



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
EA Consulting (Pvt) Ltd
Sukkur – Multan Motorway Project
Section – III (IIL Karachi)

Reference # CED/TFL **32534** (Dr. Ali Ahmed)
Reference of the request letter # CRE/EA/M.P-III/302 -2019

Dated: 30-01-2019
Dated: 28-01-2019

Tension Test Report (Page – 1/12)

Date of Test 11-02-2019
Gauge length 2 inches
Description Fire Pipes (GI) Steel Strip Tensile Test as per ASTM A53

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	25	25.20x3.00	75.60	2900	3400	376.31	441.19	0.40	20.00	
2		25.00x3.00	75.00	2950	3500	385.86	457.80	0.40	20.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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Section – III (IIL Karachi)

Reference # CED/TFL **32534** (Dr. Ali Ahmed)
Reference of the request letter # CRE/EA/M.P-III/302 -2019

Dated: 30-01-2019
Dated: 28-01-2019

Seamless/Flattening Test Report (Page – 2/12)

Date of Test 11-02-2019
Description Fire Pipe (GI) Seamless Test as per ASTM A 106

Sr. No.	Designation	Test Type	Observation/Results
1	25mm	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
Only One Sample for Test			

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Reference # CED/TFL **32534** (Dr. Ali Ahmed)
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Dated: 30-01-2019
Dated: 28-01-2019

Weight & Size Test Report (Page – 3/12)

Date of Test 11-02-2019
Gauge length -----
Description Fire Pipe (GI) Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Wall Thickness	Remark
	(mm)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	25	134	59.25	2.26	33.65	27.65	3.00	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for Test								

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Reference # CED/TFL **32534** (Dr. Ali Ahmed)
Reference of the request letter # CRE/EA/M.P-III/294 -2019

Dated: 30-01-2019
Dated: 28-01-2019

Tension Test Report (Page – 1/12)

Date of Test 11-02-2019
Gauge length 2 inches
Description Fire Pipes (GI) Steel Strip Tensile Test as per ASTM A53

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	65	25.10x3.60	90.36	2900	3450	314.84	374.55	0.60	30.00	
2		25.10x3.60	90.36	2850	3450	309.41	374.55	0.60	30.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

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Reference of the request letter # CRE/EA/M.P-III/294 -2019

Dated: 30-01-2019
Dated: 28-01-2019

Seamless/Flattening Test Report (Page – 5/12)

Date of Test 11-02-2019
Description Fire Pipe (GI) Seamless Test as per ASTM A 106

Sr. No.	Designation	Test Type	Observation/Results
1	65mm	Ductility	Crack was observed
		Soundness	Evidence of lamination noticed
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
Only One Sample for Test			

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Reference of the request letter # CRE/EA/M.P-III/294 -2019

Dated: 30-01-2019
Dated: 28-01-2019

Weight & Size Test Report (Page – 6/12)

Date of Test 11-02-2019
Gauge length -----
Description Fire Pipe (GI) Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Wall Thickness	Remark
	(mm)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	65	381	59.90	6.36	75.70	68.50	3.60	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for Test								

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Dated: 30-01-2019
 Dated: 28-01-2019

Tension Test Report (Page – 7/12)

Date of Test 11-02-2019
 Gauge length 2 inches
 Description Fire Pipes (GI) Steel Strip Tensile Test as per ASTM A53

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	80	25.10x4.20	105.42	4700	5300	437.36	493.20	0.30	15.00	
2		25.00x4.20	105.00	4800	5300	448.46	495.17	0.30	15.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

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Dated: 30-01-2019
Dated: 28-01-2019

Seamless/Flattening Test Report (Page – 8/12)

Date of Test 11-02-2019
Description Fire Pipe (GI) Seamless Test as per ASTM A 106

Sr. No.	Designation	Test Type	Observation/Results
1	80mm	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
Only One Sample for Test			

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Dated: 30-01-2019
Dated: 28-01-2019

Weight & Size Test Report (Page – 3/12)

Date of Test 11-02-2019
Gauge length -----
Description Fire Pipe (GI) Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Wall Thickness	Remark
	(mm)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	80	529	60.10	8.80	89.80	81.40	4.20	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for Test								

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Dated: 30-01-2019
Dated: 28-01-2019

Tension Test Report (Page – 10/12)

Date of Test 11-02-2019
Gauge length 2 inches
Description Fire Pipes (GI) Steel Strip Tensile Test as per ASTM A53

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	100	25.20x4.75	119.70	3350	3700	274.55	303.23	0.90	45.00	
2		25.00x4.75	118.75	3400	3850	280.88	318.05	0.80	40.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

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Dated: 30-01-2019
Dated: 28-01-2019

Seamless/Flattening Test Report (Page – 12/12)

Date of Test 11-02-2019
Description Fire Pipe (GI) Seamless Test as per ASTM A 106

Sr. No.	Designation	Test Type	Observation/Results
1	100mm	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
Only One Sample for Test			

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Dated: 30-01-2019
Dated: 28-01-2019

Weight & Size Test Report (Page – 12/12)

Date of Test 11-02-2019
Gauge length -----
Description Fire Pipe (GI) Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Wall Thickness	Remark
	(mm)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	100	784	60.10	13.04	113.70	104.2	4.75	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for Test								

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Reference # CED/TFL **32535** (Dr. Ali Ahmed)
 Reference of the request letter # CRE/EA/M.P-III/286 -2019

Dated: 30-01-2019
 Dated: 28-01-2019

Tension Test Report (Page – 1/9)

Date of Test 11-02-2019
 Gauge length 2 inches
 Description Fire Pipes (GI) Steel Strip Tensile Test as per ASTM A53

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	150	26.40x4.70	124.08	4900	6900	387.40	545.53	0.60	30.00	
2		26.40x4.70	124.08	4800	6900	379.50	545.53	0.45	22.50	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

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Dated: 30-01-2019
Dated: 28-01-2019

Seamless/Flattening Test Report (Page – 2/9)

Date of Test 12-02-2019
Description Fire Pipe (GI) Seamless Test as per ASTM A 106

Sr. No.	Designation	Test Type	Observation/Results
1	150mm	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
Only One Sample for Test			

I/C Testing Laboratories
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Dated: 30-01-2019
Dated: 28-01-2019

Weight & Size Test Report (Page – 3/9)

Date of Test 12-02-2019
Gauge length -----
Description Fire Pipe (GI) Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Wall Thickness	Remark
	(mm)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	150	1124	59.80	18.80	164.80	155.40	4.70	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for Test								

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Dated: 30-01-2019
Dated: 28-01-2019

Tension Test Report (Page – 4/9)

Date of Test 11-02-2019
Gauge length 2 inches
Description Fire Pipes (GI) Steel Strip Tensile Test as per ASTM A53

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	200	26.60x6.10	162.26	5400	5800	326.48	350.66	0.80	40.00	
2		26.40x6.10	161.04	5100	5700	310.67	347.22	0.90	45.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

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- 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
EA Consulting (Pvt) Ltd
Sukkur – Multan Motorway Project
Section – III (IIL Karachi)

Reference # CED/TFL **32535** (Dr. Ali Ahmed)
Reference of the request letter # CRE/EA/M.P-III/301 -2019

Dated: 30-01-2019
Dated: 28-01-2019

Seamless/Flattening Test Report (Page – 5/9)

Date of Test 12-02-2019
Description Fire Pipe (GI) Seamless Test as per ASTM A 106

Sr. No.	Designation	Test Type	Observation/Results
1	200mm	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
Only One Sample for Test			

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,
Resident Engineer
EA Consulting (Pvt) Ltd
Sukkur – Multan Motorway Project
Section – III (IIL Karachi)

Reference # CED/TFL **32535** (Dr. Ali Ahmed)
Reference of the request letter # CRE/EA/M.P-III/301 -2019

Dated: 30-01-2019

Dated: 28-01-2019

Weight & Size Test Report (Page – 6/9)

Date of Test 12-02-2019

Gauge length -----

Description Fire Pipe (GI) Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Wall Thickness	Remark
	(mm)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	200	1963	60.15	32.64	220.00	207.80	6.10	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for 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,
Resident Engineer
EA Consulting (Pvt) Ltd
Sukkur – Multan Motorway Project
Section – III (IIL Karachi)

Reference # CED/TFL **32535** (Dr. Ali Ahmed)
Reference of the request letter # CRE/EA/M.P-III/300 -2019

Dated: 30-01-2019
Dated: 28-01-2019

Tension Test Report (Page – 7/9)

Date of Test 11-02-2019
Gauge length 2 inches
Description Fire Pipes (Black) Steel Strip Tensile Test as per ASTM A53

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	250	26.40x6.00	158.40	6700	7400	414.94	458.30	0.60	30.00	
2		26.50x6.00	159.00	6600	7500	407.21	462.74	0.70	35.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

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,
Resident Engineer
EA Consulting (Pvt) Ltd
Sukkur – Multan Motorway Project
Section – III (IIL Karachi)

Reference # CED/TFL **32535** (Dr. Ali Ahmed)
Reference of the request letter # CRE/EA/M.P-III/300 -2019

Dated: 30-01-2019
Dated: 28-01-2019

Seamless/Flattening Test Report (Page – 8/9)

Date of Test 12-02-2019
Description Fire Pipe (Black) Seamless Test as per ASTM A 106

Sr. No.	Designation	Test Type	Observation/Results
1	250mm	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
Only One Sample for 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,
Resident Engineer
EA Consulting (Pvt) Ltd
Sukkur – Multan Motorway Project
Section – III (IIL Karachi)

Reference # CED/TFL **32535** (Dr. Ali Ahmed)
Reference of the request letter # CRE/EA/M.P-III/300 -2019

Dated: 30-01-2019
Dated: 28-01-2019

Weight & Size Test Report (Page – 9/9)

Date of Test 12-02-2019
Gauge length -----
Description Fire Pipe (Black) Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Wall Thickness	Remark
	(mm)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	250	2402	60.1	39.97	273.80	261.80	6.00	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for 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,
M/S Namco Associates (Pvt) Ltd
Model Town, Lahore
(Manufacturing of PCC Poles at Jhang Pole Plant)

Reference # CED/TFL **32579** (Dr. Ali Ahmed)
Reference of the request letter # NAMCO/UET/19/10

Dated: 06-02-2019
Dated: 31-01-2019

Tension Test Report (Page – 1/1)

Date of Test 11-02-2019
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	449.0	10600	103.99	11100	108.89	>3.50	xx
2	9.53 (3/8")	432.0	444.0	10400	102.02	11400	111.83	>3.50	xx
3	11.11 (7/16")	582.0	604.0	13300	130.47	14700	144.21	>3.50	xx
4	11.11 (7/16")	582.0	604.0	13100	128.51	14700	144.20	>3.50	xx
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-

Only four samples for Test

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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- 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,
M/S Amin Brothers Engineers Pak (Pvt) Ltd
Gulberg-III, Lahore
(Manufacturing of PCC Poles at Jhang Pole Plant)

Reference # CED/TFL **32580** (Dr. Ali Ahmed)
Reference of the request letter # AMIN/UET/19/15

Dated: 06-02-2019
Dated: 31-01-2019

Tension Test Report (Page – 1/1)

Date of Test 11-02-2019
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	441.0	10300	101.04	11300	110.85	>3.50	xx
2	9.53 (3/8")	432.0	444.0	10200	100.06	11400	111.83	>3.50	xx
3	11.11 (7/16")	582.0	601.0	13500	132.44	15000	147.15	>3.50	xx
4	11.11 (7/16")	582.0	600.0	13400	131.45	14700	144.21	>3.50	xx
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-

Only four 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,
M/S Engineering Associated Precast (Pvt) Ltd
Lahore Sheikhpura Road

Reference # CED/TFL **32589** (Dr. Qasim Khan)
Reference of the request letter # EAP/UET/2019-

Dated: 07-02-2019

Dated: 07-02-2019

Tension Test Report (Page -1/2)

Date of Test 11-02-2018
Gauge length 8 inches
Description MS 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	0.166	5	5.18	-----	21.1	900	1500	419	698	0.3	3.8	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile test												
Bend Test												

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,
M/S Engineering Associated Precast (Pvt) Ltd
Lahore Sheikhpura Road

Reference # CED/TFL **32589** (Dr. Qasim Khan)
Reference of the request letter # EAP/UET/2019-

Dated: 07-02-2019

Dated: 07-02-2019

Tension Test Report (Page – 2/2)

Date of Test 11-02-2019
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	448.0	9900	97.12	10900	106.93	>3.50	xx
2	11.11 (7/16")	582.0	592.0	13200	129.49	14500	142.25	>3.50	xx
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
Only two 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
NESPAK
Dualization of Naguman Shabqadar Section of Provincial High Way S-1A, District Charsadda
(13-km) Including 2-Bridges Package-2

Reference # CED/TFL **32592** (Dr. Ali Ahmed)
Reference of the request letter # 3858/022/SIJ/strand/279

Dated: 08-02-2019
Dated: 07-01-2019

Tension Test Report (Page – 1/2)

Date of Test 11-02-2019
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 "E"	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	GPa		
1	12.70 (1/2")	775.0	782.0	18000	176.58	20000	196.20	199	>3.50	20249
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only one sample for Test										

Note:

1. Modulus of Elasticity is based on nominal steel area of the steel strand vide clause 13.3 of ASTM – A416a
2. Load versus percentage strain graphs are attached

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

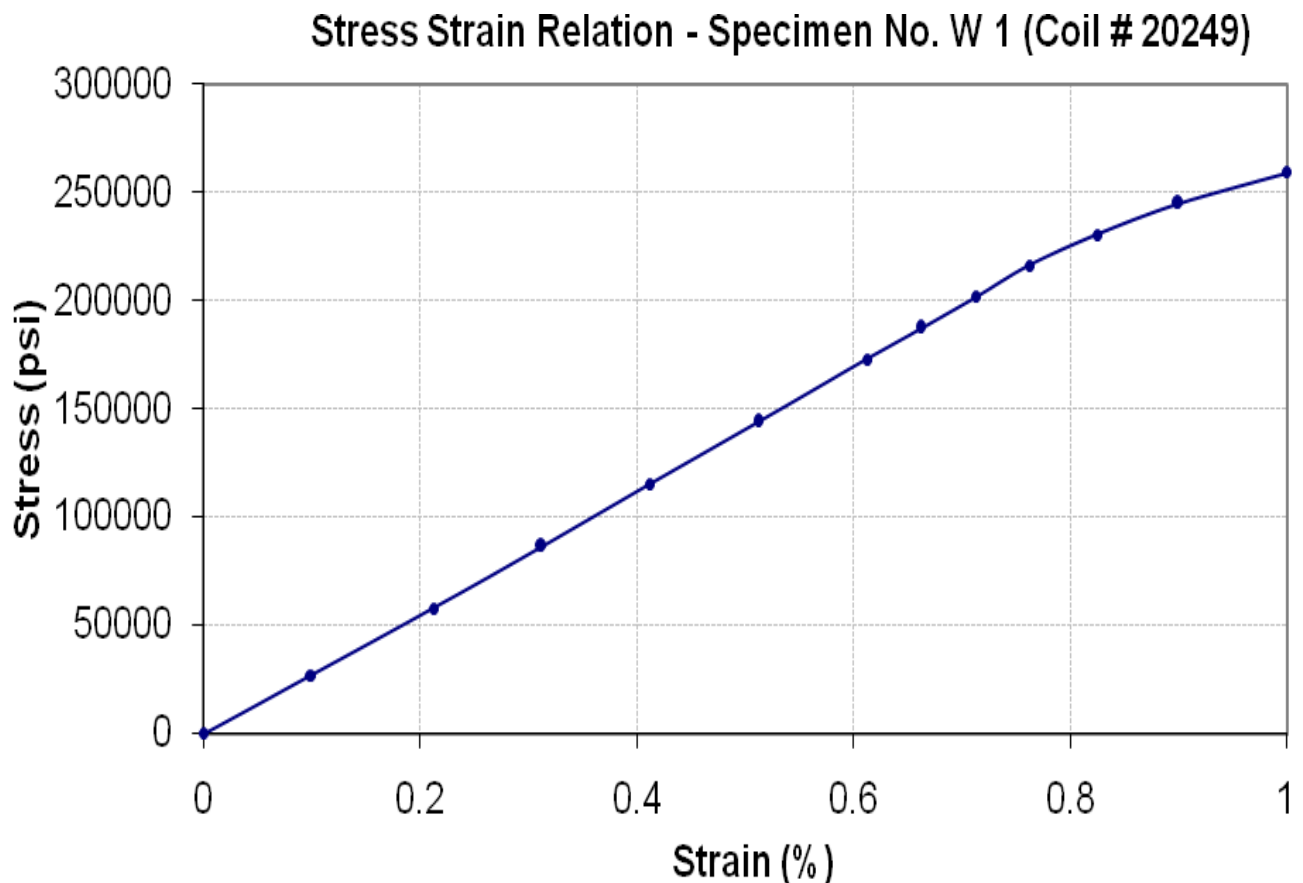
To,
Resident Engineer
NESPAK
Dualization of Naguman Shabqadar Section of Provincial High Way S-1A, District Charsadda
(13-km) Including 2-Bridges Package-2

Reference # CED/TFL **32592** (Dr. Ali Ahmed)
Reference of the request letter # 3858/022/SIJ/strand/279

Dated: 08-02-2019

Dated: 07-01-2019

Graph (Page – 2/2)



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,
 ALPHA HARDWARE
 Lahore

Reference # CED/TFL **32597** (Dr. Qasim)
 Reference of the request letter # NIL

Dated: 08-02-2019
 Dated: 08-02-2019

Tension Test Report (Page -1/1)

Date of Test 11-02-2019
 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 (inch)	Actual (inch)	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.437	3/8	0.404	0.11	0.129	4100	5500	82200	70320	110200	94400	1.10	13.8	
2	0.444	3/8	0.408	0.11	0.130	5100	6200	102200	86170	124300	104800	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: 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,
 Commanding Officer
 10 Engineers Battalion
 FWO Camp Kartarpur
 Bridge over Rivar Ravi at Kartar Pur

Reference # CED/TFL **32665** (Dr. Usman Akmal)
 Reference of the request letter # 607/Proj/DKC/05

Dated: 20-02-2019
 Dated: 19-02-2019

Tension Test Report (Page – 1/2)

Date of Test 21-02-2019
 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	1123.0	25900	254.08	28100	275.66	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only one sample for Test										

Note:

1. Modulus of Elasticity is based on nominal steel area of the steel strand vide clause 13.3 of ASTM – A416a
2. Load versus percentage strain graphs are attached

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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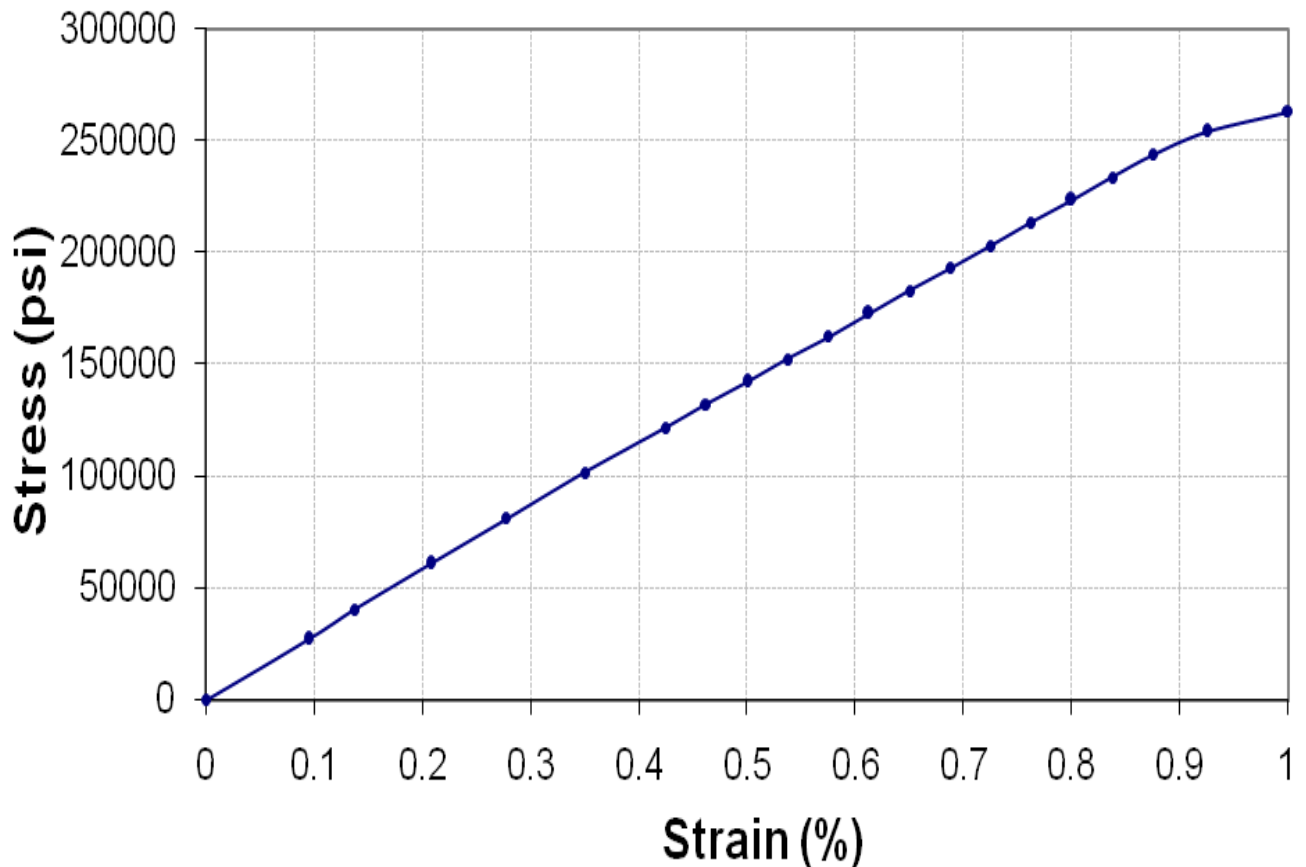
To,
Commanding Officer
10 Engineers Battalion
FWO Camp Kartarpur
Bridge over Rivar Ravi at Kartar Pur

Reference # CED/TFL **32665** (Dr. Usman Akmal)
Reference of the request letter # 607/Proj/DKC/05

Dated: 20-02-2019
Dated: 19-02-2019

Graph (Page – 2/2)

Stress Strain Relation -- Specimen No. W 1



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,
 Resident Engineer
 Amad Anwar & Partners (Construction Of Business Hub on Commercial Broadway Ph-VIII
 Lahore

Reference # CED/TFL **32605** (Dr. Qasim) Dated: 11-02-2019
 Reference of the request letter #410/3/Business Hub/Ph-VIII/M&F Dated: 11-02-2019

Tension Test Report (Page -1/1)

Date of Test 11-02-2019
 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	0.385	3	0.380	0.11	0.113	3400	4700	68200	66150	94200	91500	1.50	18.8	
2	0.388	3	0.381	0.11	0.114	3500	4800	70200	67600	96200	92700	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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:

- 1- You can See your reports On Internet in the following web site
http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples