



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
 NESPAK

China – Pakistan Economic Corridor (CPEC), Western Route HAKla (On M1) – Yark (D.I. Khan) Motorway, Package-3 (Tarap to Kot Belian)(M/s Pak-China SRCC)(Ishtiaq Steel Lahore)
 Reference # CED/TFL **33762** (Dr. Ali Ahmed) Dated: 30-08-2019
 Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/1143 Dated: 29-08-2019

Tension Test Report (Page – 1/4)

Date of Test 11-09-2019

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
	-----		(mm)		(mm ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	H-Beam	20			507.64	17800	24900	343.98	481.19	0.80	40.00	
2		20			511.56	17700	24800	339.43	475.58	0.70	35.00	
3	I- Beam	8			255.11	7500	12700	288.41	488.37	0.70	35.00	
4		8			255.11	7800	12800	299.94	492.21	0.70	35.00	
5	I- Beam	10			302.40	9000	14600	291.96	473.63	0.80	40.00	
6		10			302.40	9000	14600	291.96	473.63	0.80	40.00	
7	Angle	6.00			124.80	4100	7100	322.28	558.10	0.60	30.00	
8		6.00			125.28	4000	6800	313.22	532.47	0.50	25.00	
Only Eight Samples for Tensile and Four Samples for Bend Test												
Bend Test												
Strip Taken from Base Plate 20mm Bend Test Through 180° is Satisfactory												
Strip Taken from Cross Plate 8mm Bend Test Through 180° is Satisfactory												
Strip Taken from Stiffener Plate 10mm Bend Test Through 180° is Satisfactory												
Strip Taken from Channel 6mm Bend Test Through 180° is Satisfactory												
Strip Taken from Cross Angle 6.3mm Bend Test Through 180° is Satisfactory												

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Tension Test Report (Page – 1/4)

Date of Test 11-09-2019
 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
	-----		(mm)		(mm ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	Angle	40x40mm			507.64	17800	24900	343.98	481.19	0.80	40.00	
2		40x40mm			511.56	17700	24800	339.43	475.58	0.70	35.00	
3	C Channel	5"x2 ¹ / ₂ "			255.11	7500	12700	288.41	488.37	0.70	35.00	
4		5"x2 ¹ / ₂ "			255.11	7800	12800	299.94	492.21	0.70	35.00	
5	Base Plate	20mm			302.40	9000	14600	291.96	473.63	0.80	40.00	
6		20mm			302.40	9000	14600	291.96	473.63	0.80	40.00	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Only Six Samples for Tensile and Three Samples for Bend Test												
Bend Test												
Strip Taken from Angle 40x40mm Bend Test Through 180° is Satisfactory												
Strip Taken from C Channel 5"x2 ¹ / ₂ " Bend Test Through 180° is Satisfactory												
Strip Taken from Base Plate 20mm Bend Test Through 180° is Satisfactory												

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Khan) Motorway, Package-3 (Tarap to Kot Belian)(Ishtiaq Steel Lahore)

Reference # CED/TFL **32921** (Dr.Usman Akmal) Dated: 25-03-2019
Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/864 Dated: 23-03-2019

Weight & Size Test Report (Page – 2/4)

Date of Test 04-04-2019
Gauge length -----
Description Plate Weight and Size Test

Sr. No.	Designation		Weight	Length	Width	Weight per Unit Area	Thickness	Remark
	(mm)	(mm)						
1	Base Plate	20	6980	306.5	150.2	151.62	19.80	
2	Cross Plate	8	4153	305.6	177.6	76.52	9.80	
3	Stiffener Plate	10	3935	315.0	110.6	112.95	12.00	
-			-	-	-	-	-	
-			-	-	-	-	-	
-	-		-	-	-	-	-	
-	-		-	-	-	-	-	
-	-		-	-	-	-	-	
-	-		-	-	-	-	-	
Only Three Samples for Test								

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Weight & Size Test Report (Page – 3/4)

Date of Test 04-04-2019
Gauge length -----
Description Channel Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	Depth (d)	Flange Width (bf)	Flange Thickness (tf)	Web Thickness (tw)	Remark
	(mm)	(g)	(mm)	(kg/m)	mm	mm	mm	mm	
1	6.0	3251	310.50	10.47	125.20	64.90	11.80	4.50	
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
Only One Sample for Test									

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Weight & Size Test Report (Page – 4/4)

Date of Test 04-04-2019
Gauge length -----
Description Cross Angle Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	L-1	L-2	Thickness	Remark
	(mm)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	6.30	1014	297.0	3.41	38.40	39.60	6.30	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for Test								

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Tension Test Report (Page – 1/5)

Date of Test 11-09-2019

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
	-----		(mm)	(mm ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	H-Beam	6"x6"	23.40x10.30	241.02	9200	14400	374.46	586.11	0.70	35.00	
2		6"x6"	23.40x9.20	215.28	9200	12500	419.23	569.61	0.60	30.00	
3	I- Beam	14"x6"	30.10x12.20	367.22	12500	20300	333.93	542.30	0.70	35.00	
4		14"x6"	30.10x12.20	367.22	11800	20600	315.23	550.31	0.80	40.00	
5	I- Beam	16"x6"	30.20x12.10	365.42	11700	19400	314.10	520.81	0.80	40.00	
6		16"x6"	30.20x12.20	368.44	12000	19800	319.51	527.19	0.90	45.00	
7	Angle	50x50mm	23.20x6.10	141.52	5100	7600	353.53	526.82	0.70	35.00	
8		50x50mm	23.20x6.10	141.52	5100	8100	353.53	561.48	0.70	35.00	

Only Eight Samples for Tensile and Four Samples for Bend Test

Bend Test

Strip Taken from H-Beam 6"x6" Bend Test Through 180° is Satisfactory

Strip Taken from H-Beam 14"x6" Bend Test Through 180° is Satisfactory

Strip Taken from H-Beam 16"x6" Bend Test Through 180° is Satisfactory

Strip Taken from Angle 50x50mm Bend Test Through 180° is Satisfactory

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Tension Test Report (Page – 2/5)

Date of Test 11-09-2019
 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	Angle	40x40mm	15.00x6.20	93.00	3200	4700	337.55	495.77	0.65	32.50	
2		40x40mm	15.00x6.20	93.00	3100	4500	327.00	474.68	0.70	35.00	
3	C Channel	5"x2 ¹ / ₂ "	23.40x4.70	109.98	4300	6500	383.55	579.79	0.60	30.00	
4		5"x2 ¹ / ₂ "	23.40x5.00	117.00	4300	6500	360.54	545.00	0.60	30.00	
5	Base Plate	20mm	30.00x20.00	600.00	19000	27900	310.65	456.17	1.20	60.00	
6		20mm	30.00x20.00	600.00	19000	27900	310.65	456.17	1.10	55.00	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
Only Six Samples for Tensile and Three Samples for Bend Test											
Bend Test											
Strip Taken from Angle 40x40mm Bend Test Through 180° is Satisfactory											
Strip Taken from C Channel 5"x2 ¹ / ₂ " Bend Test Through 180° is Satisfactory											
Strip Taken from Base Plate 20mm Bend Test Through 180° is Satisfactory											

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Weight & Size Test Report (Page – 3/5)

Date of Test 11-09-2019
 Gauge length -----
 Description H-Beam, I-Beam & C Channel Weight and Size Test

Sr. No.	Designation		Weight	Length	Weight per Unit Length	Depth (d)	Flange Width (b _f)	Flange Thickness (t _f)	Web Thickness (t _w)	Remark
			(g)	(cm)	(kg/m)	mm	mm	mm	mm	
1	H-Beam	6"x6"	20100	62.30	32.26	152.40	152.00	10.10	8.30	
2	I- Beam	14"x6"	48200	62.00	77.74	359.00	153.00	19.80	12.40	
3	I- Beam	16"x6"	54000	62.50	86.40	402.00	153.00	22.40	13.00	
4	C Channel	5"x2 ¹ / ₂ "	6700	62.40	10.74	126.00	67.10	8.60	5.70	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Four Samples for Test										

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Weight & Size Test Report (Page – 3/5)

Date of Test 11-09-2019
Gauge length -----
Description MS Angle Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	L-1	L-2	Thickness	Remark
	(mm)	(g)	(cm)	(kg/m)	(mm)	(mm)	(mm)	
1	50x50	3000	64.10	4.68	50.80	50.70	6.40	
2	40x40	2200	63.60	3.46	40.00	39.70	6.20	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only Two Samples for Test								

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Weight & Size Test Report (Page – 5/5)

Date of Test 11-09-2019
Gauge length -----
Description Plate Weight and Size Test

Sr. No.	Designation	Weight	Length	Width	Weight per Unit Area	Thickness	Remark
	(mm)	(g)	(cm)	(cm)	(kg/m ²)	(mm)	
1	20	66000	65.30	65.50	154.31	20.10	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
Only One Sample for Test							

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To,
 Ali Akbar Sial
 Construction of Poultry Control Shed, Mandi Bahauddin

Reference # CED/TFL **33767** (Dr. Waseem Abbas)
 Reference of the request letter # Nil

Dated: 30-08-2019
 Dated: 30-08-2019

Tension Test Report (Page – 1/1)

Date of Test 11-09-2019
 Gauge length 2 inches
 Description Steel Girder Steel Strip Tensile 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
	(inch)	(mm)	(mm ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	6x3	23.40x3.70	86.58	3700	5300	419.23	600.52	0.60	30.00	
2	6x3	23.40x3.70	86.58	3500	5200	396.57	589.19	0.50	25.00	
3	4x8 ^{1/2}	23.30x4.75	110.68	4300	6600	381.14	585.01	0.60	30.00	
4	4x8 ^{1/2}	23.30x4.75	110.68	4400	6700	390.01	593.87	0.60	30.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Four Samples for Tensile Test										
Bend Test										

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To,
DCRE/RE-1
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project
(M/s Sheikh Farid & Co.)(M/s Hafiz Industries Lahore.)

Reference # CED/TFL **33794** (Dr. Waseem Abbas)
Reference of the request letter # LSMP/RE-1/2019/1048

Dated: 05-09-2019

Dated: 05-09-2019

Tension Test Report (Page – 1/1)

Date of Test 11-09-2019

Gauge length -----

Description Chain Link Wire & Tension Wire Tensile Test

Sr. No.	Diameter of Single Wire	Breaking Load		Remarks
	(mm)	(kg)	(kN)	
1	3.10	360	3.53	Chain Link Wire
2	3.10	280	2.75	
3	3.10	680	6.67	Tension Wire
4	3.10	640	6.28	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
Only Four Samples for Test				

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To,
 Senior Resident Engineer
 ProMag Pvt Ltd
 M/s Descon Engineering Ltd
 Lighting Poles Installation at DHA Multan
 (Mughal Steel)
 Reference # CED/TFL **33801** (Dr. Waseem Abbas)
 Reference of the request letter # CRE/Sec-A/313

Dated: 06-09-2019
 Dated: 05-09-2019

Tension Test Report (Page -1/1)

Date of Test 11-09-2019
 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 ²)		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	0.363	3	0.368	0.11	0.107	3300	4600	66200	68260	92200	95200	1.00	12.5	
2	0.361	3	0.368	0.11	0.106	3600	5000	72200	74680	100200	103800	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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

To,
 Project Manager
 CHCI Pvt Ltd
 Project of Deli-JW Glassware Company – Project at M3 Industrial Area, Sahianwala Faisalabad
 (City Steel)

Reference # CED/TFL **33805** (Dr. Waseem Abbas)
 Reference of the request letter # DELI-JW - HEAT# 15519

Dated: 06-09-2019
 Dated: 06-09-2019

Tension Test Report (Page -1/4)

Date of Test 11-09-2019
 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	0.379	9.5	9.56	0.110	0.111	3200	5000	64200	63340	100200	99000	1.10	13.8	
2	0.379	9.5	9.57	0.110	0.111	3000	4900	60200	59340	98200	97000	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
9.5mm Dia Bar Bend Test Through 180° is Satisfactory														

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Reference # CED/TFL **33805** (Dr. Waseem Abbas)
 Reference of the request letter # DELI-JW - HEAT# 15845

Dated: 06-09-2019
 Dated: 06-09-2019

Tension Test Report (Page -2/4)

Date of Test 11-09-2019
 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	0.378	9.5	9.55	0.110	0.111	3200	4900	64200	63470	98200	97200	1.20	15.0	
2	0.378	9.5	9.55	0.110	0.111	3100	4800	62200	61520	96200	95300	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
9.5mm Dia Bar Bend Test Through 180° is Satisfactory														

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Reference # CED/TFL **33805** (Dr. Waseem Abbas)
 Reference of the request letter # DELI-JW - HEAT# 15520

Dated: 06-09-2019
 Dated: 06-09-2019

Tension Test Report (Page -3/4)

Date of Test 11-09-2019
 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	0.330	9.5	8.93	0.110	0.097	2600	4200	52100	59020	84200	95400	1.00	12.5	
2	0.335	9.5	8.99	0.110	0.098	2500	4200	50100	56000	84200	94100	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
9.5mm Dia Bar Bend Test Through 180° is Satisfactory														

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Reference # CED/TFL **33805** (Dr. Waseem Abbas)
 Reference of the request letter # DELI-JW - HEAT# 15521

Dated: 06-09-2019
 Dated: 06-09-2019

Tension Test Report (Page -4/4)

Date of Test 11-09-2019
 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	0.377	9.5	9.54	0.110	0.111	3100	5000	62200	61720	100200	99600	1.20	15.0	
2	0.379	9.5	9.57	0.110	0.111	3100	4900	62200	61300	98200	96900	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
9.5mm Dia Bar Bend Test Through 180° is Satisfactory														

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