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/05/33309, 649 Dated: 28-05-19

To
M/Al-Tech Engineering & Manufactures
Lahore

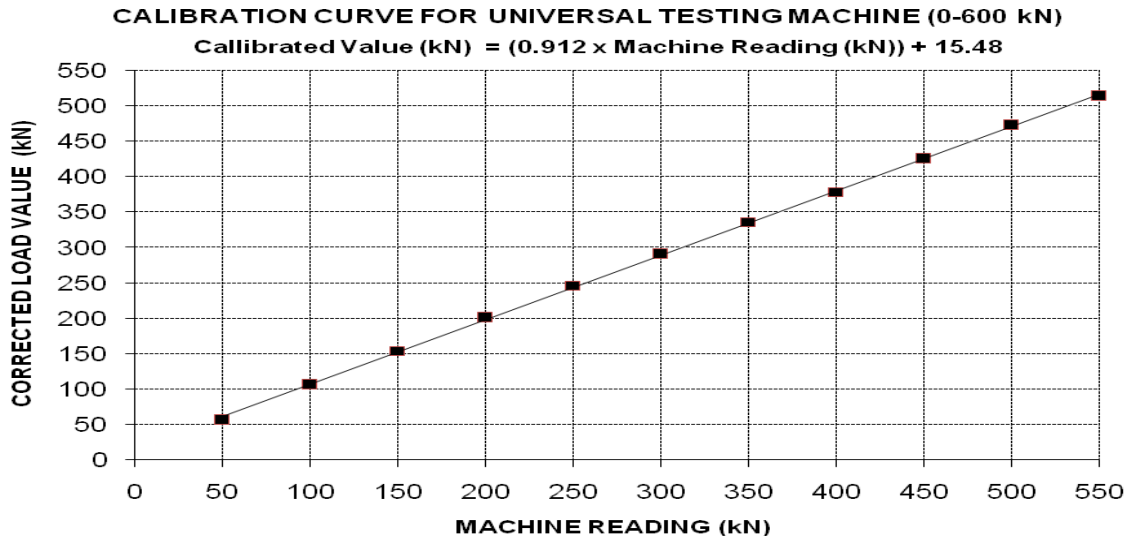
Subject:- **CALIBRATION OF UNIVERSAL TESTING MACHINE (LOSENHAUSEN) OF 600 kN (Scale 0-600 kN) (MARK: CED/TFL/07/33309-649)** (Page # 1/3)

Reference to your letter No. Nil, dated: 28/05/2019 on the subject cited above. One Universal Testing Machine has been calibrated by using standard calibration device. The results are tabulated as under:

Total Range : Zero – 600 (kN)

Calibrated Rang : Zero – 550 (kN)

Machine Reading (kN)	50	100	150	200	250	300	350	400	450	500	550
Corrected Load Value (kN)	55.86	105.78	154.23	200.69	246.53	290.67	335.90	378.57	425.28	472.97	513.76



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

Ref: CED/TFL/05/33309, 649 Dated: 28-05-19

To
M/Al-Tech Engineering & Manufactures
Lahore

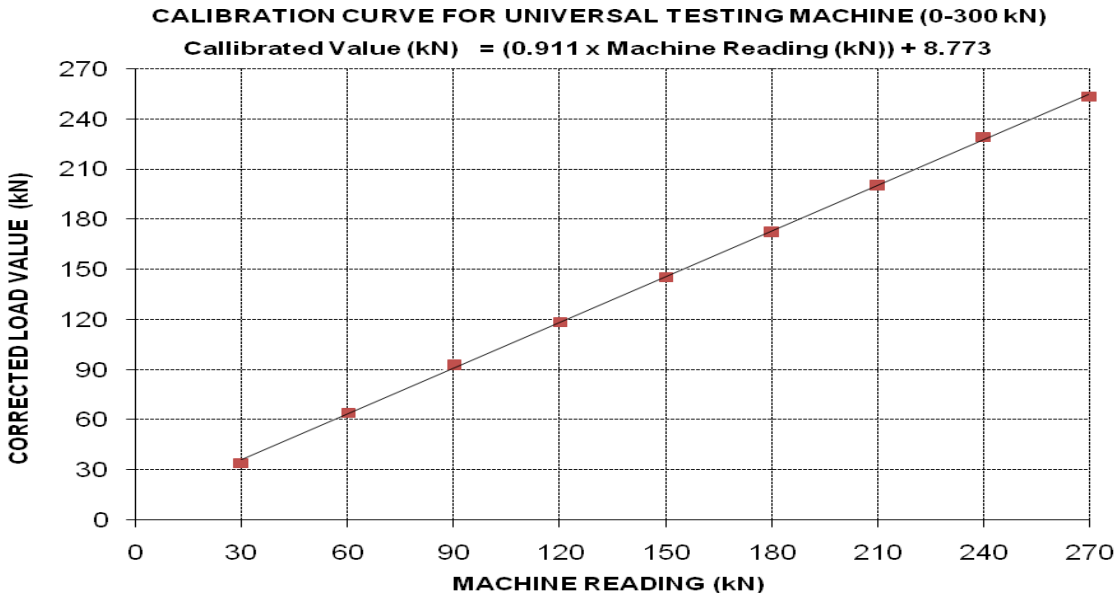
Subject:- **CALIBRATION OF UNIVERSAL TESTING MACHINE (LOSENHAUSEN) OF 600 kN (Scale 0-300 kN) (MARK: CED/TFL/07/33309-649)** (Page # 2/3)

Reference to your letter No. Nil, dated: 28/05/2019 on the subject cited above. One Universal Testing Machine has been calibrated by using standard calibration device. The results are tabulated as under:

Total Range : Zero – 300 (kN)

Calibrated Rang : Zero – 270 (kN)

Machine Reading (kN)	**30**	**60**	**90**	**120**	**150**	**180**	**210**	**240**	**270**
Corrected Load Value (kN)	**34.11**	**64.26**	**92.44**	**118.64**	**145.33**	**172.02**	**199.90**	**229.17**	**253.47**



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

Ref: CED/TFL/05/33309, 649 Dated: 28-05-19

To
M/Al-Tech Engineering & Manufactures
Lahore

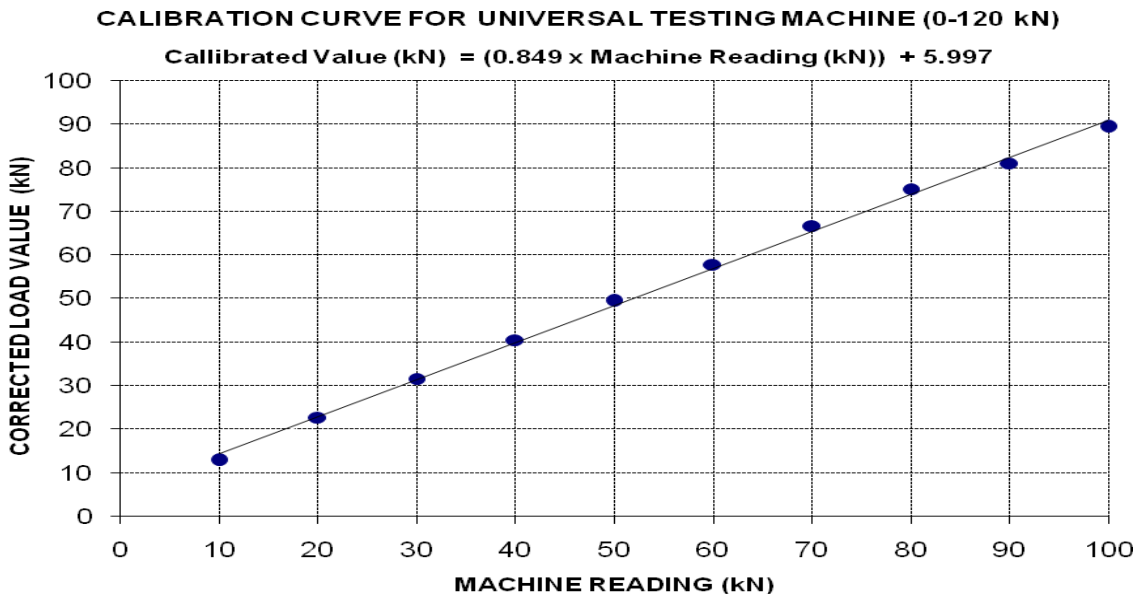
Subject:- **CALIBRATION OF UNIVERSAL TESTING MACHINE (LOSENHAUSEN) OF 600 kN (Scale 0-120 kN) (MARK: CED/TFL/07/33309-649)** (Page # 3/3)

Reference to your letter No. Nil, dated: 28/05/2019 on the subject cited above. One Universal Testing Machine has been calibrated by using standard calibration device. The results are tabulated as under:

Total Range : Zero – 120 (kN)

Calibrated Rang : Zero – 100 (kN)

Machine Reading (kN)	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
Corrected Load Value (kN)	**12.85**	**22.74**	**31.64**	**40.53**	**49.43**	**57.83**	**66.73**	**75.14**	**81.07**	**89.47**



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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 Junaid (Pvt) Ltd
Lahore
(Manufacturing of PC. Spun Hollow Poles for DISCOs)

Reference # CED/TFL **33690** (Dr. Waseem Abbas) Dated: 05-08-2019
Reference of the request letter # Nil Dated: 05-08-2019

Tension Test Report (Page – 1/3)

Date of Test 08-08-2019
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**	**426.0**	**9600**	**94.18**	**10700**	**104.97**	**>3.50**	**xx**
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
Only one sample 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 Junaid (Pvt) Ltd
Lahore
(Manufacturing of PC. Spun Hollow Poles for DISCOs)

Reference # CED/TFL **33690** (Dr. Waseem Abbas) Dated: 05-08-2019
Reference of the request letter # Nil Dated: 05-08-2019

Tension Test Report

Date of Test 08-08-2019
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	**11.11 (7/16")**	**582.0**	**547.0**	**12400**	**121.64**	**13200**	**129.49**	**<3.50 Not ok**	**xx**
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
Only one sample 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

Ref: CED/TFL/07/33690 Dated: 05-08-2019

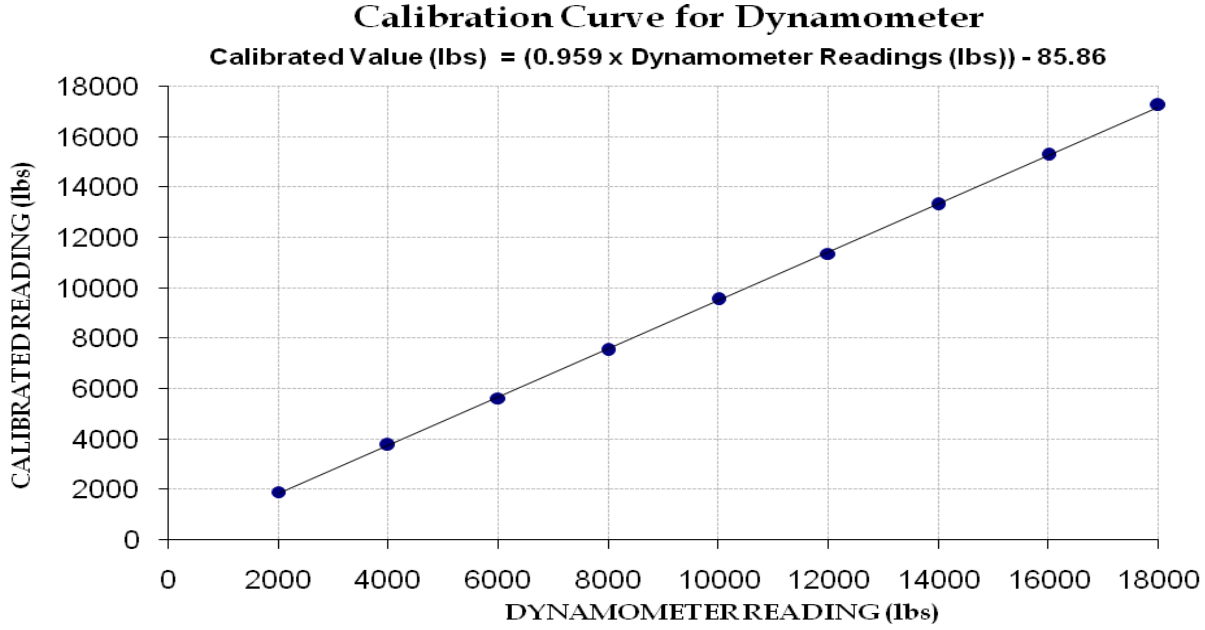
To,
M/S Junaid (Pvt) Ltd
Lahore
(Manufacturing of PC. Spun Hollow Poles for DISCOs)

Subject: **- CALIBRATION OF DYNAMOMETER (MARK: TFL/07/33651)** (Page -3/3)

Ref: Your letter No. Nil, dated: 05/08/2019 on the subject cited above. One Dynamometer as received by us has been calibrated. The results are tabulated as under:

Total Range : Zero - 20000 (lbs)
Calibrated Range : Zero - 18000 (lbs)

Dynamometer Readings (lbs)		**2000**	**4000**	**6000**	**8000**	**10000**	**12000**	**14000**	**16000**	**18000**
Calibrated Readings	**(N)**	**8500**	**16750**	**25000**	**33500**	**42500**	**50500**	**59250**	**68000**	**76750**
	(lbs)	**1911**	**3765**	**5620**	**7531**	**9554**	**11352**	**13319**	**15286**	**17253**



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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,
M/S Shahzad & Company
Sheikhupura
Project :- Amer Cotton Mill, EB4 Godown 1st Floor

Reference # CED/TFL **33706** (Dr. Ali Ahmed) Dated: 07-08-2019
Reference of the request letter # Nil Dated: 07-08-2019

Tension Test Report (Page -1/1)

Date of Test 08-08-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile 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	0.376	10	9.53	0.12	0.110	2800	4500	51441	55870	82673	89800	1.50	18.8	
2	0.371	10	9.46	0.12	0.109	2900	4300	53278	58660	78998	87000	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: 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,
Chief Resident Engineer, Package-1
NESPAK
Construction/ Improvement & Rehabilitation of at Grade Works along Lahore Orange Line Metro Train Corridor Package-1 (Section-III) Cut & Cover Area

Reference # CED/TFL **33707** (Dr. Ali Ahmed) Dated: 07-08-2019
Reference of the request letter # 4042/13/FAM/steel-083 Dated: 03-08-2019

Tension Test Report (Page -1/1)

Date of Test 08-08-2019
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	0.367	3	0.371	0.11	0.108	2900	4500	58200	59200	90200	91900	1.30	16.3	City UAE
2	0.363	3	0.369	0.11	0.107	2900	4500	58200	59860	90200	92900	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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.

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,
Executive Engineer
Highway Division Multan
(Rural Accessability Programme (RAP))

Reference # CED/TFL **33709** (Dr. Ali Ahmed) Dated: 07-08-2019
Reference of the request letter # RAP/212/SE Dated: 27-07-2019

Tension Test Report (Page -1/1)

Date of Test 08-08-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile 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	0.377	3	0.376	0.11	0.111	3600	4800	72200	71540	96200	95400	1.10	13.8	
2	0.377	3	0.375	0.11	0.111	3600	4800	72200	71680	96200	95600	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: 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,
Sub Divisional Officer
Highway Sub Division
Sheikhupura
(Rural Accessability Programme (RAP) in District Sheikhupura)

Reference # CED/TFL **33710** (Dr. Ali Ahmed) Dated: 07-08-2019
Reference of the request letter # 181/SKP Dated: 30-07-2019

Tension Test Report (Page -1/1)

Date of Test 08-08-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile 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	0.377	3	0.376	0.11	0.111	3700	4800	74200	73510	96200	95400	1.30	16.3	
2	0.374	3	0.374	0.11	0.110	3700	4900	74200	74110	98200	98200	1.10	13.8	
3	0.377	3	0.376	0.11	0.111	3800	5000	76200	75550	100200	99500	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only three 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,
Chief Resident Engineer, Package-1
NESPAK
Construction/ Improvement & Rehabilitation of at Grade Works along Lahore Orange Line Metro Train Corridor Package-1 Section-I) from Pakistan Mint to Shalimar Chowk (Right Side)

Reference # CED/TFL **33711** (Dr. Ali Ahmed) Dated: 07-08-2019
Reference of the request letter # 4042/13/FAM/steel-077 Dated: 30-07-2019

Tension Test Report (Page -1/1)

Date of Test 08-08-2019
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	0.407	3	0.390	0.11	0.120	4700	5400	94200	86690	108200	99600	0.80	10.0	Kamran Steel
2	0.408	3	0.391	0.11	0.120	4700	5400	94200	86460	108200	99400	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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