



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

To,
 Ali Khan & Sons Surmoo
 Government Contractor
 Skardu Balkistan
 228 M RCC Bridge Shoke River at Daghnoi Ghanche

Reference # CED/TFL **32713** (Dr. Ali Ahmed)
 Reference of the request letter # Nil

Dated: 26-02-2019
 Dated: 26-02-2019

Tension Test Report (Page – 1/2)

Date of Test 04-03-2019
 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	782.0	18400	180.50	20300	199.14	199	>3.50	20274
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only one sample 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.

Note:

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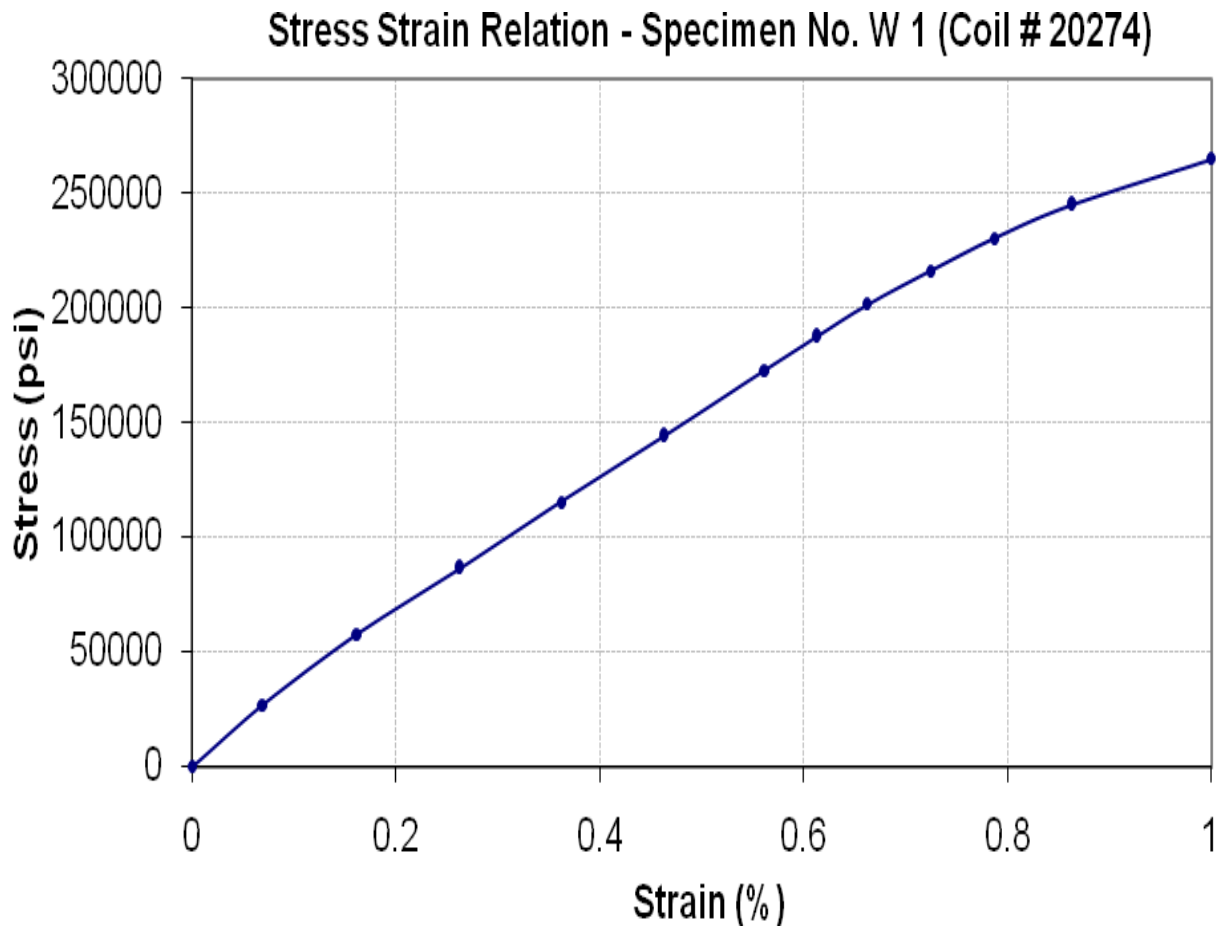
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Graph (Page – 2/2)



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

To,
 Resident Engineer (RRWP-II)
 Peas Consulting (Pvt) Ltd
 Rawat – Rawalpindi Widening Project (RRWP) – Phase –II (Conversion of 02-Lane Lai and Swan Bridge to 04-Lane Bridges)

Reference # CED/TFL **32714** (Dr. Ali Ahmed)
 Reference of the request letter # PEAS/NHA/RE/2019/34

Dated: 27-02-2019
 Dated: 25-02-2019

Tension Test Report (Page – 1/2)

Date of Test 04-03-2019
 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	786.0	-----	-----	16000	156.96	-----	<3.50 Not ok	xx
2	12.70 (1/2")	775.0	779.0	18300	179.52	20000	196.20	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only two 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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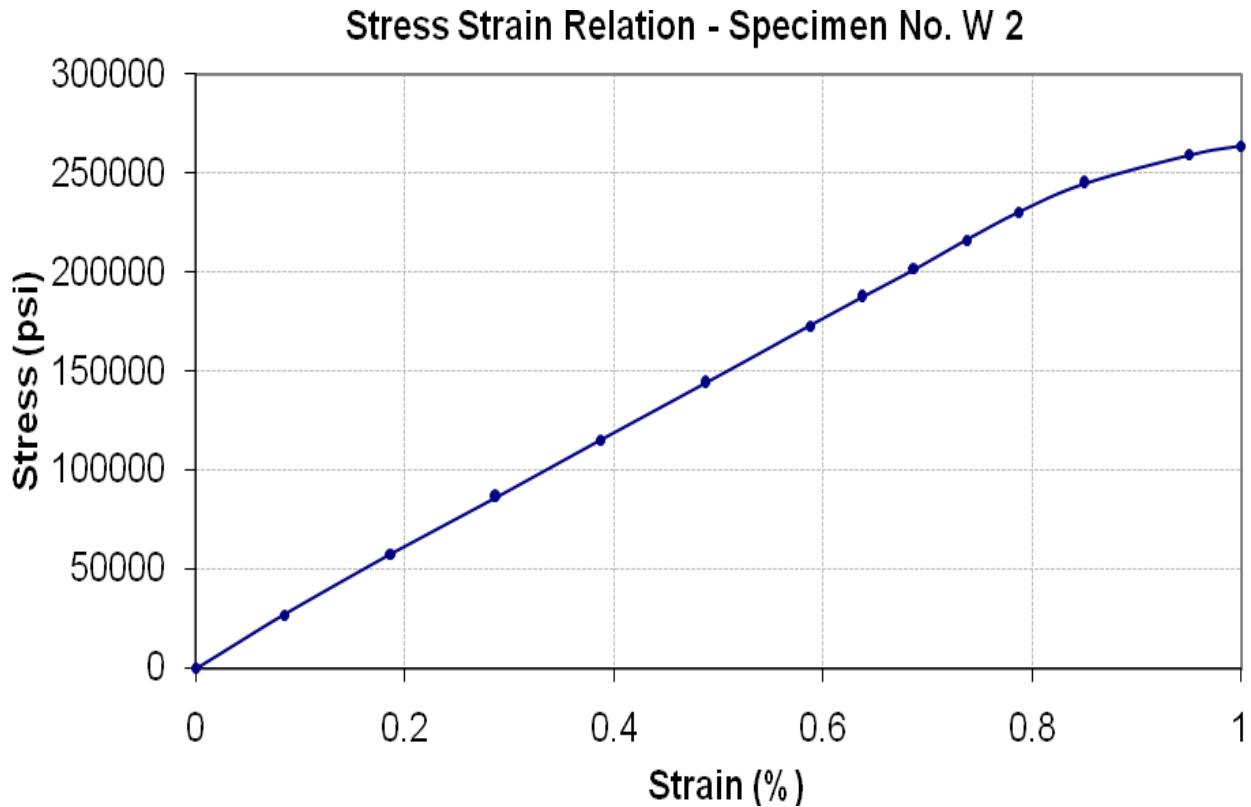
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Resident Engineer (RRWP-II)
Peas Consulting (Pvt) Ltd
Rawat – Rawalpindi Widening Project (RRWP) – Phase –II (Conversion of 02-Lane Lai and Swan Bridge to 04-Lane Bridges)

Reference # CED/TFL **32714** (Dr. Ali Ahmed)
Reference of the request letter # PEAS/NHA/RE/2019/34

Dated: 27-02-2019
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Graph (Page – 2/2)



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STRUCTURAL ENGINEERING DIVISION
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To,
Laboratory Manager
M/S CGGC Sukhi Kinari Project Management in Pakistan
874 MW Sukhi Kinari Power Project (Xin Hua Metal Products Co. Ltd)

Reference # CED/TFL **32715** (Dr. Ali Ahmed)
Reference of the request letter # Nil

Dated: 27-02-2019
Dated: 23-02-2019

Tension Test Report (Page – 1/3)

Date of Test 04-03-2019
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	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	E, GPa		
1	15.24 (0.6")	1102.0	1106.0	25600	251.14	27900	273.70	199	>3.50	YPW115-SJ-19007
2	15.24 (0.6")	1102.0	1108.0	25700	252.12	27900	273.70	198	>3.50	YPW115-SJ-19008
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	

Only two 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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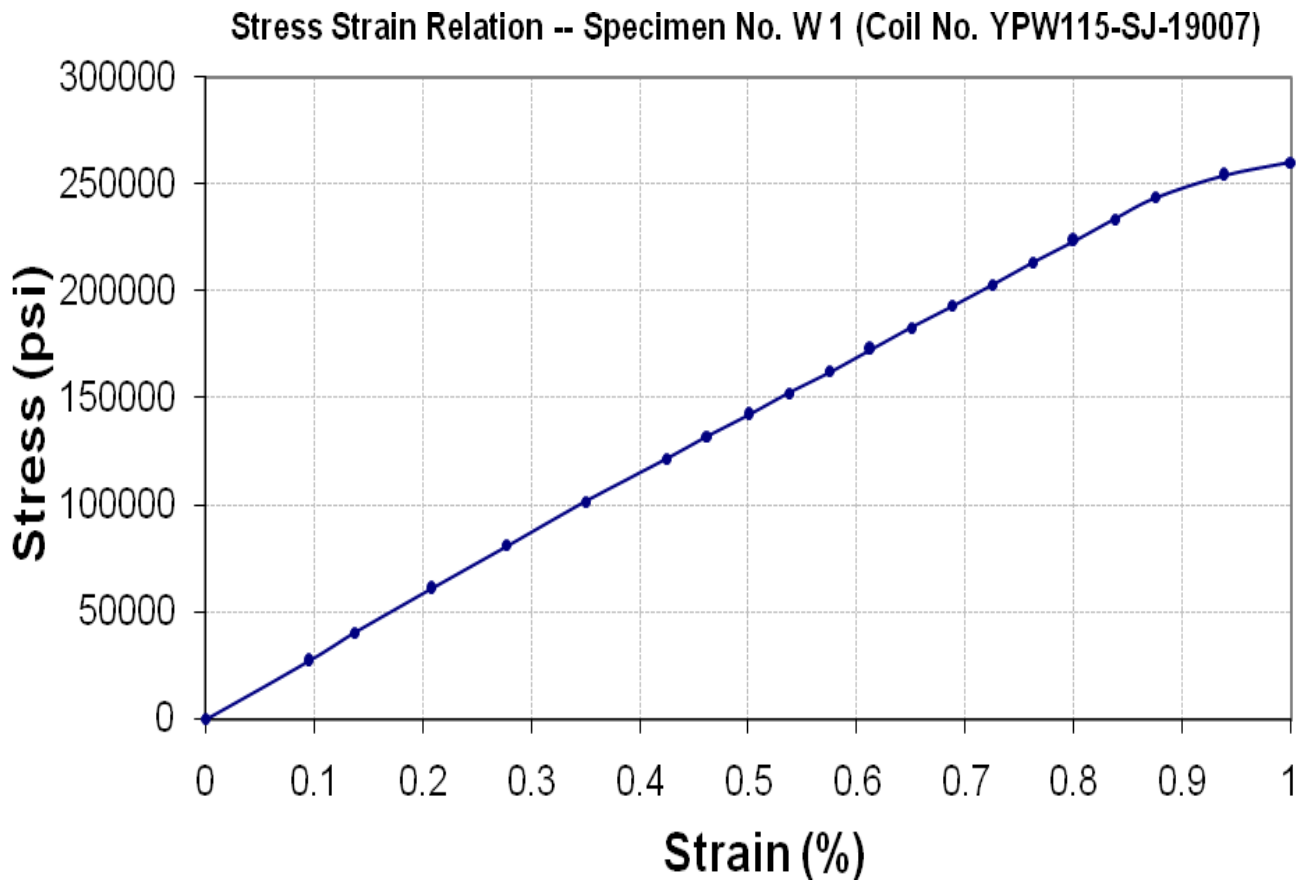
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To,
Laboratory Manager
M/S CGGC Sukhi Kinari Project Management in Pakistan
874 MW Sukhi Kinari Power Project (Xin Hua Metal Products Co. Ltd)

Reference # CED/TFL **32715** (Dr. Ali Ahmed)
Reference of the request letter # Nil

Dated: 27-02-2019
Dated: 23-02-2019

Graph (Page – 2/3)



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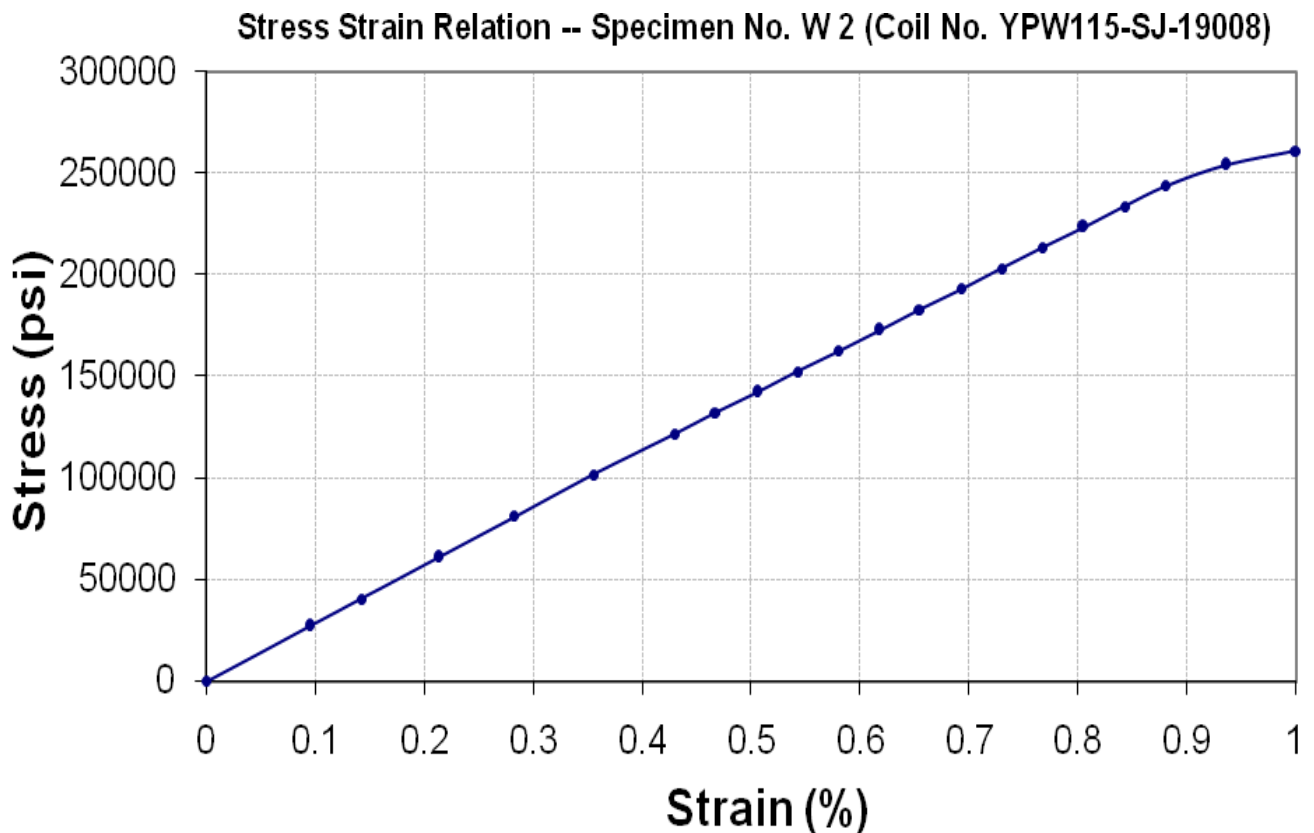
To,
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Graph (Page – 3/3)



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To,
Laboratory Manager
M/S CGGC Sukhi Kinari Project Management in Pakistan
874 MW Sukhi Kinari Power Project (Liuzou OVM)

Reference # CED/TFL **32719** (Dr. Ali Ahmed)
Reference of the request letter # Nil

Dated: 27-02-2019
Dated: 14-02-2019

Tension Test Report (Page – 1/2)

Date of Test 04-03-2019
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	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)	E, GPa		
1	15.24 (0.6")	1102.0	1126.0	25400	249.17	28100	275.66	199	>3.50	YPW115-SJ-19005
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only one sample 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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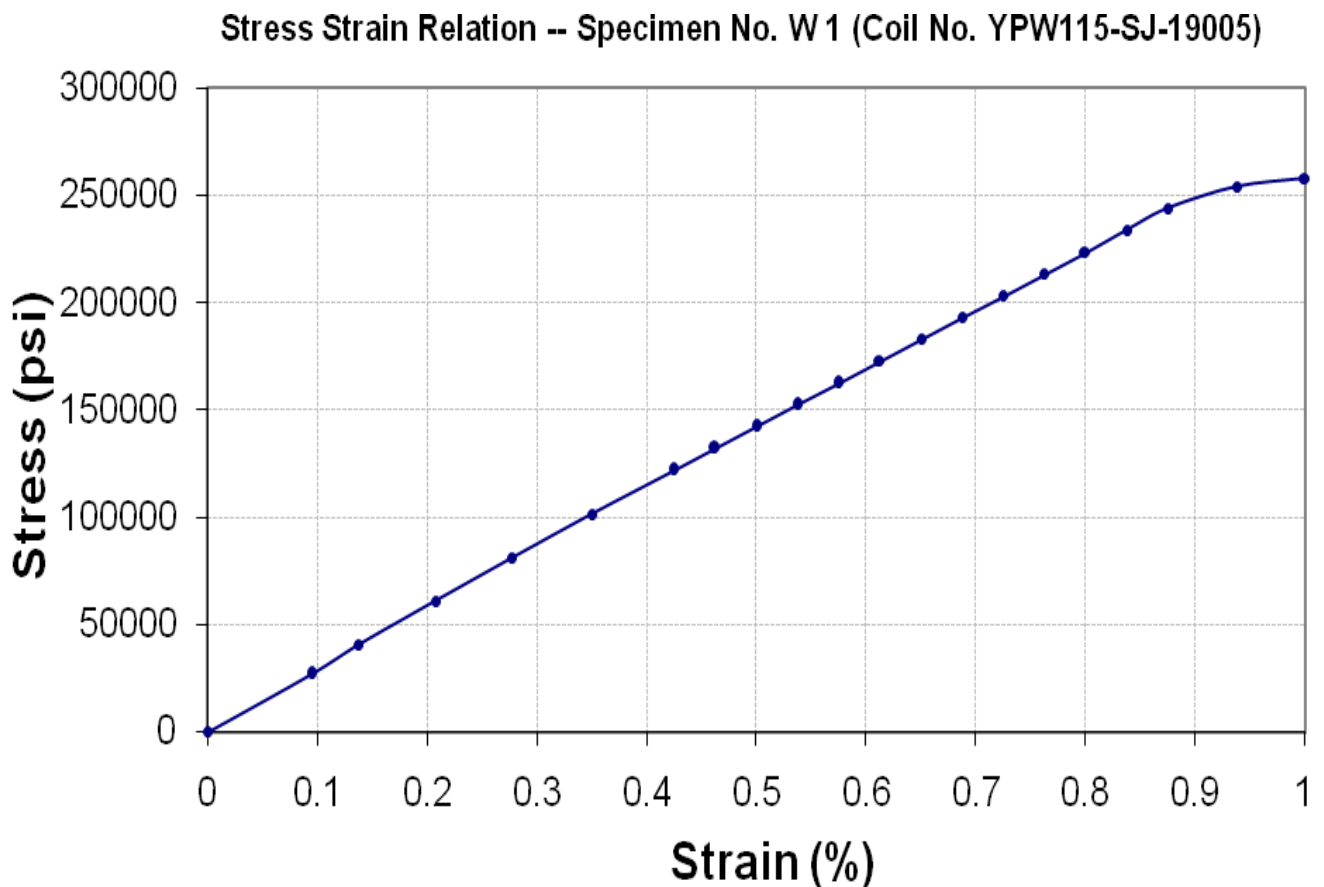
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To,
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M/S CGGC Sukhi Kinari Project Management in Pakistan
874 MW Sukhi Kinari Power Project (Liuzou OVM)

Reference # CED/TFL **32719** (Dr. Ali Ahmed)
Reference of the request letter # Nil

Dated: 27-02-2019
Dated: 14-02-2019

Graph (Page – 2/2)



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Pakistan. Ph: 92-42-99029202

To,
Chief Resident Engineer
Osmani & Company (Pvt) Ltd
Swat Motorway Project

Reference # CED/TFL **32726** (Dr. Ali Ahmed)
Reference of the request letter # 267/CRE/QAT/SMP/2019

Dated: 27-02-2019
Dated: 20-02-2019

Tension Test Report (Page – 1/4)

Date of Test 04-03-2019
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	781.0	18200	178.54	20000	196.20	199	>3.50	67
2	12.70 (1/2")	775.0	778.0	18200	178.54	19900	195.22	199	>3.50	72
3	12.70 (1/2")	775.0	780.0	19000	186.39	20000	196.20	199	>3.50	77
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	

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

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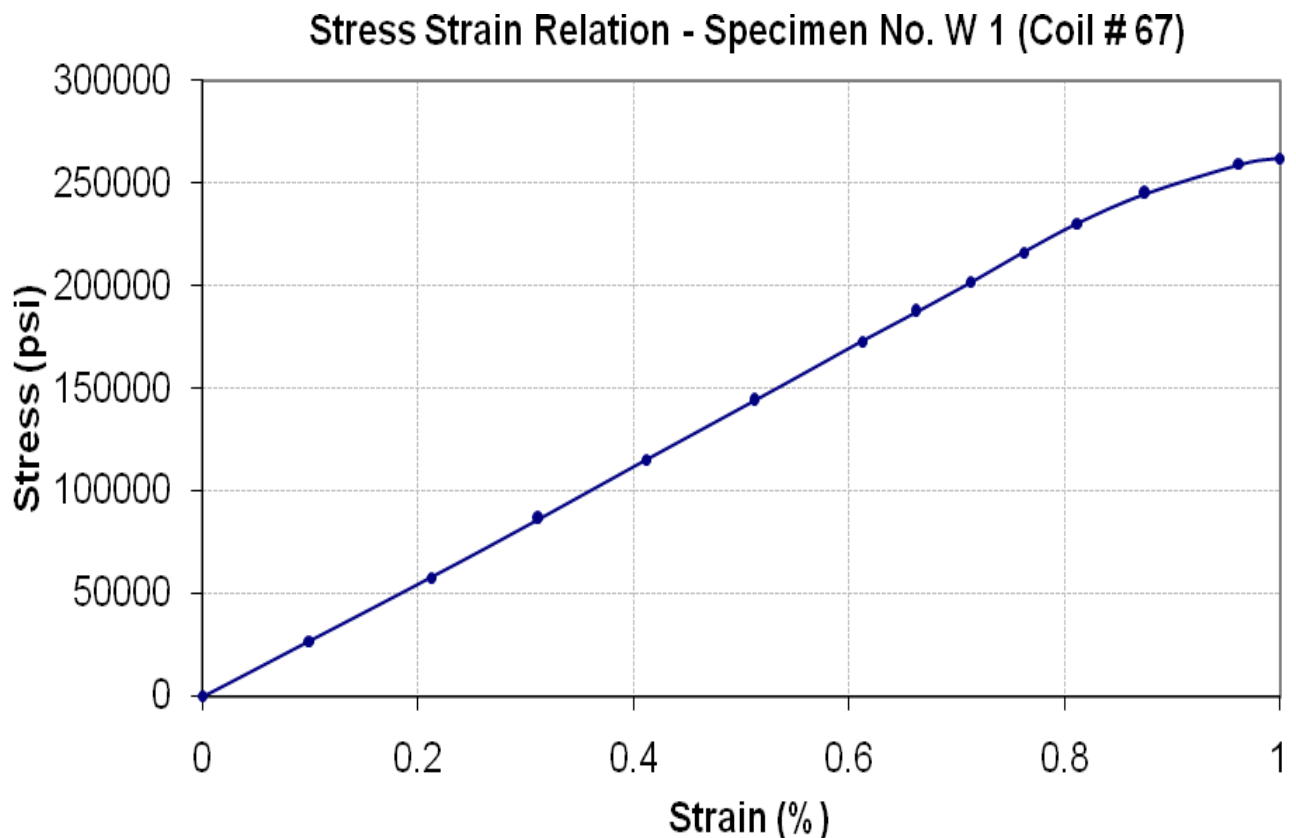
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Reference of the request letter # 267/CRE/QAT/SMP/2019

Dated: 27-02-2019
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Graph (Page – 2/4)



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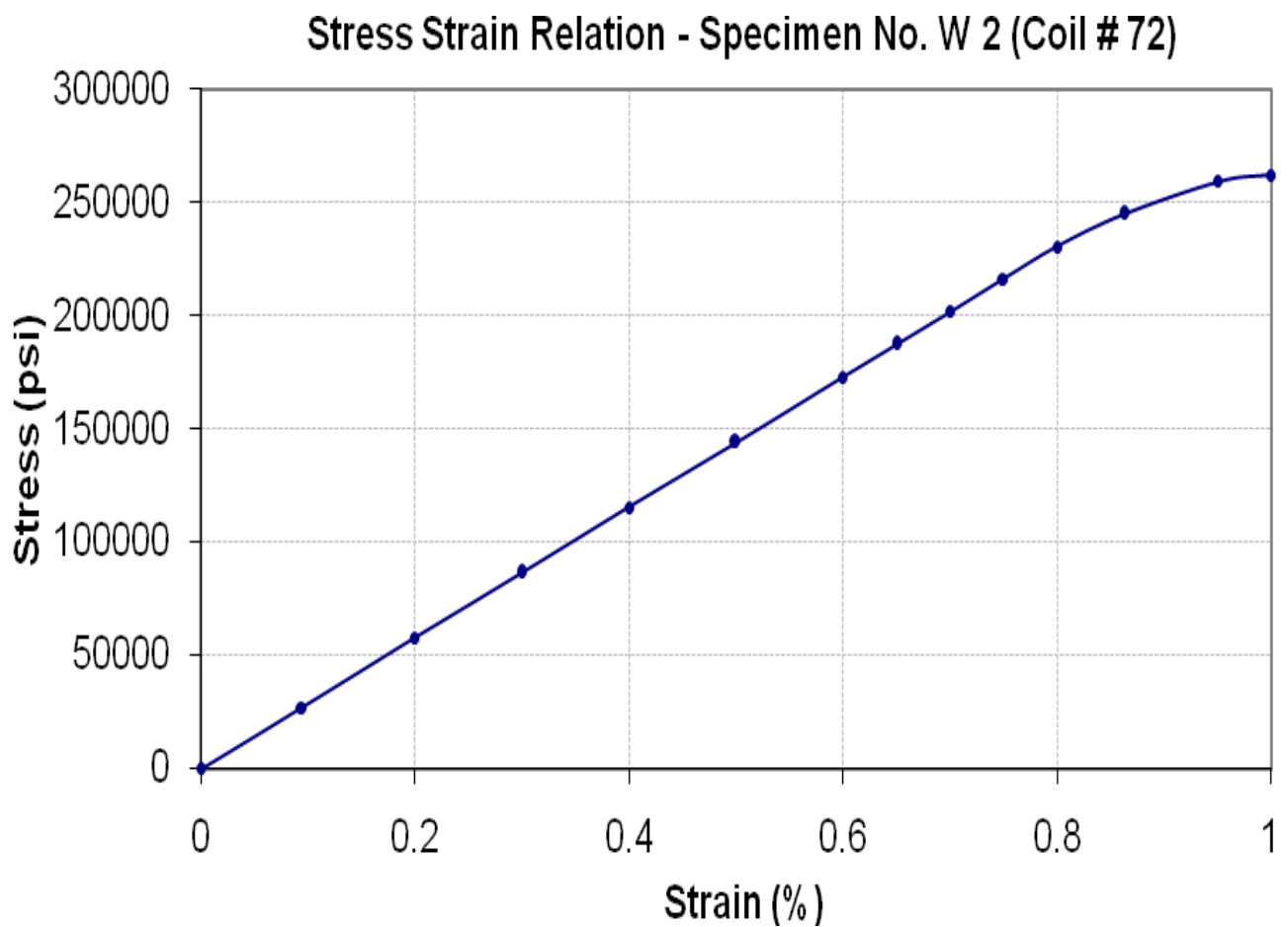
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Dated: 27-02-2019
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Graph (Page – 3/4)



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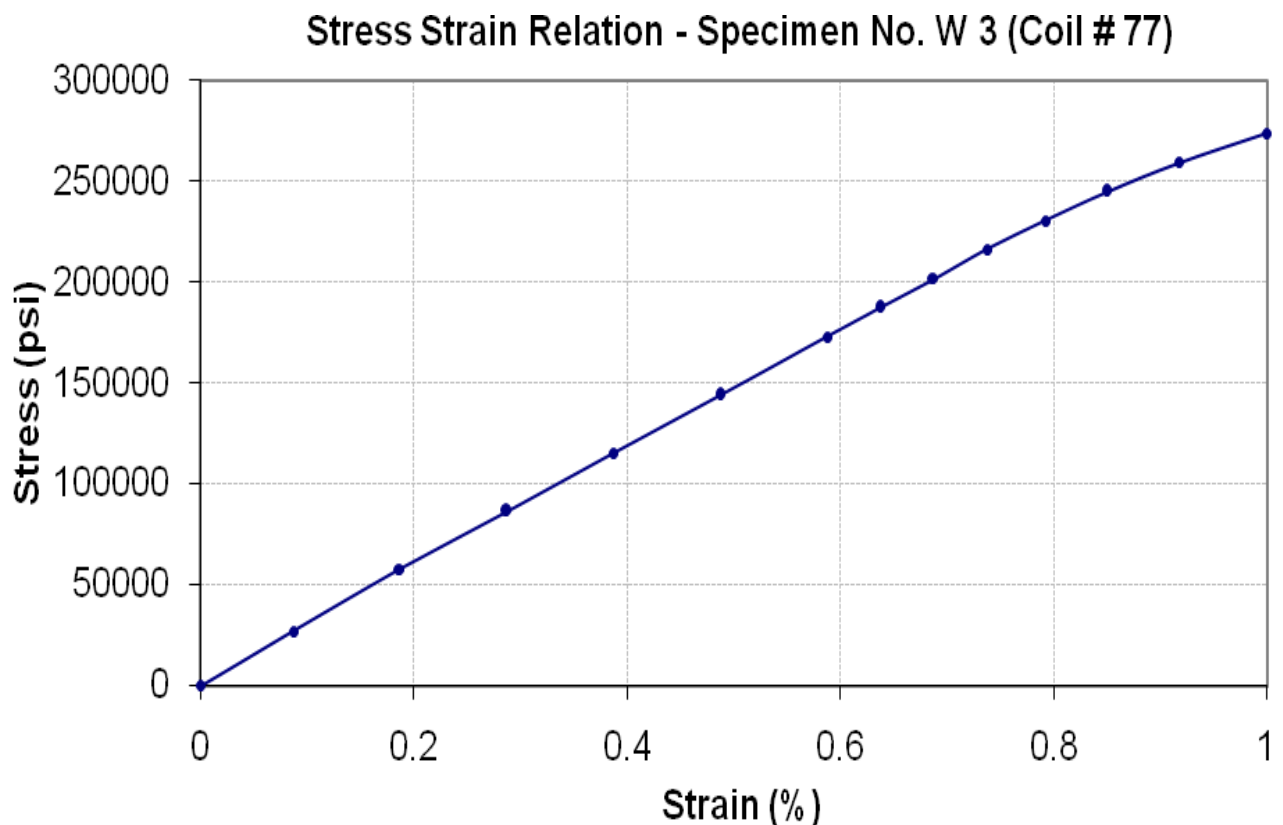
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Reference of the request letter # 267/CRE/QAT/SMP/2019

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Graph (Page – 4/4)



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Swat Motorway Project

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Reference of the request letter # 267/CRE/QAT/SMP/2019

Dated: 27-02-2019
Dated: 20-02-2019

Tension Test Report (Page – 1/4)

Date of Test 04-03-2019
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	779.0	17400	170.69	20500	201.11	199	>3.50	80
2	12.70 (1/2")	775.0	778.0	18900	185.41	20200	198.16	198	>3.50	84
3	12.70 (1/2")	775.0	778.0	18300	179.52	19800	194.24	198	>3.50	87
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	

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
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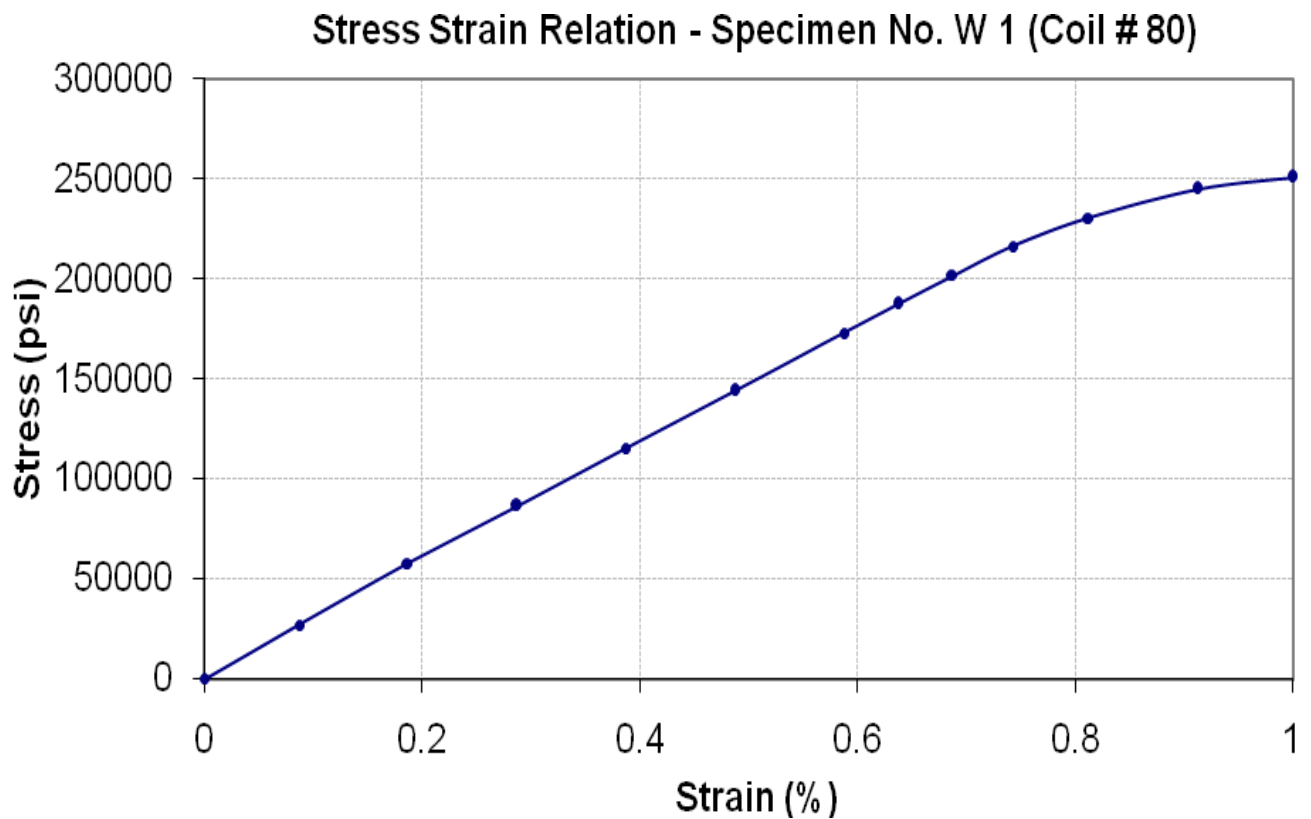
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Dated: 27-02-2019
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Graph (Page – 2/4)



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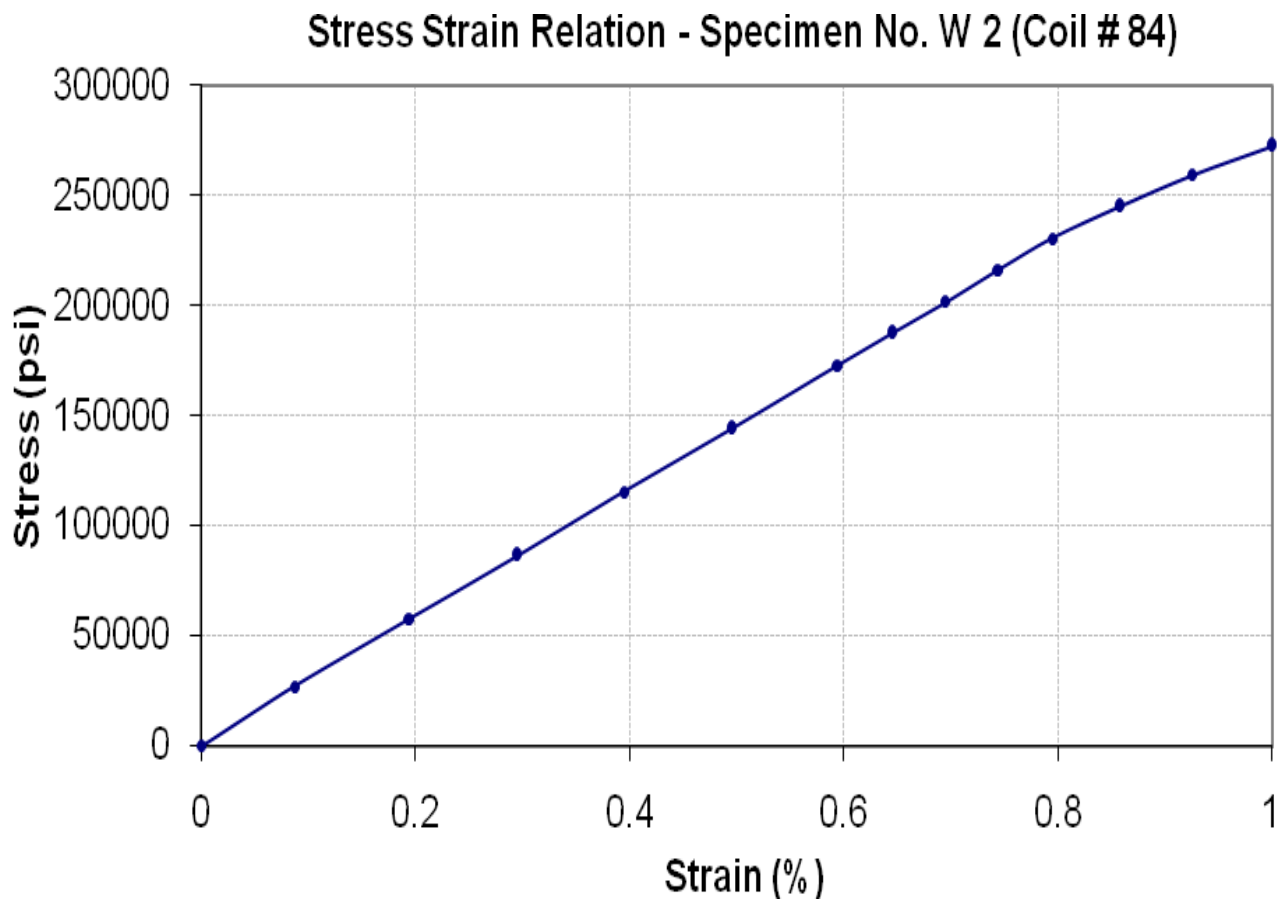
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Reference of the request letter # 267/CRE/QAT/SMP/2019

Dated: 27-02-2019
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Graph (Page – 3/4)



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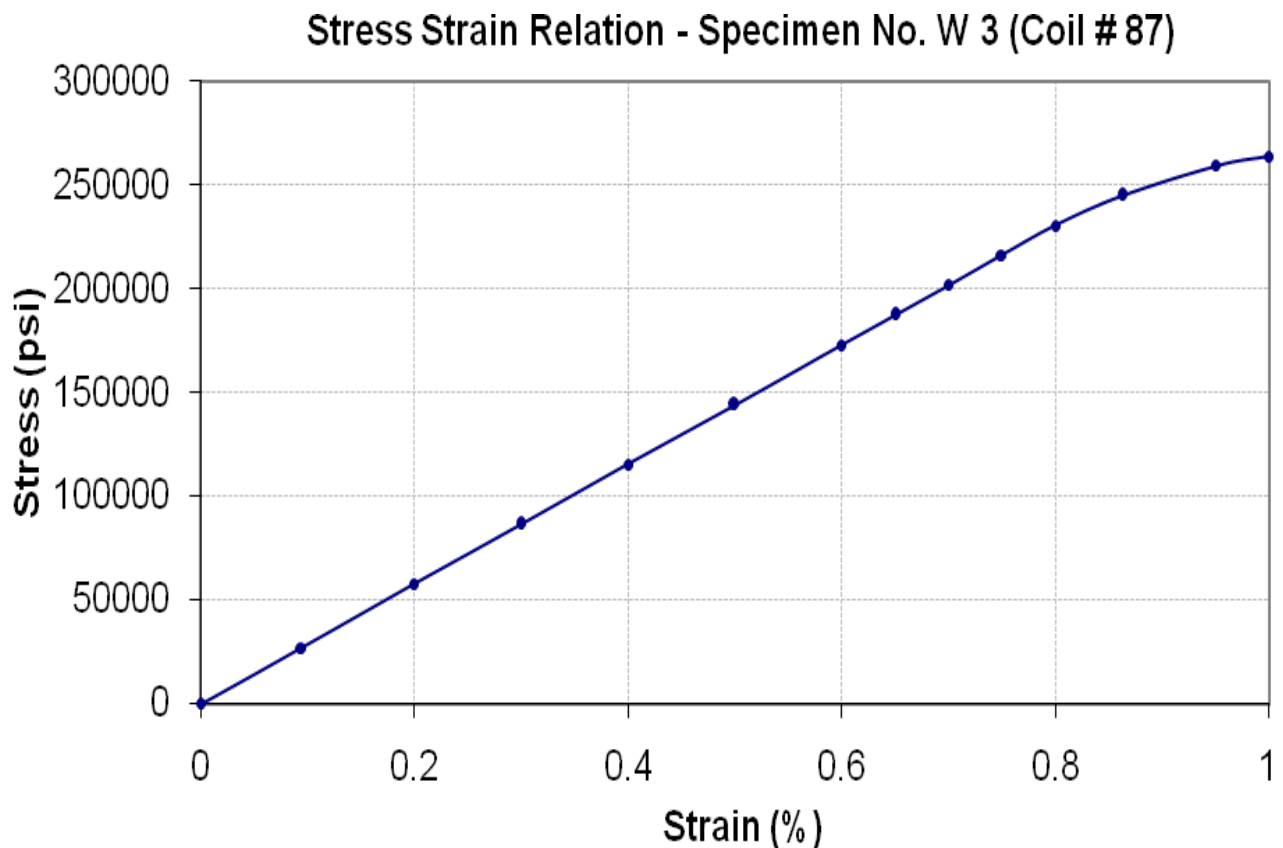
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Swat Motorway Project

Reference # CED/TFL **32727** (Dr. Ali Ahmed)
Reference of the request letter # 267/CRE/QAT/SMP/2019

Dated: 27-02-2019
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Graph (Page – 4/4)



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Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
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To,
 Resident Engineer
 NESPAK
 China – Pakistan Economic Corridor (CPEC), Western Route Hakla (on M1) – Yarak (D.I.Khan)
 Motorway, Package-3

Reference # CED/TFL **32738** (Dr. Nauman Khuram) Dated: 26-02-2019
 Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/841 Dated: 26-02-2019

Tension Test Report (Page – 1/4)

Date of Test 04-03-2019
 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)			
1	12.70 (1/2")	775.0	778.0	17900	175.60	19800	194.24	199	>3.50	United
2	12.70 (1/2")	775.0	785.0	18000	176.58	20000	196.20	198	>3.50	SCL
3	12.70 (1/2")	775.0	783.0	17700	173.64	19900	195.22	199	>3.50	SCL
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
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.

Note:

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- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



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
China – Pakistan Economic Corridor (CPEC), Western Route Hakla (on M1) – Yarak (D.I.Khan)
Motorway, Package-3

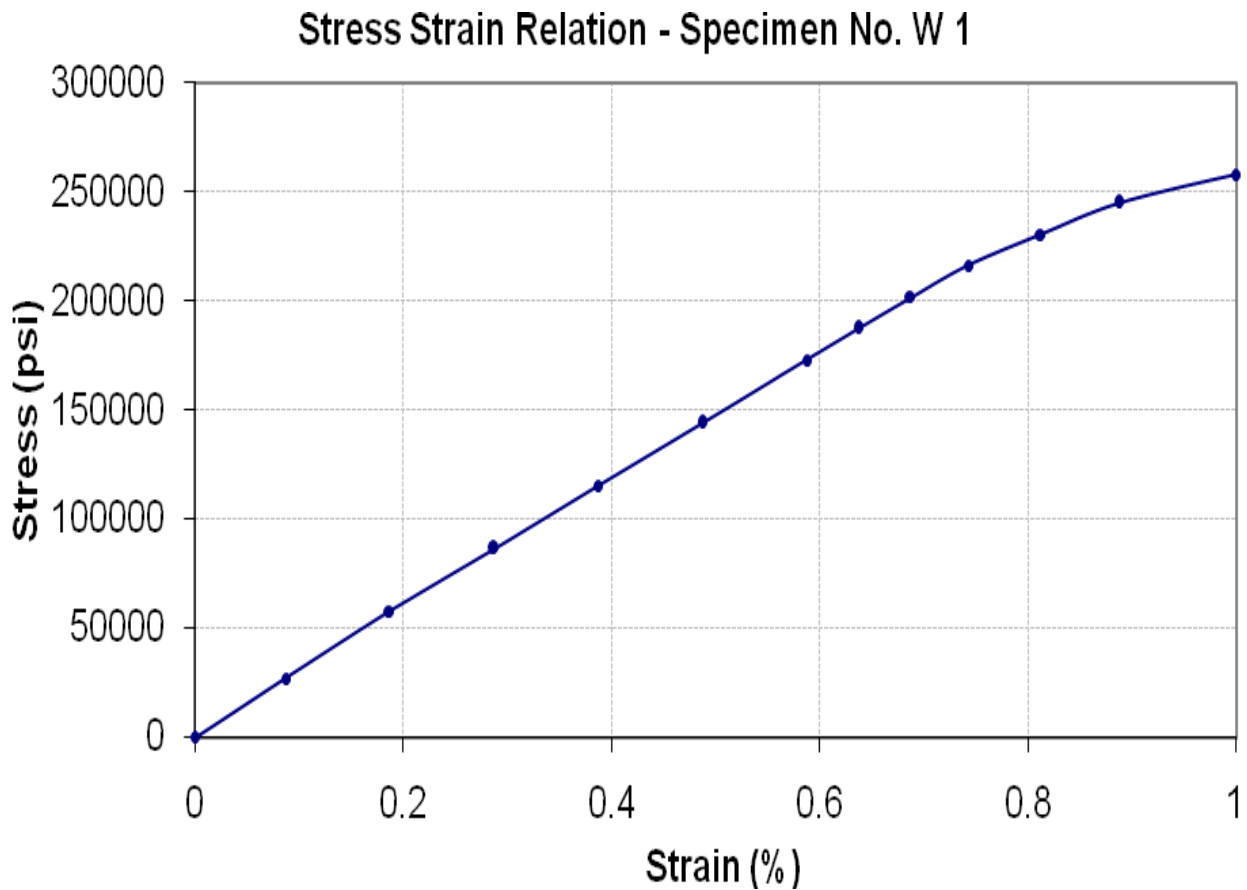
Reference # CED/TFL **32738** (Dr. Nauman Khuram)

Dated: 26-02-2019

Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/841

Dated: 26-02-2019

Graph (Page – 2/4)



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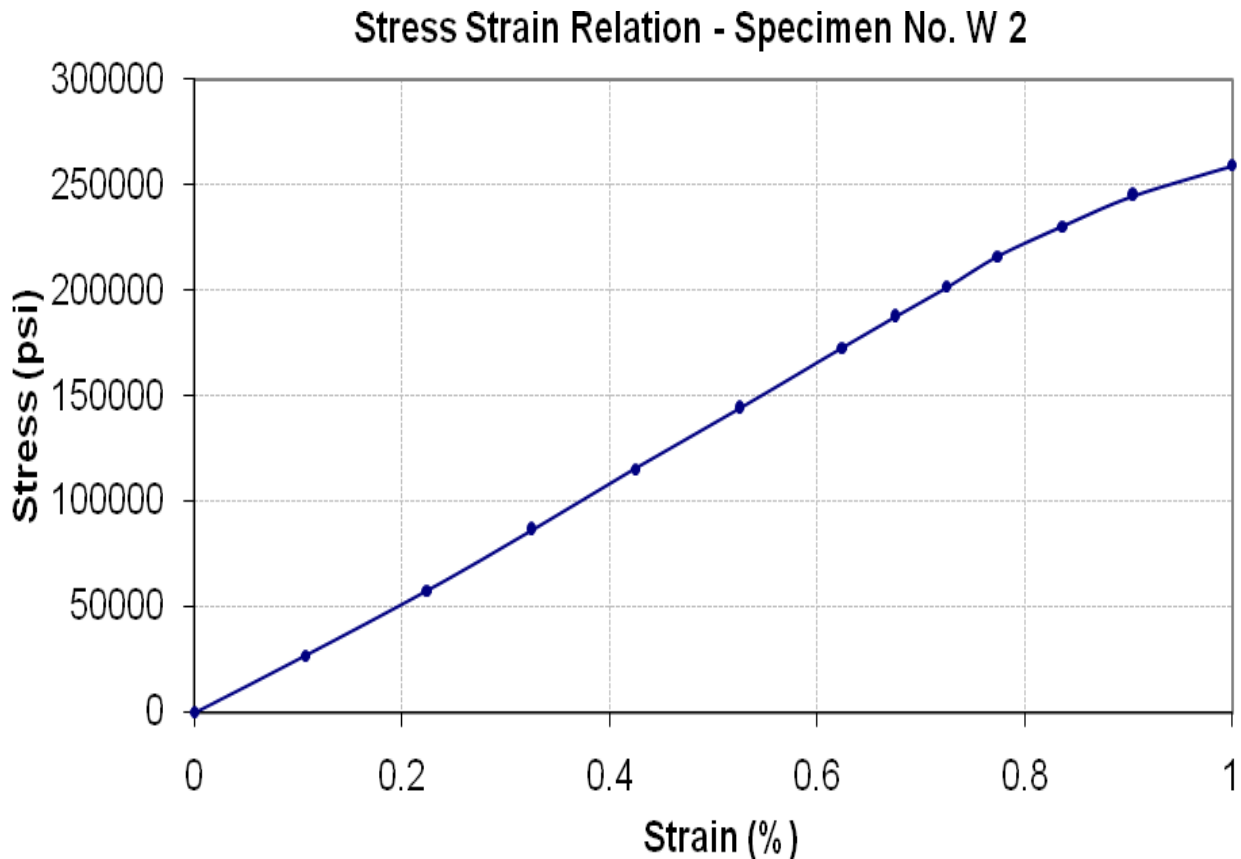
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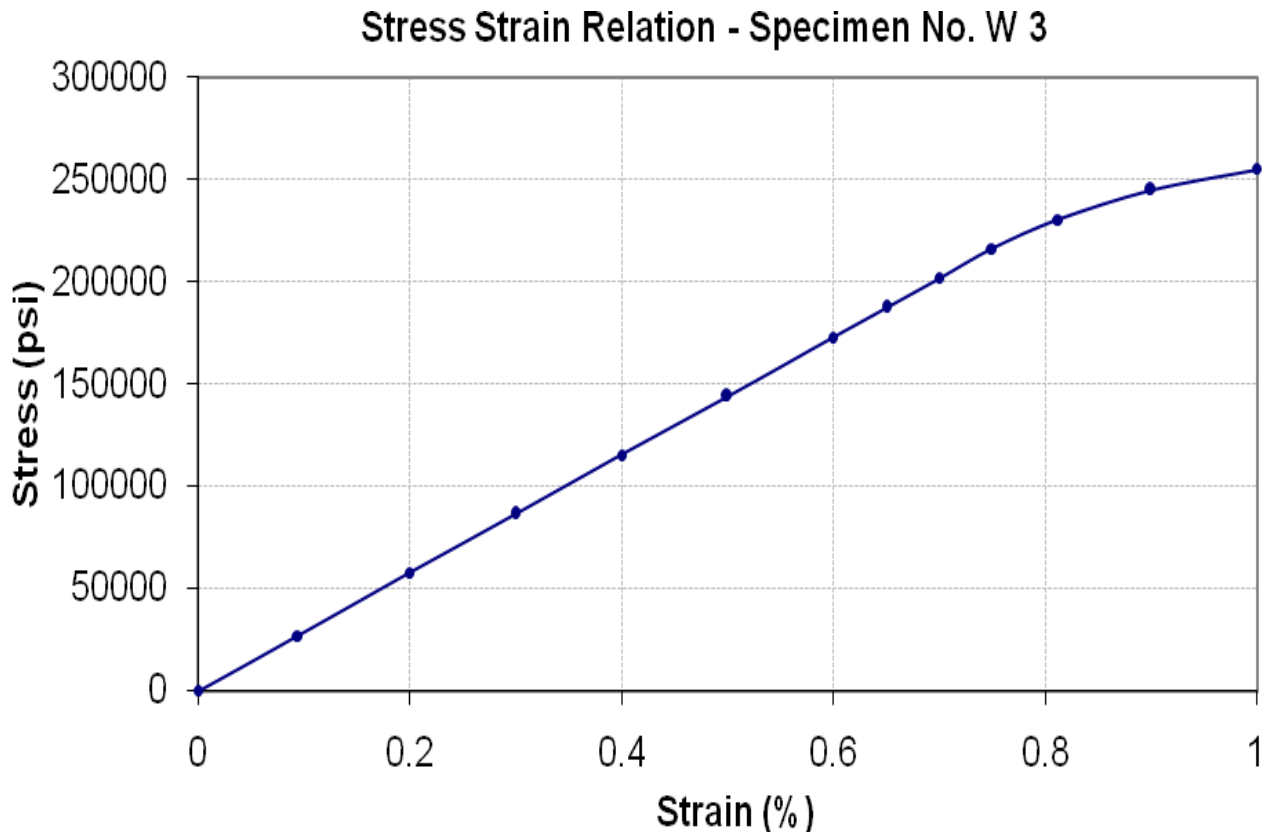
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Graph (Page – 4/4)



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Ref: CED/TFL/03/32748

Dated: 01-03-19

To
Project Manager
DAELIM-LOTTE
102MW Gulpur Hydropower Project

Subject: - TEST RESULT REPORT FOR BEARING DEVICE (PAD) (SIZE TEST)

Reference to your letter no. DLJV-OT-QA-170, Dated: 19/02/2019 on the above mentioned subject. One Elastomeric Bearing Rubber Pad (EBRP) has been received by us. The same was tested and results are given below.

Test Results

No. of Steel Plate	:	7
Thickness of Steel Plate	:	3.07 mm (Average)
Thickness of Rubber between Steel Plates	:	Non Uniform (Max : 9.40 mm) (Min : 7.40 mm)
Cover of Rubber to top steel plate	:	4.10 mm
Cover of Rubber to bottom steel plate	:	4.00 mm

I/C Testing Laboratoires
UET Lahore, Pakistan.

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