



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

To,  
 Deputy Director (QCD)  
 WASA, LDA, Lahore  
 (Manufacturing of R.C.C Manhole Covers in Different Sizes)(M/s Eagle RCC Pipe Industry)

Reference # CED/TFL **34987** (Dr. Qasim Khan)  
 Reference of the request letter # QCD/1637-38

Dated: 16-06-2020  
 Dated: 15-06-2020

**Tension Test Report** (Page – 1/2)

Date of Test 24-06-2020  
 Gauge length 2 inches  
 Description Angle Iron Strip Tensile and Bend Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(inch)	(mm)	(mm <sup>2</sup> )	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	2x2x1/4	22.40x6.10	136.64	5700	8000	409.23	574.36	0.90	45.00	
2		22.40x6.10	136.64	5200	7900	373.33	567.18	0.80	40.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
<b>Only Two Samples for Tensile and One sample for Bend Test</b>										
<b>Bend Test</b>										
Strip Taken from Angle Iron (2"x2"x1/4") 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  
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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



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To,  
Deputy Director (QCD)  
WASA, LDA, Lahore  
(Manufacturing of R.C.C Manhole Covers in Different Sizes)(M/s Eagle RCC Pipe Industry)

Reference # CED/TFL **34987** (Dr. Qasim Khan)  
Reference of the request letter # QCD/1637-38

Dated: 16-06-2020  
Dated: 15-06-2020

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

Date of Test 24-06-2020  
Gauge length -----  
Description Angle Iron Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	L-1	L-2	Thickness	Remark
	(inch)	(g)	(cm)	(kg/m)	(mm)	(mm)	(mm)	
1	2x2x1/4	3136	60.10	5.22	51.25	51.70	6.10	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
<b>Only One Sample for Test</b>								

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

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To,  
 Resident Engineer  
 Cadet College / Public School Complex  
 Construction of Boundary Wall of Cadet College Fort Munro DG Khan

Reference # CED/TFL **35024** (Dr. Qasim Khan)  
 Reference of the request letter # SF(PAF)/RE/FM/01/2020

Dated: 22-06-2020  
 Dated: 20-06-2020

**Tension Test Report** (Page -1/2)

Date of Test 24-06-2019  
 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	3200	4700	64200	61820	94200	90800	0.85	10.6	
2	0.407	3	0.391	0.11	0.120	3400	5200	68200	62570	104200	95700	1.30	16.3	
3	0.418	3	0.395	0.11	0.123	3500	5100	70200	62860	102200	91600	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

**Note: only three sample for tensile and one sample for bend test**

**Bend Test**

#3 Bar Bend Test Through 180° is Satisfactory

- Stress versus percentage strain graph of Sample at Sr. No.2 is attached

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

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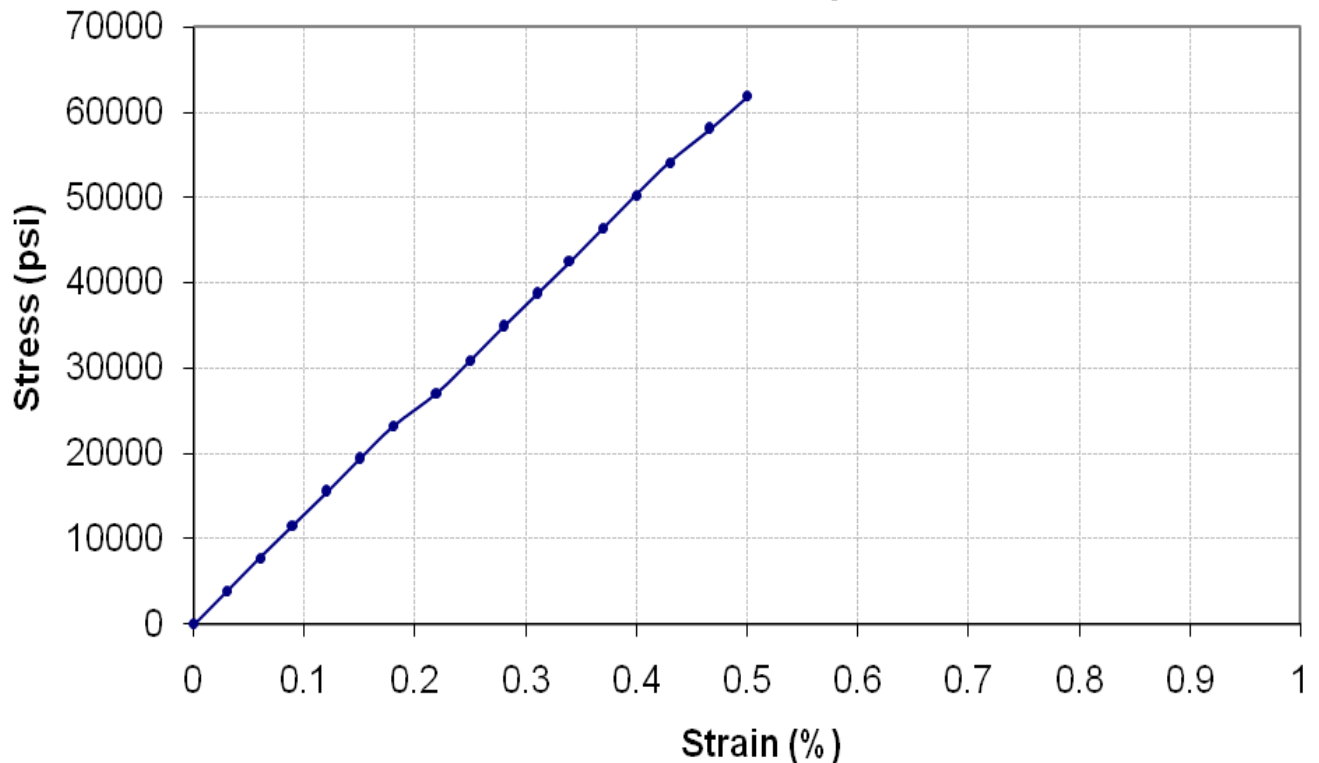
To  
Resident Engineer  
Cadet College / Public School Complex  
Construction of Boundary Wall of Cadet College Fort Munro DG Khan

Reference # CED/TFL **35024** (Dr. Qasim Khan)  
Reference of the request letter # SF(PAF)/RE/FM/01/2020

Dated: 22-06-2020  
Dated: 20-06-2020

**Graph** (Page -2/2)

**Stress Strain Relation -- Specimen No.S 1**



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To,  
 Sub Divisional Officer  
 Buildings Sub Division Pakpattan  
 "Re-Construction of 2 Class Room at Govt: Primary School 28/SP District Pakpattan"

Reference # CED/TFL **35025** (Dr. Qasim Khan)  
 Reference of the request letter # 368/SDO-PPN

Dated: 23-06-2020  
 Dated: 17-06-2020

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

Date of Test 24-06-2020  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (inch)		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	0.370	3/8	0.372	0.11	0.109	4400	5200	88200	89110	104200	105400	1.00	12.5	
2	0.368	3/8	0.371	0.11	0.108	4200	5200	84200	85660	104200	106100	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile test</b>														
Bend Test														

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

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To,  
 Manager C/R & M (Engineering Cell)  
 Allied Bank Limited  
 Renovation Cum Construction of B/O Construction of High Street, Sahiwal

Reference # CED/TFL **35026** (Dr. Qasim Khan)  
 Reference of the request letter # Nil

Dated: 23-06-2020  
 Dated: 17-06-2020

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

Date of Test 24-06-2020  
 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	0.366	3	0.370	0.11	0.108	2900	4900	58200	59460	98200	100500	1.20	15.0	
2	0.368	3	0.371	0.11	0.108	3200	5000	64200	65180	100200	101900	1.30	16.3	
3	0.366	3	0.370	0.11	0.108	3100	4900	62200	63560	98200	100500	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only three samples for tensile test</b>														
Bend Test														

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

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To,  
 Manager Construction Projects  
 Allied Bank  
 Construction of ABL Building, 3-Babar Block, New Garden Town, Lahore

Reference # CED/TFL **35030** (Dr. Qasim Khan) Dated: 23-06-2020  
 Reference of the request letter # HOL/ENGG.C.P./SM/2020/16 Dated: 23-06-2020

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

Date of Test 24-06-2020  
 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	0.404	3	0.389	0.11	0.119	4400	5400	88200	81570	108200	100200	1.00	12.5	Agha Steel
2	0.408	3	0.391	0.11	0.120	4400	5600	88200	80940	112300	103100	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<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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**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
 Resident Engineer - I  
 NESPAK  
 Construction Underpass at Firdous Market, Lahore

Reference # CED/TFL **35033** (Dr. Qasim Khan)  
 Reference of the request letter # 3772/FMU/103/MWA/04/38

Dated: 23-06-2020  
 Dated: 17-06-2020

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

Date of Test 24-06-2020  
 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	4.394	10	1.282	1.27	1.291	38000	57800	66000	64850	100400	98700	1.30	16.3	Pak Steel
2	4.382	10	1.281	1.27	1.288	37800	57400	65600	64690	99700	98300	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#10 Bar Bend Test Through 180° is Satisfactory														

Witness by Muhammad Saleem (Material Specialist NESPAK)

**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,  
 Sub Divisional Officer  
 Buildings Sub Division No. 12  
 Lahore  
 (Establishment of Mother & Child Block in Sir Ganga Ram Hospital Lahore)

Reference # CED/TFL **35034** (Dr. Qasim Khan)  
 Reference of the request letter # 316/SDO12th

Dated: 23-06-2020  
 Dated: 10-06-2020

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

Date of Test 24-06-2020  
 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 <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	0.388	3/8	0.381	0.11	0.114	3600	5100	72200	69590	102200	98600	1.30	16.3	Kamran Steel
2	0.387	3/8	0.381	0.11	0.114	3700	5300	74200	71610	106200	102600	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

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

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To,  
 Resident Engineer  
 Orbit Developers Private Limited  
 The Spring, Gulberg Lahore

Reference # CED/TFL **35035** (Dr. Qasim Khan)  
 Reference of the request letter # Nil

Dated: 24-06-2020  
 Dated: 24-06-2020

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

Date of Test 24-06-2020  
 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	0.377	3	0.375	0.11	0.111	3800	5600	76200	75640	112300	111500	0.90	11.3	
2	0.387	3	0.380	0.11	0.114	3400	5000	68200	65920	100200	97000	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<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,  
 Resident Engineer - I  
 NESPAK  
 Construction Underpass at Firdous Market, Lahore

Reference # CED/TFL **35041** (Dr. Qasim Khan)  
 Reference of the request letter # 3772/FMU/103/MWA/04/39

Dated: 24-06-2020  
 Dated: 17-06-2020

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

Date of Test 24-06-2020  
 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	0.396	3	0.385	0.11	0.116	3400	4800	68200	64450	96200	91000	1.30	16.3	Pak Steel
2	0.392	3	0.383	0.11	0.115	3500	4800	70200	66930	96200	91800	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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