



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
Punjab Intermediate Cities Improvement Investment Program (PICIIP),
Consultancy Services for Engineering, Procurement and Construction Management
Rehabilitation/ Improvement of Water Supply System Sahiwal – Lot-1

Reference # CED/TFL **36045** (Dr. Usman Akmal)
Reference of the request letter # 3976/11/MT/01/Lot-1/25

Dated: 04-02-2021
Dated: 02-02-2021

Tension Test Report (Page – 1/2)

Date of Test 18-02-2021
Gauge length 2 inches
Description MS Pipe Steel 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
	(inch)		(mm)	(mm ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	MS Pipe	16	25.30x6.10	154.33	5400	7400	343.25	470.38	0.70	35.00	
2			25.00x6.00	150.00	5400	7450	353.16	487.23	0.60	30.00	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile and One Sample for Bend Test											
Bend Test											
Strip Taken from MS Pipe (16") Bend Test Through 180° is Satisfactory											

I/C Testing Laboratories
UET Lahore, Pakistan.

Note:

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To,
Resident Engineer
NESPAK
Punjab Intermediate Cities Improvement Investment Program (PICIP),
Consultancy Services for Engineering, Procurement and Construction Management
Rehabilitation/ Improvement of Water Supply System Sahiwal – Lot-1

Reference # CED/TFL **36045** (Dr. Usman Akmal)
Reference of the request letter # 3976/11/MT/01/Lot-1/25

Dated: 04-02-2021
Dated: 02-02-2021

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

Date of Test 18-02-2021
Description MS Pipe Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Wall Thickness	Remark
	(inch)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	16	4479	73.80	60.69	408.00	396.00	6.00	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for Test								

I/C Testing Laboratories
UET Lahore, Pakistan.

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To,
Resident Engineer
NESPAK
Construction of Under Passes at Kashmir Bridge along Canal Faisalabad

Reference # CED/TFL **36066** (Dr. Waseem Abbass)
Reference of the request letter # 3994/103/AS/02/294

Dated: 10-02-2021
Dated: 06-11-2021

Tension Test Report (Page – 1/2)

Date of Test 18-02-2021
Gauge length 2 inches
Description Metal Post Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Metal Post	2.52x0.22	0.55	870	2090	1569	3770	0.50	25.00	
2		2.52x0.22	0.55	870	2110	1569	3806	0.50	25.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
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To,
 Resident Engineer
 NESPAK
 Construction of Under Passes at Kashmir Bridge along Canal Faisalabad

Reference # CED/TFL **36066** (Dr. Waseem Abbass)
 Reference of the request letter # 3994/103/AS/02/294

Dated: 10-02-2021
 Dated: 06-11-2021

Tension Test Report (Page – 2/2)

Date of Test 18-02-2021
 Gauge length 2 inches
 Description Sign Panel (Aluminum) Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Sign Panel (Aluminum)	25.20x3.30	83.16	7.20	11.17	86.58	134.32	0.50	25.00	
2		25.20x3.30	83.16	7.49	11.70	90.07	140.69	0.50	25.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

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UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION
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To,
 Material Engineer
 Defence Housing Authority Multan
 Construction of DHA Multan Rescue Service Centre (M/s Stallion Engineering)

Reference # CED/TFL **36086** (Dr. Waseem Abbass)
 Reference of the request letter # 701/97/P&D/DHA

Dated: 15-02-2021
 Dated: 02-02-2021

Tension Test Report (Page -1/2)

Date of Test 18-02-2021
 Gauge length 8 inches
 Description Anchor Bolt Bar Tensile Test as per ASTM F-1554

Sr. No.	Weight (lbs/ft)	Diameter/ size		Area (mm ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (MPa) Actual	Ultimate Stress (MPa) Actual	Elongation (inch)	% Elongation	Reduction of Area (mm ²)	% Reduction of Area	Remarks
		Nominal (mm)	Actual (mm)	Nominal	Actual									
1	6.276	30	31.91	----	799.5	27400	48000	336	589	1.90	23.8	404.71	49.4	
2	7.617	36	35.15	----	970.4	34200	54600	346	552	1.50	18.8	444.88	54.2	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														
Bend Test														

I/C Testing Laboratories
UET Lahore, Pakistan.

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To,
Material Engineer
Defence Housing Authority Multan
Construction of DHA Multan Rescue Service Centre (M/s Stallion Engineering)

Reference # CED/TFL **36086** (Dr. Waseem Abbass)
Reference of the request letter # 701/97/P&D/DHA

Dated: 15-02-2021
Dated: 02-02-2021

Slippage Test Report (Page -2/2)

Date of Test 18-02-2021
Description Anchor Bolt Slippage Test

Sr. No.	Dia	Failure Load	Mode of Failure	Remarks
	(mm)	(kg)	---	
1	30	19900	Thread Failure	-
2	36	24200	Thread Failure	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Note: only two samples for test				

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To,
 Resident Engineer
 Zeeruk International (Pvt) Ltd
 Dualization of Indus Highway (N-55) Karak to Kohat Project

Reference # CED/TFL **36089** (Dr. Usman Akmal)
 Reference of the request letter # ZI/KK/P-2/RE/2020/299

Dated: 16-02-2021
 Dated: 13-01-2021

Tension Test Report (Page -1/1)

Date of Test 18-02-2021
 Gauge length 8 inches
 Description Galvanized Plain Steel Bar Tensile and Bend Test

Sr. No.	Weight (kg/m)	Diameter/ size		Area (mm ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (MPa) Actual	Ultimate Stress (MPa) Actual	Elongation (inch)	% Elongation	Remarks
		Nominal (mm)	Actual (mm)	Nominal	Actual							
1	6.200	32	31.71	-----	789.9	27000	43600	335	542	1.80	22.5	
2	6.131	32	31.54	-----	781.1	26600	46900	334	589	1.70	21.3	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test												
Bend Test												
32mm Dia Bar Bend Test Through 180° is Satisfactory												

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 Sub Divisional Officer
 Buildings Sub Division
 Assembly, Lahore
 (Construction of 60-No. Staff Quarters (Grade 1 to 10) at MPA's Hostel Lahore)

Reference # CED/TFL **36096** (Dr. Usman Akmal)
 Reference of the request letter # 138

Dated: 17-02-2021
 Dated: 15-02-2021

Tension Test Report (Page -1/1)

Date of Test 18-02-2021
 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	0.403	3/8	0.388	0.11	0.118	4200	5400	84200	78190	108200	100600	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 Senior Engineer
 Mansoor Mazhar & Associates
 Commercial Building, Plot # 135, Sector-Q, Lahore
 (Khawaja Tipu Latif)

Reference # CED/TFL **36097** (Dr. Usman Akmal)
 Reference of the request letter # MMA/DHA/135-S-Q/01

Dated: 17-02-2021
 Dated: 15-02-2021

Tension Test Report (Page -1/1)

Date of Test 18-02-2021
 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	0.370	3	0.372	0.11	0.109	3300	5000	66200	66830	100200	101300	1.00	12.5	
.
.
.
.
.
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,
 Consultant
 Takbeer Tower
 Mecload Road Lahore

Reference # CED/TFL **36098** (Dr. Usman Akmal)
 Reference of the request letter # Nil

Dated: 17-02-2021
 Dated: 17-02-2021

Tension Test Report (Page -1/1)

Date of Test 18-02-2021
 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	0.366	3/8	0.370	0.11	0.108	3500	4900	70200	71680	98200	100400	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Ref: CED/TFL/02/36099

Dated: 17-02-2021

Dated: 18-02-2021

To
M/S China Gezhouba Group Company Limited
Construction of Mohmand Dam Hydropower Project

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/02/36099) (Page -1/4)

Reference to your Letter No. MDSYS-110, dated: 16/02/2021 on the subject cited above. One Hydraulic Jack (Jack No. T-2 C-7, Gauge No. 2867) as received by us has been calibrated. The results are tabulated as under:

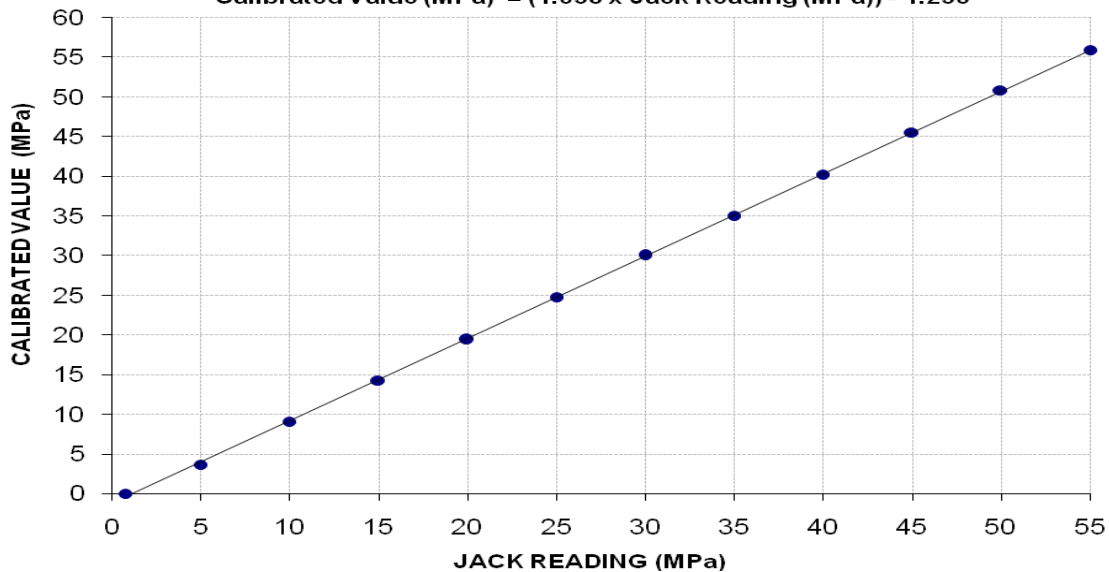
Total Range : Zero - 60 (MPa)
Calibrated Range : Zero - 55 (MPa)

Hydraulic Jack Reading (MPa)	0.75	5	10	15	20	25	30	35	40	45	50	55
Calibrated Load (Kg)	0	10800	26800	42000	57200	73000	88400	103200	118600	134200	149800	164800
Calibrated Pressure (Mpa)	0	3.66	9.09	14.25	19.41	24.77	30.00	35.02	40.25	45.54	50.83	55.92

The Ram Area of Jack = 289 cm²

Calibration Curve For Jack No. T-2 C-7 (Gauge # 2867)

Calibrated Value (MPa) = (1.038 x Jack Reading (MPa)) - 1.236



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Ref: CED/TFL/02/36099

Dated: 17-02-2021

Dated: 18-02-2021

To
M/S China Gezhouba Group Company Limited
Construction of Mohmand Dam Hydropower Project

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/02/36099) (Page -2/4)

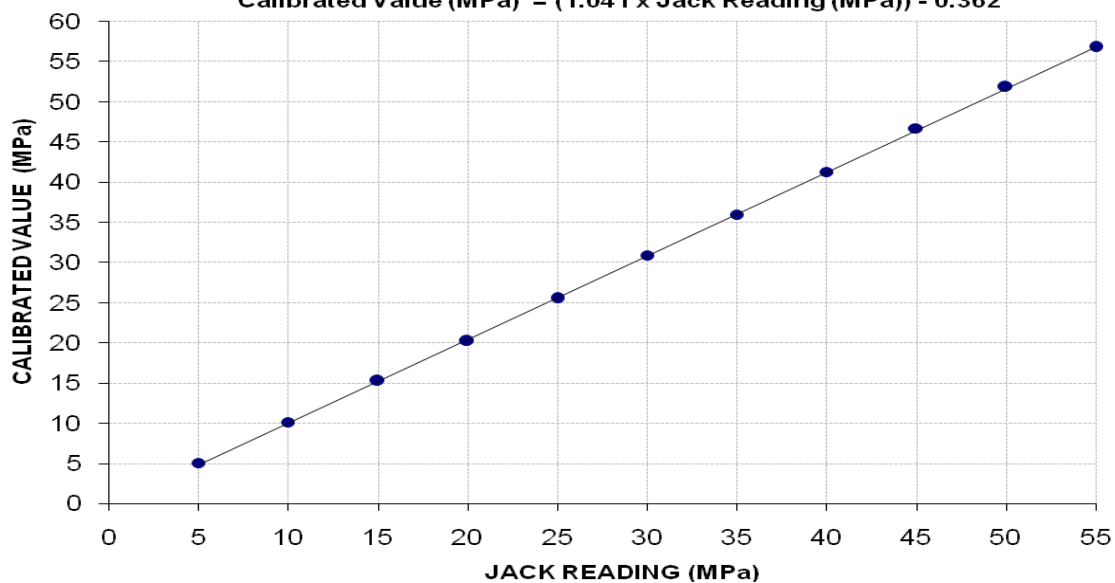
Reference to your Letter No. MDSYS-110, dated: 16/02/2021 on the subject cited above. One Hydraulic Jack (Jack No. N1 C-7, Gauge No. 3934) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 60 (MPa)
Calibrated Range : Zero - 55 (MPa)

Hydraulic Jack Reading (MPa)	5	10	15	20	25	30	35	40	45	50	55
Calibrated Load (Kg)	14800	29800	45000	59600	75200	91000	106000	121600	137600	152800	167400
Calibrated Pressure (Mpa)	5.02	10.11	15.27	20.22	25.52	30.88	35.97	41.26	46.69	51.85	56.81

The Ram Area of Jack = 289 cm²

Calibration Curve For Jack No. N-1 C7 (Gauge # 3934)
Calibrated Value (MPa) = (1.041 x Jack Reading (MPa)) - 0.362



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Dated: 17-02-2021

Dated: 18-02-2021

To
M/S China Gezhouba Group Company Limited
Construction of Mohmand Dam Hydropower Project

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/02/36099) (Page -3/4)

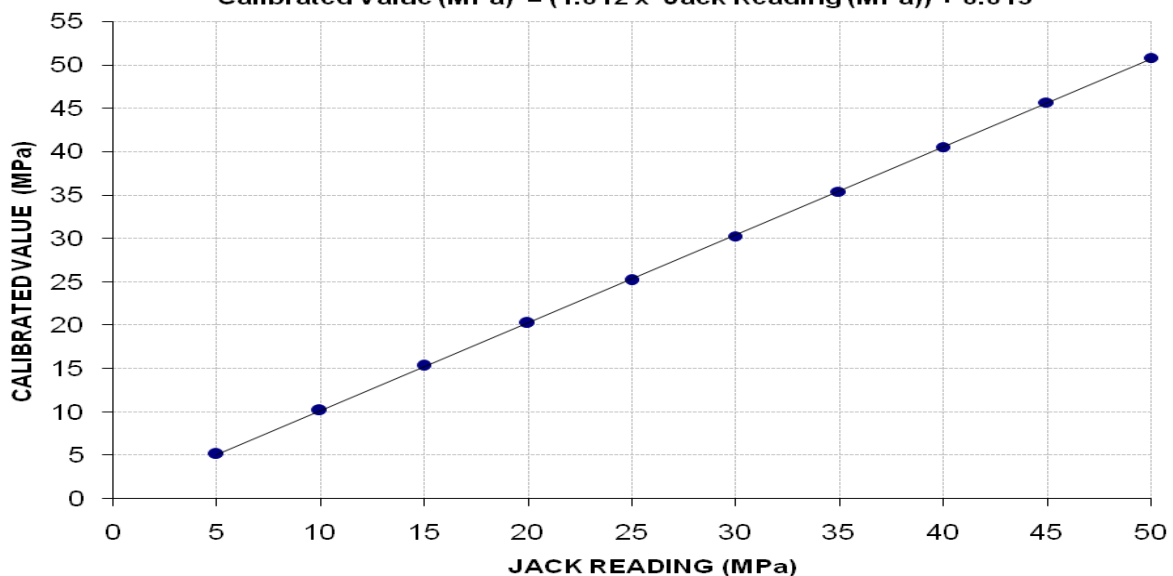
Reference to your Letter No. MDSYS-110, dated: 16/02/2021 on the subject cited above. One Hydraulic Jack (Jack No. T-2 C1, Gauge No. 3939) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 60 (MPa)
Calibrated Range : Zero - 50 (MPa)

Hydraulic Jack Reading (MPa)	5	10	15	20	25	30	35	40	45	50
Calibrated Load (Kg)	2500	4950	7450	9850	12250	14700	17200	19700	22200	24700
Calibrated Pressure (Mpa)	5.14	10.17	15.31	20.25	25.18	30.22	35.36	40.49	45.63	50.77

The Ram Area of Jack = 47.71 cm²

Calibration Curve For Jack No. T-2 C1 (Gauge # 3939)
Calibrated Value (MPa) = (1.012 × Jack Reading (MPa)) + 0.013



I/C Testing Laboratories
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Ref: CED/TFL/02/36099

Dated: 17-02-2021

Dated: 18-02-2021

To
M/S China Gezhouba Group Company Limited
Construction of Mohmand Dam Hydropower Project

Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/02/36099) (Page -4/4)

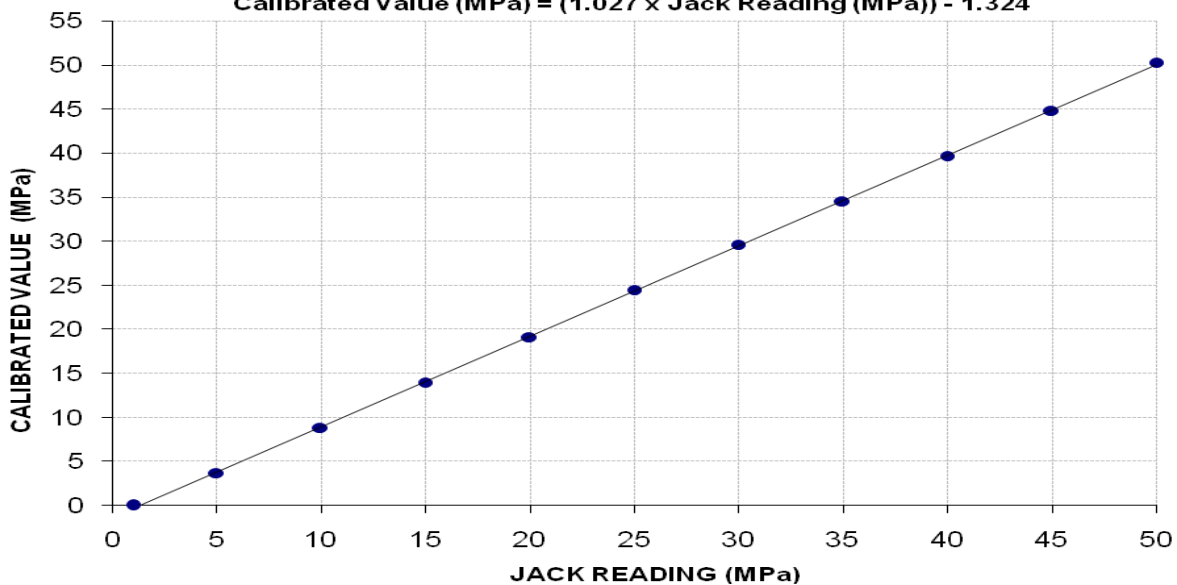
Reference to your Letter No. MDSYS-110, dated: 16/02/2021 on the subject cited above. One Hydraulic Jack (Jack No. N-1 C1, Gauge No. 2948) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 60 (MPa)
Calibrated Range : Zero - 55 (MPa)

Hydraulic Jack Reading (MPa)	1	5	10	15	20	25	30	35	40	45	50
Calibrated Load (Kg)	0	1800	4300	6800	9300	11900	14400	16800	19300	21800	24450
Calibrated Pressure (Mpa)	0	3.70	8.84	13.98	19.12	24.46	29.60	34.53	39.67	44.81	50.26

The Ram Area of Jack = 47.71 cm²

Calibration Curve For Jack No. N-1 C1 (Gauge # 2948)
Calibrated Value (MPa) = (1.027 x Jack Reading (MPa)) - 1.324



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,
 Deputy Director (Q.C.D)
 WASA, LDA, Lahore
 (Construction of WASA Head Office at M.A Johar Town Lahore (HCS-SNMC-MASTIC (JV)))

Reference # CED/TFL **36100** (Dr. Usman Akmal)
 Reference of the request letter # QCD/266-67

Dated: 17-02-2021
 Dated: 12-02-2021

Tension Test Report (Page -1/1)

Date of Test 18-02-2021
 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	4200	5600	84200	84630	112300	112900	0.70	8.8	
2	0.380	3	0.377	0.11	0.112	4300	5400	86200	84910	108200	106700	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,
 Resident Engineer
 New Vision Engineering Consultant
 Construction of Molecular Biology and Biotechnology Academic Block in BZU University,
 Multan

Reference # CED/TFL **36101** (Dr. Usman Akmal)
 Reference of the request letter # RE/NVEC/BZU/21/02

Dated: 17-02-2021
 Dated: 12-02-2021

Tension Test Report (Page -1/1)

Date of Test 18-02-2021
 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	0.381	3	0.378	0.11	0.112	3600	4900	72200	70770	98200	96400	1.30	16.3	FF Steel
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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.

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,
 Sub Divisional Officer
 Highway Sub Division
 Isa Khel
 (Construction of Road from Alif Khel to Chappri via Mohabbt Khel Length 4.55 km Tehsil Essa
 Khael District Mianwali (Part-B Bridge Portion and Its Approaches))

Reference # CED/TFL **36103** (Dr. Usman Akmal)
 Reference of the request letter # 84

Dated: 17-02-2021
 Dated: 13-02-2021

Tension Test Report (Page -1/1)

Date of Test 18-02-2021
 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	0.371	0.11	0.108	3300	4900	66200	67110	98200	99700	1.30	16.3	
2	0.372	3	0.373	0.11	0.109	3300	5000	66200	66510	100200	100800	1.30	16.3	
3	5.266	11	1.404	1.56	1.548	47600	71200	67300	67780	100600	101400	1.30	16.3	
4	5.251	11	1.402	1.56	1.544	48400	71400	68400	69110	100900	102000	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only four sample for tensile and two samples for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														
#11 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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