



**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/05/227, 3230

Dated: 18-05-2023

Dated of Test: 25-05-2023

To

**Engineer's Representative**

**NESPAK**

**Construction of Additional Block at Pakistan Engineering Council (PEC)  
Headquarters, G-5/2, Islamabad**

**Subject: - CALIBRATION OF HYDRAULIC JACK WITH GAUGE (MARK: TFL/05/3227)**

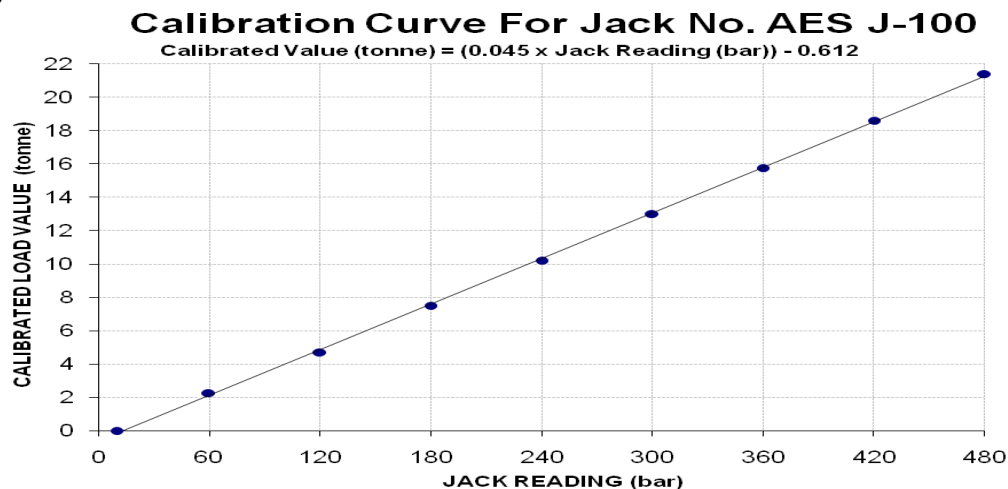
(Page -1/4)

Reference to your Letter No. 4125/321/NS/05/616, Dated: 17/05/2023 on the subject cited above. One Hydraulic Jack (Jack No. AES J-100, Gauge No. AES J100) 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	60	120	180	240	300	360	420	480	
Calibrated Load	(kg)	0	2250	4700	7500	10200	13000	15750	18600	21400
	Tonne	0	2.25	4.70	7.50	10.20	13.00	15.75	18.60	21.40
Calibrated Pressure (bar)	0	53.64	112.04	178.79	243.15	309.90	375.45	443.39	510.14	

1 Tonne = 1000 kg, The Ram Area of Jack = 41.14 cm<sup>2</sup> (Witness by Abdul Karim, Senior Engineer, NESPAK)



**I/C Testing Laboratories  
UET Lahore, Pakistan.**

Note:

- 1- You can See your reports On Internet in the following web site  
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**Headquarters, G-5/2, Islamabad**

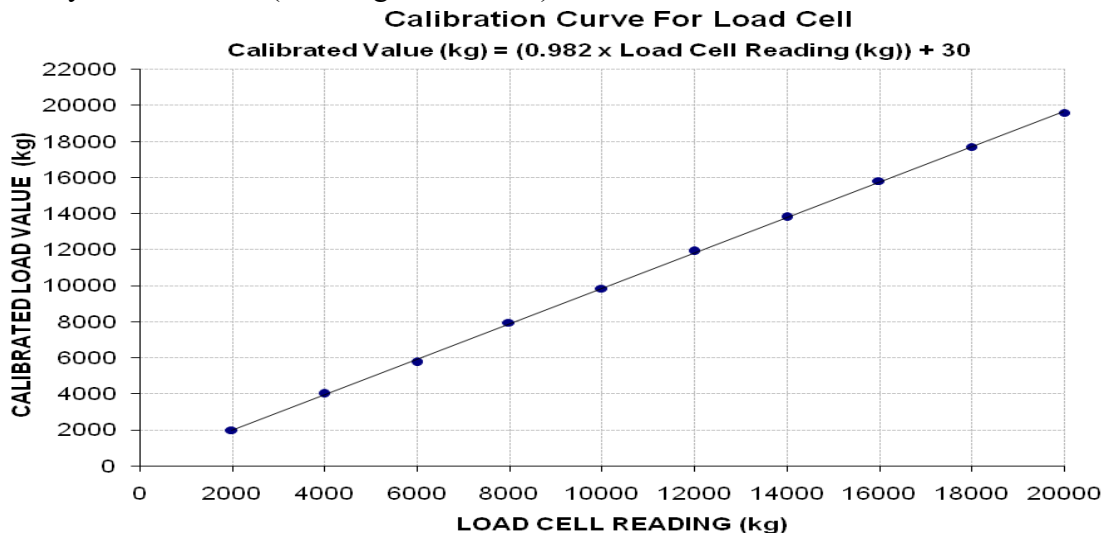
Subject: - **CALIBRATION OF LOAD CELL (MARK: TFL/05/3227)** (Page -2/4)

Reference to your Letter No. 4125/321/NS/05/616, Dated: 17/05/2023 on the subject cited above. One Load Cell as received by us has been calibrated. The results are tabulated as under:

**Total Range : Zero - 50000 (kg)**  
**Calibrated Range : Zero - 20000 (kg)**

Load Cell Reading (kg)	2000	4000	6000	8000	10000	12000	14000	16000	18000	20000
Calibrated Load (kg)	2000	4000	5750	7950	9850	11900	13800	15800	17700	19600

Witness by Abdul Karim (Sub Engr. NESPAK)



**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

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Dated: 18-05-2023

Dated of Test: 25-05-2023

To

**Engineer's Representative**  
**NESPAK**

**Construction of Additional Block at Pakistan Engineering Council (PEC)**  
**Headquarters, G-5/2, Islamabad**

Subject: - **CALIBRATION OF PRESSURE GAUGE (MARK: TFL/05/3227)** (Page # 3/4)

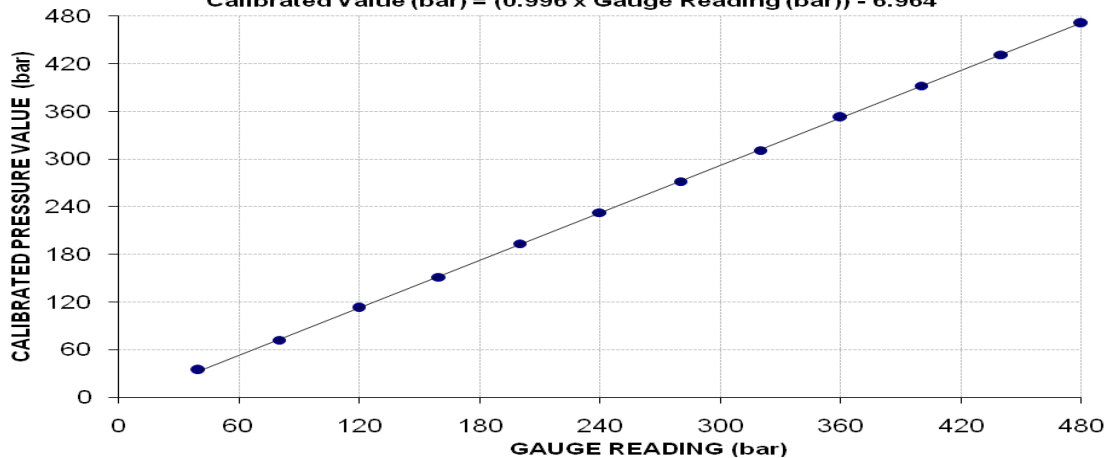
Reference to your Letter No. 4125/321/NS/05/616, Dated: 17/05/2023 on the subject cited above. One Pressure Gauge No. PEC K1 as received by us has been calibrated. The results are tabulated as under:

**Total Range : Zero - 1000 (bar)**  
**Calibrated Range : Zero - 480 (bar)**

Pressure Gauge Reading (bar)	40	80	120	160	200	240	280	320	360	400	440	480
Calibrated Load (kg)	6900	14500	22700	30600	39000	46900	54800	62700	71200	79200	87100	95100
Calibrated Pressure (bar)	34.18	71.82	112.43	151.56	193.17	232.30	271.43	310.56	352.66	392.28	431.41	471.03

The Ram Area of Calibration = 198 cm<sup>2</sup> Witness by Abdul Karim (Sub Engr. NESPAK)

**Calibration Curve for Pressure Gauge No. PEC K1**  
**Calibrated Value (bar) = (0.996 x Gauge Reading (bar)) - 6.964**



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Dated: 18-05-2023

Dated of Test: 25-05-2023

To

**Engineer's Representative**  
**NESPAK**

**Construction of Additional Block at Pakistan Engineering Council (PEC)**  
**Headquarters, G-5/2, Islamabad**

Subject: - **CALIBRATION OF PRESSURE GAUGE (MARK: TFL/05/3227)** (Page # 4/4)

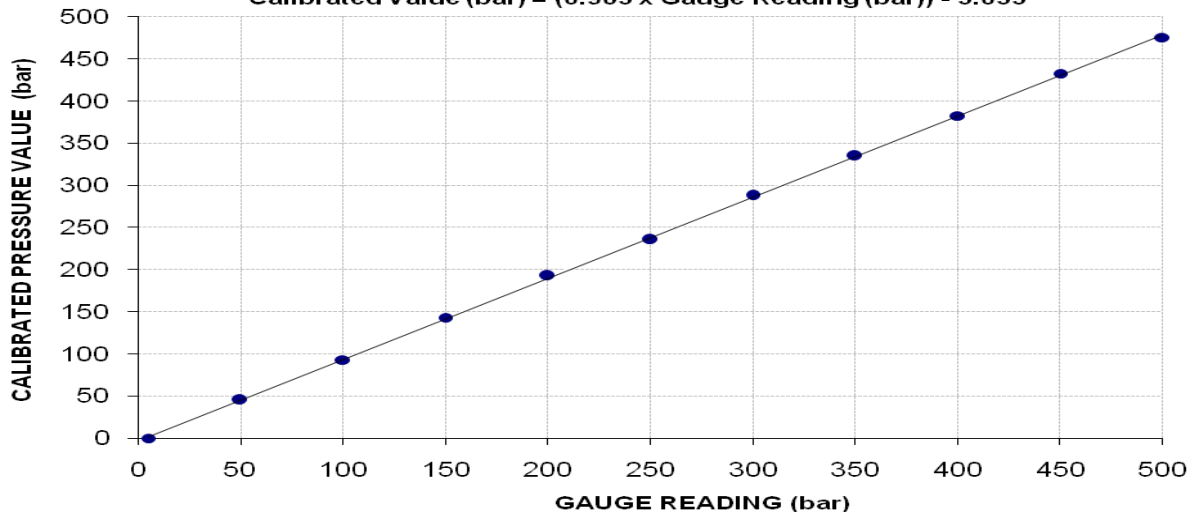
Reference to your Letter No. 4125/321/NS/05/616, Dated: 17/05/2023 on the subject cited above. One Pressure Gauge No. PEC K2 as received by us has been calibrated. The results are tabulated as under:

**Total Range : Zero - 1000 (bar)**  
**Calibrated Range : Zero - 480 (bar)**

Pressure Gauge Reading (bar)	5	50	100	150	200	250	300	350	400	450	500
Calibrated Load (kg)	0	9100	18700	28800	38900	47500	58100	67600	77200	87300	96000
Calibrated Pressure (bar)	0	45.07	92.62	142.65	192.67	235.27	287.77	334.82	382.37	432.40	475.49

The Ram Area of Calibration = 198 cm<sup>2</sup> Witness by Abdul Karim (Sub Engr. NESPAK)

**Calibration Curve for Pressure Gauge No. PEC K2**  
**Calibrated Value (bar) = (0.963 x Gauge Reading (bar)) - 3.033**



**I/C Testing Laboratories**  
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**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

Ref: CED/TFL/05/3229

Dated: 19-05-2023

Dated of Test: 25-05-2023

To

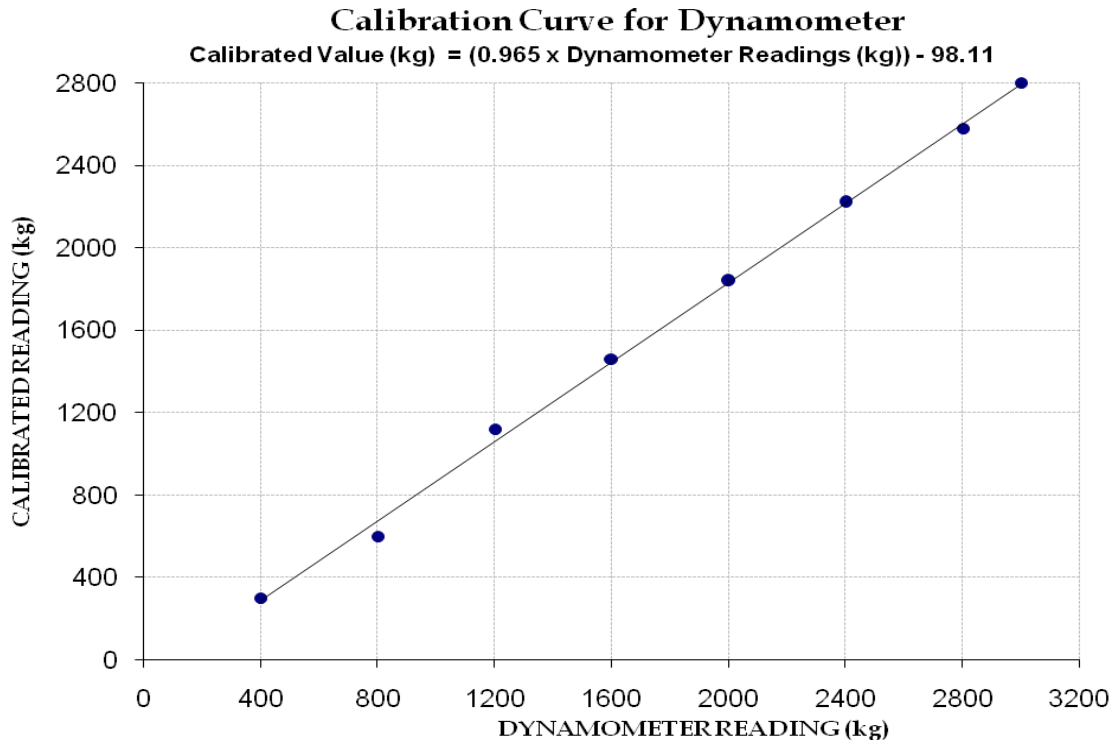
**Addl: Manager (Civil)**  
**MEPCO H.Q's. Multan**

Subject: - **CALIBRATION OF DYNAMOMETER (MARK: TFL/05/3229 (Page -1/1))**

Ref: Your letter No. 9350-51, dated: 15/05/2023 on the subject cited above. One Dynamometer as received by us has been calibrated. The results are tabulated as under:

**Total Range : Zero - 10000 (kg)**  
**Calibrated Range : Zero - 3000 (kg)**

Dynamometer Readings (kg)	400	800	1200	1600	2000	2400	2800	3000
Calibrated Readings (kg)	300	600	1120	1460	1840	2220	2580	2800



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**UET Lahore, Pakistan.**

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To,  
Project Manager  
HMB Developers Pvt. Ltd.  
Commercial Tower, FTC Lahore

Reference # CED/TFL **3269** (Dr. M Kashif)  
Reference of the request letter # HMBDPL/S.O/05/23/41 (LHR)

Dated: 24-05-2023  
Dated: 23-05-2023

**Tension Test Report** (Page -1/1)

Date of Test 25-05-2023  
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 <sup>2</sup> )		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	3300	4700	66200	66440	94200	94700	1.50	18.8	
2	0.372	3	0.373	0.11	0.109	3400	4700	68200	68540	94200	94800	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**UET Lahore, Pakistan.**

Note:

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To,  
M/S ENAARA  
Lahore

Reference # CED/TFL **3272** (Dr. M Kashif)  
Reference of the request letter # Nil

Dated: 24-05-2023  
Dated: 24-05-2023

**Tension Test Report** (Page -1/1)

Date of Test 25-05-2023  
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 <sup>2</sup> )		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	0.109	3100	5100	62200	62950	102200	103600	1.10	13.8	
2	0.373	3	0.374	0.11	0.110	3200	5200	64200	64260	104200	104500	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

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To,  
Chief Technical Officer  
Sheikhoo Sugar Mills (Steel Division)  
Anwar Abad Kot Addu, Muzaffargarh

Reference # CED/TFL 3277 (Dr. M Kashif)  
Reference of the request letter #Nil

Dated: 25-05-2023  
Dated: 24-05-2023

**Tension Test Report** (Page -1/2)

Date of Test 25-05-2023  
Gauge length 8 inches  
Description Deformed Steel Bar Tensile Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size		Area (in <sup>2</sup> )		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	0.370	3	0.372	0.11	0.109	3500	4800	70200	70970	96200	97400	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only one sample for tensile test</b>														
Bend Test														

**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

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To,  
 Chief Technical Officer  
 Sheekhoo Sugar Mills (Steel Division)  
 Anwar Abad Kot Addu, Muzaffargarh

Reference # CED/TFL 3277 (Dr. M Kashif)  
 Reference of the request letter #Nil

Dated: 25-05-2023  
 Dated: 24-05-2023

**Tension Test Report** (Page -2/2)

Date of Test 25-05-2023  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		Area (in <sup>2</sup> )		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	0.412	10	9.97	0.12	0.121	3700	5200	67975	67420	95533	94800	1.40	17.5	
2	4.244	32	32.01	1.25	1.247	39000	53200	68784	68910	93828	94000	1.70	21.3	
3	5.309	36	35.80	1.58	1.560	49200	68000	68650	69490	94882	96100	1.80	22.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only three samples for tensile test</b>														
Bend Test														

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To,

Chief Engineer  
Zaitoon City  
Construction of House # 52, 53 & 64 by SWN Contractor, Zaitoon City)

Reference # CED/TFL **3287** (Dr. Ali Ahmed)

Dated: 25-05-2023

Reference of the request letter # NLC/CE/Const/21

Dated: 25-05-2023

**Tension Test Report** (Page -1/1)

Date of Test 25-05-2023

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 <sup>2</sup> )		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	0.400	3	0.387	0.11	0.118	3400	5100	68200	63710	102200	95600	1.40	17.5	Batala Steel
2	0.399	3	0.386	0.11	0.117	3400	5100	68200	63960	102200	96000	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

Witness by M Azhar Rais (Asst. Lab Incharge, Zaitoon)

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