



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/07/35089

Dated: 06-07-2020

Dated of Test: 21-07-2020

To
M/S Model Steel (Pvt) Limited
Lahore

Subject:- CALIBRATION OF UNIVERSAL TESTING MACHINE OF 1000kN
(MARK: CED/TFL/07/35089) (Page # 1/2)

Reference to your letter No. Nil, dated: 06/07/2019 on the subject cited above. One Universal Testing Machine (WAW -1000 H) has been calibrated by using standard calibration device. The results are tabulated as under:

Total Range : Zero - 1000 (kN)

Calibrated Range : Zero - 900 (kN)

Machine Reading (kN)	Corrected Load Value (kN)
50	46
100	95
150	143
200	191
250	242
300	292
350	339
400	391
450	440

Machine Reading (kN)	Corrected Load Value (kN)
500	489
550	540
600	589
650	639
700	689
750	739
800	789
850	838
900	889

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Ref: CED/TFL/07/35089

Dated: 06-07-2020

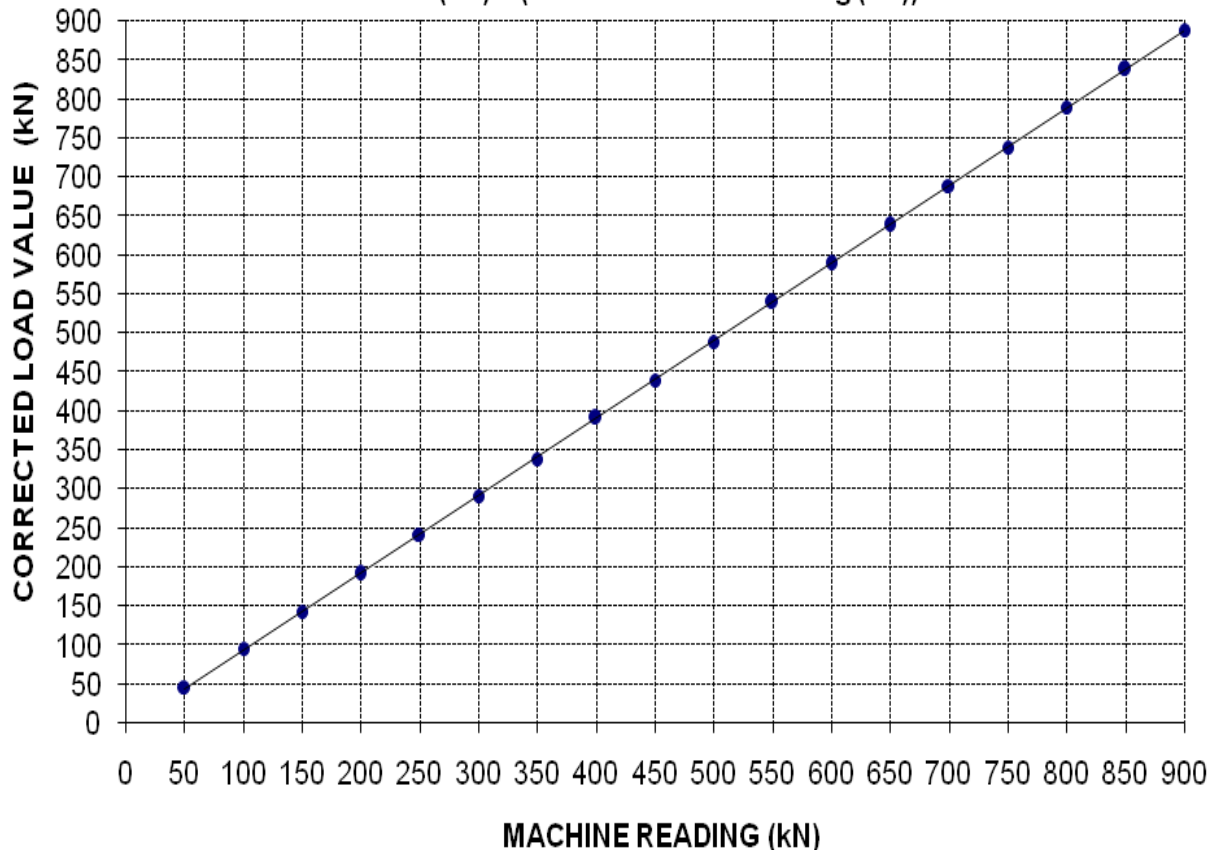
Dated of Test: 21-07-2020

To
M/S Model Steel (Pvt) Limited
Lahore

Subject:- **CALIBRATION OF UNIVERSAL TESTING MACHINE OF 1000kN**
(MARK: CED/TFL/07/35089) (Page # 2/2)

CALIBRATION CURVE FOR UNIVERSAL TESTING MACHINE

$$\text{Calibrated Value (kN)} = (0.992 \times \text{Machine Reading (kN)}) - 5.944$$



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STRUCTURAL ENGINEERING DIVISION
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To,
Material Engineer
Zeeruk International (Pvt) Ltd
Construction of 2-Lanes Highway from Basima to Khuzdar Section (N-30)

Reference # CED/TFL **35150** (Dr. Waseem Abbass)
Reference of the request letter # ZI/ME/N-30/2020/03

Dated: 17-07-2020
Dated: 16-07-2020

Tension Test Report (Page – 1/7)

Date of Test 21-07-2020
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)			
1	12.70 (1/2")	775.0	782.0	18600	182.47	20100	197.18	199	>3.50	21338
2	12.70 (1/2")	775.0	781.0	18800	184.43	20000	196.20	199	>3.50	21340
3	12.70 (1/2")	775.0	783.0	18900	185.41	20100	197.18	198	>3.50	21345
4	12.70 (1/2")	775.0	783.0	17800	174.62	20000	196.20	199	>3.50	21264
5	12.70 (1/2")	775.0	782.0	19000	186.39	20000	196.20	199	>3.50	21266
6	12.70 (1/2")	775.0	783.0	18900	185.41	20200	198.16	198	>3.50	21271
Only six 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

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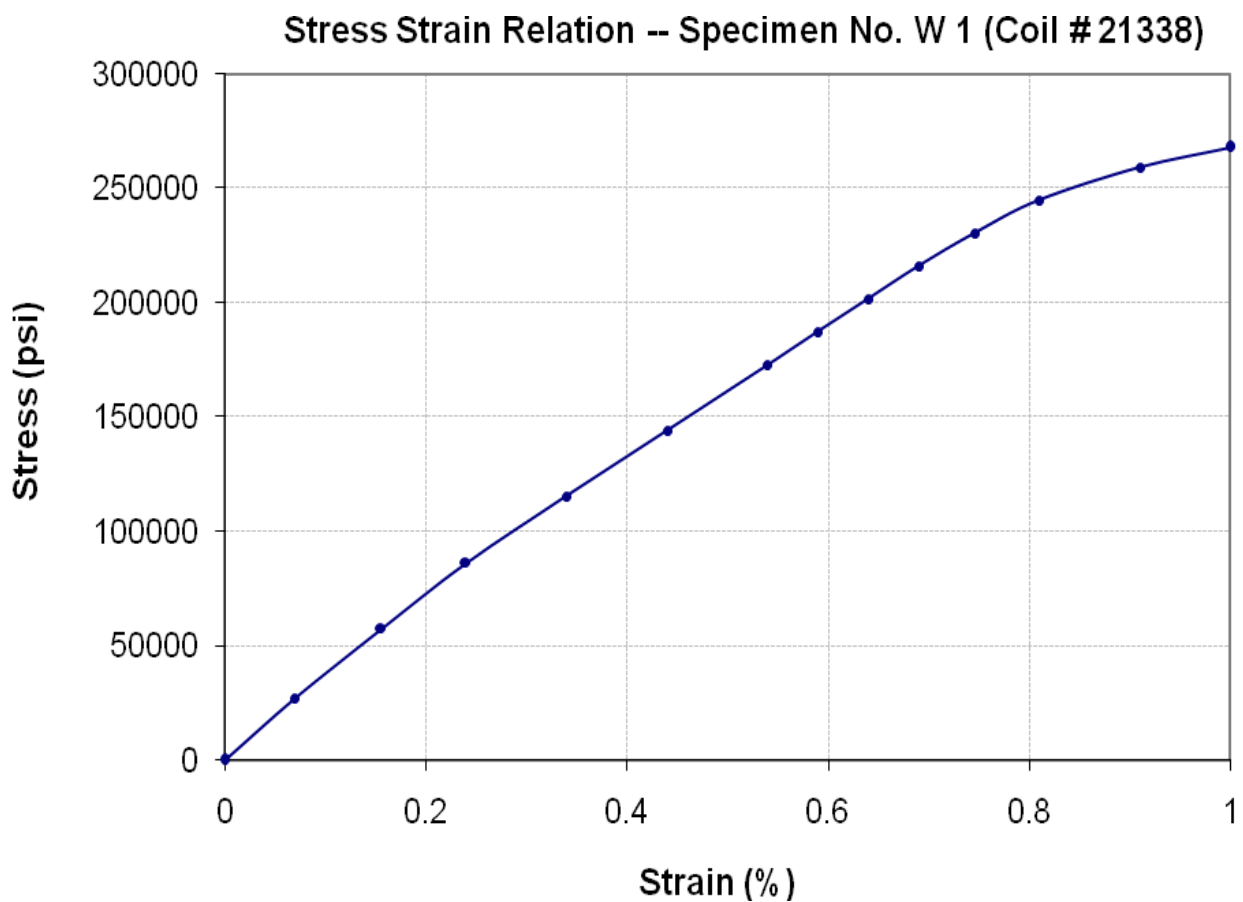
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Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
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To,
Material Engineer
Zeeruk International (Pvt) Ltd
Construction of 2-Lanes Highway from Basima to Khuzdar Section (N-30)

Reference # CED/TFL **35150** (Dr. Waseem Abbass)
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Graph (Page – 2/7)



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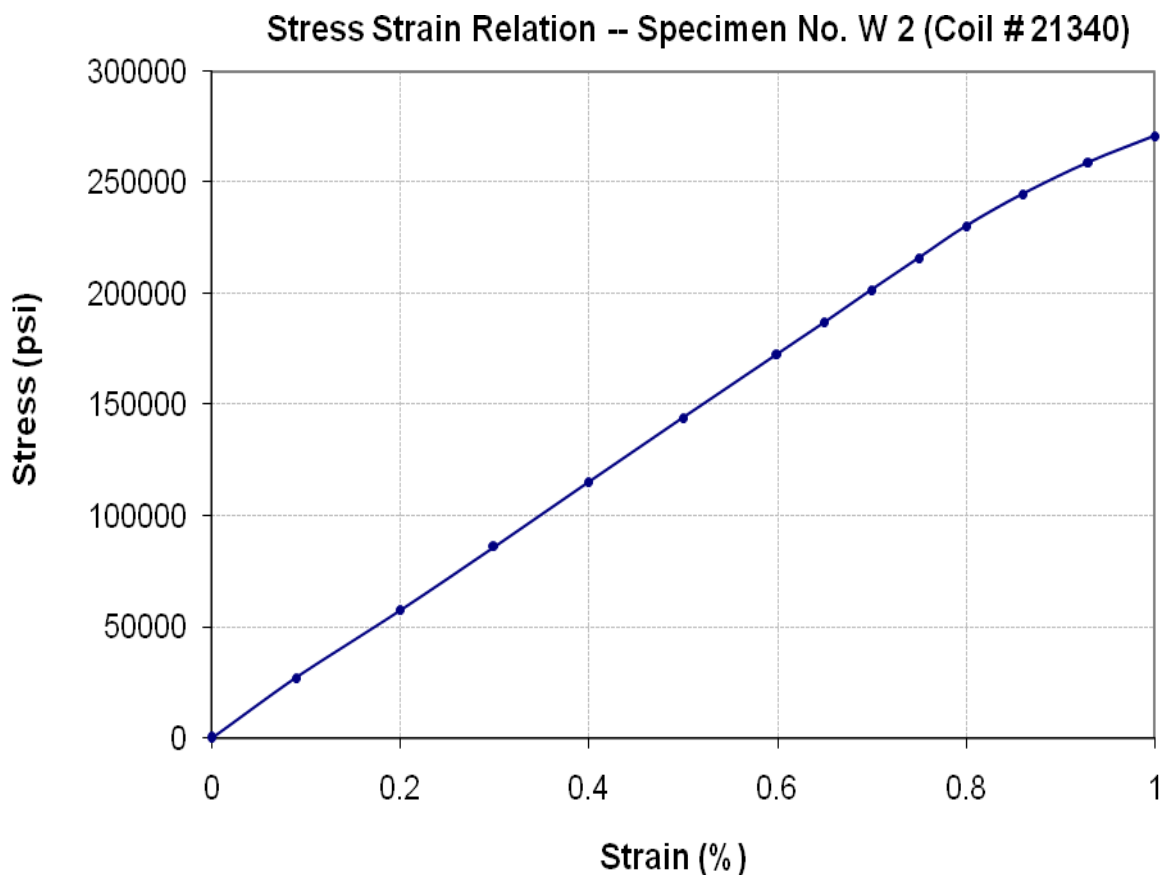
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To,
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Graph (Page – 3/7)



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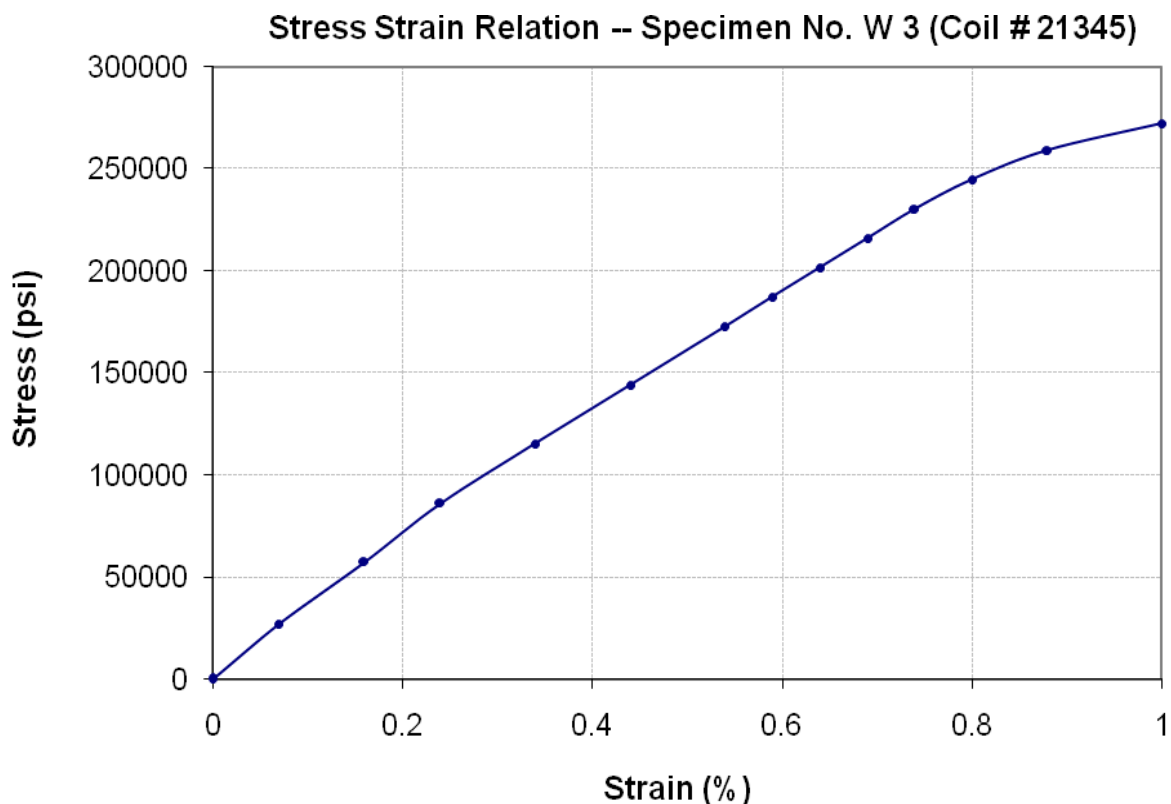
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To,
Material Engineer
Zeeruk International (Pvt) Ltd
Construction of 2-Lanes Highway from Basima to Khuzdar Section (N-30)

Reference # CED/TFL **35150** (Dr. Waseem Abbass)
Reference of the request letter # ZI/ME/N-30/2020/03

Dated: 17-07-2020
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Graph (Page – 4/7)



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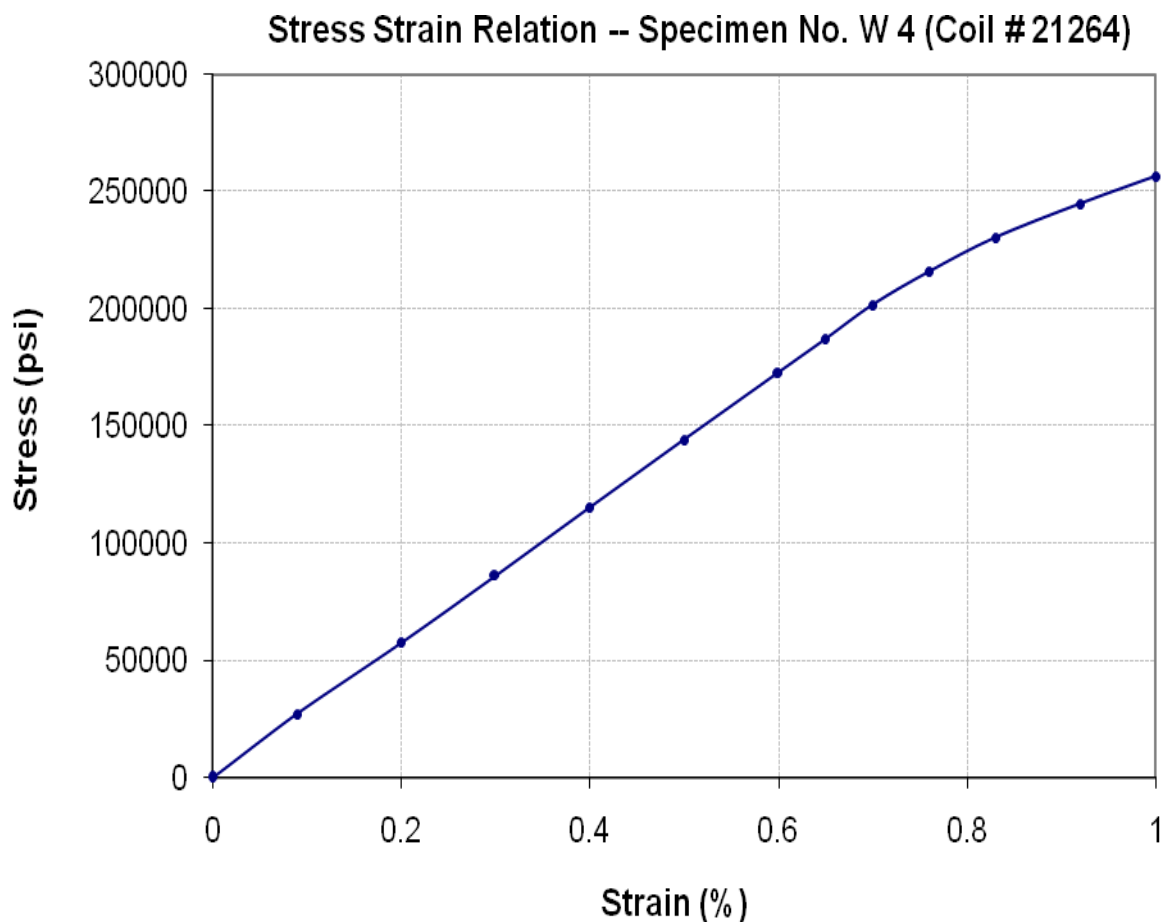
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To,
Material Engineer
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Reference # CED/TFL **35150** (Dr. Waseem Abbass)
Reference of the request letter # ZI/ME/N-30/2020/03

Dated: 17-07-2020
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Graph (Page – 5/7)



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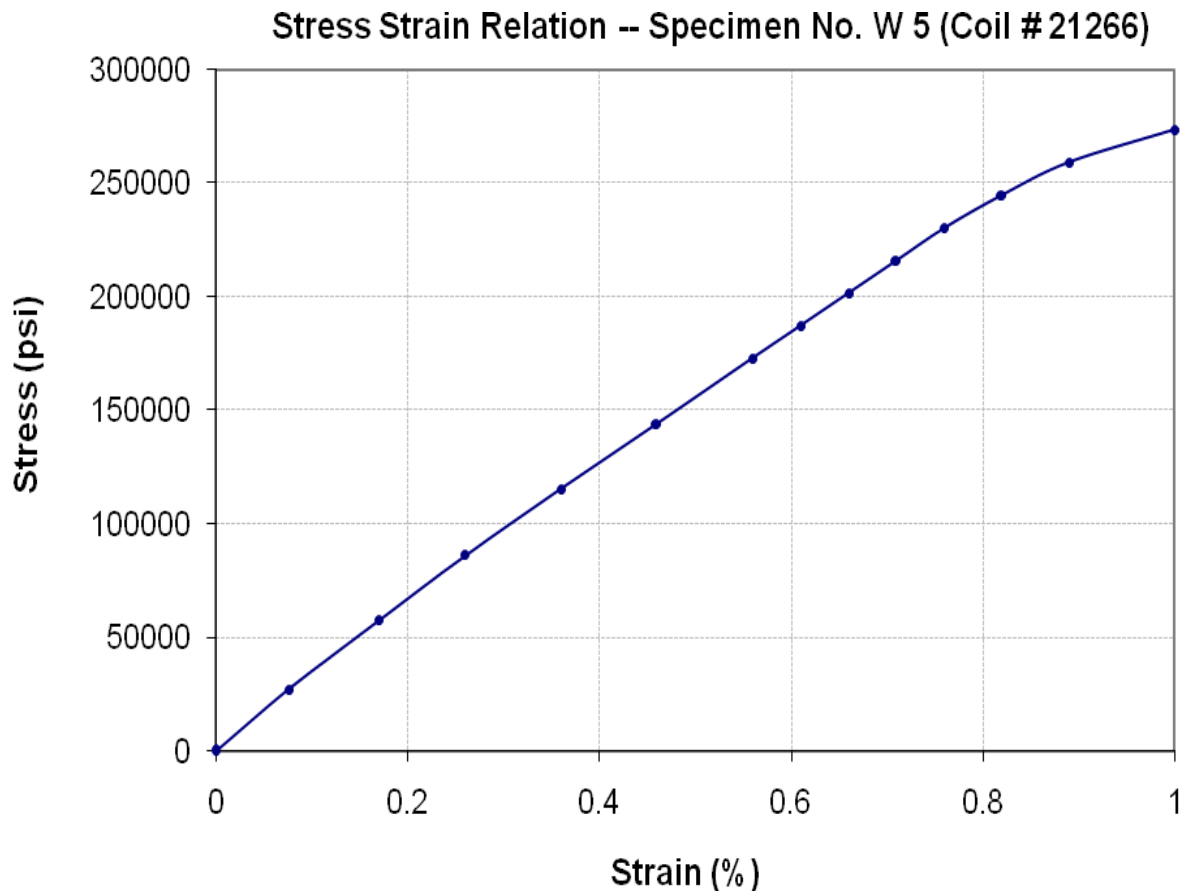
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To,
Material Engineer
Zeeruk International (Pvt) Ltd
Construction of 2-Lanes Highway from Basima to Khuzdar Section (N-30)

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Reference of the request letter # ZI/ME/N-30/2020/03

Dated: 17-07-2020
Dated: 16-07-2020

Graph (Page – 6/7)



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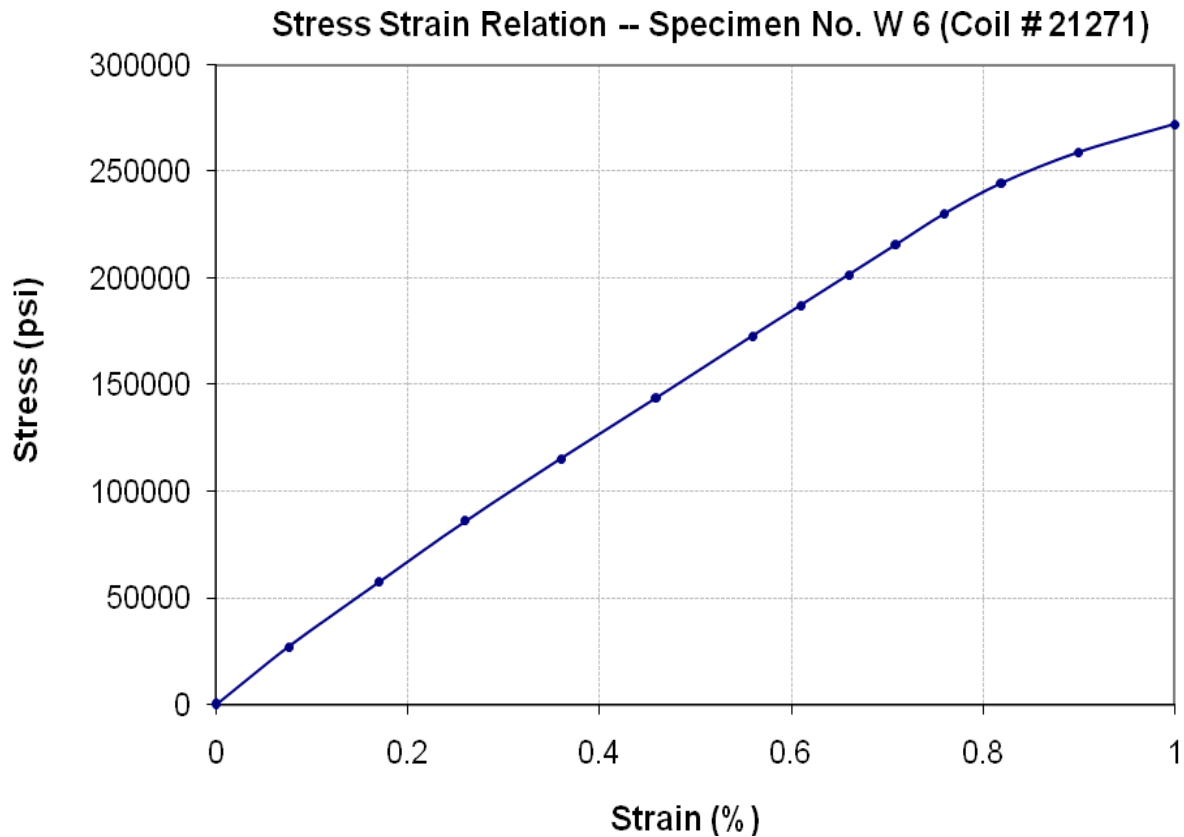
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To,
Material Engineer
Zeeruk International (Pvt) Ltd
Construction of 2-Lanes Highway from Basima to Khuzdar Section (N-30)

Reference # CED/TFL **35150** (Dr. Waseem Abbass)
Reference of the request letter # ZI/ME/N-30/2020/03

Dated: 17-07-2020
Dated: 16-07-2020

Graph (Page – 7/7)



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STRUCTURAL ENGINEERING DIVISION
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To,
M/S Defence Housing Authority.
Lahore Cantt
(Proposed Commercial Plaza, DRGCC Ph-III, DHA Ph-VI (M/s Construct))

Reference # CED/TFL **35151** (Dr. Waseem Abbas)
Reference of the request letter # 408/241/E/Lab/947/5561

Dated: 20-07-2020
Dated: 20-07-2020

Tension Test Report (Page -1/1)

Date of Test 21-07-2020
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 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	4800	68200	67570	96200	95400	1.10	13.8	Kamran Steel
2	0.375	3	0.375	0.11	0.110	3400	4800	68200	67990	96200	96000	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples 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.

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STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
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Pakistan. Ph: 92-42-99029202

To,
 Deputy Director (Tech)
 Anti-Corruption Establishment,
 Sargodha

Reference # CED/TFL **35153** (Dr. Waseem Abbass)
 Reference of the request letter # ACE-SR-2020/4330

Dated: 20-07-2020
 Dated: 18-07-2020

Tension Test Report (Page -1/1)

Date of Test 21-07-2020
 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 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	0.443	3/8	0.407	0.11	0.130	3900	6100	78200	66060	122300	103400	1.30	16.3	
2	0.443	3/8	0.407	0.11	0.130	3900	6100	78200	66010	122300	103300	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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STRUCTURAL ENGINEERING DIVISION
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To,
 CEO
 Ittefaq Building Solutions Pvt Ltd
 Barrett Hodgson University Toba Tek Singh

Reference # CED/TFL **35154** (Dr. Waseem Abbass)
 Reference of the request letter # IBS/BHU/ST-01

Dated: 20-07-2020
 Dated: 20-07-2020

Tension Test Report (Page -1/1)

Date of Test 21-07-2020
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		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	0.373	10	9.49	0.12	0.110	4000	5100	73487	80360	93696	102500	0.90	11.3	
.	
.	
.	
.	
.	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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Pakistan. Ph: 92-42-99029202

To,
 Project Manager
 MA Engineering Services
 Construction of Commercial Plaza at Al Rehman Garden Lahore

Reference # CED/TFL **35155** (Dr. Waseem Abbass)
 Reference of the request letter # MA/UET/006

Dated: 20-07-2020
 Dated: 20-07-2020

Tension Test Report (Page -1/1)

Date of Test 21-07-2020
 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 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	0.380	3	0.377	0.11	0.112	3700	5000	74200	72970	100200	98700	1.00	12.5	FF Steel
2	0.388	3	0.381	0.11	0.114	3700	5100	74200	71510	102200	98600	0.90	11.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples 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.

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To,
M/S Hasnain Builders
Lahore

Reference # CED/TFL **35156** (Dr. Waseem Abbass)
Reference of the request letter # Nil

Dated: 20-07-2020
Dated: 20-07-2020

Tension Test Report (Page -1/1)

Date of Test 21-07-2020
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		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	0.369	10	9.44	0.12	0.108	3800	4900	69812	77260	90021	99700	1.10	13.8	
2	0.368	10	9.43	0.12	0.108	3800	4800	69812	77370	88184	97800	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratories
UET Lahore, Pakistan.

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To,
 Resident Engineer
 Orbit Housing
 The Spring Apartment Homes, Canal Road, Lahore

Reference # CED/TFL **35159** (Dr. Waseem Abbas)
 Reference of the request letter # Nil

Dated: 21-07-2020
 Dated: 21-07-2020

Tension Test Report (Page -1/1)

Date of Test 21-07-2020
 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 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	0.364	3	0.369	0.11	0.107	2700	4000	54100	55700	80200	82600	1.50	18.8	
2	0.369	3	0.372	0.11	0.109	2600	4000	52100	52790	80200	81300	1.70	21.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
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