



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
AMCORP Engineering & Construction (Pvt) Ltd
“Construction of Early Works of Park Edge, Emaar, Karachi.”

Reference # CED/TFL **3683** (Dr. Ali Ahmed)
Reference of the request letter # Nil

Dated: 31-07-2023
Dated: 27-07-2023

Tension Test Report (Page – 1/1)

Date of Test 02-08-2023
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	12.70 (1/2")	775.0	784.0	18200	178.54	20000	196.20	>3.50	3973
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
Only one sample for Test									

To,

Resident Engineer

I/C Testing Laboratoires
UET Lahore, Pakistan.

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NESPAK

Construction of Flyover / Underpass at Akbar Chowk Lahore
(Revised: Signal Free Corridor) (M/s United Wires (Pvt) Ltd.)

Reference # CED/TFL **3689** (Dr. Ali Ahmed)

Dated: 01-08-2023

Reference of the request letter # 3772/103/ACF/SA/04/122

Dated: 11-07-2023

Tension Test Report (Page -1/11)

Date of Test 02-08-2023

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	15.24 (0.6")	1102.0	1115.0	24200	237.40	26700	261.93	199	>3.50	1271
2	15.24 (0.6")	1102.0	1115.0	24100	236.42	26900	263.89	199	>3.50	1271
3	15.24 (0.6")	1102.0	1113.0	24100	236.42	26400	258.98	198	>3.50	1265
4	15.24 (0.6")	1102.0	1117.0	24100	236.42	26900	263.89	199	>3.50	1265
5	15.24 (0.6")	1102.0	1117.0	24300	238.38	26600	260.95	199	>3.50	1225
6	15.24 (0.6")	1102.0	1117.0	24500	240.35	27200	266.83	198	>3.50	1225
7	15.24 (0.6")	1102.0	1116.0	24300	238.38	27000	264.87	199	>3.50	1262
8	15.24 (0.6")	1102.0	1115.0	24400	239.36	27100	265.85	199	>3.50	1262
9	15.24 (0.6")	1102.0	1119.0	24300	238.38	27000	264.87	198	>3.50	1282
10	15.24 (0.6")	1102.0	1123.0	24400	239.36	27200	266.83	199	>3.50	1282
Only ten samples for Test										

Witness by M. Saleem (MS NESPAK)

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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To,

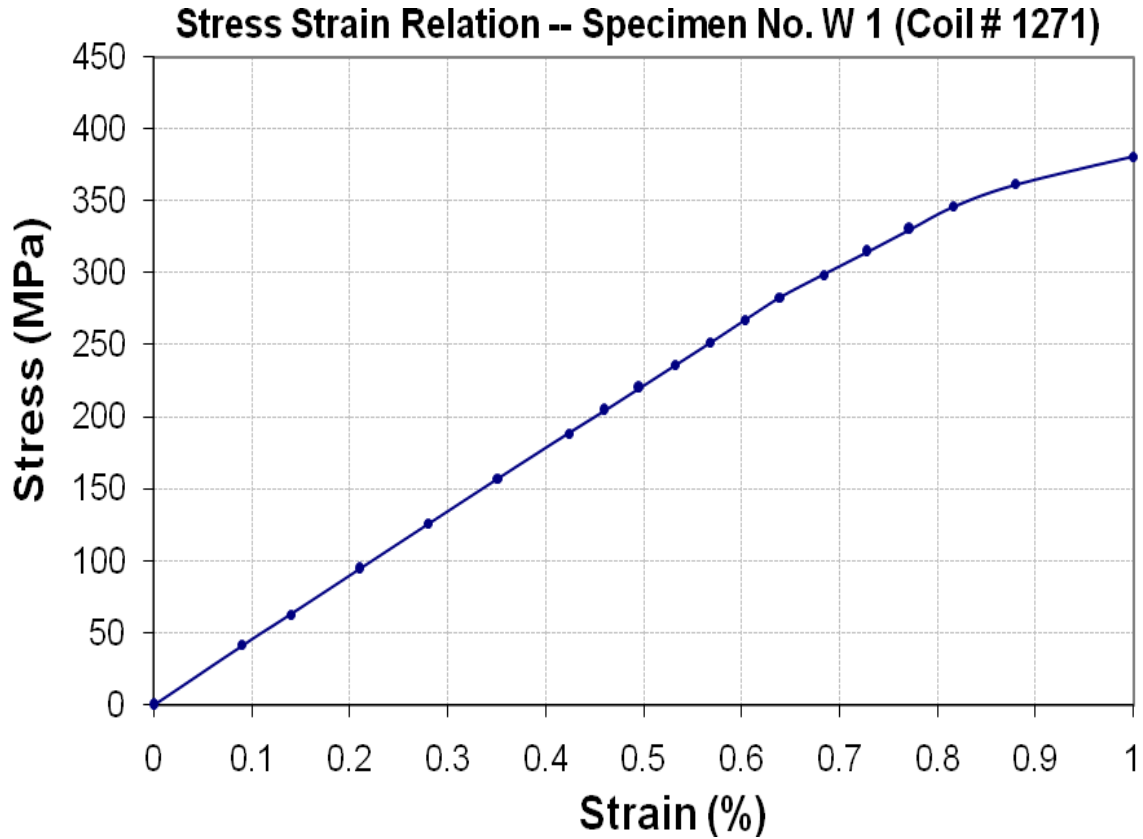
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(Revised: Signal Free Corridor) (M/s United Wires (Pvt) Ltd.)

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Reference of the request letter # 3772/103/ACF/SA/04/122

Dated: 01-08-2023

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Graph (Page – 2/11)



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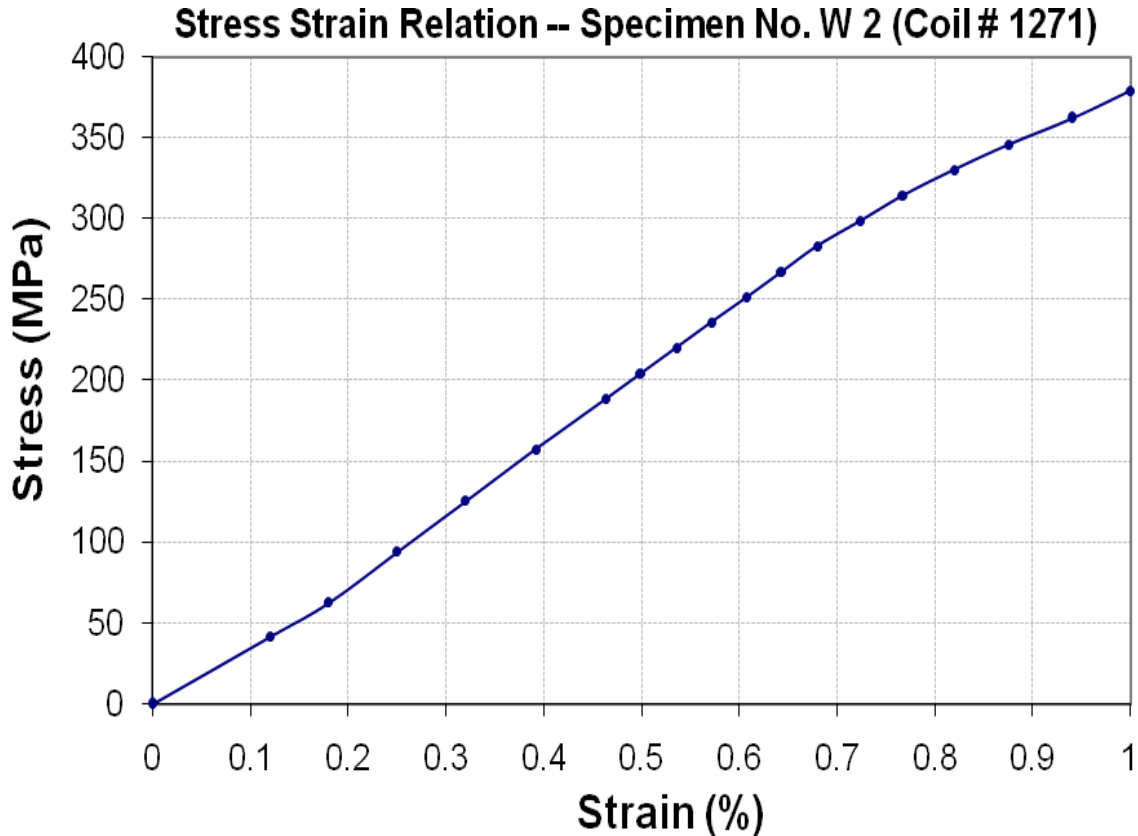
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Graph (Page – 3/11)



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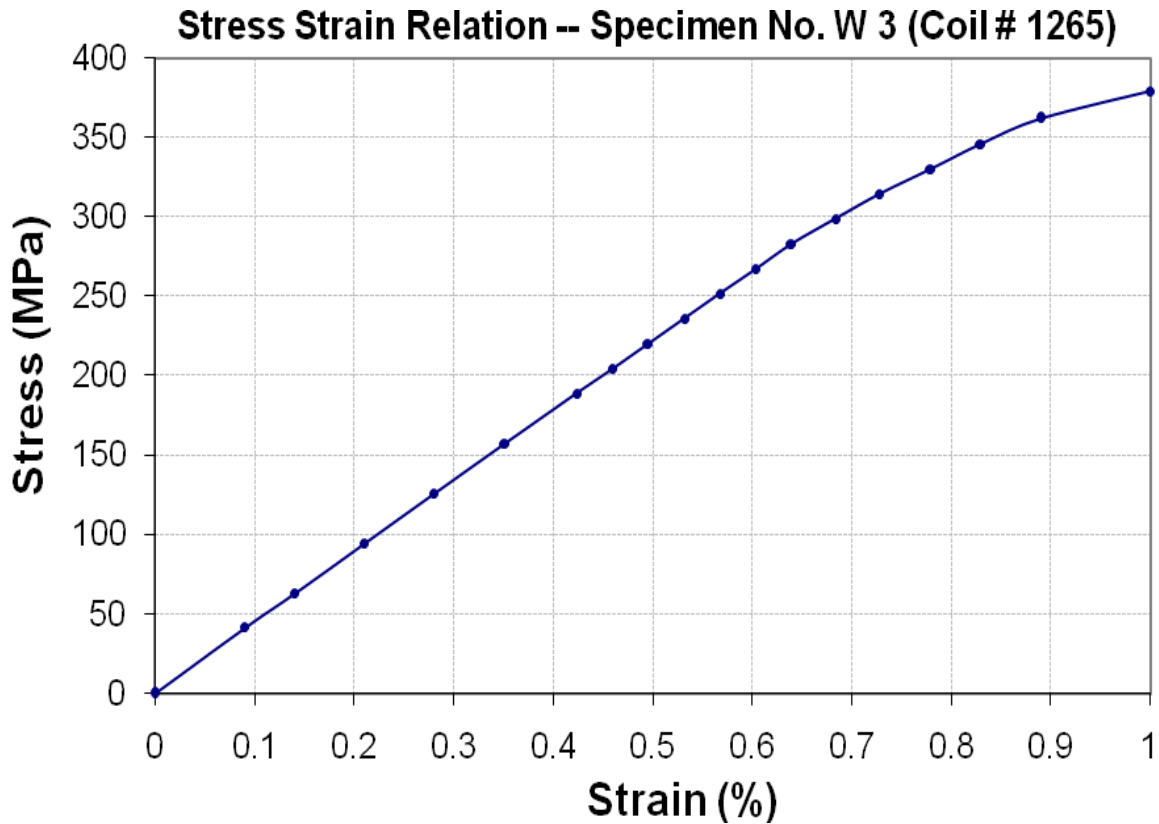
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Graph (Page – 4/11)



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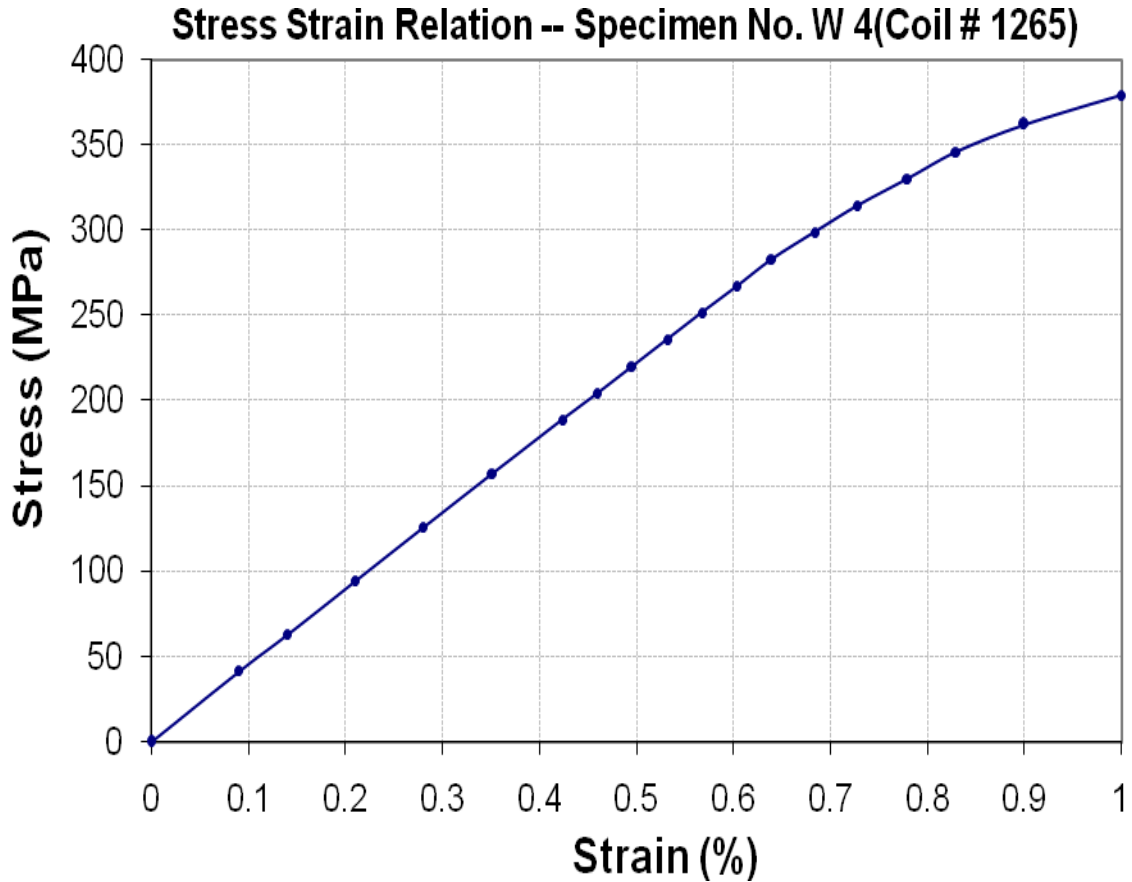
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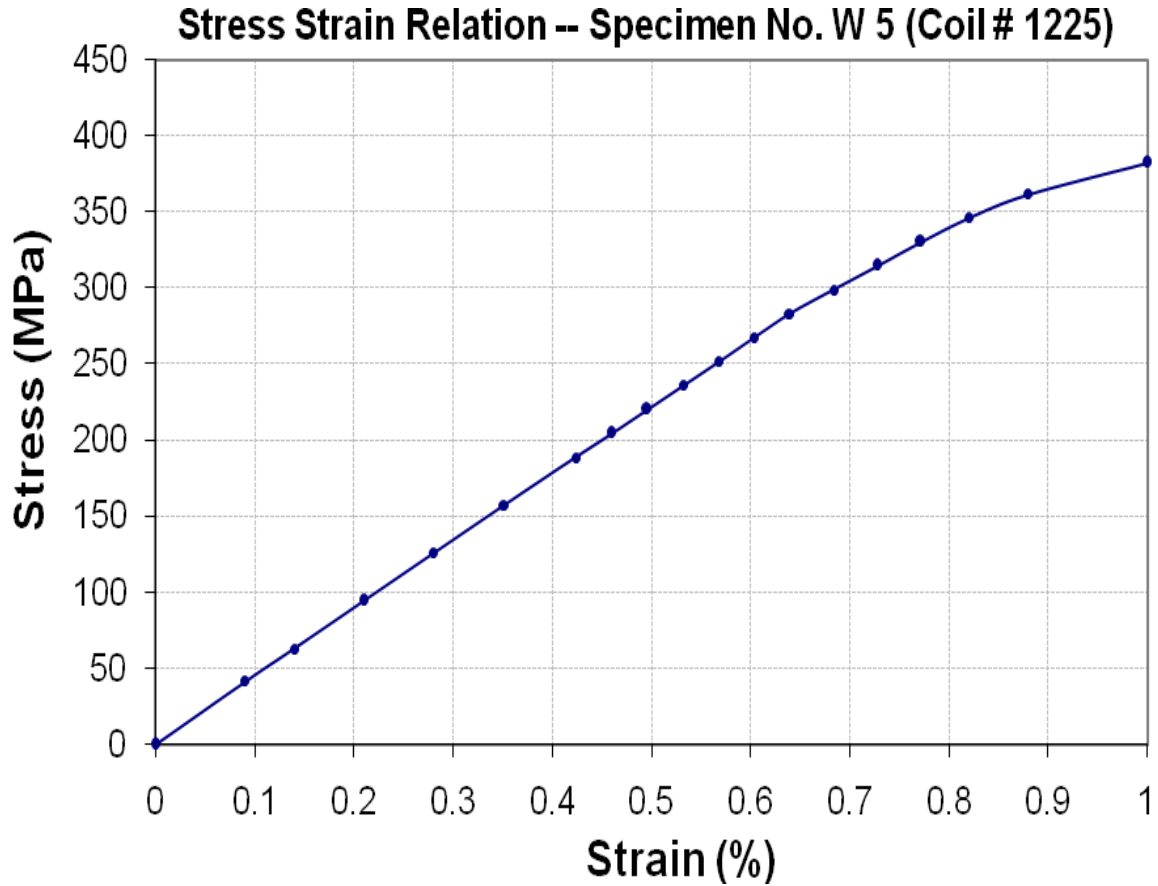
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Graph (Page – 6/11)



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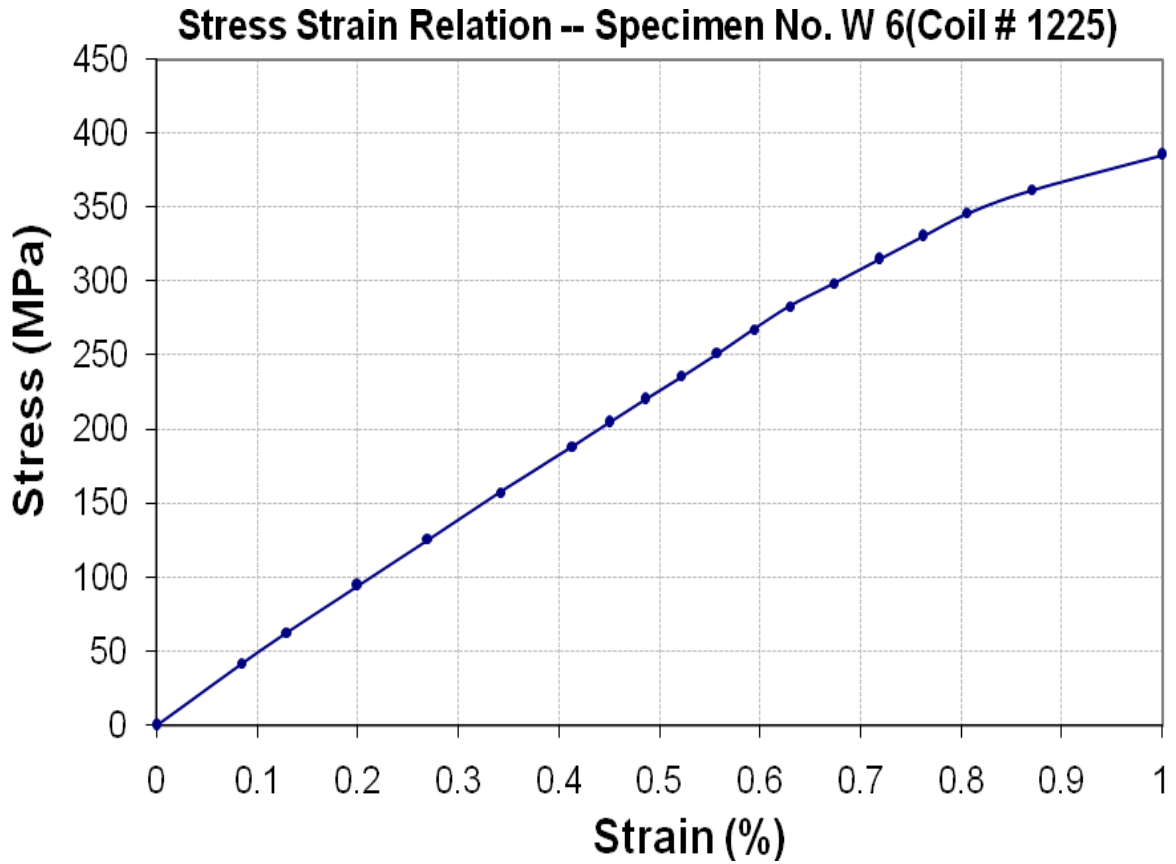
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Graph (Page – 7/11)



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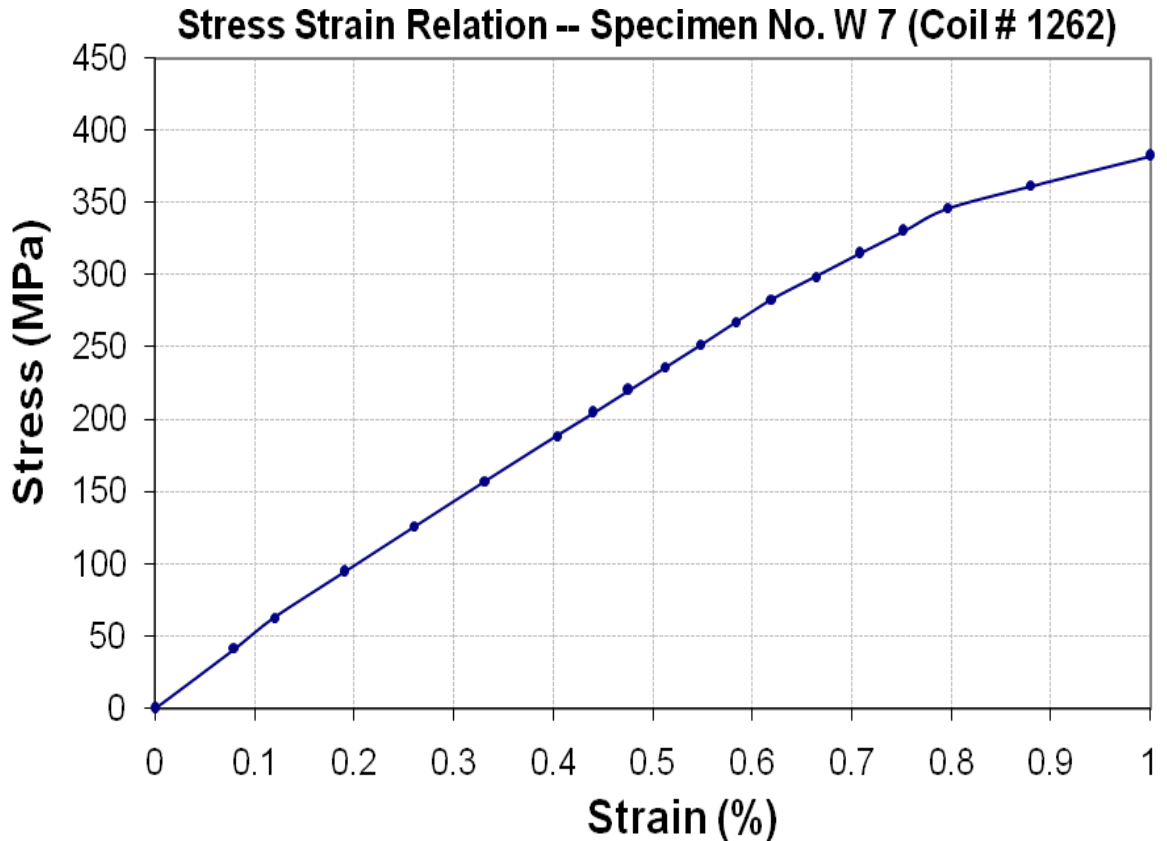
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Graph (Page – 8/11)



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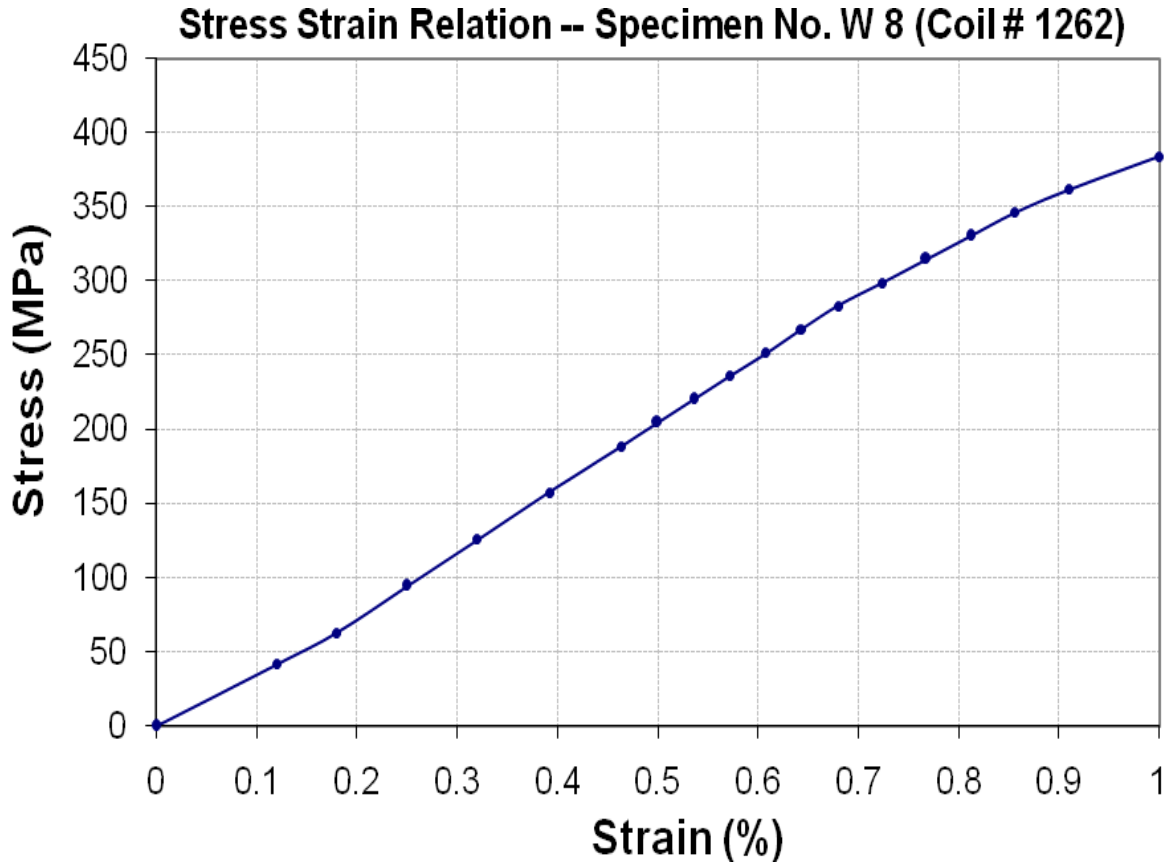
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Graph (Page – 9/11)



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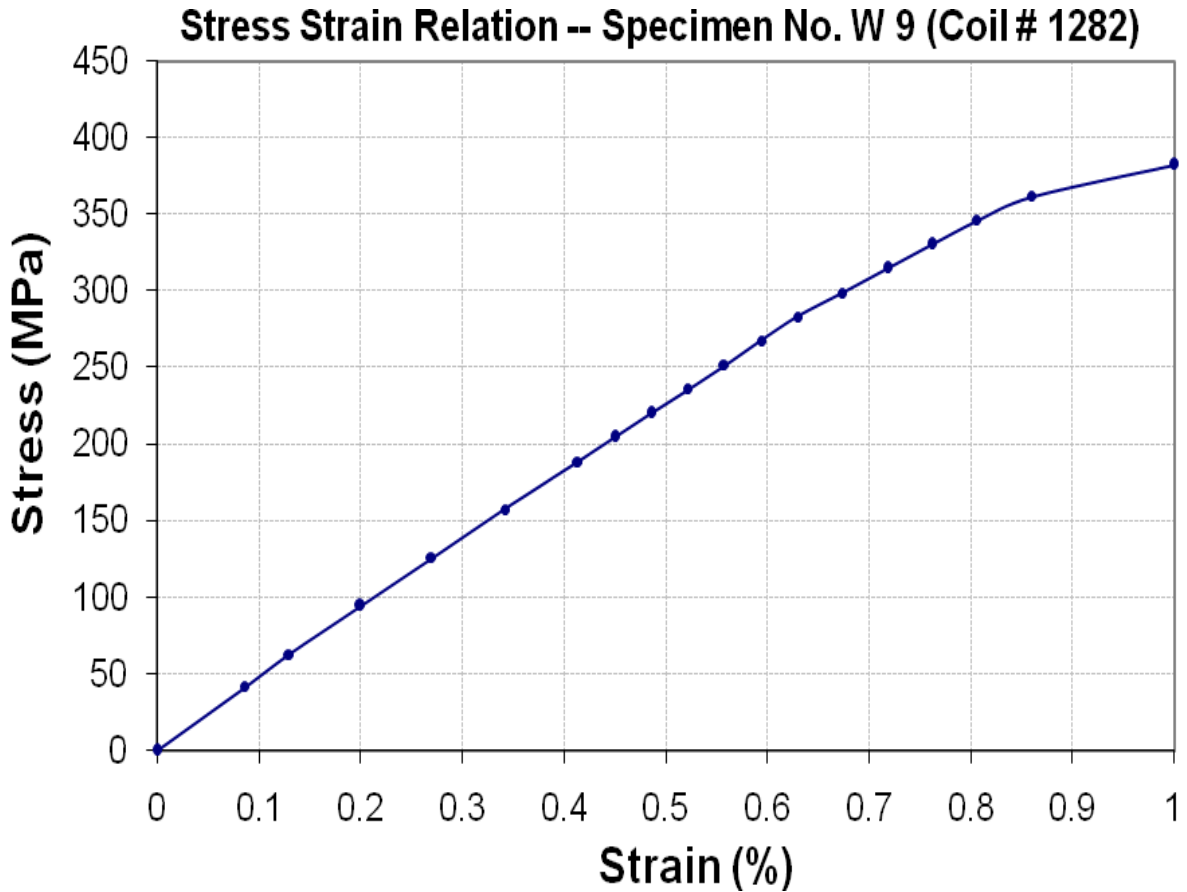
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Dated: 01-08-2023
Dated: 11-07-2023

Graph (Page – 10/11)



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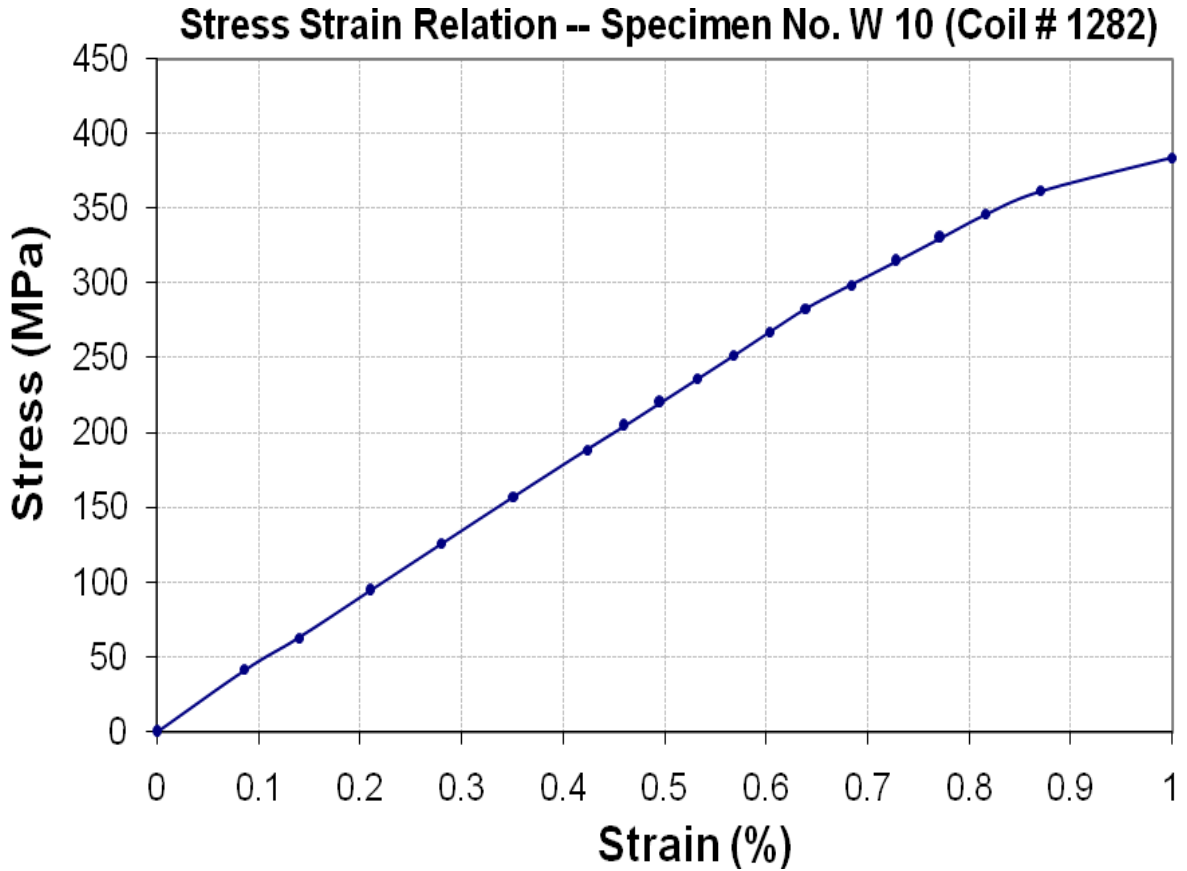
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Graph (Page – 11/11)



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To,
 Project Manager/ Resident Head (Civil)
 Jaggran-II Hydropower Consultants
 EPC Contract for 48MW Jaggran-II Hydropower Project

Reference # CED/TFL **3694** (Dr. Ali Ahmed)
 Reference of the request letter # E314-JHC-EPCC-OC-593

Dated: 02-08-2023
 Dated: 02-08-2023

Tension Test Report (Page -1/1)

Date of Test 02-08-2023
 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	0.404	10	9.87	0.12	0.119	3900	4800	71650	72440	88184	89200	1.40	17.5	Ambreli Steel
2	0.402	10	9.85	0.12	0.118	3800	4800	69812	70890	88184	89600	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

Witness by Bilal Ishaq (JHC PDO AJK)

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