



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/03/32838

Dated: 14-03-19

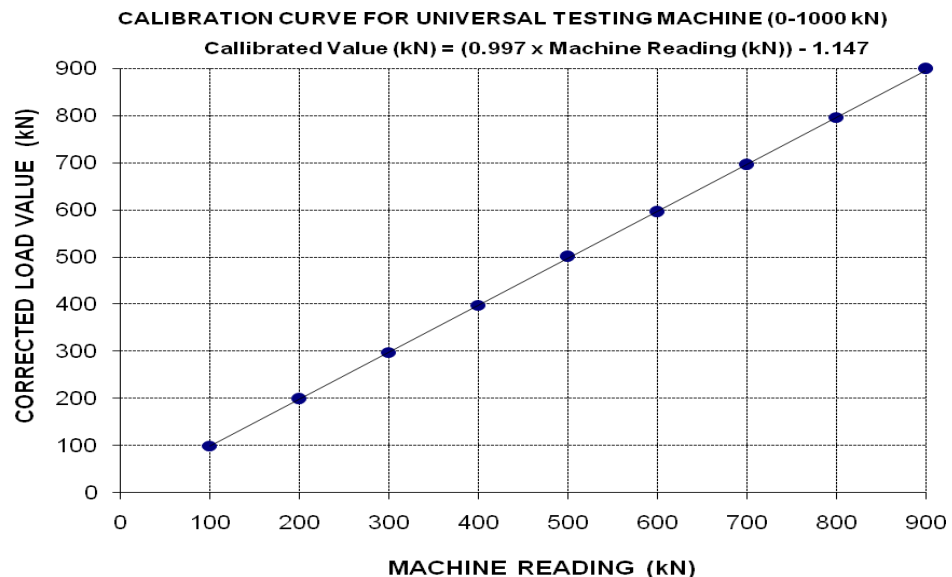
To
M/S S.J Steel Re-Rolling Mills
Lahore

Subject:- **CALIBRATION OF UNIVERSAL TESTING MACHINE OF 1000 kN (Scale 0-1000 kN) (MARK: CED/TFL/03/32838) (Page # 1/3)**

Reference to your letter No. Nil, dated: 14/03/2019 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 - 1000 (kN)
Calibrated Rang : Zero - 900 (kN)

Machine Reading (kN)	100	200	300	400	500	600	700	800	900
Corrected Load Value (kN)	99.35	198.20	297.62	397.92	500.18	594.83	695.30	796.41	899.00



I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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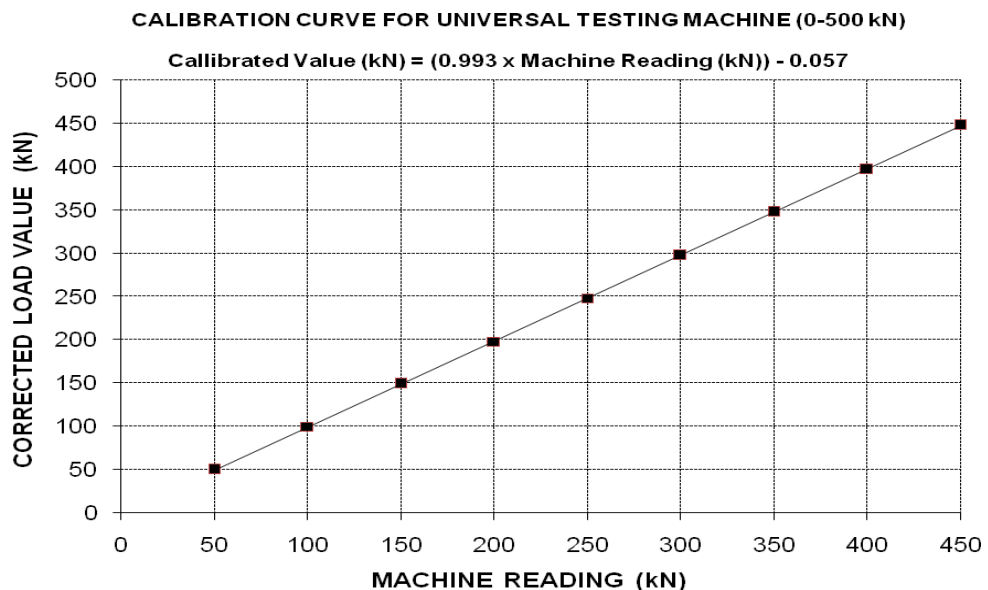
Subject:- **CALIBRATION OF UNIVERSAL TESTING MACHINE OF 1000 kN (Scale 0-500 kN) (MARK: CED/TFL/03/32838) (Page # 2/3)**

Reference to your letter No. Nil, dated: 14/03/2019 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 - 500 (kN)

Calibrated Rang : Zero - 450 (kN)

Machine Reading (kN)	50	100	150	200	250	300	350	400	450
Corrected Load Value (kN)	49.93	99.85	149.28	197.70	248.02	297.62	347.80	396.92	448.13



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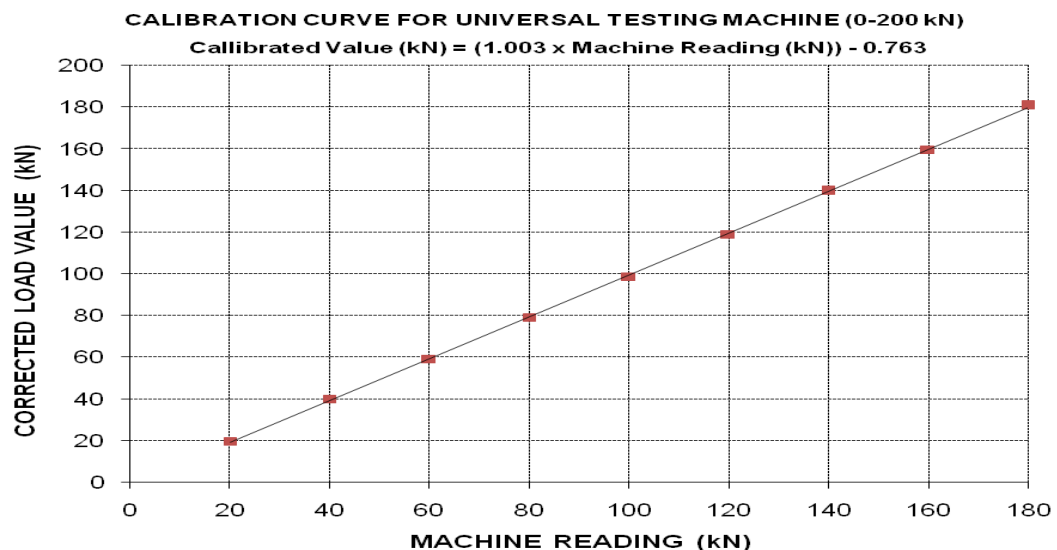
To
M/S S.J Steel Re-Rolling Mills
Lahore

Subject:- **CALIBRATION OF UNIVERSAL TESTING MACHINE OF 1000 kN (Scale 0-200 kN) (MARK: CED/TFL/03/32838) (Page # 3/3)**

Reference to your letter No. Nil, dated: 14/03/2019 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 - 200 (kN)
Calibrated Rang : Zero - 180 (kN)

Machine Reading (kN)	20	40	60	80	100	120	140	160	180
Corrected Load Value (kN)	19.77	40.04	59.31	79.08	98.85	119.12	139.89	159.66	180.93



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Ref: CED/TFL/03/32881

Dated: 20-03-19

To
Addl Dir Dev
DHA Phase-XI (Rahbar)
Development of Re-appropriated Area in Sector-II (Extension), DHA Phase-XI
(Rahbar)

Subject: **TESTING OF R.C.C. PIPE [ASTM-C76]**

Reference to your letter No. Dev/RAA/Sec-II(Extn)/2/19, dated 15.03.2019 on the subject cited above. Two R.C.C. Pipes as received by us have been tested. The results are tabulated as under.

Sr. No	Nominal Size	Total Length	Loaded Length	External Diameter	Internal Diameter	Wall Thickness	Proof load	Ultimate Load	Proof Stress	Ultimate Stress
	(mm)	(m)	(m)	(mm)	(mm)	(mm)	(kg)	(kg)	N/m/mm	N/m/mm
1	228.6 (9")	2.383	2.230	316.00	230.40	42.80	9600	15200	183.30	290.22
2	228.6 (9")	2.390	2.234	318.00	225.60	46.20	9800	16800	190.75	327.01

I/C Testing Laboratoires
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Ref: CED/TFL/03/32893

Dated: 21-03-19

To
Executive Engineer Buildings
PHE Division Bhimber
(Construction of Sewerage and Staram Water Drainge System Bhimber Town Phase-II District Bhimber)

Subject: **TESTING OF R.C.C. PIPE [ASTM-C76]**

Reference to your letter No. 161-62, dated 05.03.2019 on the subject cited above. Two R.C.C. Pipes as received by us have been tested. The results are tabulated as under.

Sr. No	Nominal Size	Total Length	Loaded Length	External Diameter	Internal Diameter	Wall Thickness	Proof load	Ultimate Load	Proof Stress	Ultimate Stress
	(mm)	(m)	(m)	(mm)	(mm)	(mm)	(kg)	(kg)	N/m/mm	N/m/mm
1	228.6 (9")	2.375	2.230	320.00	223.34	48.33	9900	11000	195.00	216.67
2	457.2 (18")	2.370	2.234	583.00	458.94	62.03	7000	8000	66.98	76.55

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Ref: CED/TFL/03/32895

Dated: 21-03-19

To,
Resident Engineer -II & III
Zeeruk International (Pvt) Ltd
Lahore - Sialkot Motorway

Subject: - CALIBRATION OF PRESSURE GAUGE (MARK: TFL/03/32895) (Page -1/2)

Reference to your Letter No. LSM/RE-II/St/19-117, Dated: 20/03/2019 on the subject cited above. One Pressure Gauge No. AES-3201 as received by us has been calibrated. The results are tabulated as under:

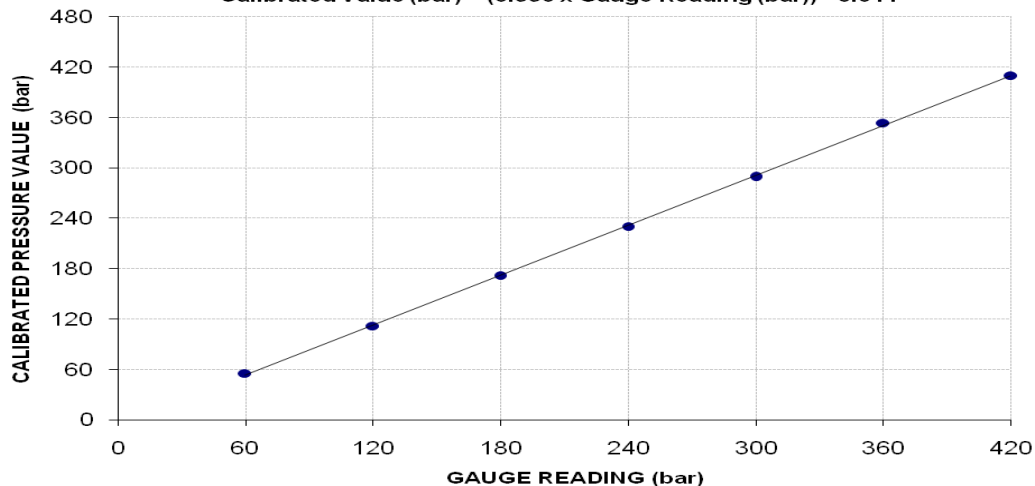
Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 420 (bar)

Pressure Gauge Reading (bar)	60	120	180	240	300	360	420
Calibrated Load (kg)	11200	22600	34700	46500	58400	71400	82800
Calibrated Pressure (bar)	55.47	111.94	171.87	230.32	289.26	353.65	410.11

The Ram Area use for Calibration = 198 cm²

Calibration Curve for Pressure Gauge No. AES-3201

Calibrated Value (bar) = (0.990 × Gauge Reading (bar)) - 6.014



I/C Testing Laboratories
UET Lahore, Pakistan.

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Ref: CED/TFL/03/32895

Dated: 21-03-19

To,
Resident Engineer -II & III
Zeeruk International (Pvt) Ltd
Lahore - Sialkot Motorway

Subject: - CALIBRATION OF PRESSURE GAUGE (MARK: TFL/03/32895) (Page -2/2)

Reference to your Letter No. LSM/RE-II/St/19-117, Dated: 20/03/2019 on the subject cited above. One Pressure Gauge No. AES-3202 as received by us has been calibrated. The results are tabulated as under:

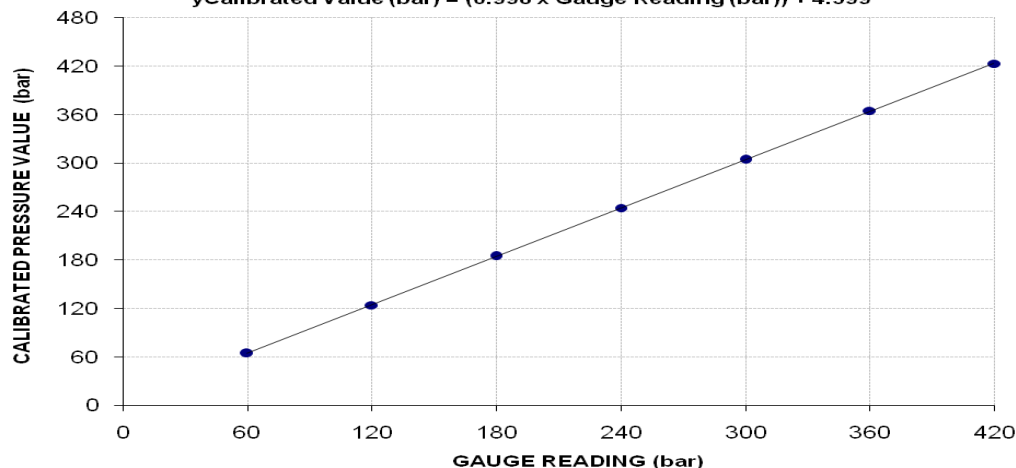
Total Range : Zero - 1000 (bar)
Calibrated Range : Zero - 420 (bar)

Pressure Gauge Reading (bar)	60	120	180	240	300	360	420
Calibrated Load (kg)	13000	25000	37300	49300	61400	73600	85400
Calibrated Pressure (bar)	64.39	123.83	184.75	244.18	304.12	364.54	422.99

The Ram Area use for Calibration = 198 cm²

Calibration Curve for Pressure Gauge No. AES-3202

$$y_{\text{Calibrated Value (bar)}} = (0.998 \times \text{Gauge Reading (bar)}) + 4.599$$



I/C Testing Laboratories
UET Lahore, Pakistan.

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To,
Project Director
China Civil Engineering Construction Corporation
Pakistan Branch Office
ICB No. DASU-RAR-01

Reference # CED/TFL **32898** (Dr. Usman Akmal)

Dated: 21-03-2019

Reference of the request letter # CCECC/PAK/DASUFIELD/RAR-01/19-020 Dated: 19-03-2019

Tension Test Report (Page – 1/4)

Date of Test 22-03-2019

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	785.0	18500	181.49	20200	198.16	199	>3.50	91
2	12.70 (1/2")	775.0	786.0	17900	175.60	20600	202.09	198	>3.50	92
3	12.70 (1/2")	775.0	790.0	17200	168.73	20900	205.03	199	>3.50	105
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	

Only three samples 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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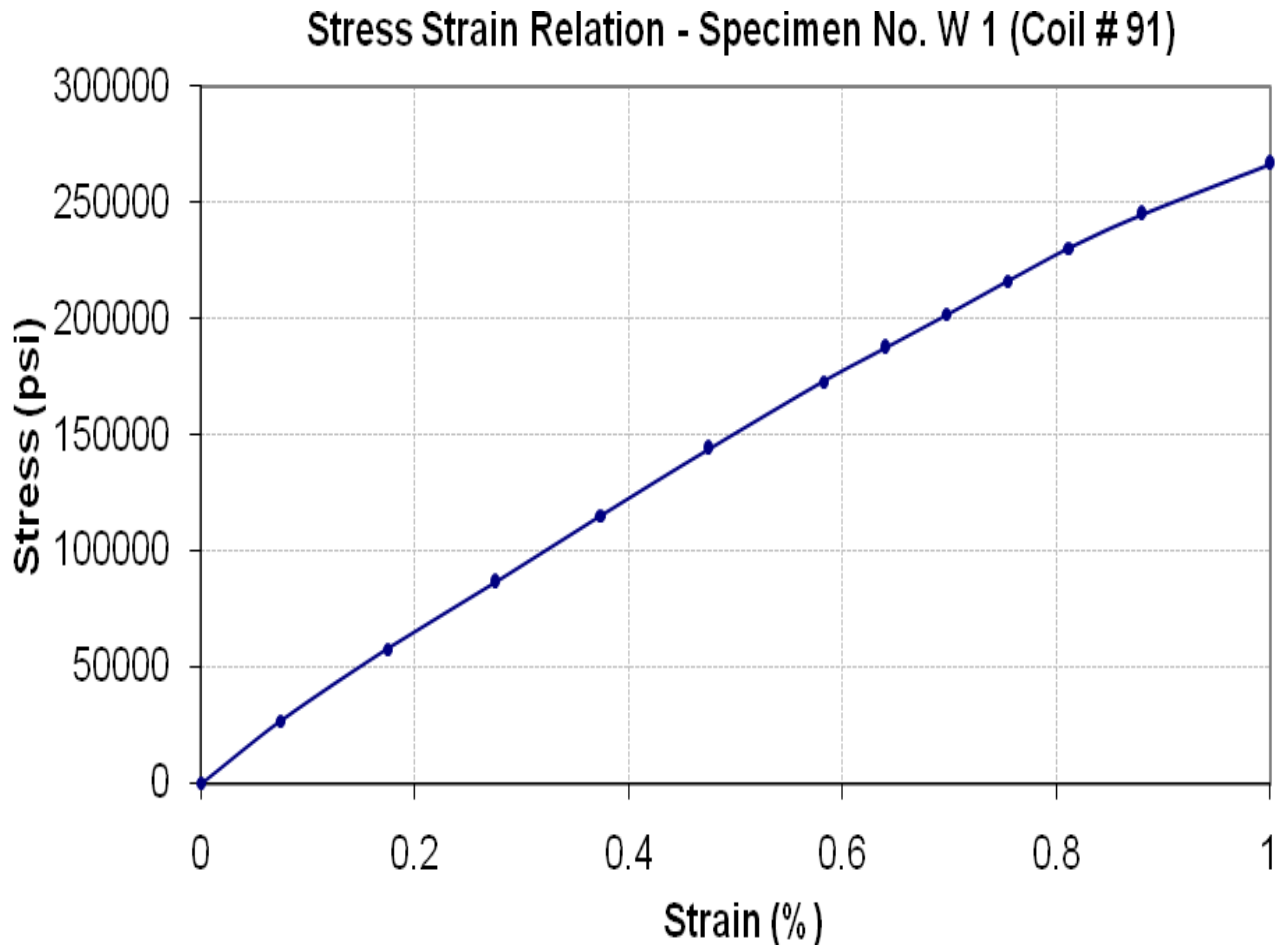
To,
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ICB No. DASU-RAR-01

Reference # CED/TFL **32898** (Dr. Usman Akmal)

Dated: 21-03-2019

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Graph (Page – 2/4)



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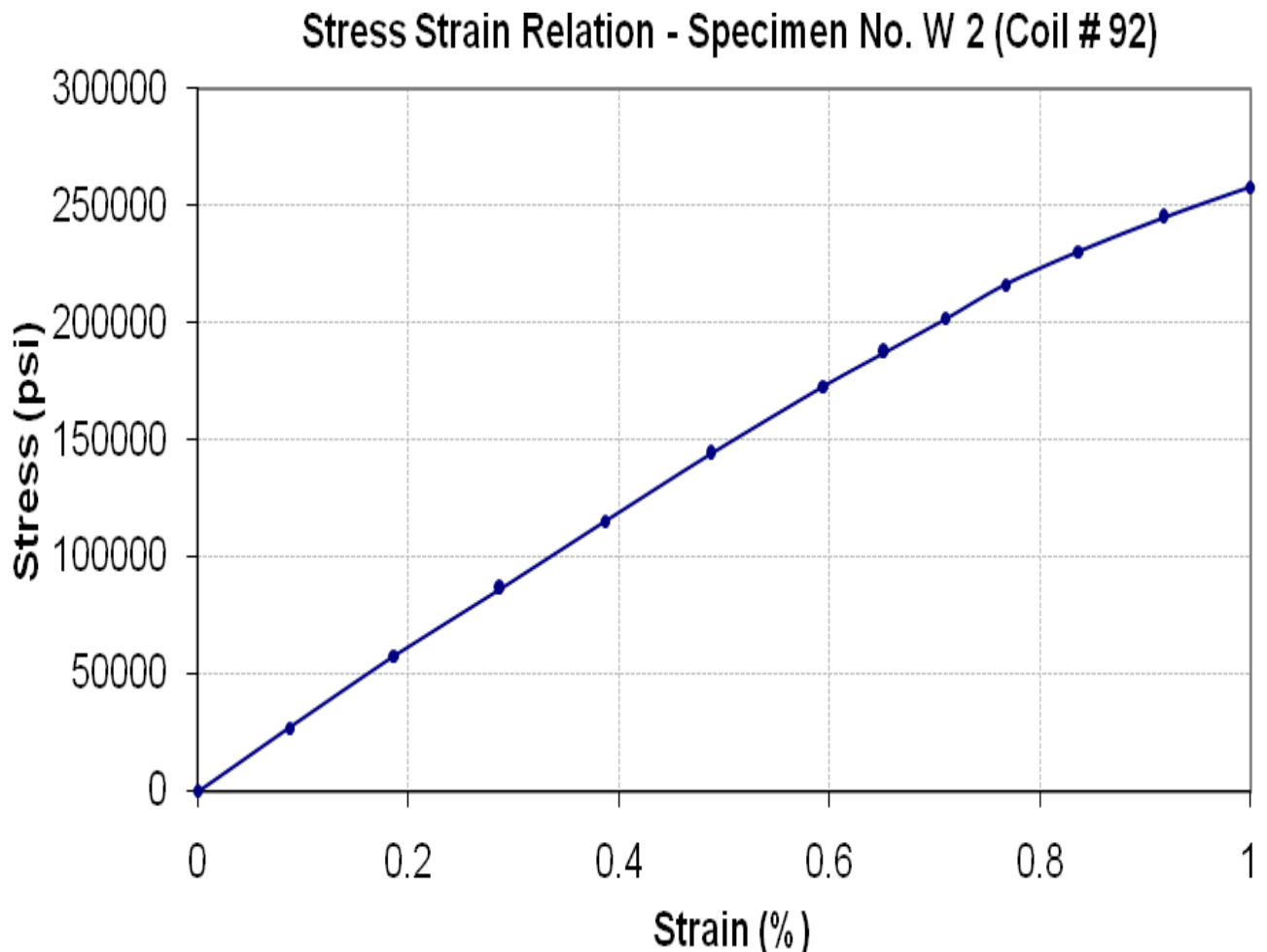
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ICB No. DASU-RAR-01

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Graph (Page – 3/4)



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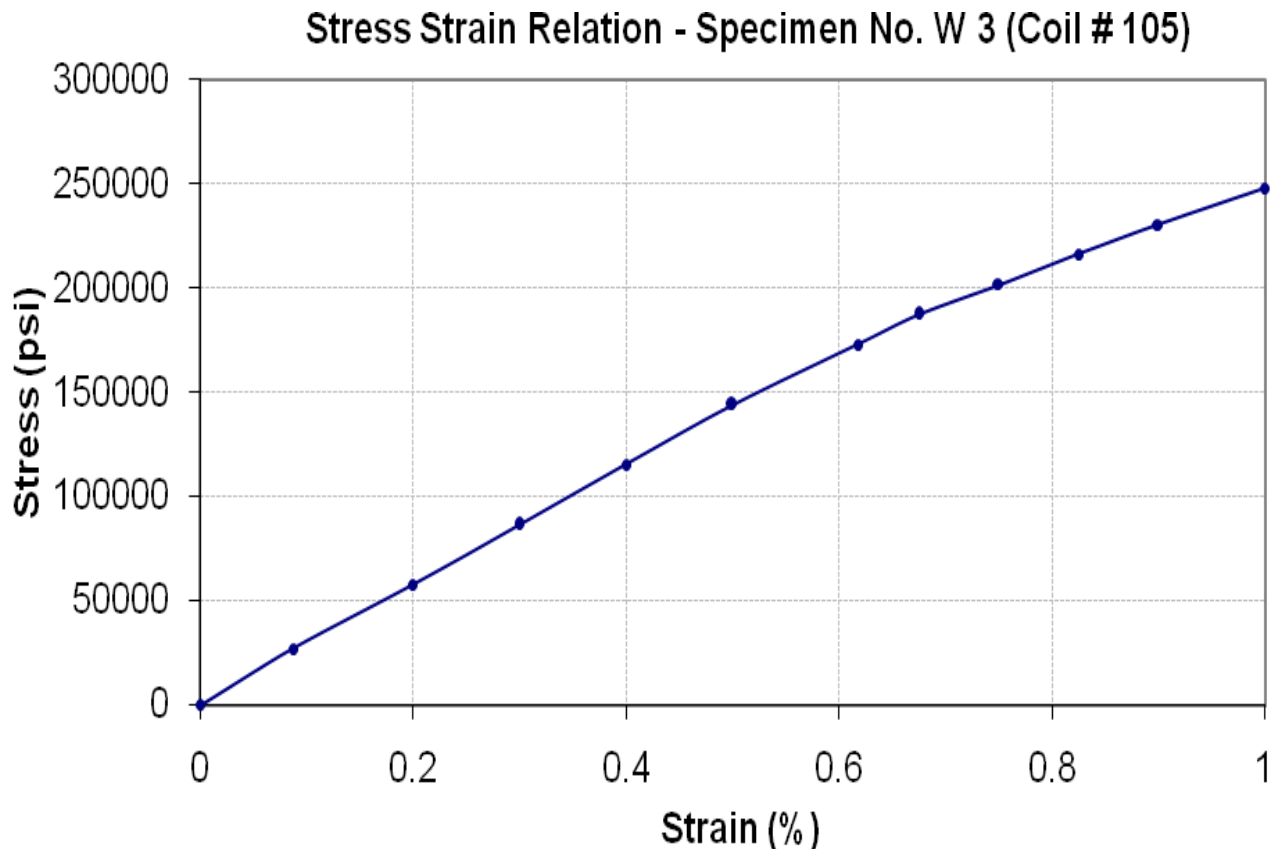
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Dated: 21-03-2019

Reference of the request letter # CCECC/PAK/DASUFIELD/RAR-01/19-020 Dated: 19-03-2019

Graph (Page – 4/4)



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To,
 Manager Construction Projects
 Allied Bank
 Construction of ABL Building at 3-Babar Block, Lahore

Reference # CED/TFL **32901** (Engr. M Rehan Ashraf)
 Reference of the request letter # HOL/ENGG. C.P/SM/2019/

Dated: 22-03-2019
 Dated: 21-03-2019

Tension Test Report (Page -1/1)

Date of Test 22-03-2019
 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 ²)		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	0.423	3/8	0.398	0.11	0.124	6300	6800	126300	111570	136300	120500	0.90	11.3	
2	0.404	3/8	0.389	0.11	0.119	3900	5300	78200	72450	106200	98500	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 180° is Satisfactory														

Witness by Hanif Bashir (ABL)

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