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/01/34552 Dated: 27-01-2020

Dated of Test: 03-02-2020

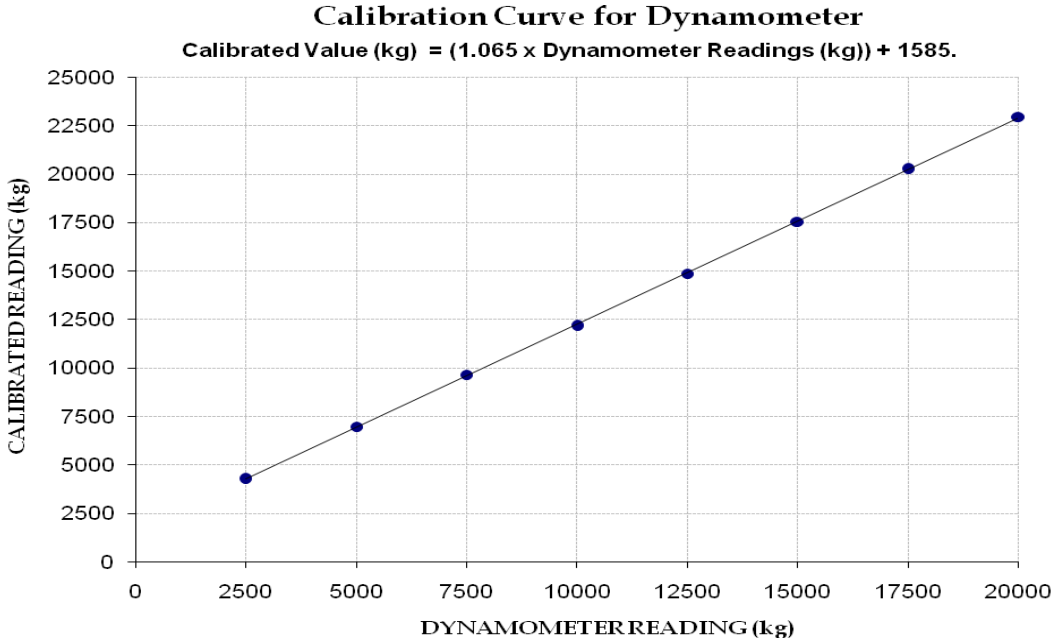
To
M/S RTC Pvt Ltd
Lahore

Subject: **- CALIBRATION OF DYNAMOMETER (MARK: TFL/01/34552)** (Page -1/1)

Ref: Your letter No. Nil, dated: 27/01/2020 on the subject cited above. One Dynamometer (Sr. No. D46288) as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 25000 (kg)
Calibrated Range : Zero - 20000 (kg)

Dynamometer Readings (kg)	**2500**	**5000**	**7500**	**10000**	**12500**	**15000**	**17500**	**20000**
Calibrated Readings (kg)	**4250**	**6950**	**9650**	**12150**	**14850**	**17550**	**20250**	**22950**



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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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,
Deputy CRE
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project

Reference # CED/TFL **34563** (Dr. M Rizwan Riaz) Dated: 28-01-2020
Reference of the request letter # LSM/DCRE/2020/1425 Dated: 28-01-2020

Tension Test Report (Page – 1/1)

Date of Test 03-02-2020
Gauge length 2 inches
Description Galvanized Steel Post Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	------	(cm)	(cm^2)	(kg)	(kg)	(kg/cm^2)	(kg/cm^2)	(in)		
1	Steel Post	1.91x0.78	1.49	6010	7590	4034	5095	0.70	35.00	S # 1
2		1.91x0.78	1.49	6010	7950	4034	5336	0.70	35.00	
3	Steel Post	1.70x0.78	1.33	5100	6570	3846	4955	0.70	35.00	S # 2
4		1.70x0.78	1.33	5000	6570	3771	4955	0.65	32.50	
-	-	-	-	-	-	-	-	-	-	-
-		-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-
-		-	-	-	-	-	-	-	-	
Only Four Samples for Tensile Test										
Bend 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

To,
DCRE
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project

Reference # CED/TFL **34576** (Dr. M Rizwan Riaz) Dated: 30-01-2020
Reference of the request letter # LSMP/RE-II/St/19/902 Dated: 30-01-2020

Tension Test Report (Page – 1/1)

Date of Test 03-02-2020
Gauge length -------
Description Galvanized Tension Wire & Chain Link Wire Tensile Test

Sr. No.	Diameter of Single Wire	Breaking Load	Remarks
	(mm)	(kN)	
1	**3.10**	**8.05**	**Tension Wire**
2	**3.10**	**8.42**	
3	**3.10**	**4.16**	**Chain Link Wire**
4	**3.10**	**3.95**	
-	**-**	**-**	
-	**-**	**-**	
-	**-**	**-**	
Only Four Samples for Test			

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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,
Prime Engineering Consultancy
Kallurkot Bridge Project
Construction of 4 Lane Bridge over River Indus Connecting Kallur Kot with D.I Khan
(Pak Steel)

Reference # CED/TFL **34578** (Dr. M Rizwan Riaz) Dated: 30-01-2020
Reference of the request letter # KK-DIK—BR-PJ/2020/118 Dated: 30-01-2020

Tension Test Report (Page -1/1)

Date of Test 03-02-2020
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (mm)		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	4.142	32	31.63	1.25	1.218	38000	54600	67020	68790	96297	98900	1.50	18.8	
2	4.168	32	31.72	1.25	1.225	37600	53400	66314	67640	94181	96100	1.50	18.8	
3	4.155	32	31.67	1.25	1.221	38200	54200	67373	68940	95591	97900	1.50	18.8	
4	4.123	10.0	31.55	1.25	1.212	37800	53800	66667	68760	94886	97900	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: only four samples for tensile and two samples for bend test

Bend Test

32mm Dia Bar Bend Test Through 180º is Satisfactory

32mm Dia Bar Bend Test Through 180º is Satisfactory

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,
Project Manager
Barqaab Consulting Services (Pvt) Limited
Procurement of Plant, Design, Supply, Installation, Testing & Commissioning of 220kV Transmission Lines Under Loan No. 3577-Pk : MFF Second Power Transmission Enhancement Investment Program Tranche-2 (S.J Steel)
Reference # CED/TFL **34580** (Dr. M Rizwan Riaz) Dated: 30-01-2020
Reference of the request letter # PM/BQB/GSTL/SUK/43 Dated: 30-01-2020

Tension Test Report (Page -1/1)

Date of Test 03-02-2020
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	0.382	3	0.378	0.11	0.112	3870	5010	77600	75880	100400	98300	1.10	13.8	
2	0.384	3	0.379	0.11	0.113	3920	5070	78600	76510	101600	99000	1.10	13.8	
3	0.385	3	0.380	0.11	0.113	4000	5100	80200	77850	102200	99300	1.00	12.5	
4	5.227	11	1.399	1.56	1.536	33000	52600	46700	47340	74400	75500	2.00	25.0	
5	5.194	11	1.394	1.56	1.527	33000	52600	46700	47650	74400	76000	2.10	26.3	
6	5.233	11	1.399	1.56	1.538	37000	59200	52300	53020	83700	84900	1.70	21.3	
Note: only six samples for tensile and six samples for bend test														

Bend Test
#3 Bar Bend Test Through 180º is Satisfactory
#3 Bar Bend Test Through 180º is Satisfactory
#3 Bar Bend Test Through 180º is Satisfactory
#11 Bar Bend Test Through 180º is Satisfactory
#11 Bar Bend Test Through 180º is Satisfactory
#11 Bar Bend Test Through 180º is Satisfactory

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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 Karakoram advanture Club
KPK

Reference # CED/TFL **34584** (Dr. Ali Ahmad) Dated: 30-01-2020
Reference of the request letter # Nil Dated: 30-01-2020

Tension Test Report (Page – 1/1)

Date of Test 04-02-2020
Gauge length -------
Description Steel Wire Rope Galvanized Tensile Test

Sr. No.	Nominal Diameter	Measured weight	Yield Load	Breaking Load	Remarks / Coil No.
	(mm)	(kg/m)	(kg)	(kg)	
1	**16**	**0.993**	**---------**	**15000**	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
Only one sample for Test					

I/C Testing Laboratoires
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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/01/34590 Dated: 31-01-2020

Dated of Test: 03-02-2020

To
Manager – Geotech Division
Firm DECON International Private Limited
+600 kV HVDC Transmission Line Project from Matiari to Lahore-Pakistan

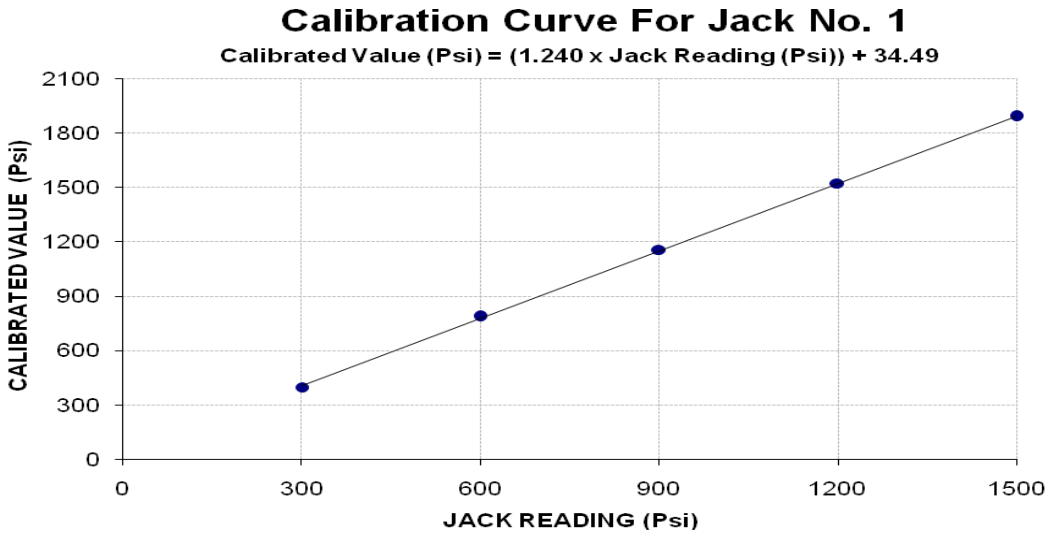
Subject: **- CALIBRATION OF HYDRAULIC JACK (MARK: TFL/01/34590)**
(Page No. 1/3)

Reference to your Letter No. FDIL-2075-Lab/009, dated: 31/01/2020 on the subject cited above. One Hydraulic No. 1 with Pressure Gauge No. C 1467 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 8500 (Psi)
Calibrated Range : Zero - 1500 (Psi)

Hydraulic Jack Reading (Psi)	300	600	900	1200	1500
Calibrated Load (kg)	38800	76600	112600	148200	184200
Calibrated Pressure (Psi)	398.32	786.38	1155.96	1521.43	1891.01

The Ram Area of Jack = 1385.44 cm^2



Ref: CED/TFL/01/34590 Dated: 31-01-2020

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

Dated of Test: 03-02-2020

To
Manager – Geotech Division
Firm DECON International Private Limited
+600 kV HVDC Transmission Line Project from Matiari to Lahore-Pakistan

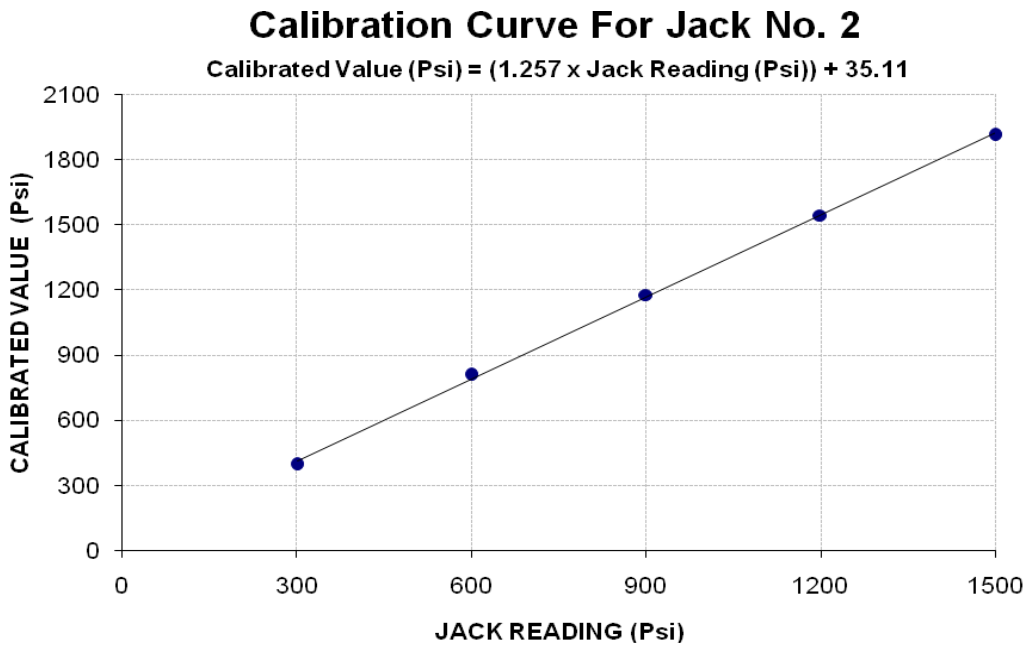
Subject: **- CALIBRATION OF HYDRAULIC JACK (MARK: TFL/01/34590)**
(Page No. 2/3)

Reference to your Letter No. FDIL-2075-Lab/009, dated: 31/01/2020 on the subject cited above. One Hydraulic No. 2 with Pressure Gauge No. C 1467 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 8500 (Psi)
Calibrated Range : Zero - 1500 (Psi)

Hydraulic Jack Reading (Psi)	300	600	900	1200	1500
Calibrated Load (kg)	38400	78600	114600	150400	186200
Calibrated Pressure (Psi)	394.22	806.91	1176.49	1544.01	1911.54

The Ram Area of Jack = 1385.44 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/01/34590 Dated: 31-01-2020

Dated of Test: 03-02-2020

To
Manager – Geotech Division
Firm DECON International Private Limited
+600 kV HVDC Transmission Line Project from Matiari to Lahore-Pakistan

Subject: **- CALIBRATION OF PRESSURE GAUGE (MARK: TFL/01/34590)**

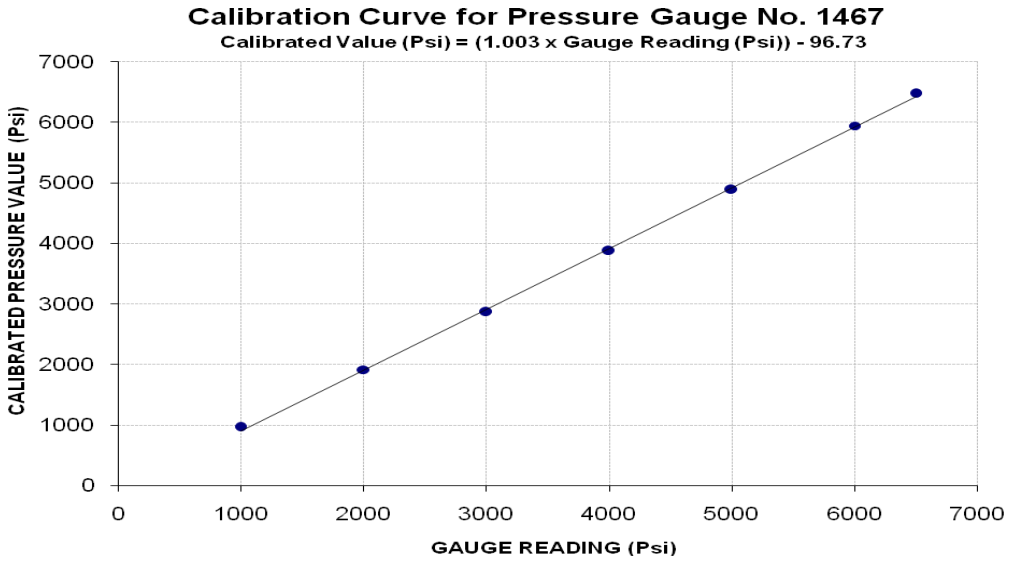
(Page No. 3/3)

Reference to your Letter No. FDIL-2075-Lab/009, dated: 31/01/2020b on the subject cited above. One Pressure Gauge No. C 1467 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 8500 (Psi)
Calibrated Range : Zero - 6000 (Psi)

Pressure Gauge Reading (Psi)	1000	2000	3000	4000	5000	6000
Calibrated Load (kg)	13400	26600	39900	53900	68000	82700
Calibrated Pressure (Psi)	962.57	1910.77	2866.15	3871.82	4884.67	5940.62

The Ram Area of Calibration = 198 cm^2



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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 Mina Construction Company
D.I. Khan
(M Khalid and Sons)

Reference # CED/TFL **34593** (Dr. M Rizwan Riaz) Dated: 31-01-2020
Reference of the request letter # RE/CPEC/DIK/2020/616 Dated: 31-01-2020

Tension Test Report (Page – 1/1)

Date of Test 03-02-2020
Gauge length -------
Description Tension Wire Tensile Test as per AASHTO M-181

Sr. No.	Diameter of Single Wire	Breaking Load		Remarks
	(mm)	(kN)	(kg)	
1	**3.20**	**8.20**	**836**	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	`-	`-	
Only One Sample for Test				

To,
Resident Engineer CPEC-Package-3

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

NESPAK
China – Pakistan Economic Corridor (CPEC), Western Route Hakla (on M1) – Yarak (D.I.Khan) Motorway, Package-3 (Tarap to Kot Belian)

Reference # CED/TFL **34598** (Dr. M Rizwan Riaz) Dated: 31-01-2020
Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/1364 Dated: 29-01-2020

Tension Test Report (Page – 1/2)

Date of Test 03-02-2020
Gauge length -------
Description Tension Wire, Chain Link Wire Fence & Binding Wire Tensile Test

Sr. No.	Diameter of Single Wire	Breaking Load	Remarks
	(mm)	(kN)	
1	**3.15**	**7.80**	**Tension Wire**
2	**3.20**	**4.53**	**Chain Link Wire**
3	**1.90**	**2.55**	**Binding Wire**
-	**-**	**-**	
-	**-**	**-**	
-	**-**	**-**	
-	**-**	**-**	
Only Three Samples 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

To,
Resident Engineer CPEC-Package-3
NESPAK
China – Pakistan Economic Corridor (CPEC), Western Route Hakla (on M1) – Yarak (D.I.Khan) Motorway, Package-3 (Tarap to Kot Belian)

Reference # CED/TFL **34598** (Dr. M Rizwan Riaz) Dated: 31-01-2020
Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/1364 Dated: 29-01-2020

Tension Test Report (Page – 2/2)

Date of Test 03-02-2020
Gauge length 2 inches
Description Steel Galvanized 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)	(mm^2)	(kN)	(kN)	(MPa)	(MPa)	(in)		
1	**5**	**19.50x6.00**	**117.00**	**40.00**	**55.70**	**341.88**	**476.07**	**0.50**	**25.00**	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only One Sample for Tensile Test										
Bend 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

To,
M/S Mudasar Hameed
Lahore
(Mughal Steel)

Reference # CED/TFL **34610** (Dr. Waseem Abbass) Dated: 04-02-2020
Reference of the request letter # Nil Dated: 04-02-2020

Tension Test Report (Page -1/1)

Date of Test 04-02-2020
Gauge length 8 inches
Description Deformed Steel Bar Tensile 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 (inch)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.366	3/8	0.370	0.11	0.108	3800	5100	76200	77910	102200	104600	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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