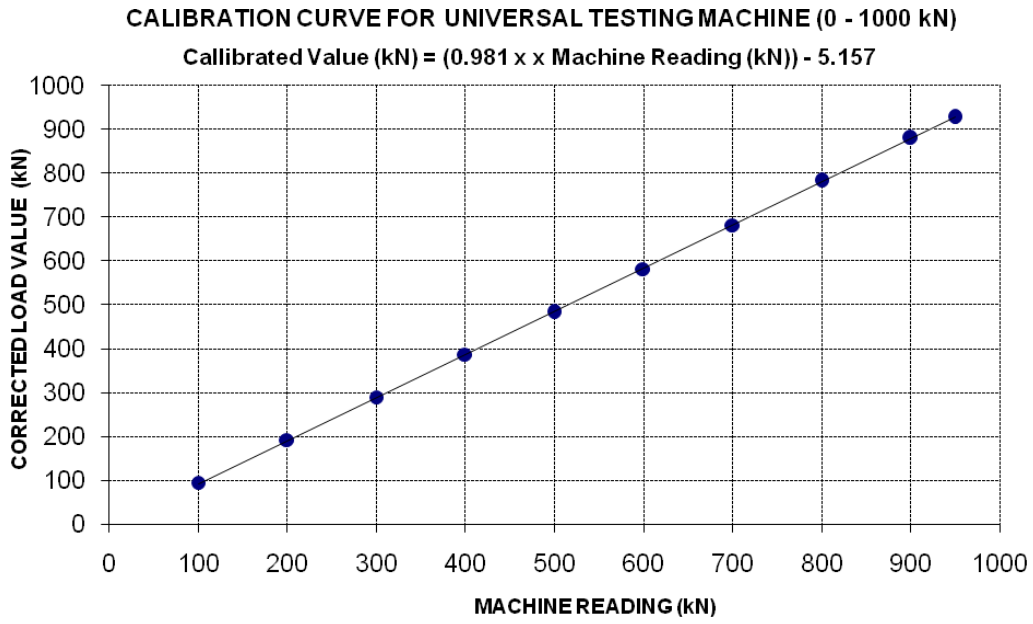
Subject:- **CALIBRATION OF UNIVERSAL TESTING MACHINE OF 1000 kN**

Reference to your letter No. Nil, dated: 25/02/2019 on the subject cited above. One Universal Testing Machine (Shimadzu), Model No. UH-F1000KNX (1000 kN) has been calibrated by using standard calibration device. The results are tabulated as under:

Total Range : Zero – 1000 (kN)

Calibrated Rang : Zero – 950 (kN)

Machine Reading (kN)	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**950**
Corrected Load Value (kN)	**95**	**192**	**289**	**387**	**483**	**582**	**681**	**782**	**879**	**928**



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,
Material Engineer
Defence Housing Authority, Bahawalpur
(12 Marla Villas)
(Karachi Steel)
Reference # CED/TFL **33371-372** (Dr. Usman Akmal) Dated: 13-06-2019
Reference of the request letter # 73/DHAB/LAB Dated: 11-06-2019

Tension Test Report (Page -1/1)

Date of Test 13-06-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ size		Area (in^2)		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	0.373	3	0.374	0.11	0.110	3900	5000	78200	78440	100200	100600	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:
1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
2. The above results pertain to sample /samples supplied to this laboratory.
3- Sealed sample / Unsealed sample / Marked sample/Signed Samples