



**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  
CCECC-MATRACON-HABIB Joint Venture  
Re-Construction of & Up-gradation of Main Runway (18L/36R) at Allama Iqbal International  
Airport (AIIAP), Lahore  
(Zahid Interprises, Lahore)  
Reference # CED/TFL **37414** (Dr. Usman Akamal) Dated: 23-11-2021  
Reference of the request letter # AIIAP/CCECC-MATRACON-HABIB Jv/2021/765  
Dated: 19-11-2021

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

Date of Test 26-11-2021  
Gauge length 8 inches  
Description Plain Steel Dowel Bar Tensile Test

Sr. No.	Diameter / size	Reduced Dia	Reduced Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Heat No.
	(mm)	(mm)	(mm <sup>2</sup> )	(kg)	(kg)	(MPa)	(MPa)	(inch)		
1	50	36.20	1029.22	41200	69200	393	660	1.40	17.50	52
2	50	36.60	1052.09	39800	66600	371	621	1.50	18.75	184
3	50	36.50	1046.35	40800	69400	383	651	1.50	18.75	3109
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	

**Note: only three sample for tensile test**

**Bend Test**

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

**Note:**

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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



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To,  
 Sub Divisional Officer  
 Highway Sub Division  
 Sargodha  
 (Rehabilitation of Road Sillanwali to Chak No. 58/ Janubi via 119-More, 126/SB Length 39.80 km in District Sargodha. (Group-II, km 20.00 to 30.00 Length 10.00 km))

Reference # CED/TFL **37422** (Dr. Usman Akmal)  
 Reference of the request letter # 292-93/S

Dated: 25-11-2021  
 Dated: 15-09-2021

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

Date of Test 26-11-2021  
 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 <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	0.390	3/8	0.382	0.11	0.115	3690	4840	74000	71010	97000	93200	1.20	15.0	
2	0.384	3/8	0.379	0.11	0.113	3540	4610	71000	69120	92400	90100	1.00	12.5	
3	4.247	1.25	1.261	1.27	1.249	35200	53800	61100	62140	93400	95000	1.40	17.5	
4	4.230	1.25	1.258	1.27	1.243	34400	53600	59700	60980	93100	95100	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only four samples for tensile and two samples for bend test</b>														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														
1.25" Dia Bar Bend Test Through 180° is Satisfactory														

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**UET Lahore, Pakistan.**

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Ref: CED/TFL/11/37423

Dated: 25-11-2021

Date of Test: 26-11-2021

To,

**Resident Engineer**

**PEAS Consulting (Pvt) Ltd**

**Dualization of Quetta Western Bypass Project (N-25)**

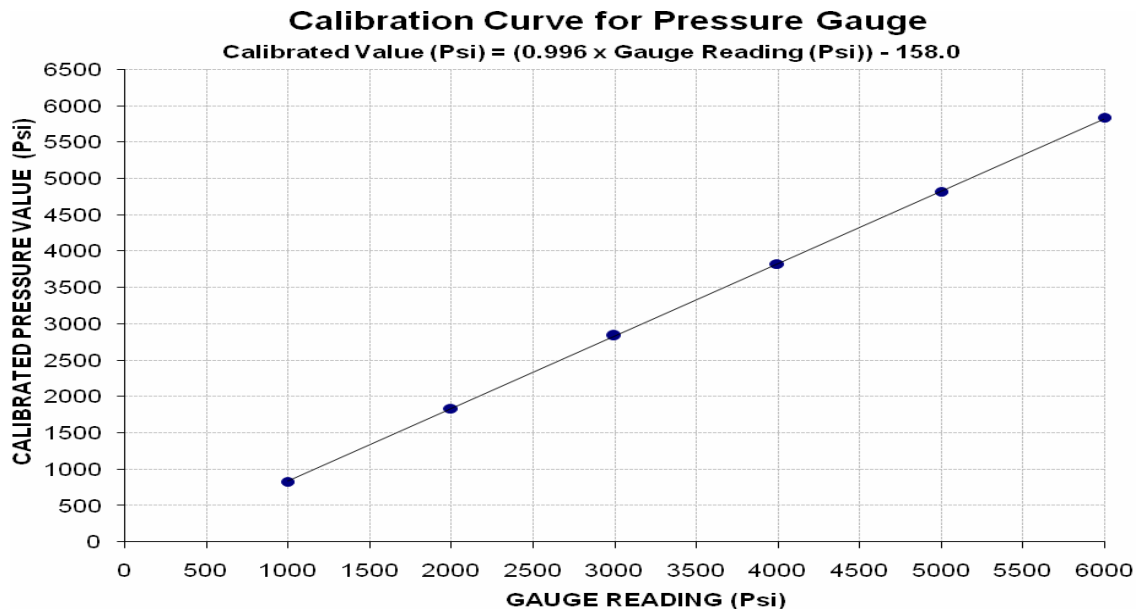
**Subject: - CALIBRATION OF PRESSURE GAUGE (MARK: TFL/11/37423) (Page # 1/2)**

Reference to your Letter No. QWB/PEAS/03/36, Dated: 24/11/2021 on the subject cited above. One Pressure Gauge No. EN 837-1 as received by us has been calibrated. The results are tabulated as under:

**Total Range : Zero - 10000 (Psi)**  
**Calibrated Range : Zero - 7000 (Psi)**

<b>Pressure Gauge Reading (Psi)</b>	1000	2000	3000	4000	5000	6000	7000
<b>Calibrated Load (kg)</b>	11600	25600	39500	53300	67100	81300	94800
<b>Calibrated Pressure (Psi)</b>	833	1839	2837	3829	4820	5840	6810

The Ram Area for Calibration = 198 cm<sup>2</sup>



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**UET Lahore, Pakistan.**

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Ref: CED/TFL/11/37423

Dated: 25-11-2021

Date of Test: 26-11-2021

To,  
**Resident Engineer**  
**PEAS Consulting (Pvt) Ltd**  
**Dualization of Quetta Western Bypass Project (N-25)**

**Subject: - CALIBRATION OF DIAL GAUGES (MARK: TFL/11/37423) (Page # 2/2)**

Reference to your Letter No. QWB/PEAS/03/36, Dated: 24/11/2021 on the subject cited above. Three Dial Gauges as received by us have been calibrated on standard calibration device. The results are tabulated as under.

**Total Range : Zero - 50 (mm)**  
**Calibrated Range : Zero - 15 (mm)**

<b>Standard Reading</b>	<b>Dial Gauge Readings</b>		
	<b>Dial Gauge No. I (S05565)</b>	<b>Dial Gauge No. II (Z07342)</b>	<b>Dial Gauge No. III (Z0sw7297)</b>
<b>200</b>	<b>192</b>	<b>191</b>	<b>194</b>
<b>400</b>	<b>393</b>	<b>394</b>	<b>394</b>
<b>600</b>	<b>598</b>	<b>596</b>	<b>593</b>
<b>800</b>	<b>796</b>	<b>795</b>	<b>794</b>
<b>1000</b>	<b>997</b>	<b>996</b>	<b>995</b>
<b>1200</b>	<b>1198</b>	<b>1196</b>	<b>1195</b>
<b>1400</b>	<b>1399</b>	<b>1399</b>	<b>1395</b>
<b>1500</b>	<b>1499</b>	<b>1499</b>	<b>1499</b>

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

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