



**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/10/2098

Dated: 11-10-2022

Date of Calibration: 13-10-2022

**To**  
**Resident Engineer**  
**NESPAK**

**Dualization of Road from GT Road (Samma) to Gujrat Dinga Road 1/C Gujrat Flyover Length 31 km in District Gujrat (Group no. 1 VC Construction of Flyover at Gujrat Sargodha Road & 1No Small Bridge) near Machiana Bridge**

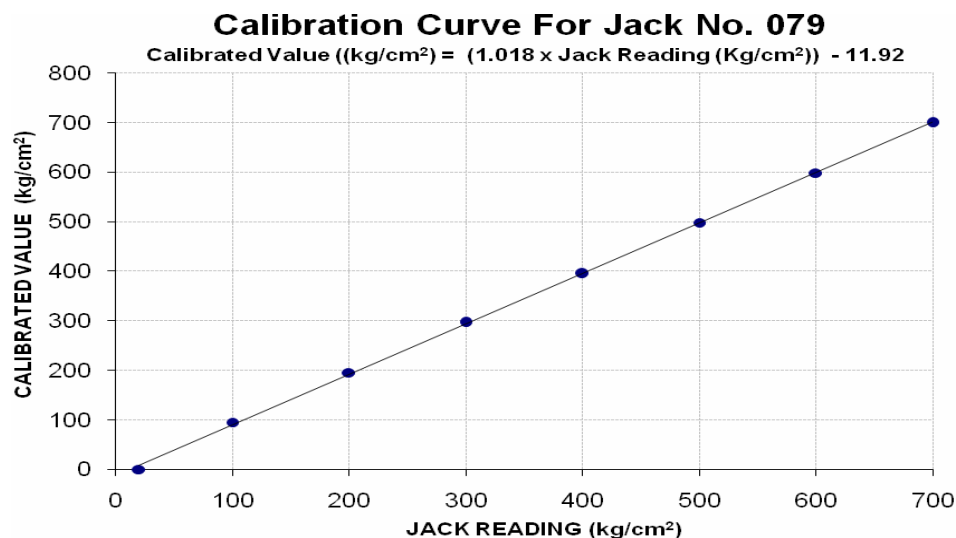
**Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/10/2098) (Page – 1/2)**

Reference to your Letter No. Nil, dated: 07/10/2022 on the subject cited above. One Hydraulic Jack (Jack No. 079, Pump No. 226) as received by us has been calibrated. The results are tabulated as under:

**Total Range : Zero - 1000 (kg/cm<sup>2</sup>)**  
**Calibrated Range : Zero - 700 (kg/cm<sup>2</sup>)**

Hydraulic Jack Reading (kg/cm <sup>2</sup> )	20	100	200	300	400	500	600	700
Calibrated Load (kg)	0	25467	52133	79200	105467	132933	159733	186933
Calibrated Pressure (kg/cm <sup>2</sup> )	0	95.30	195.10	296.39	394.68	497.47	597.76	699.55

The Ram Area of Jack = 267.22 cm<sup>2</sup>



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

Note:

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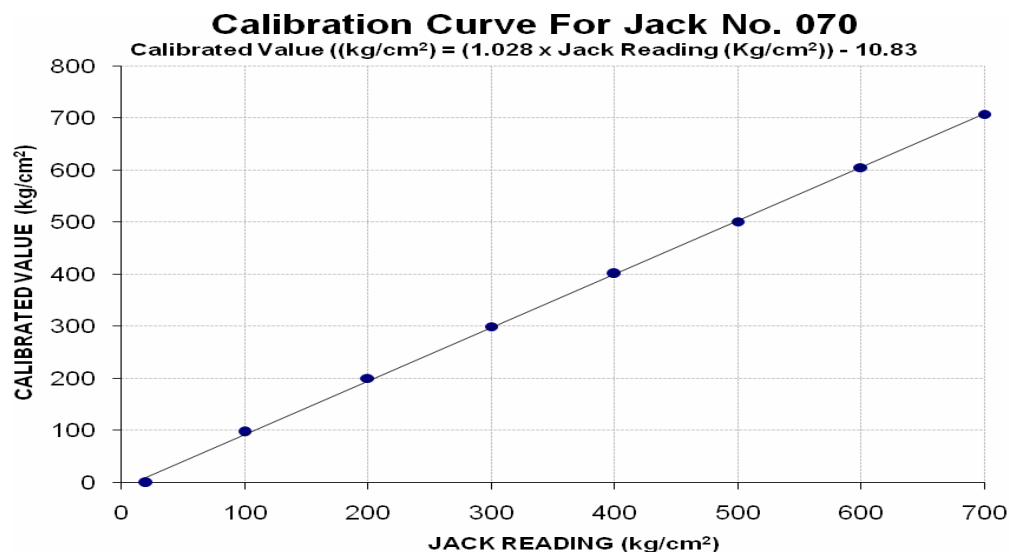
**Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/10/2098) (Page – 2/2)**

Reference to your Letter No. Nil, dated: 07/10/2022 on the subject cited above. One Hydraulic Jack (Jack No. 070, Pump No. 229) as received by us has been calibrated. The results are tabulated as under:

**Total Range : Zero - 1000 (kg/cm<sup>2</sup>)**  
**Calibrated Range : Zero - 700 (kg/cm<sup>2</sup>)**

Hydraulic Jack Reading (kg/cm <sup>2</sup> )	20	100	200	300	400	500	600	700
Calibrated Load (kg)	0	26000	53600	80000	107200	134000	161800	189000
Calibrated Pressure (kg/cm <sup>2</sup> )	0	97.31	200.60	299.40	401.20	501.50	605.54	707.34

The Ram Area of Jack = 267.22 cm<sup>2</sup>



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**UET Lahore, Pakistan.**

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Ref: CED/TFL/10/2107

Dated: 12-10-2022

Date of Calibration: 13-10-2022

**To**  
**Engineer Planning**  
**Stronghold Pakistan (Private) Ltd.**  
**Permanent Bridge at Diamer Basha Dam**

**Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/10/2017) (Page – 1/3)**

Reference to your Letter No. Nil, dated: 12/10/2022 on the subject cited above. One Hydraulic Jack (Jack No. 5478, Pump No. 970) as received by us has been calibrated. The results are tabulated as under:

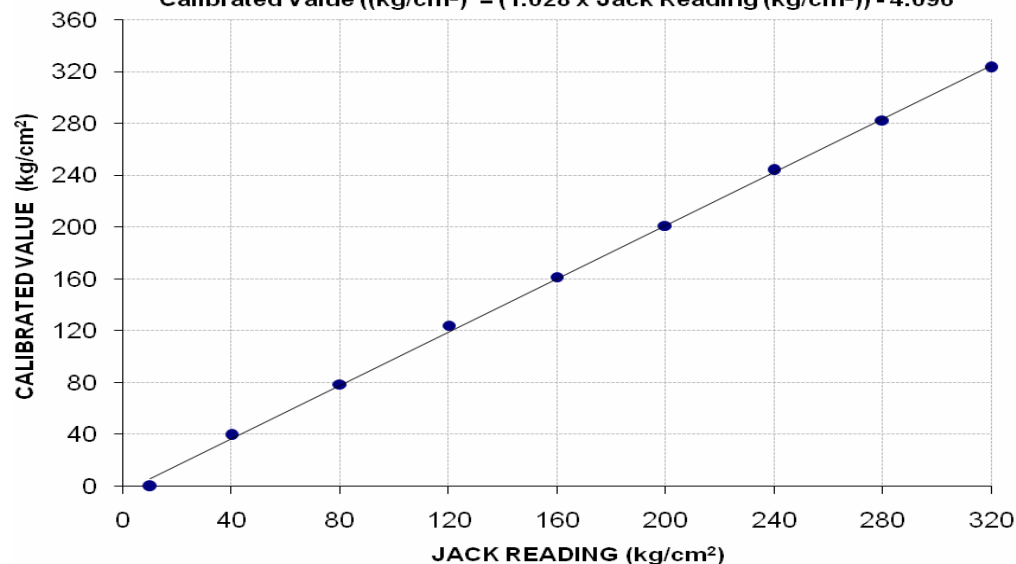
**Total Range : Zero - 1000 (kg/cm<sup>2</sup>)**  
**Calibrated Range : Zero - 320 (kg/cm<sup>2</sup>)**

Hydraulic Jack Reading (kg/cm <sup>2</sup> )	10	40	80	120	160	200	240	280	320
Calibrated Load (kg)	0	23800	47600	75000	97600	121400	147400	170600	195200
Calibrated Pressure (kg/cm <sup>2</sup> )	0	39.38	78.76	124.09	161.48	200.86	243.88	282.26	322.96

The Ram Area of Jack = 602.4 cm<sup>2</sup>

**Calibration Curve For Jack No. 5478**

Calibrated Value ((kg/cm<sup>2</sup>) = (1.028 x Jack Reading (kg/cm<sup>2</sup>)) - 4.096



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

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Ref: CED/TFL/10/2107

Dated: 12-10-2022

Date of Calibration: 13-10-2022

**To**  
**Engineer Planning**  
**Stronghold Pakistan (Private) Ltd.**  
**Permanent Bridge at Diamer Basha Dam**

**Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/10/2017) (Page – 1/3)**

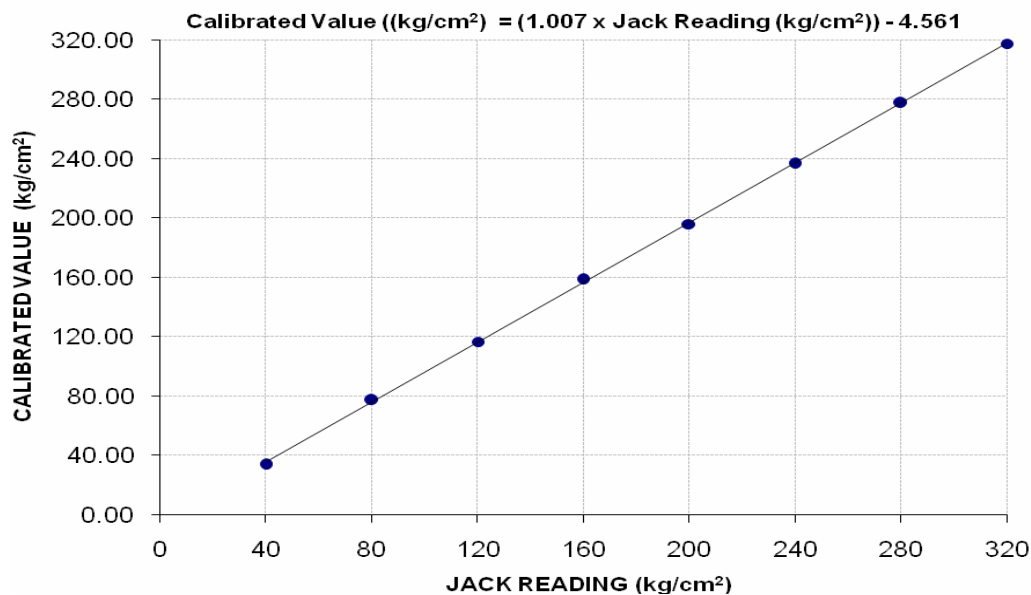
Reference to your Letter No. Nil, dated: 12/10/2022 on the subject cited above. One Hydraulic Jack (Jack No. 34, Pump No. 194) as received by us has been calibrated. The results are tabulated as under:

**Total Range : Zero - 1000 (kg/cm<sup>2</sup>)**  
**Calibrated Range : Zero - 320 (kg/cm<sup>2</sup>)**

<b>Hydraulic Jack Reading (kg/cm<sup>2</sup>)</b>	40	80	120	160	200	240	280	320
<b>Calibrated Load (kg)</b>	20400	46800	70600	95800	118400	143000	167800	192000
<b>Calibrated Pressure (kg/cm<sup>2</sup>)</b>	33.75	77.43	116.81	158.50	195.90	236.60	277.63	317.67

The Ram Area of Jack = 602.4 cm<sup>2</sup>

**Calibration Curve For Jack No. 34**



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**UET Lahore, Pakistan.**

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Ref: CED/TFL/10/2107

Dated: 12-10-2022

Date of Calibration: 13-10-2022

**To**  
**Engineer Planning**  
**Stronghold Pakistan (Private) Ltd.**  
**Permanent Bridge at Diamer Basha Dam**

**Subject: - CALIBRATION OF HYDRAULIC JACK (MARK: TFL/10/2017) (Page – 3/3)**

Reference to your Letter No. Nil, dated: 12/10/2022 on the subject cited above. One Hydraulic Jack (Jack No. 5297, Pump No. 951) as received by us has been calibrated. The results are tabulated as under:

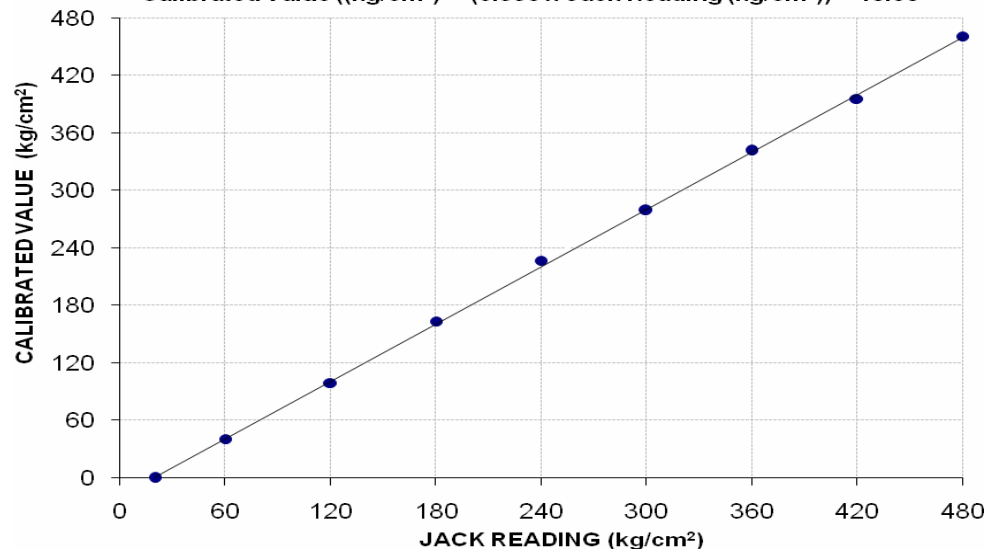
**Total Range : Zero - 1000 (kg/cm<sup>2</sup>)**  
**Calibrated Range : Zero - 480 (kg/cm<sup>2</sup>)**

<b>Hydraulic Jack Reading (kg/cm<sup>2</sup>)</b>	20	60	120	180	240	300	360	420	480
<b>Calibrated Load (kg)</b>	0	7600	18600	30700	42500	52300	64000	74200	86400
<b>Calibrated Pressure (kg/cm<sup>2</sup>)</b>	0	40.54	99.21	163.75	226.69	278.96	341.37	395.78	460.85

The Ram Area of Jack = 187.48 cm<sup>2</sup>

**Calibration Curve For Jack No. 5297**

Calibrated Value ((kg/cm<sup>2</sup>) = (0.996 x Jack Reading (kg/cm<sup>2</sup>)) - 18.38



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**UET Lahore, Pakistan.**

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To,  
M/S Moaz Steel  
Lahore  
(Grade-ESEN-10025, for Descon/ Jv-CGGC, Mohammand Hydro Power Project.)

Reference # CED/TFL 2117 (Dr. Rizwan Azam)  
Reference of the request letter # MZ/DESCOM/JV-

Dated: 13-10-2022  
Dated: 13-10-2022

**Tension Test Report** (Page – 1/1)

Date of Test 13-10-2022  
Gauge length 2 inches  
Description Steel Plate 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)									
1	Steel Plate	12	32.70x11.80	385.86	16800	21800	427	554	0.80	40.00	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
<b>Only One Sample for Tensile Test</b>											
<b>Bend Test</b>											

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To,  
 Head / Manager Projects  
 Shaukat Khanum Memorial Trust  
 Construction of Multi-Storied Parking Garage SKMCH & RC, Lahore

Reference # CED/TFL **2118** (Dr. Rizwan Azam)  
 Reference of the request letter # SKM/PG/UET/10/16

Dated: 13-10-2022  
 Dated: 13-10-2022

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

Date of Test 13-10-2022  
 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	0.364	3	0.369	0.11	0.107	3800	5300	76200	78300	106200	109300	1.00	12.5	
2	0.358	3	0.366	0.11	0.105	3200	4600	64200	67050	92200	96400	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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To,  
M/S JWS Homes  
Faisalabad

Reference # CED/TFL 2125, 2126 (Engr. Ubaid Ahmed)  
Reference of the request letter # Nil

Dated: 14-10-2022  
Dated: 12-10-2022

**Tension Test Report** (Page – 1/1)

Date of Test 14-10-2022  
Gauge length 2 inches  
Description HR Steel Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	HR Steel	27.50x6.00	165.00	10600	11600	630	690	0.50	25.00	
1	HR Steel	27.50x6.20	170.50	10600	11600	610	667	0.45	22.50	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
<b>Only Two Samples for Tensile Test</b>										
<b>Bend Test</b>										

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