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 Associates in Development (AiD) Pvt. Ltd.

Reference # CED/TFL **4723** (Dr. Rizwan Azam) Dated: 01-03-2024
Reference of the request letter # AiD-UET/002 Dated: 01-03-2024

Tension Test Report (Page – 1/1)

Date of Test 12-03-2024
Gauge length 2 inches
Description Steel Plate Steel Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(mm)	(mm)	(mm^2)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	**Steel Plate**	**28.70x10.10**	**289.87**	**10500**	**14900**	**355**	**504**	**0.70**	**35.00**	
2	**Steel Plate**	**29.10x9.80**	**285.18**	**10700**	**15000**	**368**	**516**	**0.70**	**35.00**	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only two Samples for Tensile Test										
Bend Test										

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

1- You can See your reports On Internet in the following web site
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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,

Resident Engineer
ZEERUK – LOYA – MINHA JV
Developmet of Islamabad Expressway PWD Underpass to GT Road Including Bhander Bridge, Japan Road Underpass & Soan Bridge.
(WMI)

Reference # CED/TFL **4725** (Dr. M Kashif) Dated: 01-03-2024
Reference of the request letter # ZI/RE/FWO/P-N-5/24/241 Dated: 07-02-2024

Tension Test Report (Page -1/5)

Date of Test 12-03-2024
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")**	**780.0**	**789.0**	**18100**	**177.56**	**20100**	**197.18**	**198**	**>3.50**	**25172**
2	**12.70 (1/2")**	**780.0**	**787.0**	**18500**	**181.49**	**20100**	**197.18**	**199**	**>3.50**	**25182**
3	**12.70 (1/2")**	**780.0**	**787.0**	**18000**	**176.58**	**19900**	**195.22**	**198**	**>3.50**	**25201**
4	**12.70 (1/2")**	**780.0**	**788.0**	**18000**	**176.58**	**20000**	**196.20**	**199**	**>3.50**	**25207**
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only four 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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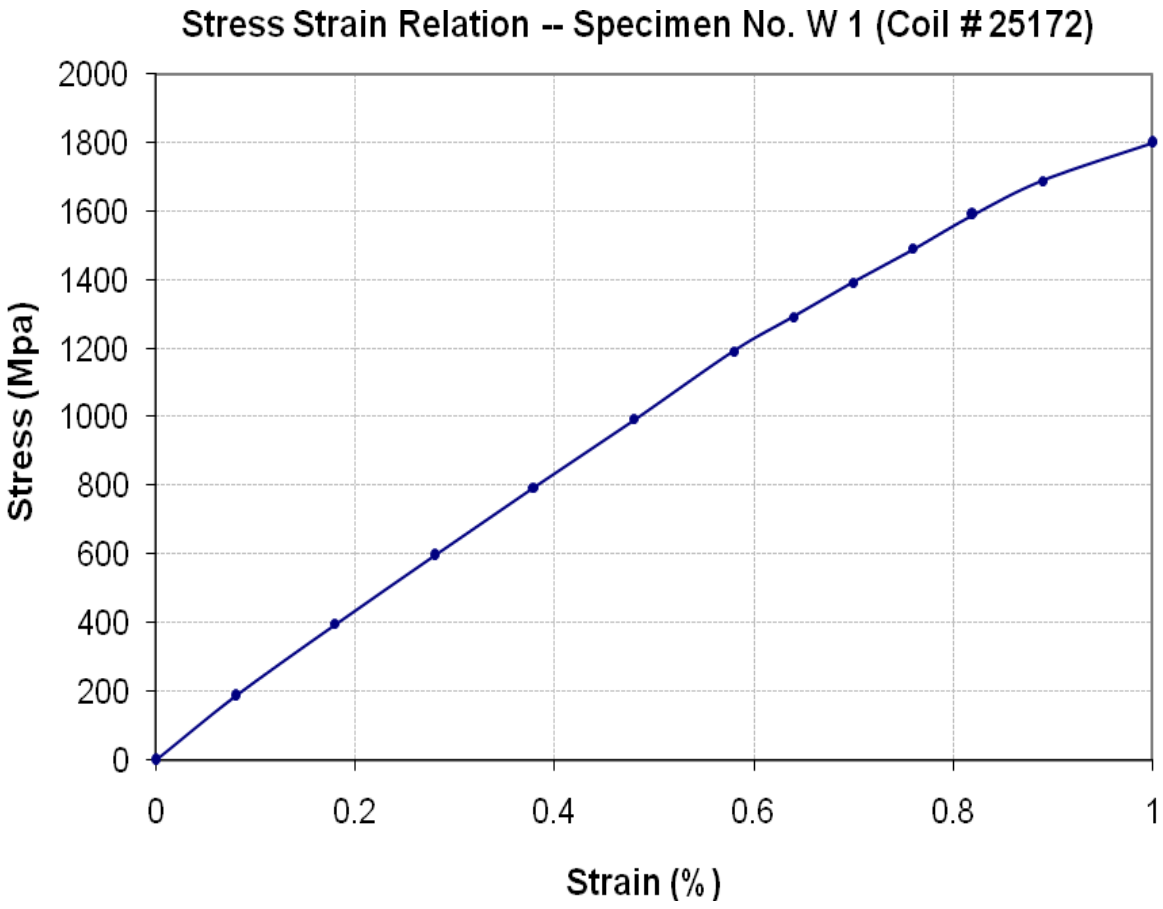
To,

Resident Engineer
ZEERUK – LOYA – MINHA JV
Developmet of Islamabad Expressway PWD Underpass to GT Road Including Bhander Bridge, Japan Road Underpass & Soan Bridge.
(WMI)

Reference # CED/TFL **4725** (Dr. M Kashif) Dated: 01-03-2024
Reference of the request letter # ZI/RE/FWO/P-N-5/24/241 Dated: 07-02-2024

Graph (Page – 2/5)



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UET Lahore, Pakistan.

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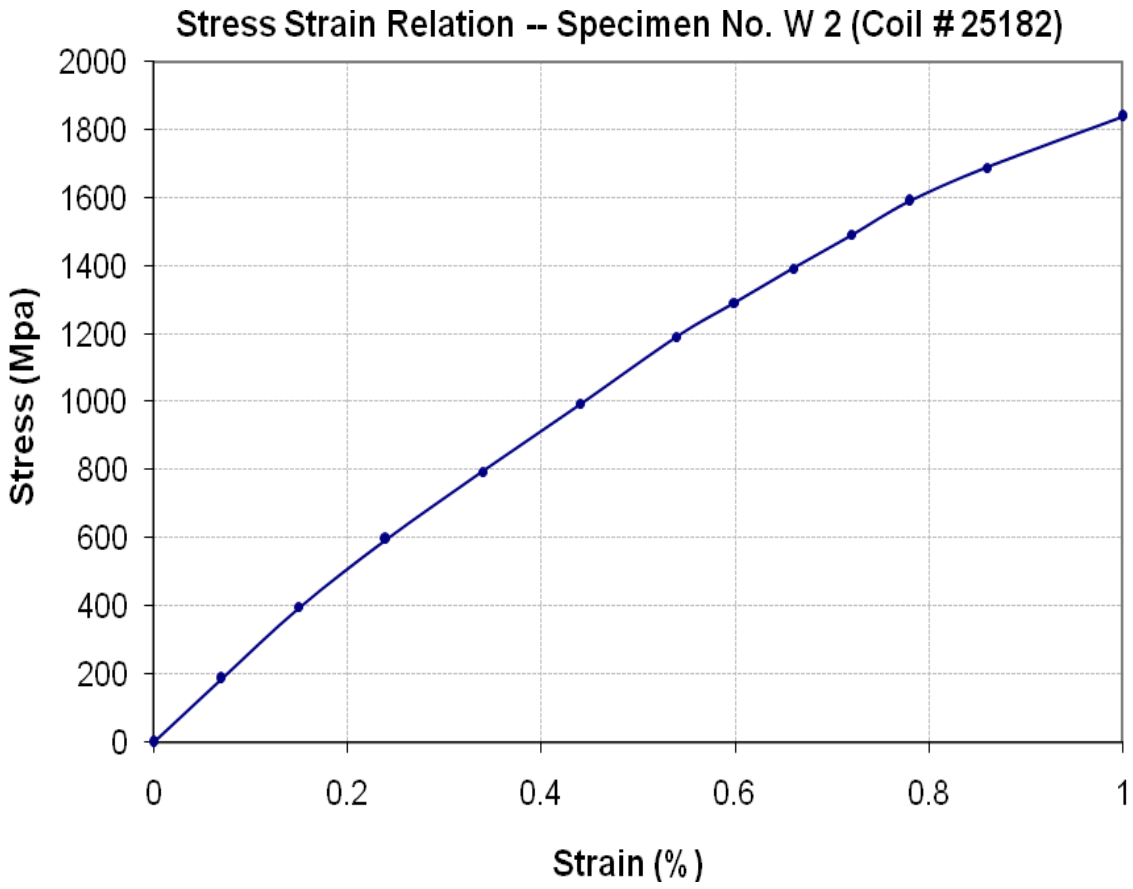
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,

Resident Engineer
ZEERUK – LOYA – MINHA JV
Developmet of Islamabad Expressway PWD Underpass to GT Road Including Bhander Bridge, Japan Road Underpass & Soan Bridge.
(WMI)

Reference # CED/TFL **4725** (Dr. M Kashif) Dated: 01-03-2024
Reference of the request letter # ZI/RE/FWO/P-N-5/24/241 Dated: 07-02-2024

Graph (Page – 3/5)



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UET Lahore, Pakistan.

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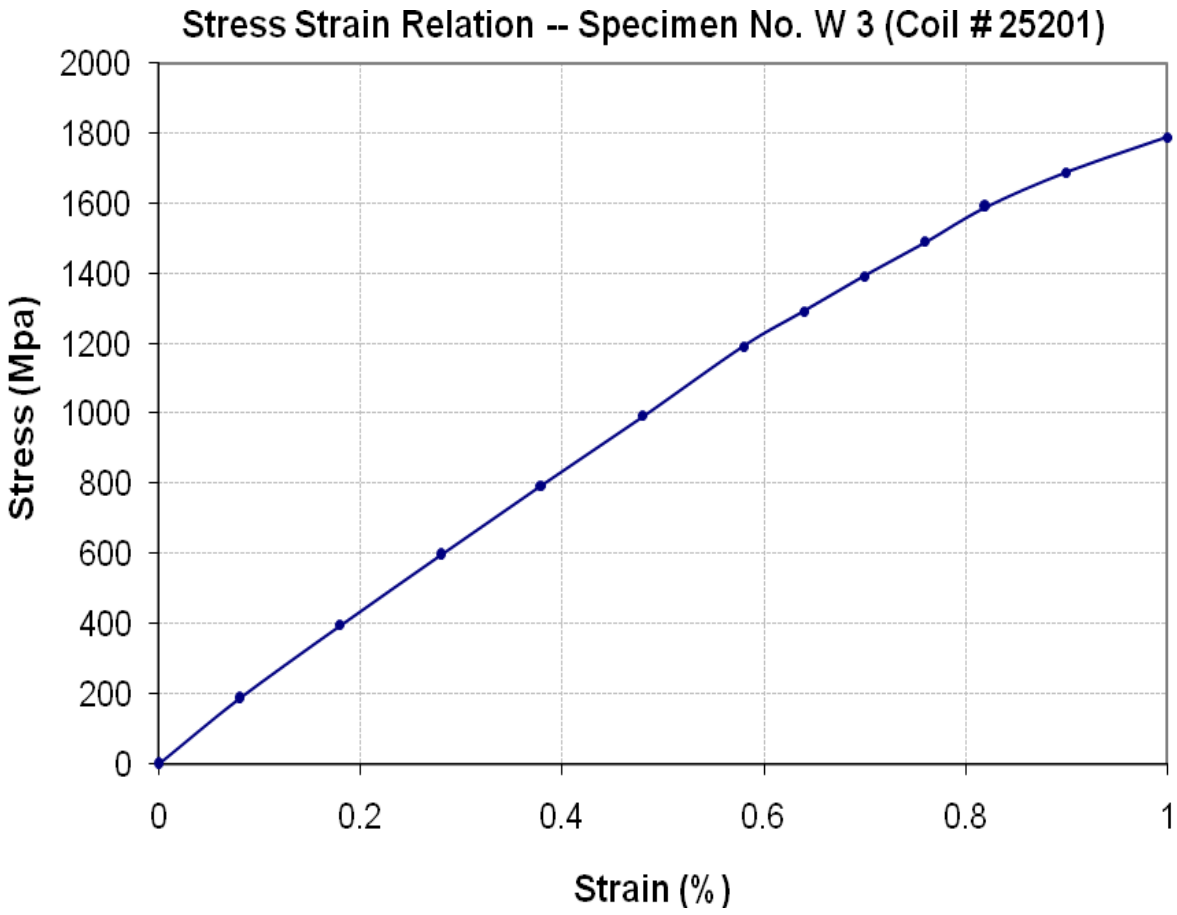
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,

Resident Engineer
ZEERUK – LOYA – MINHA JV
Developmet of Islamabad Expressway PWD Underpass to GT Road Including Bhander Bridge, Japan Road Underpass & Soan Bridge.
(WMI)

Reference # CED/TFL **4725** (Dr. M Kashif) Dated: 01-03-2024
Reference of the request letter # ZI/RE/FWO/P-N-5/24/241 Dated: 07-02-2024

Graph (Page – 4/5)



I/C Testing Laboratoires
UET Lahore, Pakistan.

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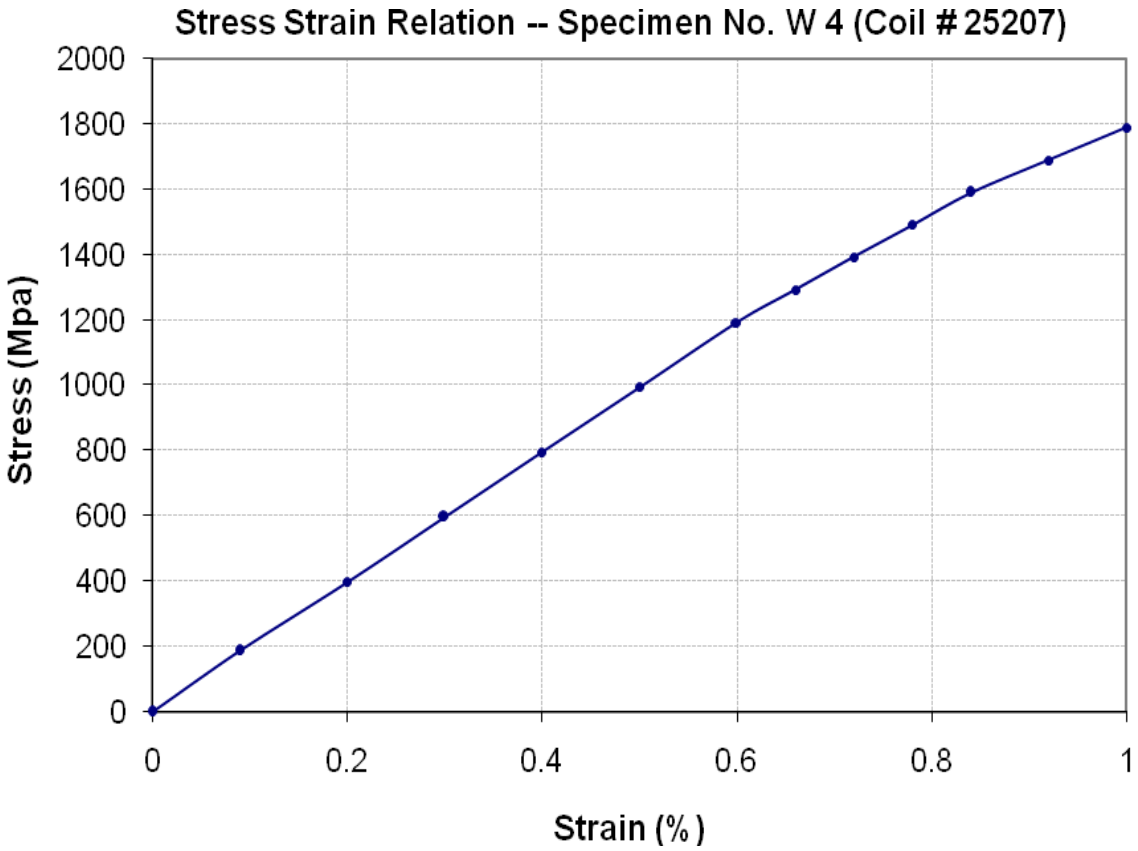
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,

Resident Engineer
ZEERUK – LOYA – MINHA JV
Developmet of Islamabad Expressway PWD Underpass to GT Road Including Bhander Bridge, Japan Road Underpass & Soan Bridge.
(WMI)

Reference # CED/TFL **4725** (Dr. M Kashif) Dated: 01-03-2024
Reference of the request letter # ZI/RE/FWO/P-N-5/24/241 Dated: 07-02-2024

Graph (Page – 5/5)



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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,

Construction Manager (Mechanical)
DESCON
Rehabilitation and Modernization of Islam Barrage.

Reference # CED/TFL **4762** (Dr. Usman Akmal) Dated: 08-03-2024
Reference of the request letter # DEL/IB/ICB/03/EN/1466 Dated: 06-03-2024

Tension Test Report (Page – 1/1)

Date of Test 12-03-2024
Description Steel Wire Rope Tensile Test

Sr. No.	Nominal Diameter	Measured weight	Breaking Load	Remarks / Coil No.
	(mm)	(kg/m)	(kg)	
1	**28**	**2.55**	**36800**	
2	**38**	**5.03**	**57800**	
-	-	-	-	
-	-	-	-	
-	-	-	-	
Only two samples 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,

Manager Civil
Shangrila Foods (Private) Limited
Karachi

Reference # CED/TFL **4763** (Dr. Rizwan Azam) Dated: 08-03-2024
Reference of the request letter # Nil Dated: 08-03-2024

Tension Test Report (Page -1/1)

Date of Test 12-03-2024
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	0.387	3	0.381	0.11	0.114	3600	5500	72200	69670	110200	106500	1.00	12.5	
2	0.383	3	0.379	0.11	0.113	3600	5400	72200	70410	108200	105700	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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.

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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,

Resident Engineer
ESS. I. AAR
Construction of Ghazi University Dera Ghazi Khan (Construction of Hostal "Group No. 4")

Reference # CED/TFL **4764** (Dr. Rizwan Azam) Dated: 08-03-2024
Reference of the request letter # 2598 Dated: 13-01-2024

Tension Test Report (Page -1/1)

Date of Test 12-03-2024
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		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	0.380	3/8	0.377	0.11	0.112	4000	5400	80200	78860	108200	106500	0.80	10.0	Farooq Steel
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
3/8" Dia 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,

Resident Engineer
NESPAK
Dualization & Improvement of Exiosting N – 50 from Yarik to Saggu Road Project (50 km)
(United Wires)

Reference # CED/TFL **4765** (Dr. M Kashif) Dated: 08-03-2024
Reference of the request letter # CPEC/YS/RE/AHJ/104 Dated: 07-02-2024

Tension Test Report (Page -1/3)

Date of Test 12-03-2024
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")**	**780.0**	**780.0**	**18500**	**181.49**	**20200**	**198.16**	**199**	**>3.50**	**4490**
2	**15.24 (0.6")**	**1102.0**	**1111.0**	**25400**	**249.17**	**28100**	**275.66**	**199**	**>3.50**	**1309**
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
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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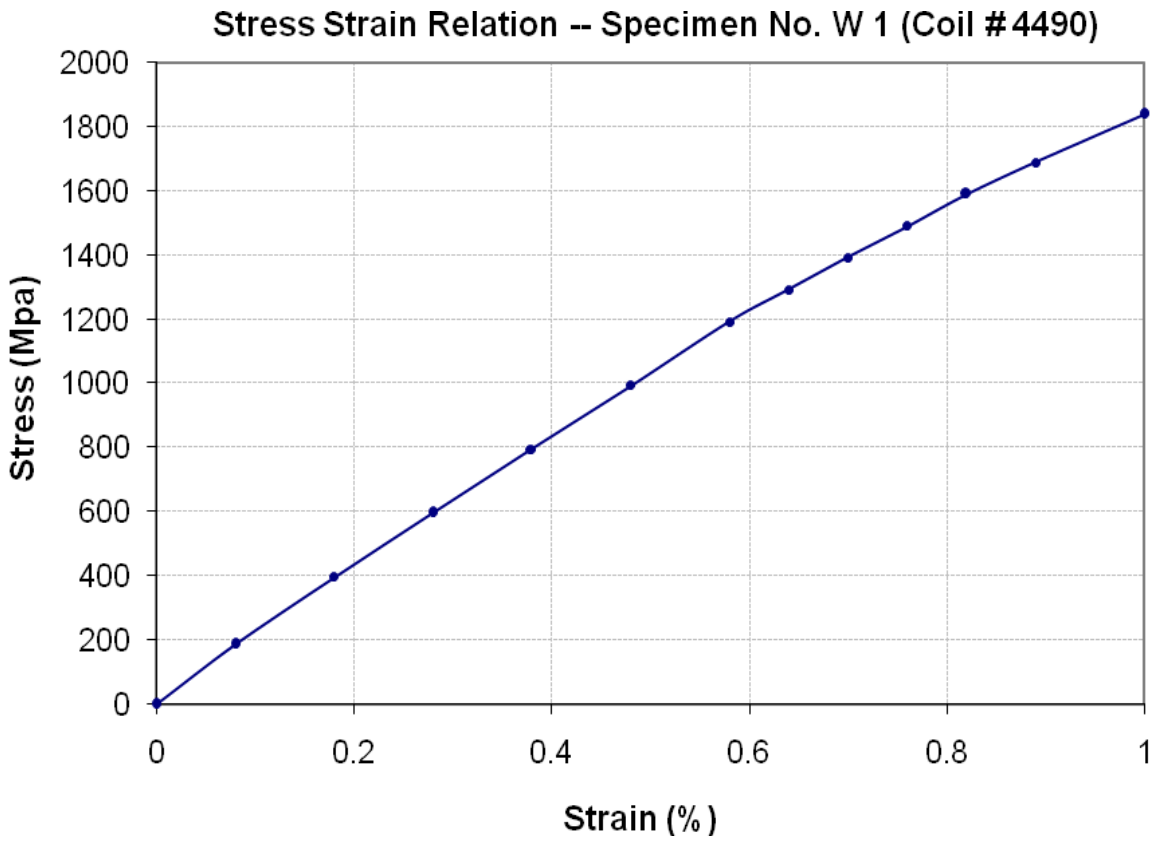
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,

Resident Engineer
NESPAK
Dualization & Improvement of Exiosting N – 50 from Yarik to Saggu Road Project (50 km)
(United Wires)

Reference # CED/TFL **4765** (Dr. M Kashif) Dated: 08-03-2024
Reference of the request letter # CPEC/YS/RE/AHJ/104 Dated: 07-02-2024

Graph (Page – 2/3)



I/C Testing Laboratoires
UET Lahore, Pakistan.

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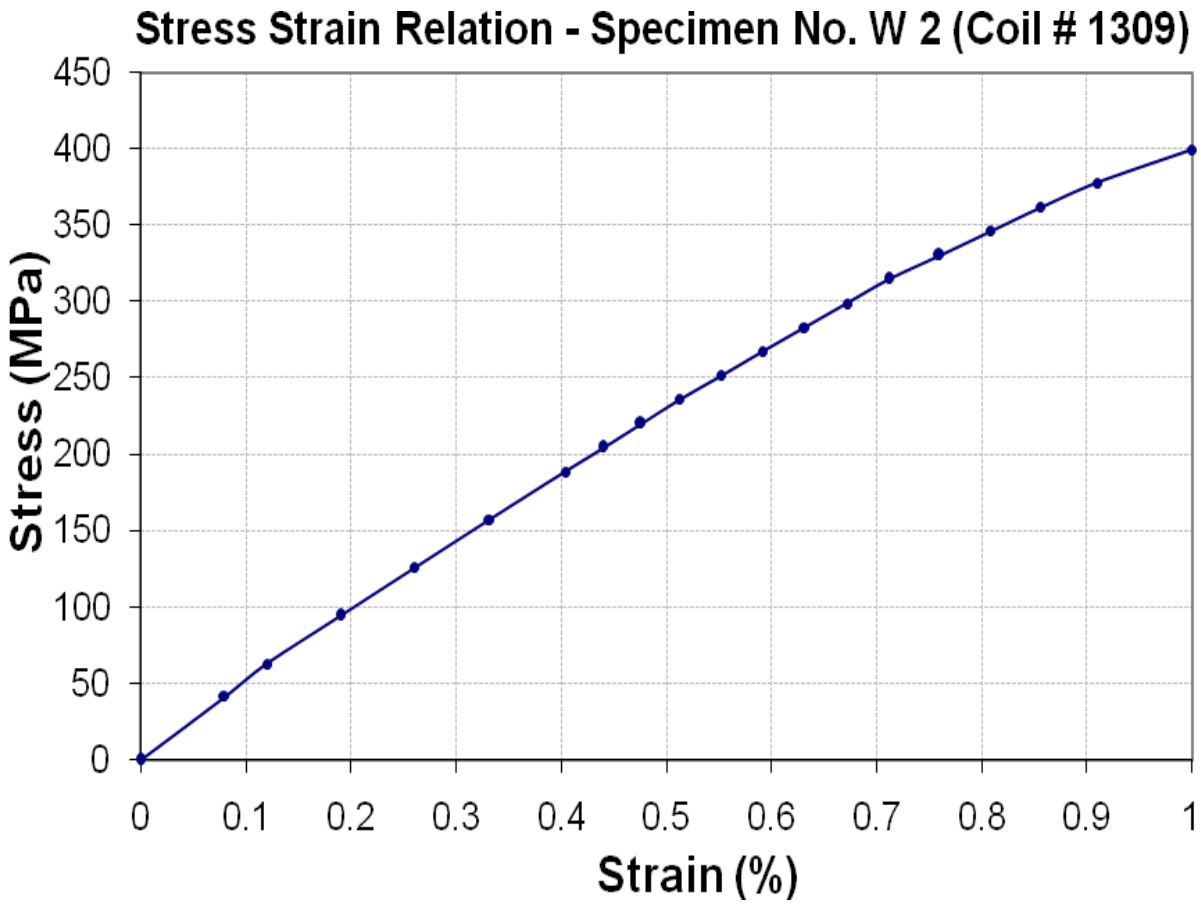
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,

Resident Engineer
NESPAK
Dualization & Improvement of Exiosting N – 50 from Yarik to Saggu Road Project (50 km)
(United Wires)

Reference # CED/TFL **4765** (Dr. M Kashif) Dated: 08-03-2024
Reference of the request letter # CPEC/YS/RE/AHJ/104 Dated: 07-02-2024

Graph (Page – 3/3)



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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
UMDS JV Consultants (Mincinsult, CEC and Jers)
Punjab Intermediated Cities Improvement Investment Program (PICIIP)
NCB-Works / PICIIP-04: Road Upgradation , Lot-04: Construction of Flyover in Sialkot.

Reference # CED/TFL **4767** (Dr. Usman Akmal) Dated: 08-03-2024
Reference of the request letter # CRE/UMDS-JV/LOT-4/SKT/179 Dated: 01-03-2024

Tension Test Report (Page -1/1)

Date of Test 12-03-2024
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	5.356	11	1.416	1.56	1.574	54000	74200	76300	75600	104900	103900	1.20	15.0	Aziz Steel
2	5.325	11	1.412	1.56	1.565	54200	74400	76600	76330	105200	104800	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#11 Bar Bend Test Through 180º is Satisfactory														

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
Buildings Sub Division
Punjab Assembly, Lahore
(Strategic Transformation / Revemping of Emergency Department in Tertiray Care Hospital in Punjab Children Surgical Block at Mayo Hospital Lahore. (Group No. 05 A).

Reference # CED/TFL **4769** (Dr. Rizwan Azam) Dated: 08-03-2024
Reference of the request letter # 1072 Dated: 05-03-2024

Tension Test Report (Page -1/1)

Date of Test 12-03-2024
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		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	0.371	3/8	0.373	0.11	0.109	3500	4700	70200	70720	94200	95000	1.30	16.3	
2	0.366	3/8	0.370	0.11	0.108	3500	4700	70200	71750	94200	96400	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
3/8" Dia Bar Bend Test Through 180º is Satisfactory														

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,

Officer Lab Technician
Bhalwal Industrial Estate (BIE)
Punjab Industrial Estates

Reference # CED/TFL **4770** (Dr. Rizwan Azam) Dated: 08-03-2024
Reference of the request letter # BIE/PIE/B.Wall/1514 Dated: 07-03-2024

Tension Test Report (Page -1/1)

Date of Test 12-03-2024
Gauge length 8 inches
Description Deformed Steel Bar Tensile and Bend 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	0.370	10	9.45	0.12	0.109	3500	4600	64301	70940	84510	93300	1.50	18.8	
2	0.367	10	9.41	0.12	0.108	3400	4500	62464	69510	82673	92000	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: only two samples for tensile and one sample for bend test

Bend Test

10mm Dia Bar Bend Test Through 180º is Satisfactory

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,

Resident Engineer
NESPAK
Lahore Ring Road Southern Loop (SL-3) Project

Reference # CED/TFL **4771** (Dr. Usman Akmal) Dated: 08-03-2024
Reference of the request letter # Nespak/LRRA/MNA/Sl-3/126 Dated: 07-03-2024

Tension Test Report (Page -1/1)

Date of Test 12-03-2024
Gauge length 8 inches
Description J-Bolt Tensile Test

Sr. No.	Weight	Diameter/ size		Area (mm^2)		Yield load	Breaking Load	Yield Stress (MPa)	Ultimate Stress (MPa)	Elongation	% Elongation	Remarks
	(kg/m)	Nominal (mm)	Actual (mm)	Nominal	Actual	(kg)	(kg)	Actual	Actual	(inch)		
1	5.472	32	29.79	------	697.0	25800	42400	363	597	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample 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,

M/S Alpine Industrialcon (Private) Limited.
Lahore

Reference # CED/TFL **4772** (Dr. Rizwan Azam) Dated: 08-03-2024
Reference of the request letter # AIC/001-24 Dated: 08-03-2024

Tension Test Report (Page -1/1)

Date of Test 12-03-2024
Gauge length 2 inches
Description Ductile Iron Rod Tensile Test

Sr. No.	Diameter / size	Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(mm)	(mm^2)	(kg)	(kg)	(MPa)	(MPa)	(inch)		
1	21.70	369.84	--------	15000	--------	398	0.20	10.00	
Only One Sample for Tensile 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,

QA/QC Manager
Power Construction Corporation of China Ltd
Tarbela 5th Extension Hydropower Project Management Department
(Wire Manufacturing Industry Limited.)

Reference # CED/TFL **4782** (Dr. M Rizwan Riaz) Dated: 12-03-2024
Reference of the request letter # PCCCL/T5-GC/QC/2024-0018 Dated: 12-03-2024

Tension Test Report (Page – 1/3)

Date of Test 12-03-2024
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**	**1112.0**	**24500**	**240.35**	**26600**	**260.95**	**199**	**>3.50**	**xx**
2	**15.24 (0.6")**	**1102.0**	**1112.0**	**24000**	**235.44**	**26600**	**260.95**	**198**	**>3.50**	**xx**
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only two samples for Test										

Witness by M Arif (MMP) and M Hamza Khan (Power China)

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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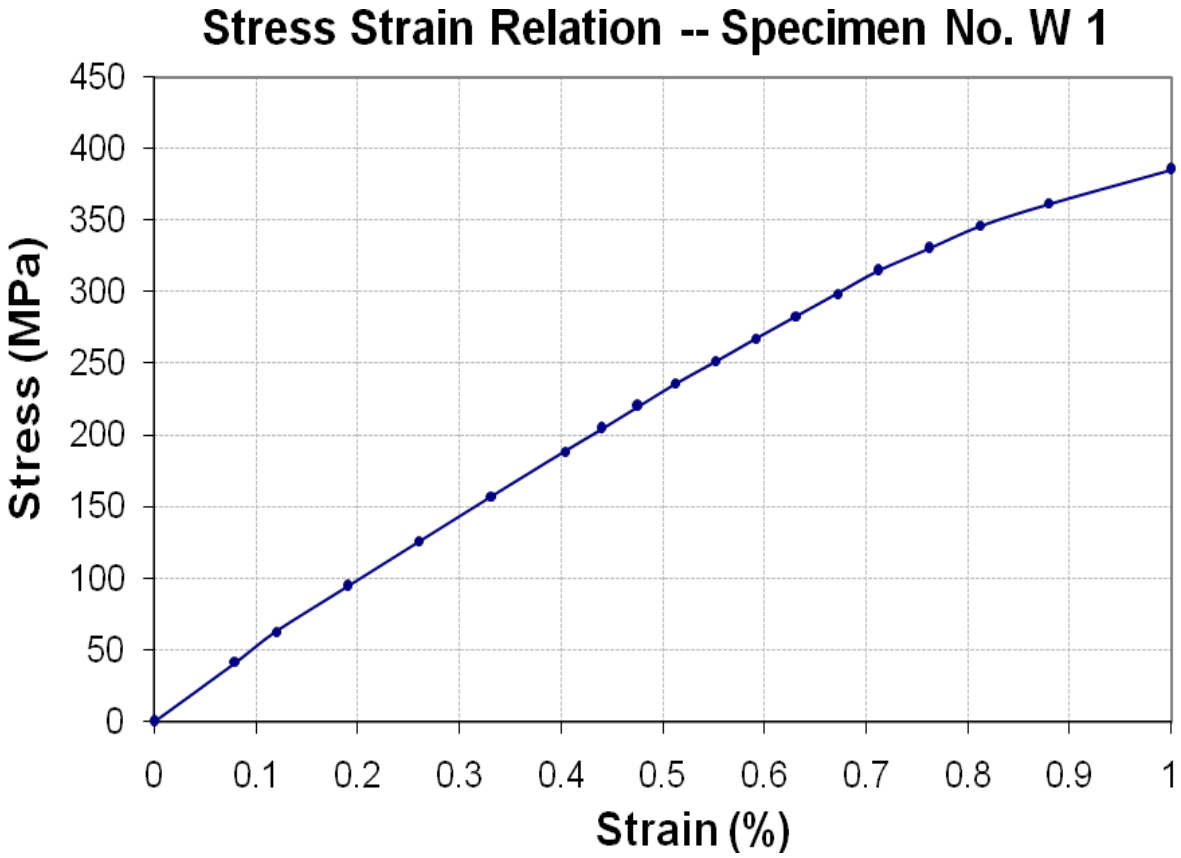
To,

QA/QC Manager
Power Construction Corporation of China Ltd
Tarbela 5th Extension Hydropower Project Management Department
(Wire Manufacturing Industry Limited.)

Reference # CED/TFL **4782** (Dr. M Rizwan Riaz) Dated: 12-03-2024
Reference of the request letter # PCCCL/T5-GC/QC/2024-0018 Dated: 12-03-2024

Graph (Page – 2/3)



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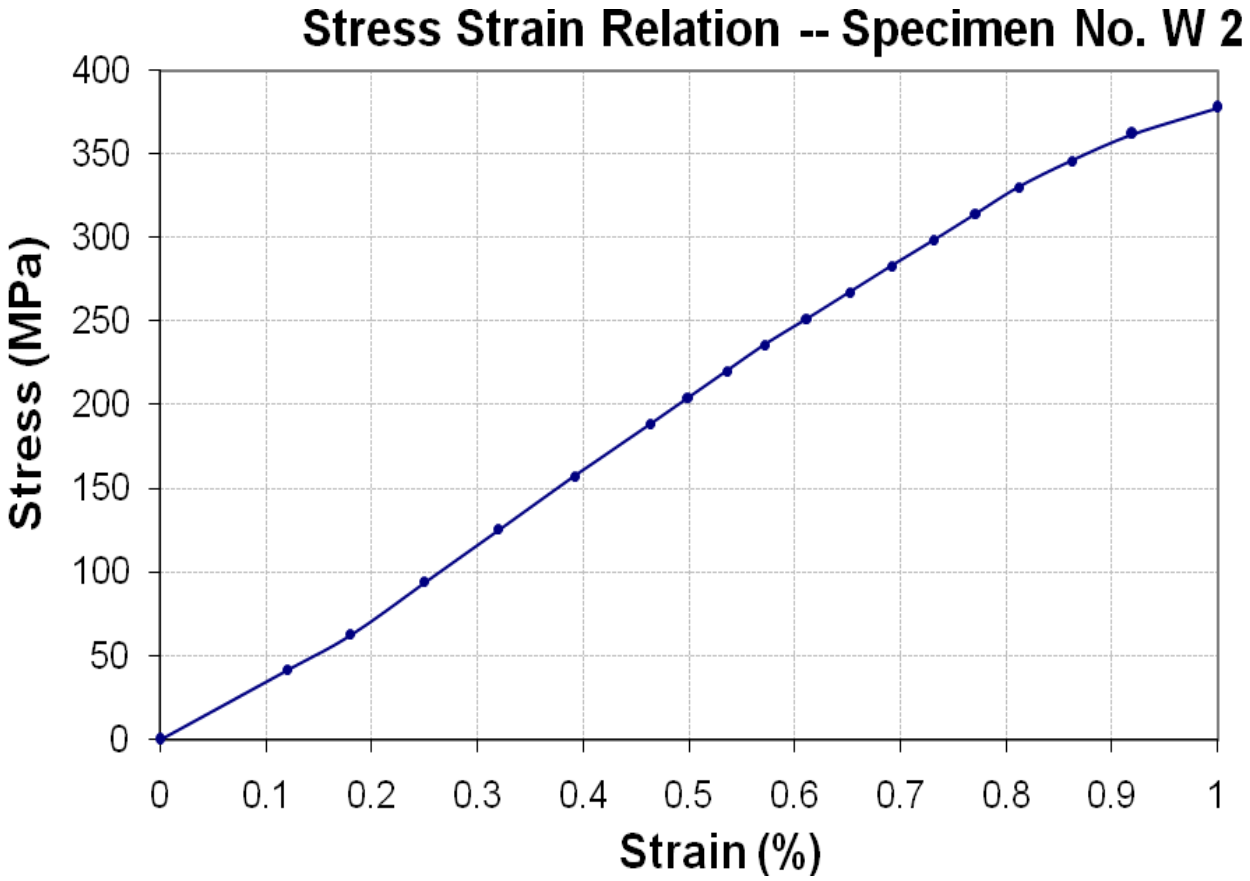
Graph (Page – 3/3)



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