



**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  
PEAS Consulting (Pvt) Ltd  
Construction of Bridge over Desert Canal at km 491 on Route N-55 (Sindh North)  
(WMI)

Reference # CED/TFL **1152** (Dr. Ali Ahmed)  
Reference of the request letter # RE/PEAS/BR/2022/SN/81

Dated: 29-03-2022  
Dated: 25-03-2022

**Tension Test Report** (Page -1/4)

Date of Test 05-04-2022  
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	17200	168.73	18500	181.49	199	<3.50 Not ok	xx
2	12.70 (1/2")	775.0	782	17300	169.71	19700	193.26	199	>3.50	xx
2	12.70 (1/2")	775.0	781	17600	172.66	19200	188.35	198	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-

**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 Laboratories**  
**UET Lahore, Pakistan.**

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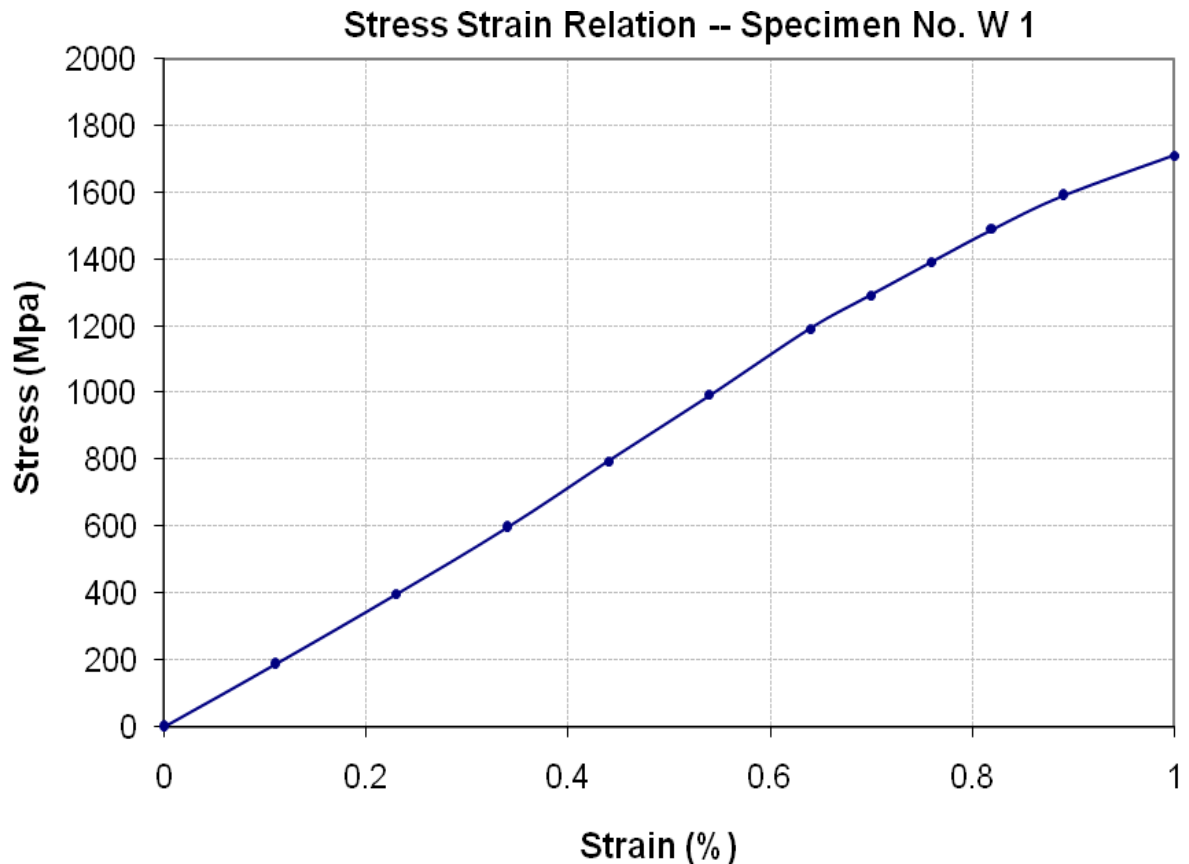
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**Graph** (Page – 2/4)



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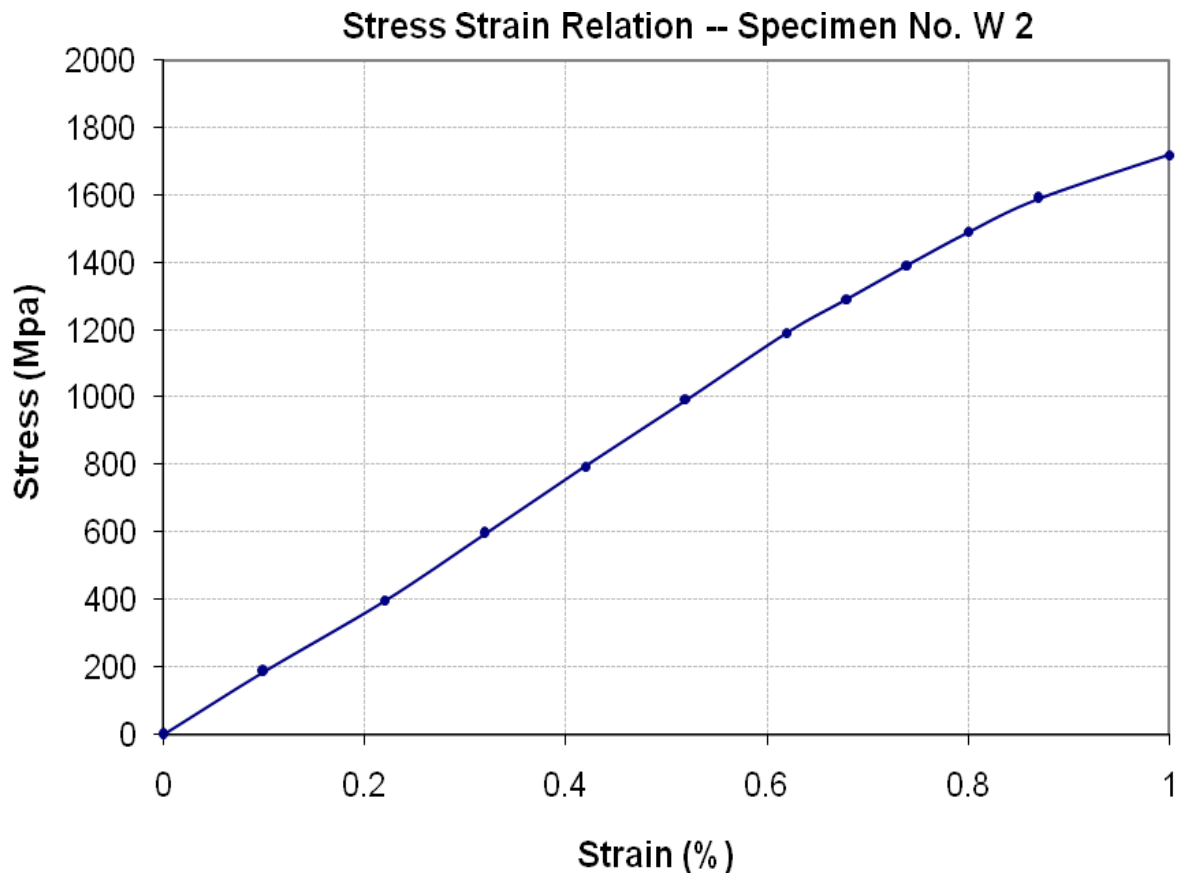
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**Graph** (Page – 3/4)



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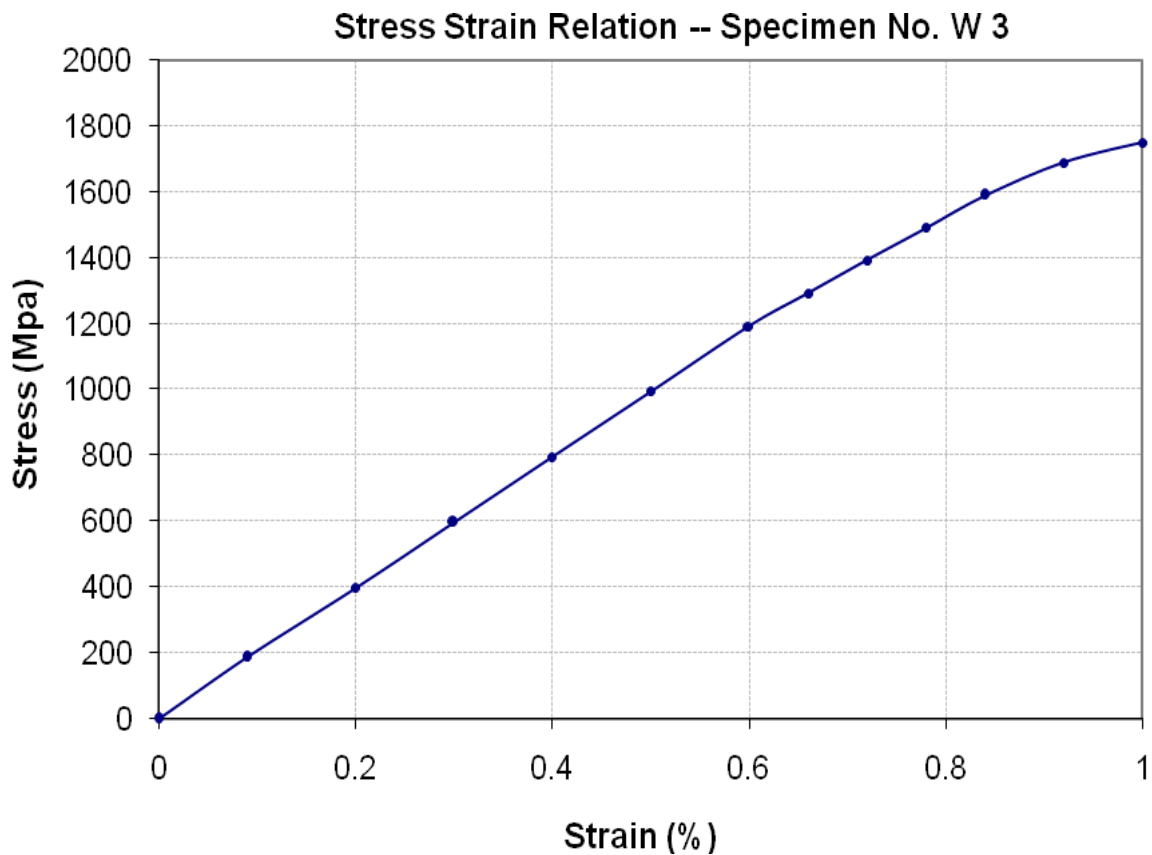
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**Graph** (Page – 4/4)



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To,  
Resident Engineer  
CEC-H&B (Jv)  
Construction supervision of "F/S Design and Construction of 02 No Flyover on Mingora – Kanju Road Sh: Mingora Bypass and Kanju Chowk, District Swat, Sh: Flyover at Mingora Bypass Road(Phase-I)  
Reference # CED/TFL **1173** (Dr. Ali Ahmed) Dated: 31-03-2022  
Reference of the request letter # CEC-H&B/PKHA/RE/SWT/203 Dated: 19-01-2022

**Tension Test Report** (Page -1/6)

Date of Test 05-04-2022  
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	17200	168.73	19600	192.28	198	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
<b>Only one sample for Test</b>										

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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Construction supervision of "F/S Design and Construction of 02 No Flyover on Mingora – Kanju Road Sh: Mingora Bypass and Kanju Chowk, District Swat, Sh: Flyover at Mingora Bypass Road(Phase-I)

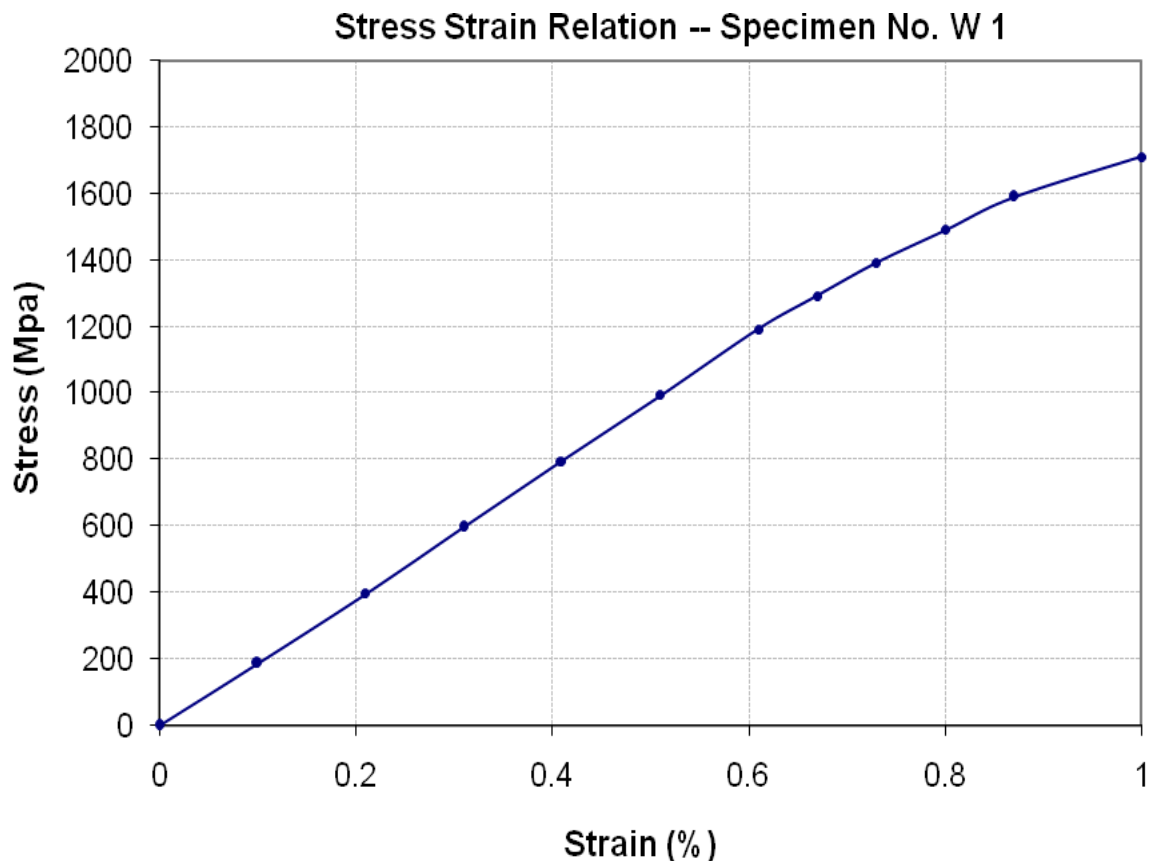
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Dated: 31-03-2022

Reference of the request letter # CEC-H&B/PKHA/RE/SWT/203

Dated: 19-01-2022

**Graph** (Page – 2/6)



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Reference # CED/TFL **1173** (Dr. Ali Ahmed) Dated: 31-03-2022  
Reference of the request letter # CEC-H&B/PKHA/RE/SWT/214 Dated: 21-02-2022

**Tension Test Report** (Page -3/6)

Date of Test 05-04-2022  
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	780.0	17200	168.73	18900	185.41	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
<b>Only one sample for Test</b>										

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**  
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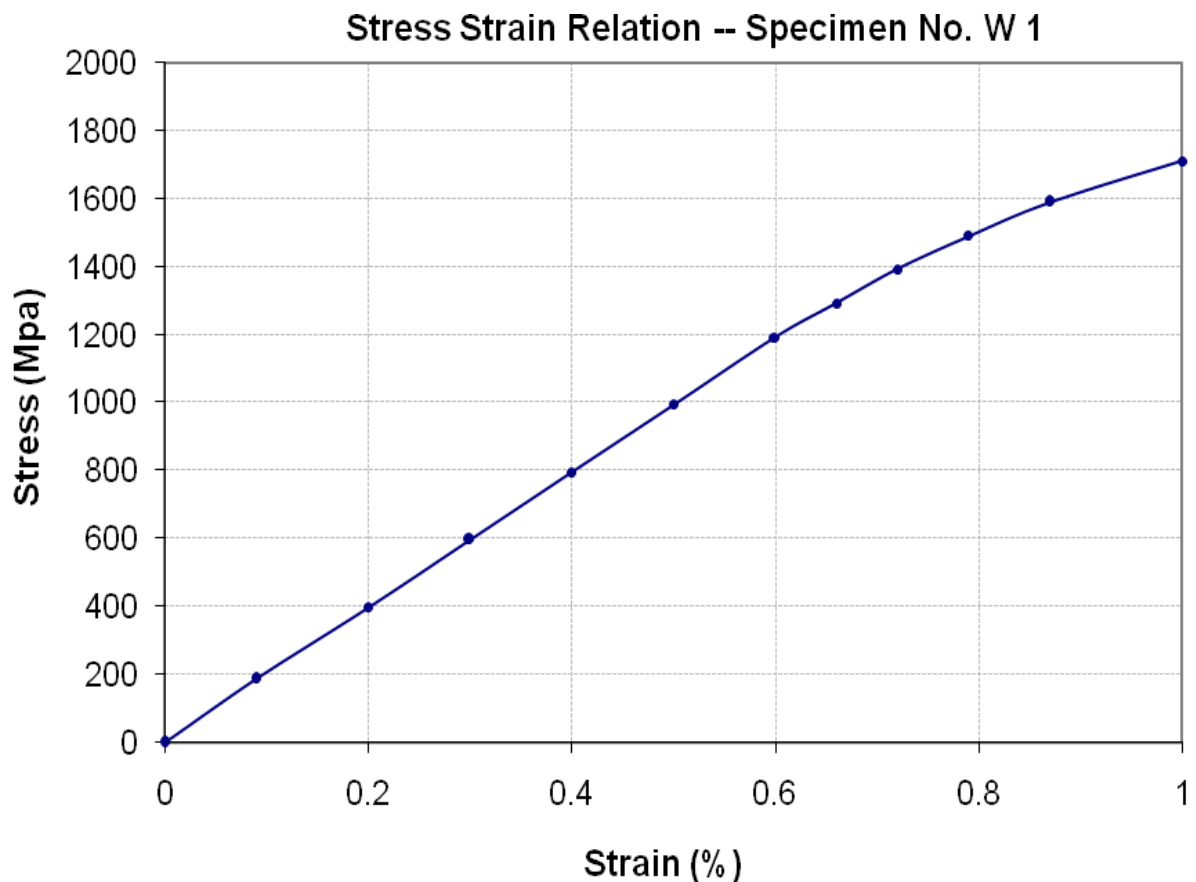
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Reference of the request letter # CEC-H&B/PKHA/RE/SWT/214

Dated: 21-02-2022

**Graph** (Page – 4/6)



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Reference # CED/TFL **1173** (Dr. Ali Ahmed) Dated: 31-03-2022  
Reference of the request letter # CEC-H&B/PKHA/RE/SWT/216 Dated: 03-03-2022

**Tension Test Report** (Page - 5/6)

Date of Test 05-04-2022  
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	778.0	17200	168.73	19600	192.28	198	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
Only one sample for Test										

Note:

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2. Load versus percentage strain graphs are attached

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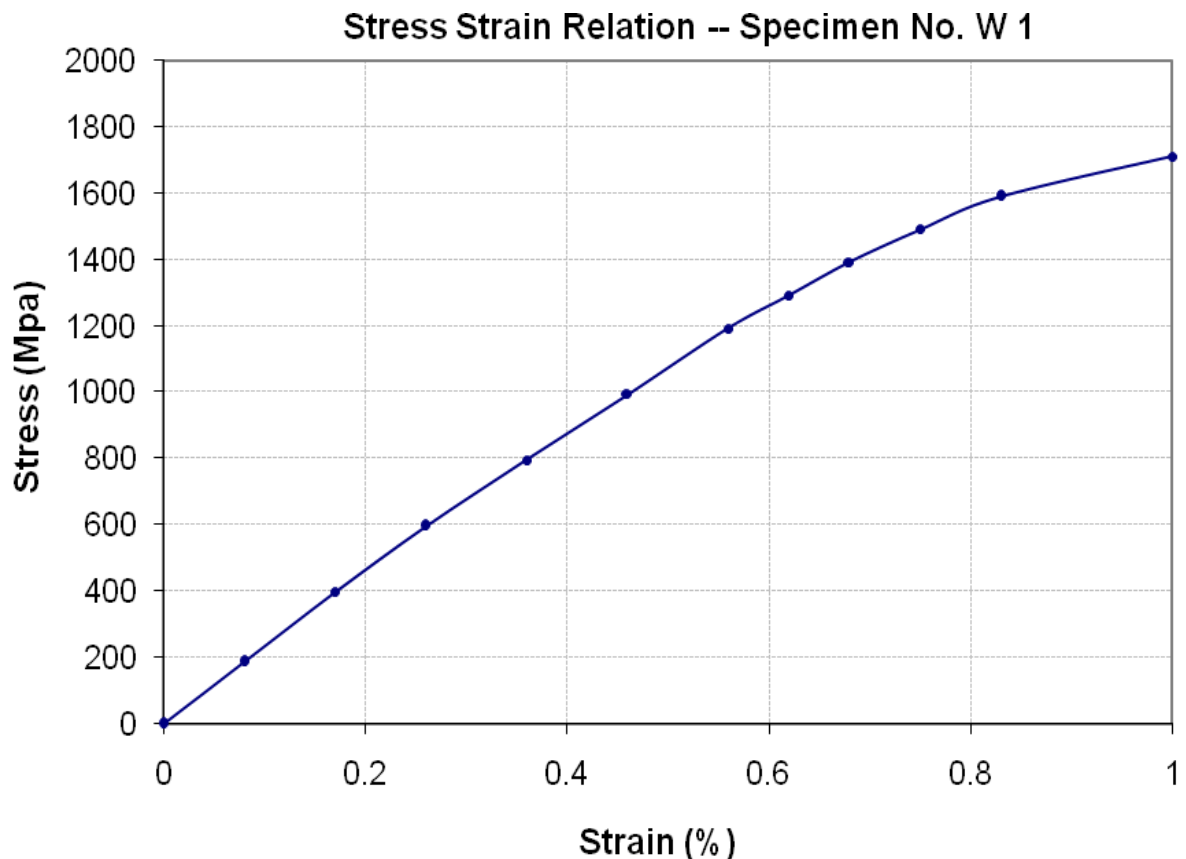
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**Graph** (Page – 6/6)



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To,  
Resident Engineer  
NESPAK  
Dualization of Lilla Interchange (M-2) via P.D. Khan to Jhlum  
(I/C Bypass (02 Nos) Length 128 km, District Jhelum)  
(WMI)  
Reference # CED/TFL **1178** (Dr. Asif Hameed)  
Reference of the request letter # NESPAK/RE/JH/22/63

Dated: 31-03-2022

Dated: 30-03-2022

**Tension Test Report** (Page -1/4)

Date of Test 05-04-2022  
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	789.0	17200	168.73	18800	184.43	199	>3.50	xx
2	12.70 (1/2")	775.0	781.0	17200	168.73	18900	185.41	199	>3.50	xx
2	12.70 (1/2")	775.0	780.0	17000	166.77	18800	184.43	198	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
<b>Only three samples for Test</b>										

Note:

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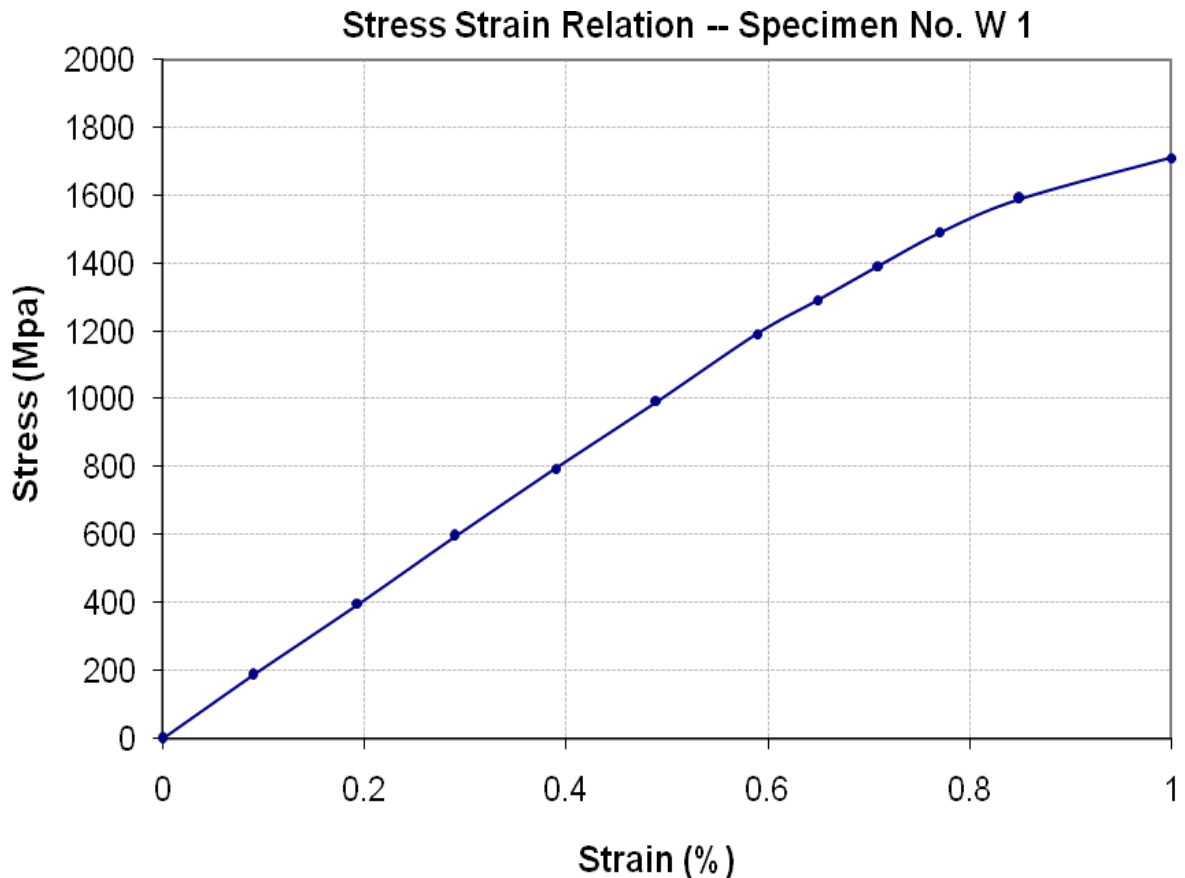
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(I/C Bypass (02 Nos) Length 128 km, District Jhelum)  
(WMI)

Reference # CED/TFL **1178** (Dr. Asif Hameed)  
Reference of the request letter # NESPAK/RE/JH/22/63

Dated: 31-03-2022

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**Graph** (Page – 2/4)



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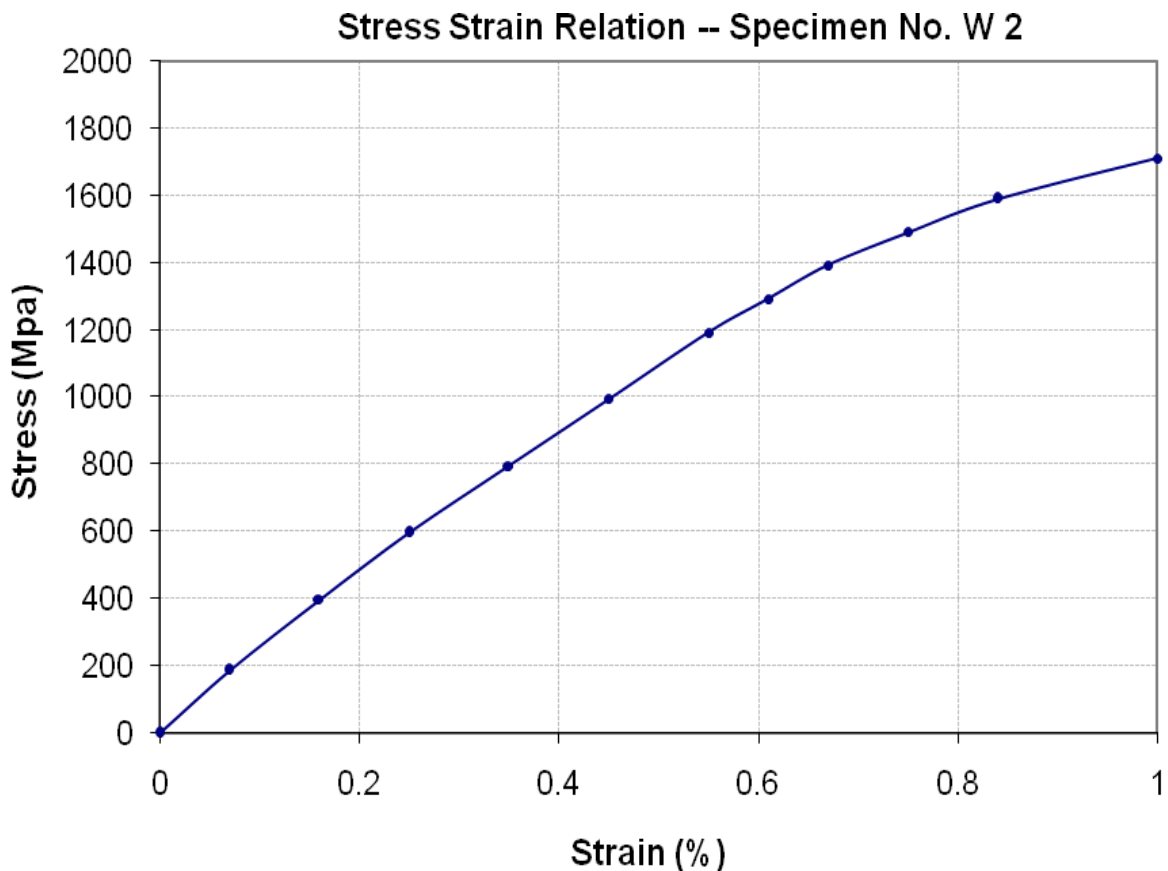
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NESPAK  
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(I/C Bypass (02 Nos) Length 128 km, District Jhelum)  
(WMI)

Reference # CED/TFL **1178** (Dr. Asif Hameed)  
Reference of the request letter # NESPAK/RE/JH/22/63

Dated: 31-03-2022

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**Graph** (Page – 3/4)



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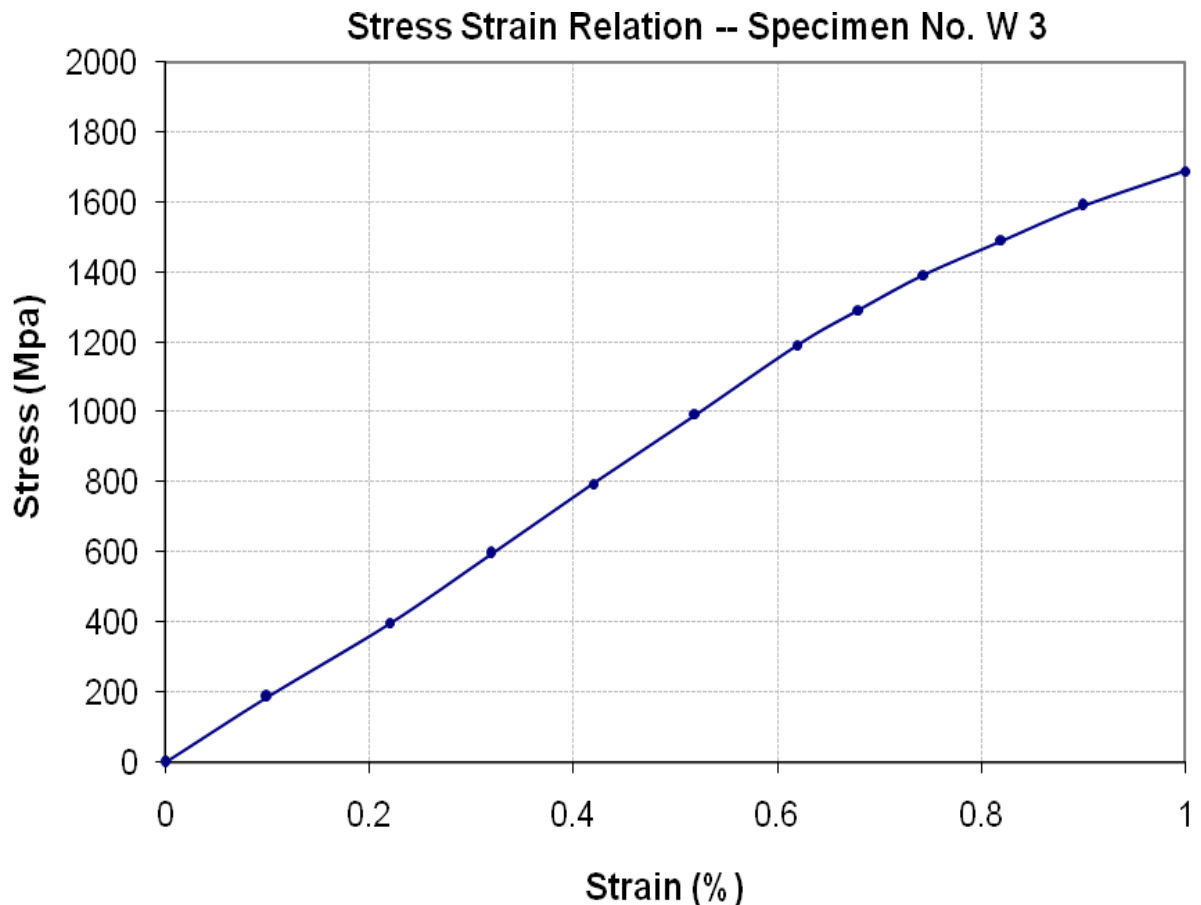
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Reference # CED/TFL **1178** (Dr. Asif Hameed)  
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Dated: 31-03-2022

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**Graph** (Page – 4/4)



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To,  
Deputy General Manager Projects  
Habib Rafiq Engineering (Pvt) Limited  
Construction of Sky Garden Tower, Lahore

Reference # CED/TFL **1193** (Dr. Asif Hameed)  
Reference of the request letter # HRLE/SHG/2022/017

Dated: 01-04-2022  
Dated: 31-03-2022

**Tension Test Report** (Page -1/2)

Date of Test 05-04-2022  
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	774.0	17500	171.68	19400	190.31	198	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
<b>Only one sample for Test</b>										

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



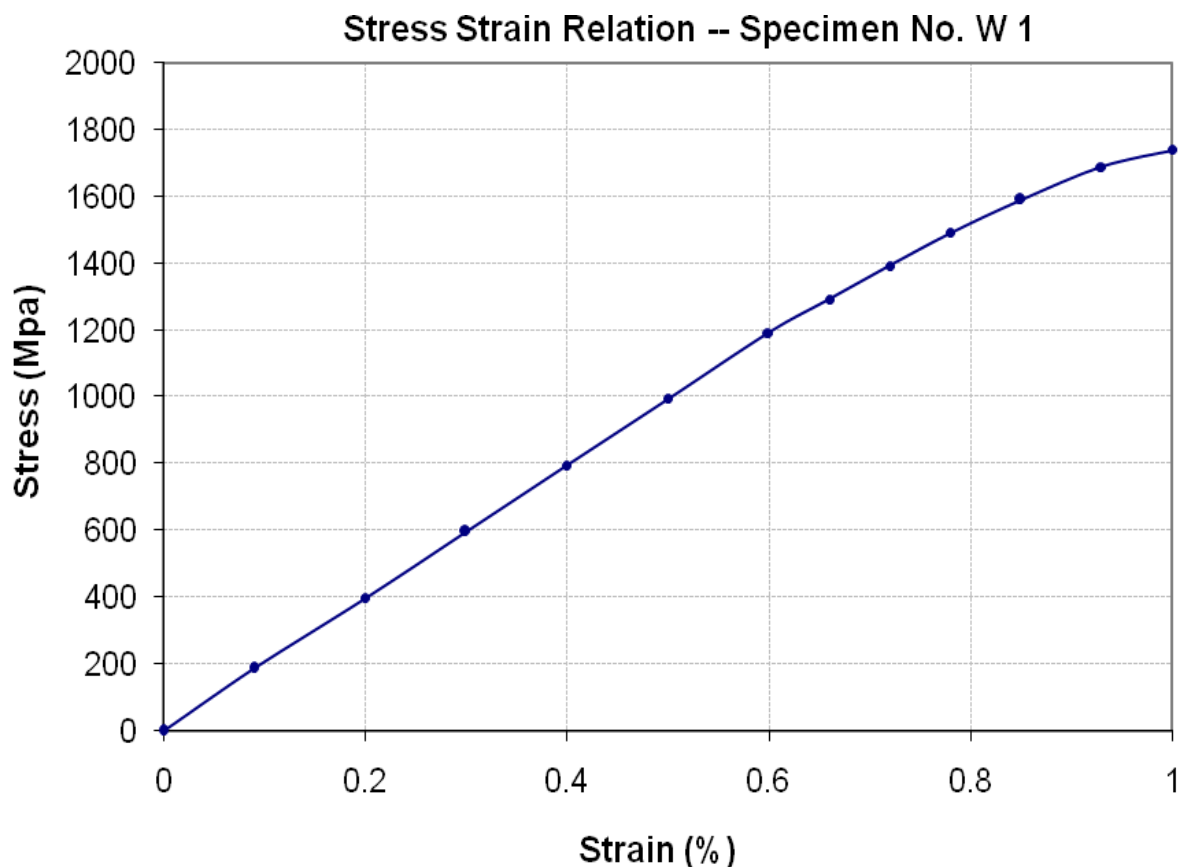
**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
Deputy General Manager Projects  
Habib Rafiq Engineering (Pvt) Limited  
Construction of Sky Garden Tower, Lahore

Reference # CED/TFL **1193** (Dr. Asif Hameed)  
Reference of the request letter # HRLE/SHG/2022/017

Dated: 01-04-2022  
Dated: 31-03-2022

**Graph** (Page – 2/2)



**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  
Construction of Road from Bahawalpur (N-5) Jhangra Shaqi Interchange (KLM) Length 42.00  
km District Bahawalpur

Reference # CED/TFL **1194** (Dr. Asif Hameed)  
Reference of the request letter # RE/SA-467/(B)/MSA/BWP-JS/22

Dated: 01-04-2022  
Dated: 19-02-2022

**Tension Test Report** (Page -1/4)

Date of Test 05-04-2022  
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	17500	171.68	19500	191.30	199	>3.50	xx
2	12.70 (1/2")	775.0	783.0	17300	169.71	19300	189.33	198	>3.50	xx
2	12.70 (1/2")	775.0	783.0	17500	171.68	19400	190.31	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
<b>Only three samples for Test</b>										

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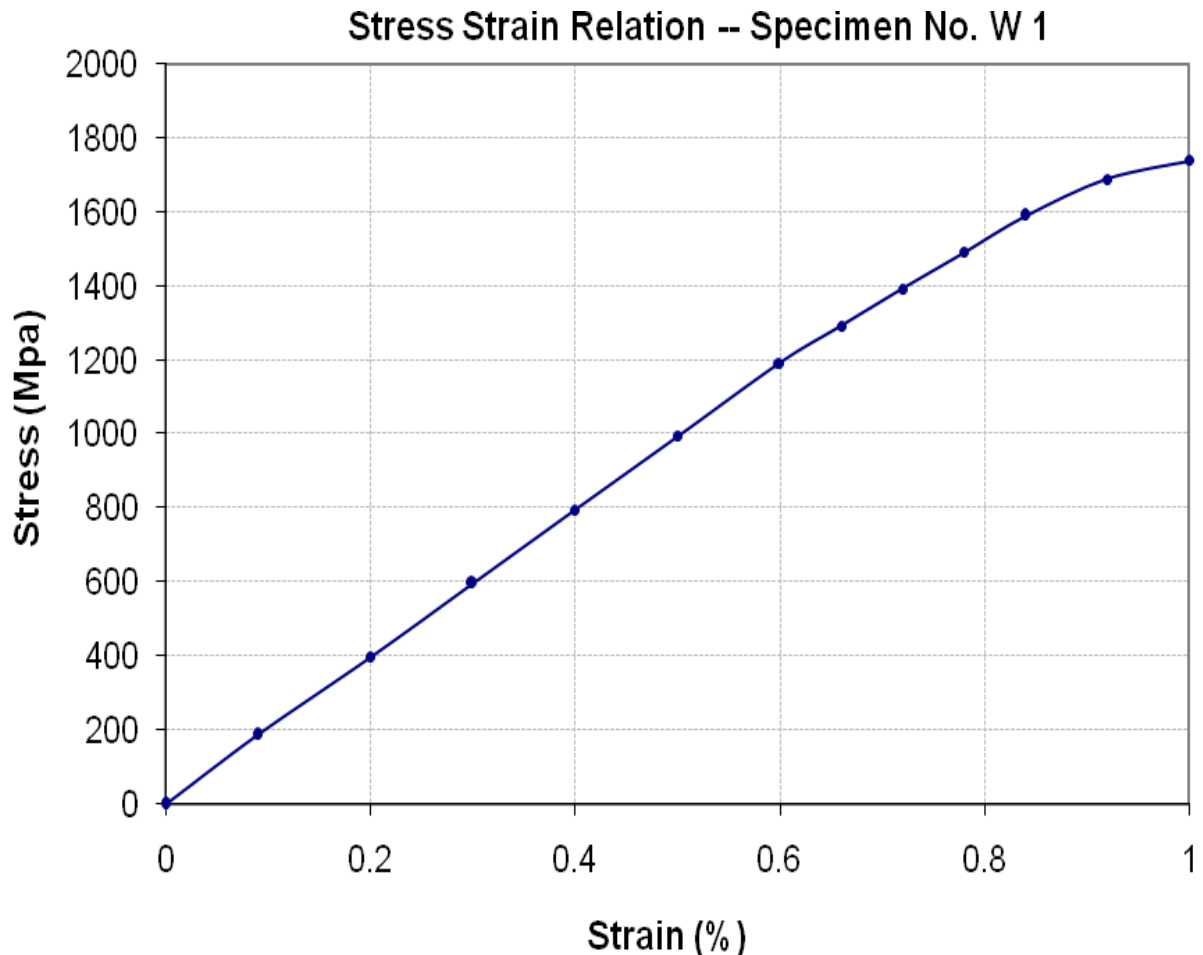
**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
Resident Engineer  
NESPAK  
Construction of Road from Bahawalpur (N-5) Jhangra Shaqi Interchange (KLM) Length 42.00  
km District Bahawalpur

Reference # CED/TFL **1194** (Dr. Asif Hameed)  
Reference of the request letter # RE/SA-467/(B)/MSA/BWP-JS/22

Dated: 01-04-2022  
Dated: 19-02-2022

**Graph** (Page – 2/4)



**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

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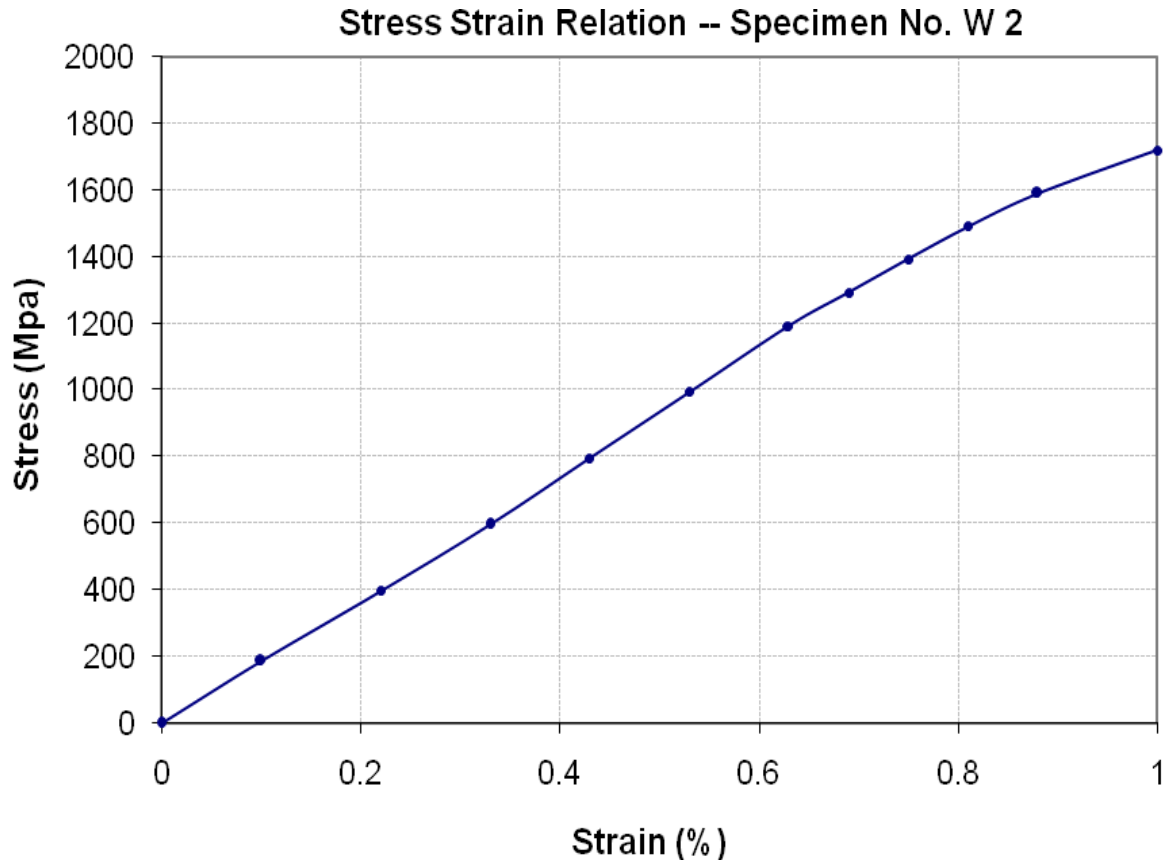
**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
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To,  
Resident Engineer  
NESPAK  
Construction of Road from Bahawalpur (N-5) Jhangra Shaqi Interchange (KLM) Length 42.00  
km District Bahawalpur

Reference # CED/TFL **1194** (Dr. Asif Hameed)  
Reference of the request letter # RE/SA-467/(B)/MSA/BWP-JS/22

Dated: 01-04-2022  
Dated: 19-02-2022

**Graph** (Page – 3/4)



**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

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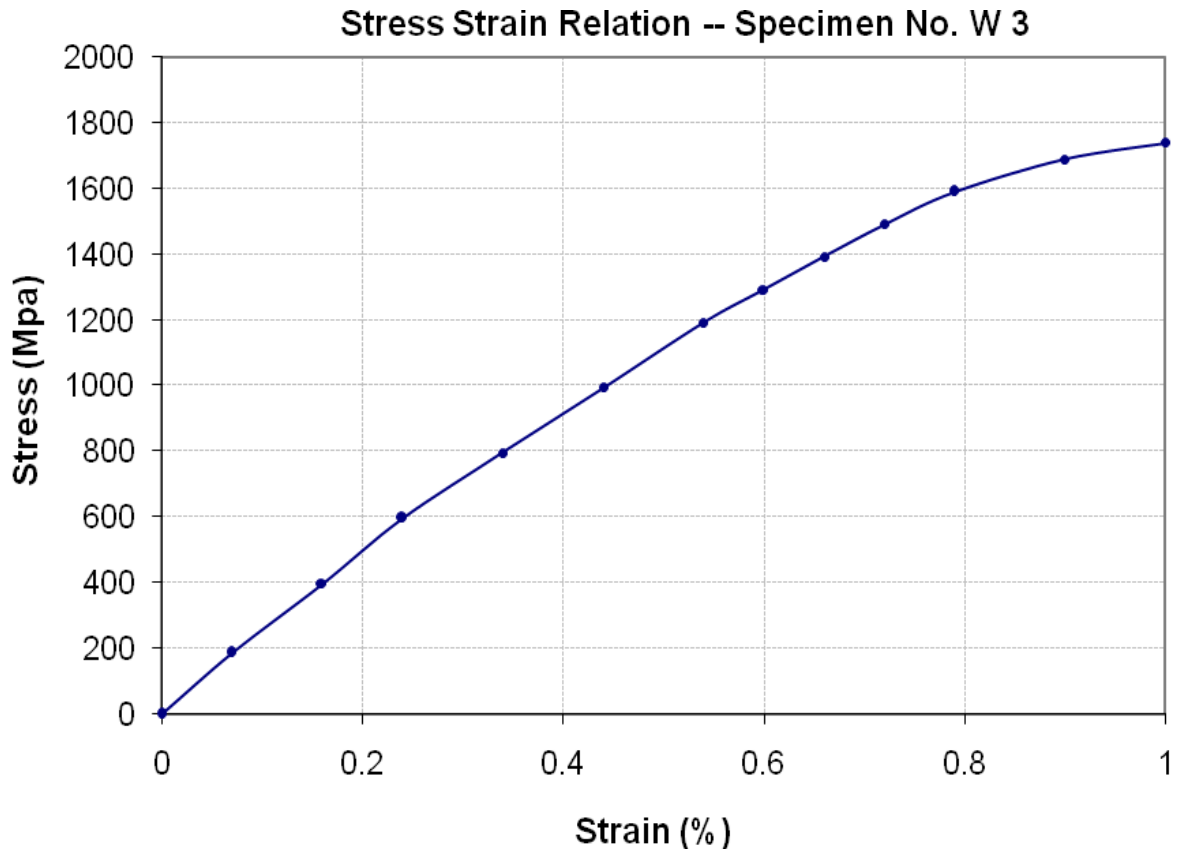
**STRUCTURAL ENGINEERING DIVISION**  
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**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
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To,  
Resident Engineer  
NESPAK  
Construction of Road from Bahawalpur (N-5) Jhangra Shaqi Interchange (KLM) Length 42.00  
km District Bahawalpur

Reference # CED/TFL **1194** (Dr. Asif Hameed)  
Reference of the request letter # RE/SA-467/(B)/MSA/BWP-JS/22

Dated: 01-04-2022  
Dated: 19-02-2022

**Graph** (Page – 4/4)



**I/C Testing Laboratories**  
**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 Imperium Hospitality (Pvt) Limited  
Gulberg II, Lahore

Reference # CED/TFL **1203**(Engr. Amina Rajput)  
Reference of the request letter # IHPL/Steel/0188

Dated: 01-04-2022  
Dated: 31-03-2022

**Tension Test Report** (Page -1/1)

Date of Test 05-04-2022  
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 <sup>2</sup> )		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	0.378	3	0.376	0.11	0.111	3410	5350	68400	67660	107200	106200	1.00	12.5	PCS
2	0.398	3	0.386	0.11	0.117	4200	5810	84200	79190	116500	109600	1.20	15.0	
3	0.443	3	0.407	0.11	0.130	4450	6190	89200	75260	124100	104700	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only three samples for tensile and two samples for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														
#3 Bar Bend Test Through 180° is Satisfactory														

Witness by Engr. Rafi Ullah Bajwa (IHPL) & Engr. Ali Husain Khan

**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,  
Project Manager  
Usman Ibrahim Construction  
Construction of HIGH-Q Mall & Offices at 3-A

Reference # CED/TFL **1208** (Dr. Asif Hameed)  
Reference of the request letter # QC/HQ/CIVIL/004

Dated: 04-04-2022  
Dated: 04-04-2022

**Tension Test Report** (Page -1/2)

Date of Test 05-04-2022  
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	770.0	17500	171.68	19600	192.28	199	>3.50	xx
2	12.70 (1/2")	775.0	769.0	17600	172.66	19500	191.30	198	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-

**Only two 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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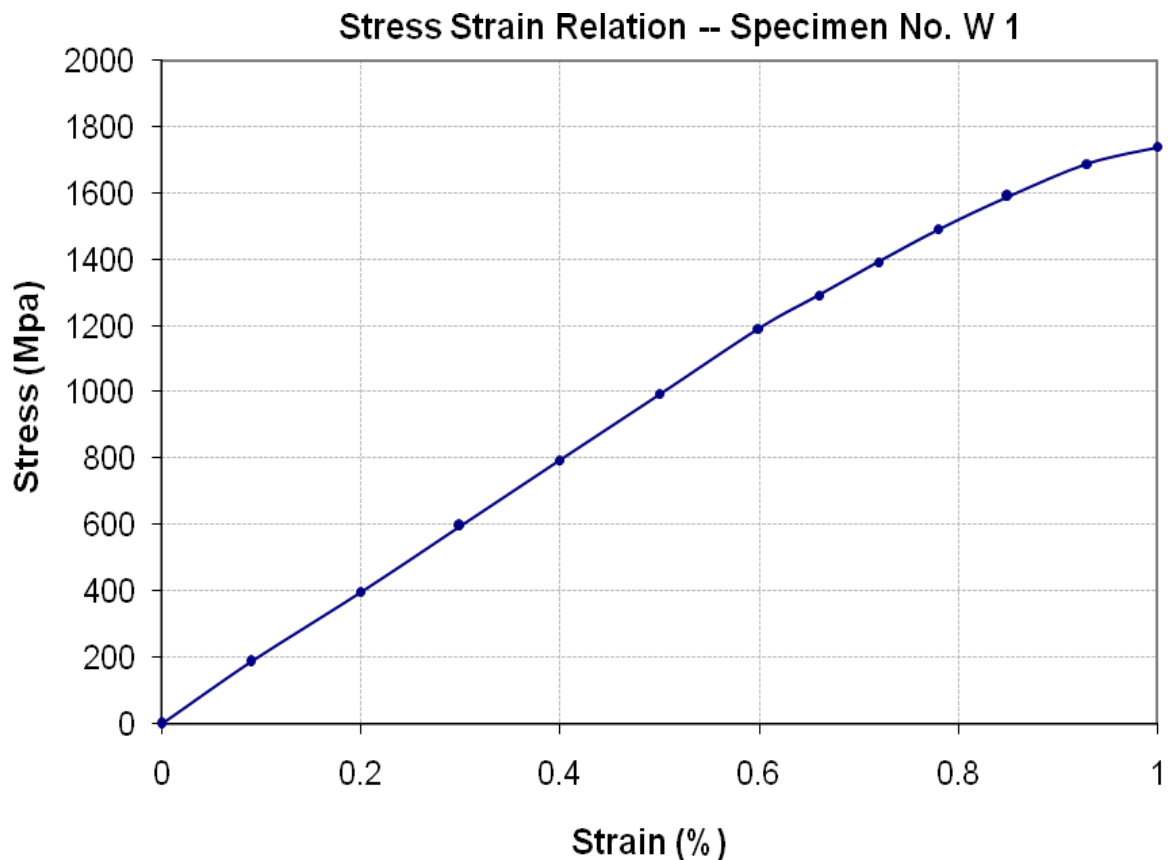
**STRUCTURAL ENGINEERING DIVISION**  
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To,  
Project Manager  
Usman Ibrahim Construction  
Construction of HIGH-Q Mall & Offices at 3-A

Reference # CED/TFL 1208 (Dr. Asif Hameed)  
Reference of the request letter # QC/HQ/CIVIL/004

Dated: 04-04-2022  
Dated: 04-04-2022

**Graph** (Page – 2/3)



**I/C Testing Laboratories**  
**UET Lahore, Pakistan.**

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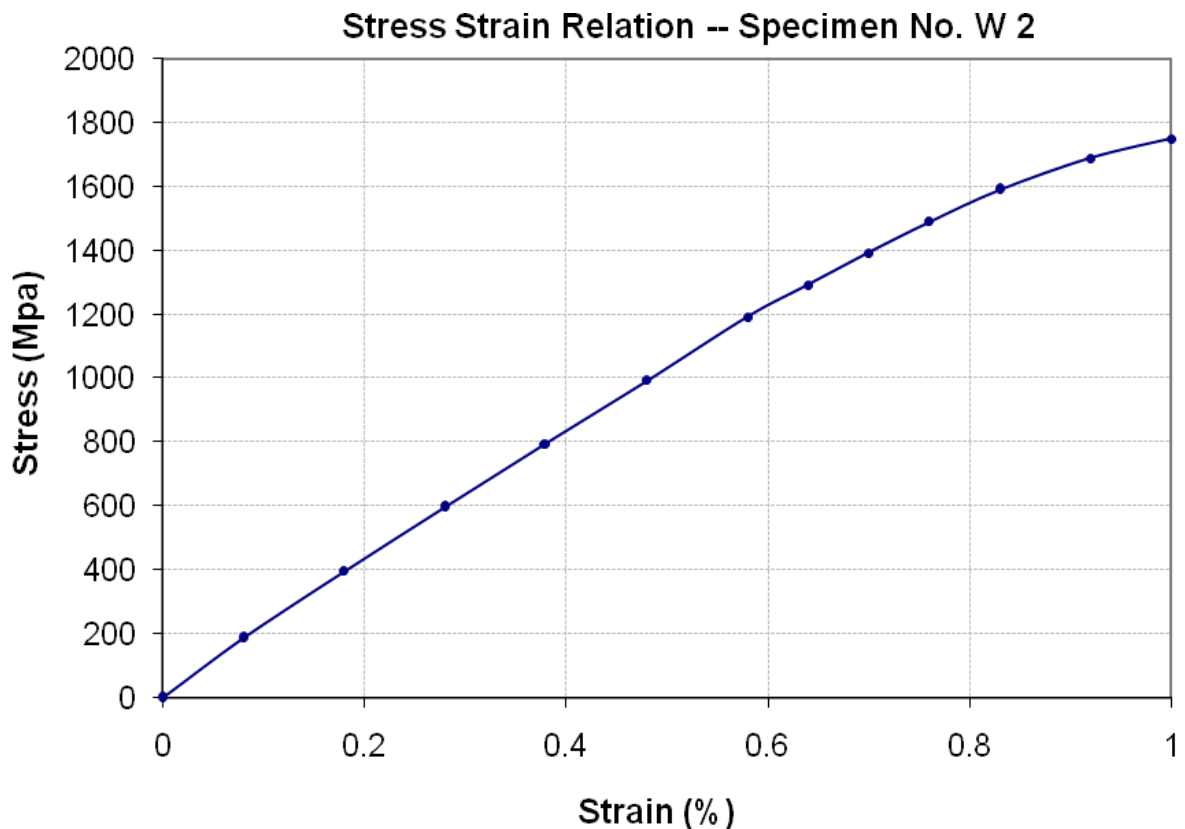
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To,  
Project Manager  
Usman Ibrahim Construction  
Construction of HIGH-Q Mall & Offices at 3-A

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**Graph** (Page – 3/3)



**I/C Testing Laboratories**  
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