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 CSCEC Pakistan Peshawar–Karachi Motorway
(Sukkur–Multan Section) Project

Reference # CED/TFL **33157** (Dr.M Rizwan Riaz) Dated: 29-04-2019
Reference of the request letter # CSCEC/PKM/SEC-1/ITS-1/2019/02 Dated: 29-04-2019

Tension Test Report (Page – 1/1)

Date of Test 06-05-2019
Gauge length 2 inches
Description Vertical Steel Post, Spacer Block & Metal Beam Guard Rail 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
	------	(cm)	(cm^2)	(kg)	(kg)	(kg/cm^2)	(kg/cm^2)	(in)		
1	Post	2.35x0.72	1.69	5300	7200	3132.39	4255.32	0.70	35.00	
2		2.34x0.72	1.68	5600	7400	3323.84	4392.21	0.70	35.00	
3	Spacer	2.32x0.71	1.65	5800	8100	3521.13	4917.44	0.60	30.00	
4		2.30x0.71	1.63	5600	7800	3429.27	4776.48	0.60	30.00	
5	Guard Rail	2.34x0.29	0.68	2600	3400	3831.42	5010.32	0.50	25.00	
6		2.35x0.29	0.68	2400	3500	3521.64	5135.73	0.50	25.00	
Only Six Samples 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

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) – Yarak (D.I. Khan) Motorway, Package-3 (Tarap to Kot Belian)

Reference # CED/TFL **33173** (Dr. M Rizwan Riaz) Dated: 03-05-2019
Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/938 Dated: 02-05-2019

Tension Test Report (Page – 1/1)

Date of Test 06-05-2019
Gauge length 2 inches
Description W-Shape Beam Guardrail Strip Tensile Test as per AASHTOO M-180

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	**W-Shape Beam Guardrail**	**2.32x0.29**	**0.67**	**1500**	**2600**	**2229.49**	**3864.45**	**0.45**	**22.50**	
2		**2.32x0.29**	**0.67**	**1600**	**2750**	**2378.12**	**4087.40**	**0.50**	**25.00**	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
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
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) – Yarak (D.I. Khan) Motorway, Package-3 (Tarap to Kot Belian)

Reference # CED/TFL **33173** (Dr. M Rizwan Riaz) Dated: 03-05-2019
Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/938 Dated: 02-05-2019

Tension Test Report (Page – 1/1)

Date of Test 06-05-2019
Gauge length 2 inches
Description W-Shape Beam Guardrail Strip Tensile Test as per AASHTOO M-180

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	**W-Shape Beam Guardrail**	**2.32x0.29**	**0.67**	**1500**	**2600**	**2229.49**	**3864.45**	**0.45**	**22.50**	
2		**2.32x0.29**	**0.67**	**1600**	**2750**	**2378.12**	**4087.40**	**0.50**	**25.00**	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
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
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Resident Engineer
SMEC International Pty Ltd (Jv)
PNHRP Package-6, Taunsa, D.G Khan

Reference # CED/TFL **33174** (Dr. M Rizwan Riaz) Dated: 03-05-2019
Reference of the request letter # RE/PNHRP(P-6)/446 Dated: 29-04-2019

Tension Test Report (Page – 1/1)

Date of Test 06-05-2019
Gauge length 2 inches
Description Metal Beam Guardrail Strip Tensile and Bend Test as per AASHTOO M-180

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	**Metal Beam Guardrail**	**2.34x0.28**	**0.66**	**2500**	**3600**	**3815.63**	**5494.51**	**0.50**	**25.00**	
2		**2.34x0.28**	**0.66**	**2900**	**3600**	**4426.13**	**5494.51**	**0.50**	**25.00**	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile and Two Samples for Bend Test										

Bend Test

Strip Taken from Metal Beam Guardrail Bend Test Through 180º is Satisfactory

Strip Taken from Metal Beam Guardrail 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,
Executive Engineer/DOT
For Project Director/DOT
Pakistan Railways
Construction of 04No. Class-III Staff Quarter (BPS-11) on East Side of Quarter No. 136 at Sahiwal in Connection with Doubleing of Track on KWL-RND Section
Reference # CED/TFL **33176** (Dr. M Rizwan Riaz) Dated: 03-05-2019
Reference of the request letter # 211-W/301-E/DOT/KWL-RND Dated: 02-04-2019

Tension Test Report (Page -1/1)

Date of Test 06-05-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		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	0.347	3/8	0.361	0.11	0.102	2800	5000	56200	60440	100200	108000	0.80	10.0	
2	0.344	3/8	0.359	0.11	0.101	2800	4900	56200	60980	98200	106800	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" 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,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works at Sector-R, Pkg-1, DHA Ph-IX)(M/s DHA-C Coy)

Reference # CED/TFL **33177** (Dr. M Rizwan Riaz) Dated: 03-05-2019
Reference of the request letter # 408/241/E/Lab/549/4279 Dated: 02-05-2019

Tension Test Report (Page -1/1)

Date of Test 06-05-2019
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	0.370	3	0.372	0.11	0.109	3000	5000	60200	60830	100200	101400	1.20	15.0	Saeed Kasur
2	0.371	3	0.373	0.11	0.109	3200	5000	64200	64670	100200	101100	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: only two samples for tensile and one sample for bend test

Bend Test

#3 Bar Bend Test Through 180º 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,
Manager Civil Works
Nishat Mills Limited Lahore
Nishat Mills Power Plant Extension Lahore
(Afco Steel)

Reference # CED/TFL **33178** (Dr. M Rizwan Riaz) Dated: 03-05-2019
Reference of the request letter # NDF/CHP/ST/001 Dated: 02-05-2019

Tension Test Report (Page -1/1)

Date of Test 06-05-2019
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	0.434	10	10.23	0.11	0.127	4200	5400	84200	72640	108200	93400	1.10	13.8	
2	0.420	10	10.07	0.11	0.124	4600	5800	92200	82050	116300	103500	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180º 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-Civil
Kohinoor Textile Mills Limited
Construction of Admin Block, Al-Aleem Medical Coolege, Gulab Devi Chest Hospital Lahore

Reference # CED/TFL **33179** (Dr. M Rizwan Riaz) Dated: 03-05-2019
Reference of the request letter # Nil Dated: 03-05-2019

Tension Test Report (Page -1/1)

Date of Test 06-05-2019
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	0.368	3	0.371	0.11	0.108	2400	3600	48100	48910	72200	73400	1.20	15.0	
2	0.372	3	0.373	0.11	0.109	2500	3700	50100	50340	74200	74600	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION

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

To,
M/S Defence Housing Authority.
Lahore Cantt
(Const. of Mosque at Sector-S, DHA Ph-VIII)(M/s Innovative)

Reference # CED/TFL **33180** (Dr. M Rizwan Riaz) Dated: 03-05-2019
Reference of the request letter # 408/241/E/Lab/555 Dated: 03-05-2019

Tension Test Report (Page -1/1)

Date of Test 06-05-2019
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	0.352	3	0.363	0.11	0.104	3200	4500	64200	68090	90200	95800	1.20	15.0	Kamran Steel
2	0.355	3	0.364	0.11	0.104	3100	4600	62200	65560	92200	97300	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: only two samples for tensile and one sample for bend test

Bend Test

#3 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,
General Manager Projects
A.S Enterprises
(Style Textile Mills)(AA Associates)(Afco)

Reference # CED/TFL **33181** (Dr. M Rizwan Riaz) Dated: 03-05-2019
Reference of the request letter # USA/ASE/03 Dated: 03-05-2019

Tension Test Report (Page -1/1)

Date of Test 06-05-2019
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	0.410	10	9.95	0.11	0.121	4200	5400	84200	76750	108200	98700	0.90	11.3	
2	0.425	10	10.13	0.11	0.125	4100	5400	82200	72400	108200	95400	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
10mm 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,
M/S Defence Housing Authority.
Lahore Cantt
(Const of Mosque Sector-T, DHA Ph-VIII)(M/s Siddique Sons)

Reference # CED/TFL **33182** (Dr. M Rizwan Riaz) Dated: 06-05-2019
Reference of the request letter # 408/241/E/Lab/554/14 Dated: 03-05-2019

Tension Test Report (Page -1/1)

Date of Test 06-05-2019
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	0.368	3	0.371	0.11	0.108	3700	4900	74200	75330	98200	99800	1.00	12.5	FF Steel
2	0.368	3	0.371	0.11	0.108	3500	5000	70200	71360	100200	102000	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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