



STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
 Chief Material Engineer
 MM Pakistan (Pvt) Ltd
 Peshawar Sustainable Bus Rapid Transit Corridor Project Reach-III
 (Alcon)

Reference # CED/TFL **32348** (Dr. Usman Akmal)
 Reference of the request letter # MMP/BRT/PSH/17

Dated: 02-01-2019
 Dated: 29-12-2018

Tension Test Report (Page – 1/1)

Date of Test 08-01-2019
 Gauge length 2 inches
 Description Aluminium 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	Aluminium	25.80x2.00	51.60	10.06	11.37	194.96	220.35	0.25	12.50	
2		25.80x2.00	51.60	10.05	11.37	194.77	220.35	0.25	12.50	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

I/C Testing Laboratories
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,
 Chief Material Engineer
 MM Pakistan (Pvt) Ltd
 Peshawar Sustainable Bus Rapid Transit Project Reach-III
 (Ittehad Aluminium Industries)
 Reference # CED/TFL **32349** (Dr. Usman Akmal)
 Reference of the request letter # RE/MMP/RH-03/BRTFDA/21

Dated: 02-01-2019
 Dated: 30-12-2018

Tension Test Report (Page – 1/1)

Date of Test 08-01-2019
 Gauge length 2 inches
 Description Louver (Aluminium) 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	Louver (Aluminium)	19.70x1.50	29.55	4.08	4.60	138.07	155.67	0.20	10.00	
2		20.00x1.50	30.00	4.17	5.20	139.00	173.33	0.20	10.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
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To,
 Resident Engineer
 G3 Engineering Consultants (Pvt) Ltd
 Construction of RCC Bridge Kotli Tattapani Road AJK (By-Pass Slide Intervention) Package #
 AK-CW-11

Reference # CED/TFL **32372** (Dr. Waseem Abbas)
 Reference of the request letter # FERRP/G3/RE/40

Dated: 04-01-2019
 Dated: 03-01-2019

Tension Test Report (Page – 1/1)

Date of Test 08-01-2019
 Gauge length 640 mm
 Description Steel Strand Tensile Test as per ASTM A-416-94a

Sr. No.	Nominal Diameter	Nominal Weight	Measured weight	Yield strength clause (6.3)		Breaking strength clause (6.2)		Young's Modulus of Elasticity	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	E, GPa		
1	15.24 (0.6")	1102.0	1129.0	-----	-----	22300	218.76	-----	<3.50 Not ok	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only one sample for Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
Resident Engineer
RENARDET S.A ((M-4), Package-III A)
Construction Supervision of Four Lane Motorway from Faisalabad to Khanewal Project (M-4)
184 km, Package-3A Shorkot – Dinpur Section (31 km)(Nizami Wire)(M/s CGGC)

Reference # CED/TFL **32375** (Dr. Ali Ahmed)

Dated: 04-01-2019

Reference of the request letter # RSA/M-4/3A/2019/268

Dated: 04-01-2019

Tension Test Report (Page – 1/1)

Date of Test 08-01-2019

Gauge length -----

Description Chain Link Fence Wire Tensile Test as per AASHTO-M-181

Sr. No.	Diameter of Wire	Breaking Load		Remarks
	(mm)	(kg)	(kN)	
1	3.30	800	7.85	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
Only One Sample for Test				

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Test Floor Laboratory
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Pakistan. Ph: 92-42-99029202

To,
M/S ProMag (Pvt) Ltd
Site Office – DHA, Multan
Sector-A
(Amreli)

Reference # CED/TFL **32379** (Dr. Ali Ahmed)
Reference of the request letter # CRE/Sec-A/198

Dated: 07-01-2019
Dated: 05-01-2019

Tension Test Report (Page -1/1)

Date of Test 08-01-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		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	0.431	10	10.20	0.11	0.127	4000	5200	80200	69590	104200	90500	1.20	15.0	
2	0.428	10	10.17	0.11	0.126	4100	5400	82200	71780	108200	94600	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Department of Civil Engineering
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Pakistan. Ph: 92-42-99029202

To,
 Resident Engineer
 PEPAC
 Workers Welfare Complex (Phase-I) Adjacent to Sundar Industrial Estate,
 District Kasur

Reference # CED/TFL **32382** (Dr. Ali Ahmed) Dated: 07-01-2019
 Reference of the request letter # SI/PEPAC/Sundar/AB-97 Dated: 03-01-2019

Tension Test Report (Page -1/1)

Date of Test 08-01-2019
 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	0.388	3/8	0.381	0.11	0.114	3900	5100	78200	75360	102200	98600	1.00	12.5	
2	0.379	3/8	0.377	0.11	0.111	4000	5000	80200	79170	100200	99000	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples 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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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
 Dy. General Manager
 Izhar Concrete (Pvt) Ltd
 Lahore

Reference # CED/TFL **32385** (Dr. Ali Ahmed)
 Reference of the request letter # Nil

Dated: 07-01-2019
 Dated: 07-01-2019

Tension Test Report (Page -1/1)

Date of Test 08-01-2019
 Gauge length 2 inches
 Description Tor Steel Bar Tensile and Bend Test as per BS-4461

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	0.365	3/8	0.369	0.11	0.107	2700	3600	54100	55530	72200	74100	0.60	30.0	
2	0.377	3/8	0.376	0.11	0.111	2500	3500	50100	49760	70200	69700	0.60	30.0	
3	0.383	3/8	0.379	0.11	0.113	2900	4100	58200	56750	82200	80300	0.50	25.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only three samples 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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Test Floor Laboratory
Department of Civil Engineering
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Pakistan. Ph: 92-42-99029202

To,
M/S Pak Elektron Limited
Ferozpur Road, Lahore
(M/s Ali Traders – IGP No. 29403)

Reference # CED/TFL **32386** (Dr. Ali Ahmed)
Reference of the request letter # I & QC

Dated: 07-01-2019
Dated: 07-01-2019

Tension Test Report (Page – 1/1)

Date of Test 08-01-2019
Gauge length 2 inches
Description M.S Sheet 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)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	3	28.20x3.00	84.60	3200	4200	371.06	487.02	0.35	17.50	
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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 Mian Brothers Precast (Pvt) Ltd
8km- Shahkot Nankana Road, Teh: Shahkot

Reference # CED/TFL **32387** (Dr. Waseen Abbas)
Reference of the request letter # MBP/UET/19/505

Dated: 07-01-2019
Dated: 07-01-2019

Tension Test Report (Page -1/3)

Date of Test 08-01-2019
Gauge length 8 inches
Description Wire Tensile 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	0.151	5	4.96	-----	19.3	-----	1600	-----	813	0.3	3.8	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile test												
Bend Test												

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
M/S Mian Brothers Precast (Pvt) Ltd
8km- Shahkot Nankana Road, Teh: Shahkot

Reference # CED/TFL **32387** (Dr. Waseen Abbas)
Reference of the request letter # MBP/UET/19/505

Dated: 07-01-2019

Dated: 07-01-2019

Tension Test Report (Page – 2/3)

Date of Test 08-01-2019
Gauge length 640 mm
Description Steel Strand Tensile Test as per ASTM A-416-94a

Sr. No.	Nominal Diameter	Nominal Weight	Measured weight	Yield strength clause (6.3)		Breaking strength clause (6.2)		% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)		
1	9.53 (3/8")	432.0	456.0	10000	98.10	11300	110.85	>3.50	xx
2	11.11 (7/16")	582.0	585.0	13500	132.44	15000	147.15	>3.50	xx
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
Only two samples for Test									

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Test Floor Laboratory
Department of Civil Engineering
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Ref: CED/TFL/01/32387

Dated: 07-01-2019

To,
M/S Mian Brothers Precast (Pvt) Ltd
8km- Shahkot Nankana Road, Teh: Shahkot

Subject: - CALIBRATION OF DYNAMOMETER (MARK: TFL/01/32387)

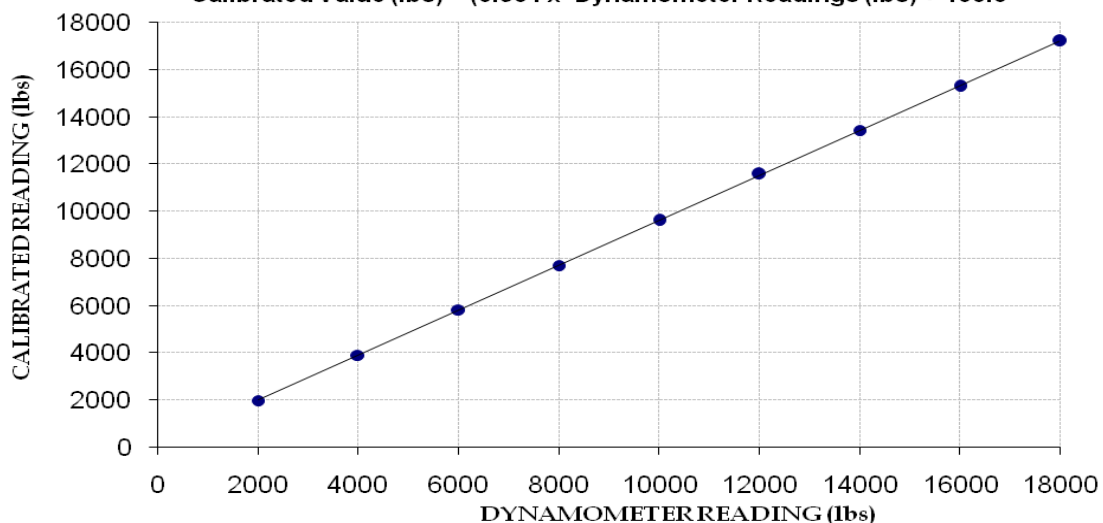
Ref: Your letter No. MBP/UET/19/506, dated: 07/01/2019 on the subject cited above.
One Dynamometer as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 20000 (lbs)
Calibrated Range : Zero - 18000 (lbs)

Dynamometer Readings (lbs)	2000	4000	6000	8000	10000	12000	14000	16000	18000	
Calibrated Readings	(N)	8850	17400	25925	34250	42725	51500	59750	68000	76600
	(lbs)	1989	3912	5828	7699	9605	11577	13432	15286	17220

Calibration Curve for Dynamometer

$$\text{Calibrated Value (lbs)} = (0.951 \times \text{Dynamometer Readings (lbs)}) + 105.5$$



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Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
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To,
Project Director
GEPCO Ltd Gujranwala

Reference # CED/TFL **32390** (Dr. Ali Ahmed)
Reference of the request letter # 60/EB

Dated: 08-01-2019

Dated: 04-01-2019

Yield Test Report (Page -1/2)

Date of Test 08-01-2019
Gauge length -----
Description Pin Yield Test

Sr. No.	Diameter / size	Reduced Dia	Reduced Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(inch)	(inch)	(in ²)	(kg)	(kg)	(Psi)	(Psi)	(inch)		
1	1.256	0.94	0.69	31500	-----	100644	-----	-----	-----	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile test										
-	-	-	-	-	-	-	-	-	-	
Bend Test										

Witness by Shahid Haider (PD. Constn. GEPCO)

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
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To,
Project Director
GEPCO Ltd Gujranwala

Reference # CED/TFL **32390** (Dr. Ali Ahmed)
Reference of the request letter # 60/EB

Dated: 08-01-2019

Dated: 04-01-2019

Yield Test Report (Page -2/2)

Date of Test 08-01-2019

Gauge length -----

Description Steel Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	-----	(inch)	(in ²)	(kg)	(kg)	(Psi)	(Psi)	(in)		
1	Steel Strip	1.06x0.19	0.202	6200	-----	67665	-----	----	-----	
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.	
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Only One Sample for Tensile Test										
Bend Test										

Witness by Shahid Haider (PD. Constn. GEPCO)

I/C Testing Laboratoires
UET Lahore, Pakistan.

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