



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
Dar Engineering
Punjab Agriculture Food and Durg Authority's Science Enclave (PAFDA)

Reference # CED/TFL **36303** (Dr. Qasim Khan)
Reference of the request letter # DB-78/DAR/RE/ME/2021/08

Dated: 02-04-2021
Dated: 29-03-2021

Tension Test Report (Page – 1/1)

Date of Test 19-04-2021
Gauge length 2 inches
Description MS Seamless Pipe Steel Strip Tensile Test

Sr. No.	Designation		Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(inch)	(mm)									
1	MS Seamless Pipe	12	24.90x10.50	261.45	8800	13100	330.19	491.53	0.60	30.00	
2			25.00x9.90	247.50	8200	12400	325.02	491.49	0.65	32.50	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test											
Bend Test											

I/C Testing Laboratoires
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Note:

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To,
 Executive Engineer Buildings
 Public Health Engineering Division
 Muzaffarabad
 (Water Supply Scheme Chakar)
 Reference # CED/TFL **36316** (Dr. Qasim Khan)
 Reference of the request letter # 990-93

Dated: 08-04-2021
 Dated: 07-04-2021

Tension Test Report (Page – 1/9)

Date of Test 19-04-2021
 Gauge length 2 inches
 Description G.I Pipe Steel 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 ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	G.I Pipe	2	25.80x3.70	95.46	3000	3500	308.30	359.68	0.45	22.50	
2			25.80x3.65	94.17	3000	3500	312.52	364.61	0.45	22.50	
3	G.I Pipe	3	25.90x3.60	93.24	4200	4900	441.89	515.54	0.40	20.00	
4			25.80x3.60	92.88	4200	4800	443.60	506.98	0.40	20.00	
5	G.I Pipe	4	26.10x5.10	133.11	5600	6400	412.71	471.67	0.55	27.50	
6			26.00x5.00	130.00	5700	6400	430.13	482.95	0.55	27.50	
7	G.I Pipe	6	26.10x5.70	148.77	5500	7900	362.67	520.93	0.55	27.50	
8			26.10x5.60	146.16	6100	7900	409.42	530.23	0.50	25.00	
Only Eight Samples for Tensile and Four Samples for Bend Test											
Bend Test											
Strip Taken from G.I Pipe (2") Bend Test Through 180° is Satisfactory											
Strip Taken from G.I Pipe (3") Bend Test Through 180° is Satisfactory											
Strip Taken from G.I Pipe (4") Bend Test Through 180° is Satisfactory											
Strip Taken from G.I Pipe (6") Bend Test Through 180° is Satisfactory											

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Muzaffarabad
(Water Supply Scheme Chakar)

Reference # CED/TFL **36316** (Dr. Qasim Khan)
Reference of the request letter # 990-93

Dated: 08-04-2021
Dated: 07-04-2021

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

Date of Test 19-04-2021
Description G.I Pipe Seamless Test as per ASTM-A53-02

Sr. No.	Designation	Test Type	Observation/Results
1	Pipe 2"	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
2	Pipe 3"	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
3	Pipe 4"	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
4	Pipe 6"	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
-	-	-	-
-	-	-	-
Only Four Samples for Test			

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Reference # CED/TFL **36316** (Dr. Qasim Khan)
Reference of the request letter # 990-93

Dated: 08-04-2021
Dated: 07-04-2021

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

Date of Test 19-04-2021
Description G.I Pipe Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Wall Thickness	Remark
	(inch)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	2	300	60.00	5.00	60.00	53.00	3.50	
2	3	443	60.00	7.38	88.80	81.80	3.50	
3	4	675	59.10	11.42	104.30	94.30	5.00	
4	6	1348	60.00	22.47	165.60	154.40	5.60	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only Four Samples for Test								

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 (Water Supply Scheme Garri Dopatta)
 Reference # CED/TFL **36316** (Dr. Qasim Khan)
 Reference of the request letter # 990-93

Dated: 08-04-2021
 Dated: 07-04-2021

Tension Test Report (Page -4/9)

Date of Test 19-04-2021
 Gauge length 2 inches
 Description G.I Pipe Steel 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 ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	G.I Pipe	2	25.80x3.45	89.01	3000	3500	330.64	385.74	0.30	15.00	
2			25.80x3.50	90.30	2900	3500	315.05	380.23	0.35	17.50	
3	G.I Pipe	3	25.75x3.45	88.84	4000	4800	441.71	530.05	0.50	25.00	
4			26.10x3.50	91.35	3900	4900	418.82	526.21	0.50	25.00	
5	G.I Pipe	4	26.00x4.20	109.20	4900	6400	440.19	574.95	0.55	27.50	
6			26.20x4.20	110.04	5200	6400	463.58	570.56	0.50	25.00	
7	G.I Pipe	6	26.00x5.60	145.60	6700	7900	451.42	532.27	0.50	25.00	
8			26.20x5.60	146.72	6800	7900	454.66	528.21	0.50	25.00	
Only Eight Samples for Tensile and Four Samples for Bend Test											
Bend Test											
Strip Taken from G.I Pipe (2") Bend Test Through 180° is Satisfactory											
Strip Taken from G.I Pipe (3") Bend Test Through 180° is Satisfactory											
Strip Taken from G.I Pipe (4") Bend Test Through 180° is Satisfactory											
Strip Taken from G.I Pipe (6") Bend Test Through 180° is Satisfactory											

I/C Testing Laboratoires
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(Water Supply Scheme Garri Dopatta)

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Reference of the request letter # 990-93

Dated: 08-04-2021
Dated: 07-04-2021

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

Date of Test 19-04-2021
Description G.I Pipe Seamless Test as per ASTM-A53-02

Sr. No.	Designation	Test Type	Observation/Results
1	Pipe 2"	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
2	Pipe 3"	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
3	Pipe 4"	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
4	Pipe 6"	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
Only Four Samples for Test			

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(Water Supply Scheme Garri Dopatta)

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Reference of the request letter # 990-93

Dated: 08-04-2021
Dated: 07-04-2021

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

Date of Test 19-04-2021
Description G.I Pipe Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Wall Thickness	Remark
	(inch)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	2	298	60.00	4.97	60.00	53.00	3.50	
2	3	443	60.00	7.38	89.00	82.00	3.50	
3	4	673	60.00	11.22	114.40	106.00	4.20	
4	6	1343	59.30	22.65	165.80	154.20	5.80	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only Four Samples for Test								

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 Muzaffarabad
 (Water Supply Scheme Channary)
 Reference # CED/TFL **36316** (Dr. Qasim Khan)
 Reference of the request letter # 990-93

Dated: 08-04-2021
 Dated: 07-04-2021

Tension Test Report (Page – 7/9)

Date of Test 19-04-2021
 Gauge length 2 inches
 Description G.I Pipe Steel 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)									
1	G.I Pipe	2	25.80x3.60	92.88	3000	3500	316.86	369.67	0.50	25.00	
2			25.70x3.60	92.52	3000	3500	318.09	371.11	0.45	22.50	
3	G.I Pipe	3	25.80x3.60	92.88	3300	4900	348.55	517.54	0.45	22.50	
4			25.80x3.50	90.30	3200	4800	347.64	521.46	0.50	25.00	
5	G.I Pipe	4	25.90x4.10	106.19	4700	6500	434.19	600.48	0.55	27.50	
6			26.00x4.10	106.60	4700	6400	432.52	588.97	0.50	25.00	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	

Only Six Samples for Tensile and Three Samples for Bend Test

Bend Test

Strip Taken from G.I Pipe (2") Bend Test Through 180° is Satisfactory

Strip Taken from G.I Pipe (3") Bend Test Through 180° is Satisfactory

Strip Taken from G.I Pipe (4") Bend Test Through 180° is Satisfactory

I/C Testing Laboratoires
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Public Health Engineering Division
Muzaffarabad
(Water Supply Scheme Channary)

Reference # CED/TFL **36316** (Dr. Qasim Khan)
Reference of the request letter # 990-93

Dated: 08-04-2021
Dated: 07-04-2021

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

Date of Test 19-04-2021
Description G.I Pipe Seamless Test as per ASTM-A53-02

Sr. No.	Designation	Test Type	Observation/Results
1	Pipe 2"	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
2	Pipe 3"	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
3	Pipe 4"	Ductility	No crack was observed
		Soundness	No evidence of lamination noticed
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
Only Three Samples for Test			

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Muzaffarabad
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Reference # CED/TFL **36316** (Dr. Qasim Khan)
Reference of the request letter # 990-93

Dated: 08-04-2021
Dated: 07-04-2021

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

Date of Test 19-04-2021
Description G.I Pipe Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Wall Thickness	Remark
	(inch)	(g)	(mm)	(kg/m)	(mm)	(mm)	(mm)	
1	2	299	59.90	4.99	60.50	53.50	3.50	
2	3	442	60.60	7.29	88.70	81.70	3.50	
3	4	669	59.50	11.24	114.40	106.20	4.10	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only Three Samples for Test								

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To,
 Superintending Engineer-II (Civil)
 GBHP, WAPDA, Barotha-Attock

Reference # CED/TFL **36320** (Dr. Qasoim Khan)
 Reference of the request letter # SE-II(C)/GBHP/ATK/W-292/118

Dated: 09-04-2021
 Dated: 24-03-2021

Tension Test Report (Page – 1/3)

Date of Test 19-04-2021
 Gauge length 2 inches
 Description Guard Rail W-Beam Strip Tensile Test as per AASHTO M-180

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(mm)	(cm)	(cm ²)	(kg)	(kg)	(kg/cm ²)	(kg/cm ²)	(in)		
1	(320x85x3)	2.52x0.275	0.69	4000	5200	5772	7504	0.30	15.00	
2		2.53x0.275	0.70	4000	5300	5749	7618	0.30	15.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
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To,
Superintending Engineer-II (Civil)
GBHP, WAPDA, Barotha-Attock

Reference # CED/TFL **36320** (Dr. Qasoim Khan)
Reference of the request letter # SE-II(C)/GBHP/ATK/W-292/118

Dated: 09-04-2021
Dated: 24-03-2021

Tension Test Report (Page – 2/3)

Date of Test 19-04-2021
Gauge length 2 inches
Description Steel Post 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
	(mm)	(mm)	(mm ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	120x55x5	25.00x5.10	127.50	4600	5800	353.93	446.26	0.60	30.00	
2		25.10x5.10	128.01	4700	6200	360.18	475.13	0.70	35.00	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test										
Bend Test										

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To,
Superintending Engineer-II (Civil)
GBHP, WAPDA, Barotha-Attock

Reference # CED/TFL **36320** (Dr. Qasoim Khan)
Reference of the request letter # SE-II(C)/GBHP/ATK/W-292/118

Dated: 09-04-2021
Dated: 24-03-2021

Size Test Report (Page – 3/3)

Date of Test 19-04-2021
Description Guard Rail & Steel Post thickness Test

Sr. No.	Designation		Thickness	Remark
	(mm)		(mm)	
1	Guard Rail	320x85x3	2.80	
2	Steel Post	120x55x5	5.10	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
Only Two Samples for Test				

I/C Testing Laboratories
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To,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works of Sector-X (Sangatpura) Ph-VII) (M/s DHA-C)

Reference # CED/TFL **36339** (Dr. Qasim Khan)
Reference of the request letter # 408/241/E/Lab/62/568X

Dated: 14-04-2021
Dated: 13-04-2021

Tension Test Report (Page -1/1)

Date of Test 19-04-2021
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A496

Sr. No.	Weight (Kg/m)	Diameter/ size		Area (mm ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (Mpa)		Ultimate Stress (Mpa)		Remarks
		Nominal (in)	Actual (mm)	Nominal	Actual			Nominal	Actual	Nominal	Actual	
1	0.117	5/32	4.35	12.82	14.89	640	800	490	422	612	527	
2	0.107	5/32	4.17	12.82	13.67	520	660	398	373	505	474	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test												
Bend Test												
5/32" Dia 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



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
 AZ Engineering Associates
 Dualization of Road from GT Road (Samma) to Gujrat Dinga Road I/C Gujrat Flyover Length =
 31 kms in District Gujrat
 (Group No. III, km no. 17.53 to 31.03 including 2 no. Small bridges with approaches)

Reference # CED/TFL **36342** (Dr. Qasim Khan)
 Reference of the request letter # RE AZEA/GT-120

Dated: 14-04-2021
 Dated: 08-04-2021

Tension Test Report (Page -1/1)

Date of Test 19-04-2021
 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	0.377	3	0.376	0.11	0.111	3400	5200	68200	67570	104200	103400	1.60	20.0	
2	0.378	3	0.376	0.11	0.111	3400	5200	68200	67470	104200	103200	1.60	20.0	
3	4.361	10	1.278	1.27	1.282	35400	53000	61500	60870	92000	91200	1.60	20.0	
4	4.312	10	1.270	1.27	1.267	35400	52400	61500	61560	91000	91200	1.70	21.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only four samples for tensile and two samples for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														
#10 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
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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,
 Project Manager
 Al Noor Developers
 Al Noor Heights Located at Bedian Road, Lahore

Reference # CED/TFL **36344** (Dr. Qasim Khan)
 Reference of the request letter # Nil

Dated: 15-04-2021
 Dated: 12-04-2021

Tension Test Report (Page -1/1)

Date of Test 19-04-2021
 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	0.384	3	0.379	0.11	0.113	3600	5000	72200	70330	100200	97700	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample 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
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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 jv TurPak
 Resident Construction Supervision for Establishment of Dera Ghazi Khan Institute of Cardiology

Reference # CED/TFL **36346** (Dr. Qasim Khan)
 Reference of the request letter # 4161/RE/SFMKB/DGK/301

Dated: 19-04-2021
 Dated: 16-04-2021

Tension Test Report (Page -1/1)

Date of Test 19-04-2021
 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	0.372	3	0.373	0.11	0.109	3400	5300	68200	68520	106200	106900	1.30	16.3	Ittefaq Steel
2	0.368	3	0.371	0.11	0.108	3300	5100	66200	67160	102200	103800	1.20	15.0	
3	0.379	3	0.377	0.11	0.111	3300	4600	66200	65300	92200	91100	1.40	17.5	
4	0.378	3	0.376	0.11	0.111	3400	4700	68200	67520	94200	93400	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: only four samples for tensile and two samples for bend test

Bend Test

#3 Bar Bend Test Through 180° is Satisfactory

#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
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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