



**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  
 RENARDET S.A ((M-4), Package-IIIB)  
 Construction of Faisalabad-Khanewal Motorway (M-4) Project, Package-III, Dinpur-Khanewal, Section 3B (Ishtiaq Steel)(M/s  
 Xinjiang Beixin Road & Bridge Group Co, Ltd)  
 Reference # CED/TFL **33521** (Dr. Waseem Abbas) Dated: 09-07-2019  
 Reference of the request letter # RE/M-4/3B/2019/462 Dated: 03-07-2019

**Tension Test Report** (Page – 1/1)

Date of Test 23-07-2019  
 Gauge length 2 inches  
 Description Steel Structure Steel Strip Tensile and Bend Test as per ASTM A36

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	I-Beam	25.30x7.90	199.87	7500	11700	368.11	574.26	0.70	35.00	
2		25.30x7.90	199.87	7700	11700	377.93	574.26	0.60	30.00	
3	Channel	25.00x6.50	162.50	6200	9400	374.29	567.47	0.70	35.00	
4		25.00x6.50	162.50	5700	8700	344.10	525.21	0.65	32.50	
5	Angle	25.10x5.20	130.52	5100	7000	383.32	526.13	0.70	35.00	
6		25.10x5.20	130.52	4900	6600	368.29	496.06	0.70	35.00	
7	Plate 20mm	25.10x19.10	479.41	12500	18200	255.78	372.42	0.90	45.00	
8		25.10x19.10	479.41	12700	18400	259.88	376.51	1.00	50.00	
9	Plate 10mm	25.40x9.80	248.92	7200	11700	283.75	461.10	0.80	40.00	
10		25.40x9.80	248.92	7500	11800	295.58	465.04	0.75	37.50	
11	Plate 5mm	25.00x6.20	155.00	4700	7000	297.46	443.03	0.70	35.00	
12		25.00x6.20	155.00	5100	7300	322.78	462.02	0.70	35.00	

**Only Twelve Samples for Tensile and Six Samples for Bend Test**

**Bend Test**

Strip Taken from Steel I-Beam Bend Test Through 180° is Satisfactory

Strip Taken from Steel Channel Bend Test Through 180° is Satisfactory

Strip Taken from Steel Angle Bend Test Through 180° is Satisfactory

Strip Taken from Steel Plate 20mm Bend Test Through 180° is Satisfactory

Strip Taken from Steel Plate 10mm Bend Test Through 180° is Satisfactory

Strip Taken from Steel Plate 5mm Bend Test Through 180° is Satisfactory

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

Note:

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To,  
 DCRE/RE-1  
 Zeeruk International (Pvt) Ltd  
 Lahore Sialkot Motorway Project

Reference # CED/TFL **33543** (Dr. Ali Ahmed)  
 Reference of the request letter # LSMP/RE-II/St/19/326

Dated: 12-07-2019  
 Dated: 26-06-2019

**Tension Test Report** (Page – 1/1)

Date of Test 23-07-2019  
 Gauge length 2 inches  
 Description Bridge Expansion Joint 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 <sup>2</sup> )	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	Bridge Expansion Joint Steel	35.50x7.80	276.90	9100	13300	322.39	471.19	0.80	40.00	
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<b>Only One Sample for Tensile Test</b>										
<b>Bend Test</b>										

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

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To,  
 DCRE/RE-1  
 Zeeruk International (Pvt) Ltd  
 Lahore Sialkot Motorway Project

Reference # CED/TFL **33546** (Dr. Ali Ahmed)  
 Reference of the request letter # LSMP/RE-1/2019/870

Dated: 12-07-2019  
 Dated: 19-06-2019

**Tension Test Report** (Page – 1/1)

Date of Test 23-07-2019  
 Gauge length 2 inches  
 Description Bearing Pad 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 <sup>2</sup> )	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	500x450	22.70x2.15	48.81	1500	2700	301.51	542.71	0.50	25.00	
2	500x400	14.70x2.15	31.61	1000	1500	310.39	465.59	0.70	35.00	
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<b>Only Two Samples for Tensile Test</b>										
<b>Bend Test</b>										

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

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To,  
 Resident Engineer  
 NESPAK

China – Pakistan Economic Corridor (CPEC), Western Route Hakla (on M1) – Yarak (D.I. Khan) Motorway, Package-3 (Trap to Kot Belian)(Lahore Fabrication & Engineering)

Reference # CED/TFL **33575** (Dr. Waseem Abbas)

Dated: 17-07-2019

Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/1058

Dated: 15-07-2019

**Tension Test Report** (Page – 1/1)

Date of Test 23-07-2019

Gauge length 2 inches

Description Steel Spacer Block & Steel Vertical Post Strip Tensile Test  
 as per AASHTOO A-180

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	Steel Spacer Block	2.89x0.63	1.82	4700	8100	2581.42	4448.84	0.70	35.00	
2		2.89x0.63	1.82	5700	8200	3130.66	4503.76	0.70	35.00	
3	Steel Vertical Post	2.87x0.64	1.84	6100	8200	3320.99	4464.29	0.50	25.00	
4		2.87x0.64	1.84	5800	8100	3157.67	4409.84	0.40	20.00	
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<b>Only Four Samples for Tensile Test</b>										
<b>Bend Test</b>										

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To,  
 Project Manager  
 GMHP Consultants  
 Gorkin-Matiltan Hydropower Project

Reference # CED/TFL **33605** (Dr. Ali Ahmed) Dated: 22-07-2019  
 Reference of the request letter # 3834-36/PM/(30)/GMHPP/2019 Dated: 08-07-2019

**Tension Test Report** (Page – 1/1)

Date of Test 23-07-2019  
 Gauge length 2 inches  
 Description Bearing Pad 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
1	Bearing Pad Steel Plate	16.40x3.00	49.20	2000	2800	398.78	558.29	0.40	20.00	
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<b>Only One Sample for Tensile Test</b>										
<b>Bend Test</b>										

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

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To,  
 Chief Resident Engineer, Package-1  
 NESPAK  
 Construction/ Improvement & Rehabilitation of at Grade Works along Lahore Orange Line  
 Metro Train Corridor Package-1 (Section-I) Pakistan Mint to Shalimar Chowk (Right Side)

Reference # CED/TFL **33608** (Dr. Waseem Abbas)  
 Reference of the request letter # 4042/13/FAM/steel-067

Dated: 22-07-2019  
 Dated: 17-07-2019

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

Date of Test 23-07-2019  
 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	0.379	3	0.377	0.11	0.111	3100	4800	62200	61370	96200	95100	1.40	17.5	Batala Steel
2	0.379	3	0.377	0.11	0.112	3000	4800	60200	59300	96200	94900	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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<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.**

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To,  
M/S Defence Housing Authority.  
Lahore Cantt  
(External Elec Works (U/G) IVY Green, Sector-Z, DHA Ph-VIII)(M/s NLC)

Reference # CED/TFL **33613** (Dr. Waseem Abbas)  
Reference of the request letter # 408/241/E/Lab/646/764

Dated: 22-07-2019  
Dated: 22-07-2019

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

Date of Test 23-07-2019  
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	0.375	3	0.374	0.11	0.110	3400	4700	68200	68060	94200	94100	1.30	16.3	FF Steel
2	0.382	3	0.378	0.11	0.112	3800	5100	76200	74680	102200	100300	1.00	12.5	
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<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**  
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To,  
 Planning & Control Engineer  
 Mukhtar Sons Construction (Pvt) Ltd  
 Packaging Solution Expansion Project (Phase-I), Lahore

Reference # CED/TFL **33614** (Dr. Waseem Abbas)  
 Reference of the request letter # Nil

Dated: 22-07-2019  
 Dated: 22-07-2019

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

Date of Test 23-07-2019  
 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	0.388	3	0.381	0.11	0.114	3400	5500	68200	65670	110200	106300	1.00	12.5	
2	0.387	3	0.381	0.11	0.114	3400	5600	68200	65830	112300	108500	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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<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**  
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To,  
 Production Manager  
 Afco Steel Industries  
 Lahore

Reference # CED/TFL **33615** (Dr. Ali Ahmed)  
 Reference of the request letter # Nil

Dated: 23-07-2019  
 Dated: 22-07-2019

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

Date of Test 23-07-2019  
 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 <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	0.409	10	9.94	0.12	0.120	-----	6600	-----	-----	121253	121100	1.10	13.8	
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<b>Note: only one sample for tensile test</b>														
Bend Test														

**I/C Testing Laboratoires**  
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To,  
M/S Defence Housing Authority.  
Lahore Cantt  
(Const of Mosque Sector-D, DHA Ph-VI)(M/s SCION)

Reference # CED/TFL **33619** (Dr. Ali Ahmed)  
Reference of the request letter # 408/241/E/Lab/651/458

Dated: 23-07-2019  
Dated: 23-07-2019

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

Date of Test 23-07-2019  
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	5500	70200	70870	110200	111400	1.20	15.0	Ittefaq
2	0.374	3	0.374	0.11	0.110	3400	5400	68200	68240	108200	108400	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile test</b>														
Bend Test														

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