STRUCTURAL ENGINEERING DIVISION

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

Ref: CED/TFL/08/35208, 236 Dated: 18-08-2020

Dated of Test: 21-08-2020

To
Resident Engineer
NESPAK
Replacement of Outlived Sewer in Multan Phase-II
(M/S Shan RCC Pipe Industry)

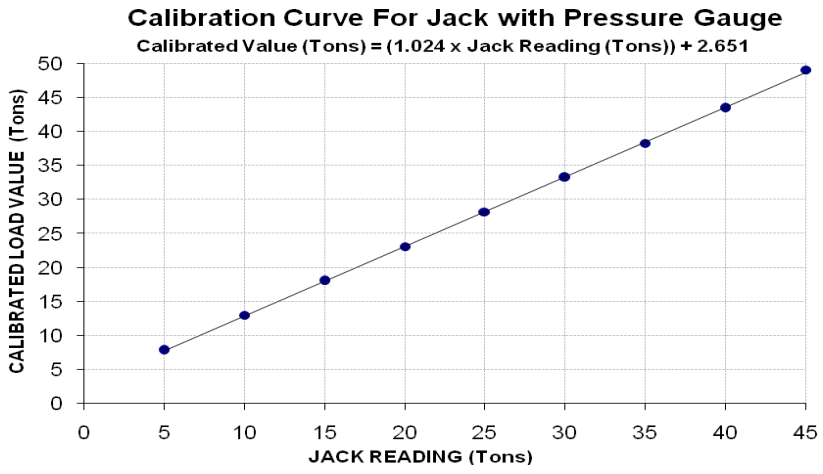
Subject: **- CALIBRATION OF HYDRAULIC JACK WITH PRESSURE GAUGE**
(MARK: TFL/08/35208)

Reference to your Letter No. 4068/01/AH/01/29, dated: 17/08/2020 on the subject cited above. One Hydraulic Jack with Pressure Gauge as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 80 (Ton)
Calibrated Range : Zero - 45 (Ton)

Hydraulic Jack Reading (Ton)		**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**
Calibrated Load	**(kg)**	**7100**	**11800**	**16400**	**21000**	**25600**	**30200**	**34800**	**39500**	**44600**
	(Ton)	**7.82**	**12.99**	**18.06**	**23.12**	**28.19**	**33.25**	**38.32**	**43.49**	**49.11**

1000 Kg = 1.1011 Ton



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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
Dar Engineering
Punjab Agriculture Food and Durg Authority's Science Enclave, Lahore Pakistan
(Yangzhou Lontrin)

Reference # CED/TFL **35209** (Dr. M Rizwan Riaz) Dated: 12-08-2020
Reference of the request letter # DB-78/DAR/RE/ME/2020/0227 Dated: 10-08-2020

Tension Test Report (Page – 1/1)

Date of Test 21-08-2020
Gauge length 2 inches
Description M.S 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
	---		(mm)	(mm^2)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	**M.S. Seamless Pipe**	**16"**	**28.90x12.00**	**346.80**	**10000**	**16500**	**282.87**	**466.74**	**0.90**	**45.00**	
2			**28.90x12.00**	**346.80**	**9000**	**16700**	**254.58**	**472.40**	**0.90**	**45.00**	
-	-	-	-	-	-	-	-	-	-	-	
-			-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-		-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-		-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile Test											
Bend Test											

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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
Dar Engineering
Punjab Agriculture Food and Durg Authority's Science Enclave, Lahore Pakistan

Reference # CED/TFL **35210** (Dr. M Rizwan Riaz) Dated: 12-08-2020
Reference of the request letter # DB-78/DAR/RE/ME/2020/0225 Dated: 29-07-2020

Tension Test Report (Page – 1/1)

Date of Test 21-08-2020
Gauge length 2 inches
Description Structural Pipe & MS Angle Steel Strip Tensile Test as per ASTM A-36

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	Structural Pipe	4"x6"x5mm	28.60x5.30	151.58	6600	7300	427.14	472.44	0.60	30.00	Ishtiaq Steel
2			28.60x5.30	151.58	6500	7300	420.67	472.44	0.70	35.00	
3	MS Angle	5"x5"x1/2"	28.60x12.70	363.22	15000	20000	405.13	540.17	0.80	40.00	Bashir Pipes
4			28.60x12.70	363.22	15000	20000	405.13	540.17	0.75	37.50	
-	-	-	-	-	-	-	-	-	-	-	
-		-	-	-	-	-	-	-	-	-	
Only Four 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

Ref: CED/TFL/08/35242 **Dated: 19-08-2020**
Dated of Test: 21-08-2020

To,
M/S SAA Engineering Works
Lahore

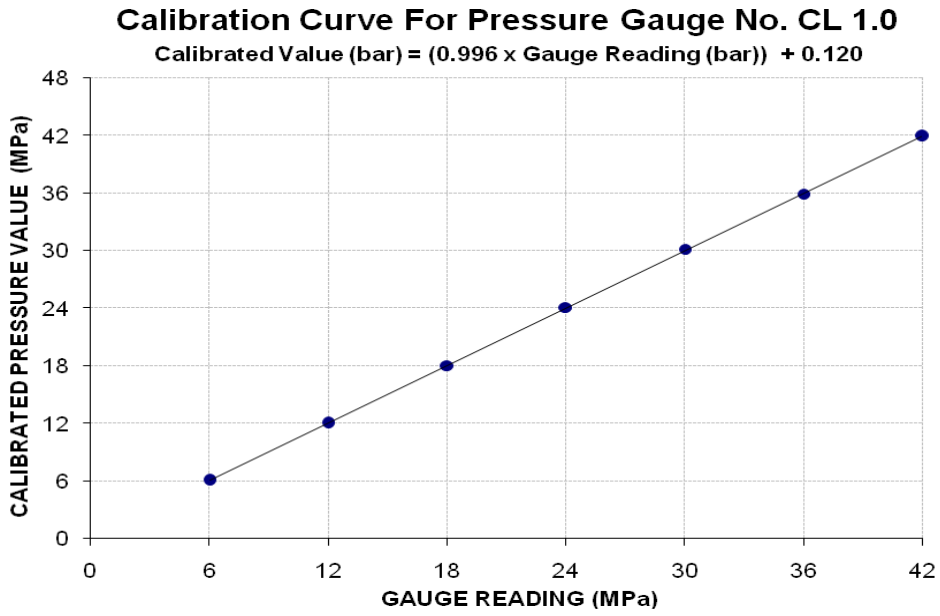
Subject: **- CALIBRATION OF PRESSURE GAUGE (MARK: TFL/08/35242)** (Page -1/1)

Reference to your Letter No. Nil, Dated: 19/08/2020 on the subject cited above. One Pressure Gauge No. CL 1.0 as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 100 (MPa)
Calibrated Range : Zero - 42 (MPa)

Pressure Gauge Reading (MPa)	**6**	**12**	**18**	**24**	**30**	**36**	**42**
Calibrated Load (kg)	**12300**	**24300**	**36400**	**48700**	**60900**	**72500**	**84700**
Calibrated Pressure (MPa)	**6.09**	**12.04**	**18.03**	**24.12**	**30.16**	**35.91**	**41.95**

The Ram Are use for Calibration = 198 cm^2



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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
Construction of DHA Office Complex, DHA Bahawalpur

Reference # CED/TFL **35246** (Dr. M Rizwan Riaz) Dated: 19-08-2020
Reference of the request letter # 4401/NY/05/30 Dated: 10-08-2020

Tension Test Report (Page -1/1)

Date of Test 21-08-2020
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	3100	4700	62200	62860	94200	95400	1.10	13.8	Kamran Steel
2	0.395	3	0.385	0.11	0.116	3500	5000	70200	66420	100200	94900	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,
Resident Engineer
Raees Faheem Associates
Construction of Club House Building at DHA Bahawalpur (Banquet Hall)

Reference # CED/TFL **35247** (Dr. M Rizwan Riaz) Dated: 19-08-2020
Reference of the request letter # RF/BQH/DHA/MT/20/14 Dated: 19-08-2020

Tension Test Report (Page -1/1)

Date of Test 21-08-2020
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	0.372	3/8	0.373	0.11	0.109	3300	4800	66200	66520	96200	96800	1.10	13.8	
2	0.372	3/8	0.373	0.11	0.109	3200	4800	64200	64510	96200	96800	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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.

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
Raees Faheem Associates
Construction of Club House Building at DHA Bahawalpur (Banquet Hall)

Reference # CED/TFL **35248** (Dr. M Rizwan Riaz) Dated: 19-08-2020
Reference of the request letter # RF/BQH/DHA/MT/20/13 Dated: 27-07-2020

Tension Test Report (Page -1/1)

Date of Test 21-08-2020
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	0.400	3/8	0.387	0.11	0.118	3700	5200	74200	69400	104200	97600	1.20	15.0	
2	0.375	3/8	0.375	0.11	0.110	3200	4600	64200	63950	92200	92000	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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,
Sub Divisional Officer
Buildings Sub Division No. 20
Lahore
(Renovation of Improvement Existing Building (Hearing Impaired Section) National Special Education Center 45-B II Johar Town, Lahore)

Reference # CED/TFL **35249** (Dr. M Rizwan Riaz) Dated: 20-08-2020
Reference of the request letter # 13/20th Dated: 17-07-2020

Tension Test Report (Page -1/1)

Date of Test 21-08-2020
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	0.365	3/8	0.369	0.11	0.107	3800	4900	76200	78120	98200	100800	1.00	12.5	
2	0.363	3/8	0.368	0.11	0.107	3600	4800	72200	74450	96200	99300	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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,
Executive Engineer
Muzaffargarh Canal Division
Muzaffargarh
(Correcting Approach of River Chenab to Control Erosive Action along its Right Bank Opposite RD: 0+000 M. Garh Flood Bund to RD: 131+500 Khangarh Flood Bund in District Muzaffargarh)
Reference # CED/TFL **35250** (Dr. M Rizwan Riaz) Dated: 20-08-2020
Reference of the request letter # 1082/68-W Dated: 08-06-2020

Tension Test Report (Page -1/1)

Date of Test 21-08-2020
Gauge length 8 inches
Description G.I Wire Tensile Test

Sr. No.	Weight	Diameter/ size		Area (mm^2)		Yield load	Breaking Load	Yield Stress (MPa)	Ultimate Stress (MPa)	Elongation	% Elongation	Remarks
	(kg/m)	Nominal (SWG)	Actual (mm)	Nominal	Actual	(kg)	(kg)	Actual	Actual	(inch)		
1	0.104	8	4.11	-------	13.3	400	600	296	444	1.00	12.5	
2	0.104	8	4.11	-------	13.2	400	600	296	445	0.95	11.9	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test												
Bend Test												

I/C Testing Laboratoires
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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 – Zeeruk (Jv)
China Pakistan Economic Corridor (CPEC)-Western Route Hakla (on M-1) to D.I.Khan Motorway-Rehmani Khel to Kot Balian-Package-2B (M/s Ch. Hardware Rawalpindi)

Reference # CED/TFL **35252** (Dr. M Rizwan Riaz) Dated: 20-08-2020
Reference of the request letter # RE/NESPAK/P-2B/CPEC-WR/1309 Dated: 18-08-2020

Tension Test Report (Page -1/1)

Date of Test 21-08-2020
Gauge length 8 inches
Description MS Bolt Tensile Test

Sr. No.	Weight	Diameter/ size		Area (mm^2)		Yield load	Breaking Load	Yield Stress (MPa)	Ultimate Stress (MPa)	Elongation	% Elongation	Remarks
	(kg/m)	Nominal (mm)	Actual (mm)	Nominal	Actual	(kg)	(kg)	Actual	Actual	(inch)		
1	6.305	32	31.98	-------	803.2	30400	51400	371	628	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample 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,
M/S Defence Housing Authority.
Lahore Cantt
(Const of U/G External Elec Work, Pkg-1, Sector-P, DHA Ph-IX) (M/s HKB)

Reference # CED/TFL **35253** (Dr. M Rizwan Riaz) Dated: 20-08-2020
Reference of the request letter # 408/241/E/Lab/964/02 Dated: 19-08-2020

Tension Test Report (Page -1/1)

Date of Test 21-08-2020
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	0.367	3	0.370	0.11	0.108	3700	4800	74200	75700	96200	98300	1.00	12.5	Mughal Steel
2	0.375	3	0.375	0.11	0.110	3800	5000	76200	75900	100200	99900	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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.

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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,
Contracts Engineer
National Power Construction Corporation (Pvt) Limited
Civil Works, Erection, Stringing, Testing and Commission of 500kV Double Circuit Quad Bundle Transmission Lines for:
I) Interconnection of Matiari HVDC Convertor Station with Dadu – Jamshoro Cirucit (approx. 30 km)
II) Interconnection of Matiari HVDC Convertor Station with Moro – Jamshoro Cirucit (approx. 05 km) under NTDC own resources

Reference # CED/TFL **35257** (Dr. M Rizwan Riaz) Dated: 21-08-2020
Reference of the request letter # NPCC/TLC-07-2019/E-38 Dated: 21-08-2020

Tension Test Report (Page -1/1)

Date of Test 21-08-2020
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	0.414	3	0.393	0.11	0.122	4500	5600	90200	81600	112300	101600	0.90	11.3	
2	0.413	3	0.393	0.11	0.121	3900	5100	78200	70890	102200	92700	1.10	13.8	
3	0.408	3	0.391	0.11	0.120	4000	5300	80200	73490	106200	97400	0.90	11.3	
4	4.212	10	1.255	1.27	1.238	37200	50800	64600	66230	88200	90500	1.70	21.3	
5	4.168	10	1.249	1.27	1.225	37000	50600	64300	66560	87900	91100	1.80	22.5	
6	4.186	10	1.252	1.27	1.230	38200	51800	66300	68430	89900	92800	1.60	20.0	
Note: only six samples for tensile and six samples for bend test														
Bend Test														
#3 Bar Bend Test Through 180º is Satisfactory														
#3 Bar Bend Test Through 180º is Satisfactory														
#3 Bar Bend Test Through 180º is Satisfactory														
#10 Bar Bend Test Through 180º is Satisfactory														
#10 Bar Bend Test Through 180º is Satisfactory														
#10 Bar Bend Test Through 180º is Satisfactory														

Witness by Hasnain Khan (Assistant Manager Design Civil NTDC) & Umar Hameed Contract Engineer NPCC

I/C Testing Laboratoires
UET Lahore, Pakistan.

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