



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
 Highway Sub Division, Taunsa
 (Rehabilitation of Metalled Road from Zain to Barthi Including Pile Foundation Bridge over
 Nallah Sanghar Length = 16.00 km (Grop-III)(Bridge Portion)

Reference # CED/TFL **34969** (Dr. M Rizwan Riaz)
 Reference of the request letter # 3354

Dated: 11-06-2020
 Dated: 16-05-2020

Tension Test Report (Page – 1/4)

Date of Test 16-06-2020
 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)	GPa		
1	12.70 (1/2")	775.0	779.0	19000	186.39	20200	198.16	199	>3.50	
2	12.70 (1/2")	775.0	787.0	17900	175.60	19400	190.31	198	>3.50	
3	12.70 (1/2")	775.0	779.0	18400	180.50	20000	196.20	199	>3.50	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
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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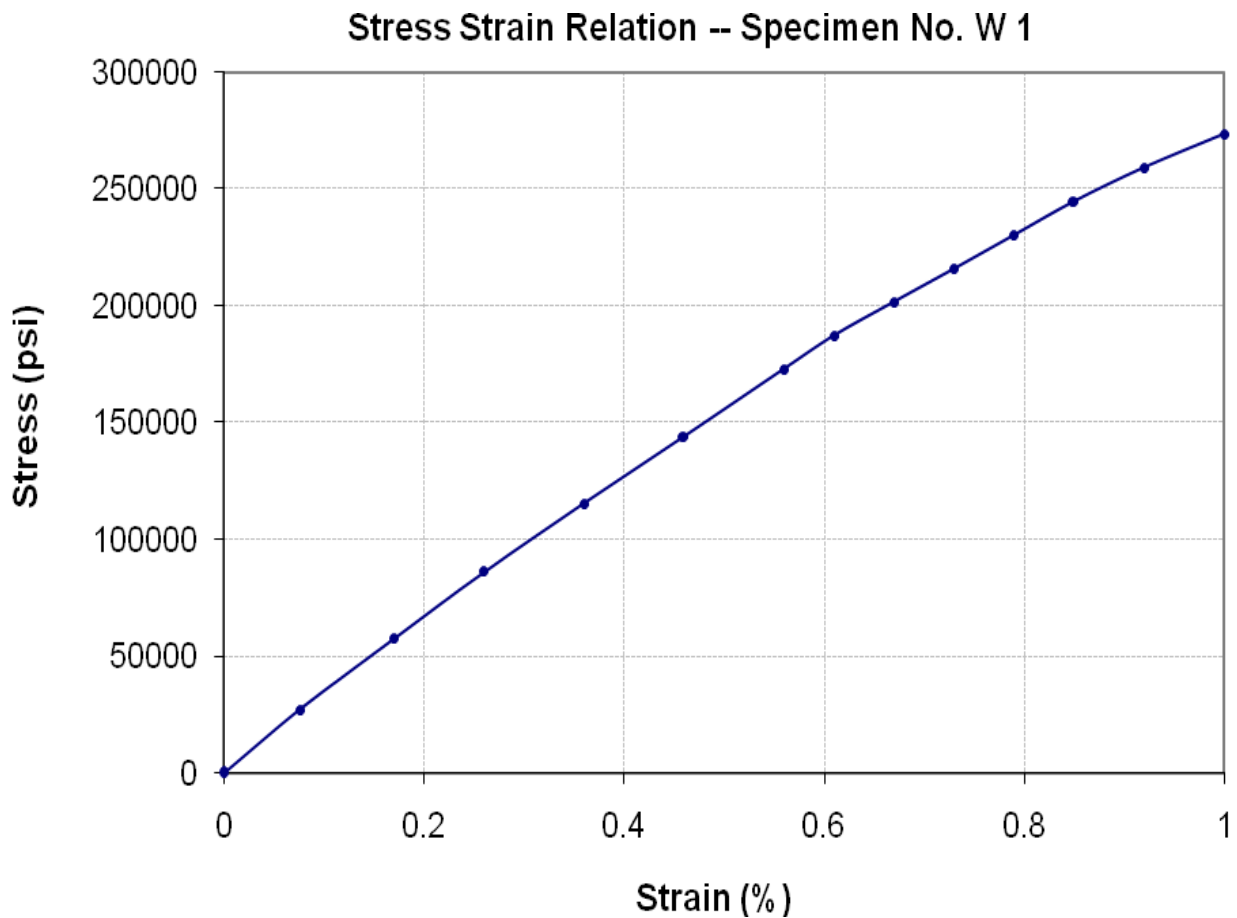
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Graph (Page – 2/4)



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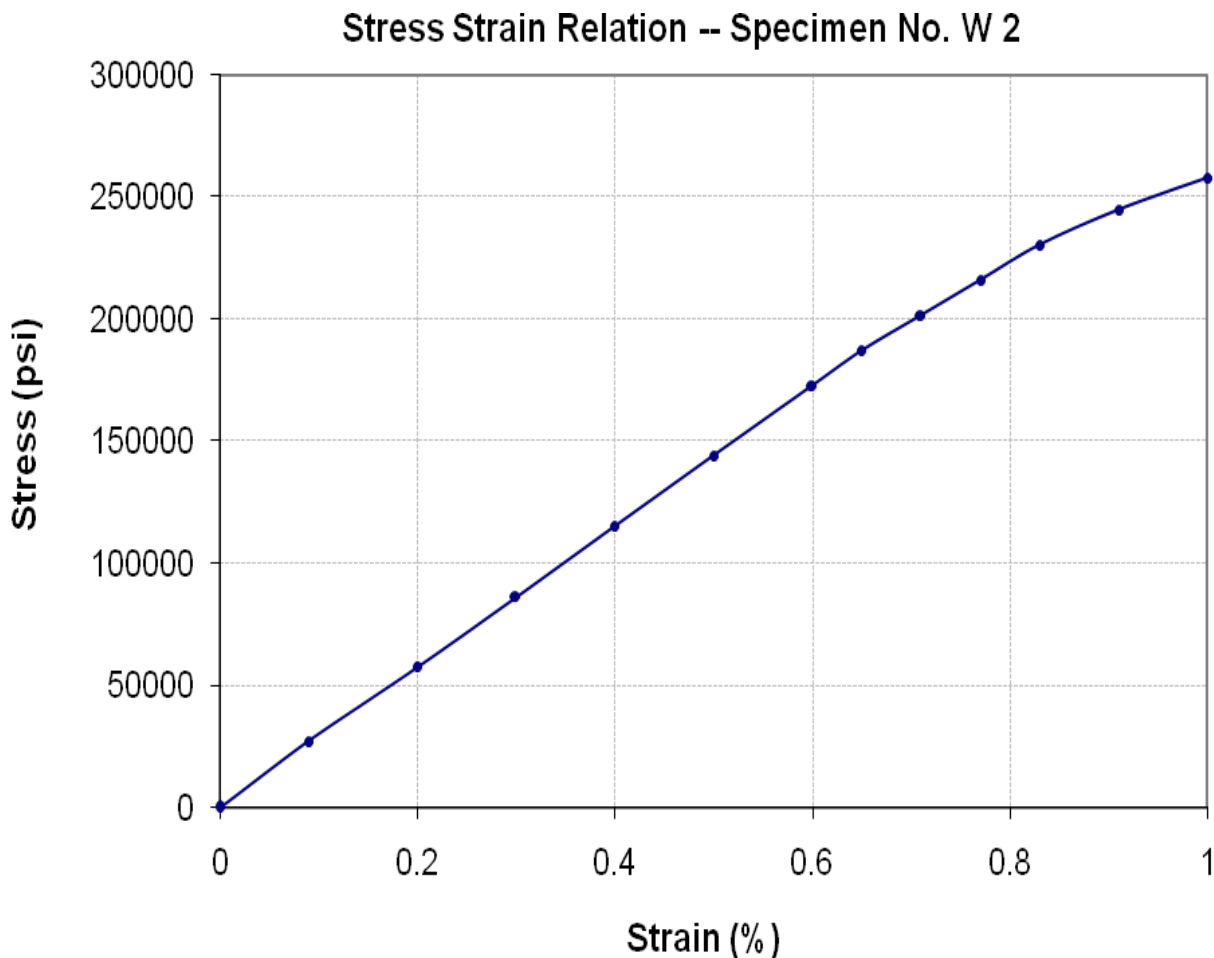
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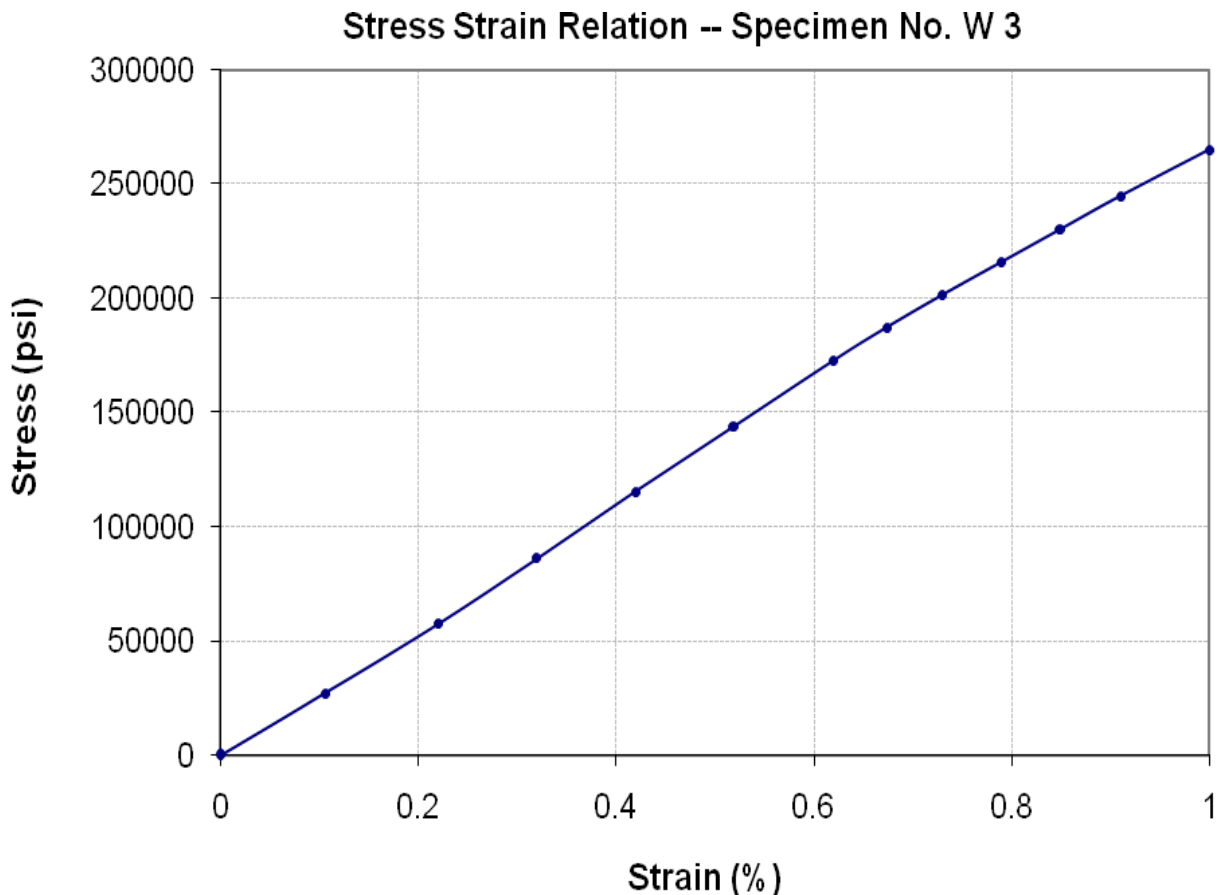
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Graph (Page – 4/4)



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To,
Asst. Resident Engineer
NESPAK
Construction of Flyover at Feroza Railway Station in District Rahim Yar Khan
(M/s WMI)

Reference # CED/TFL **34982** (Dr. M Rizwan Riaz)

Dated: 12-06-2020

Reference of the request letter # 3892/1ADP1920/Rahim Yar Khan/WA/100 Dated: 24-04-2020

Tension Test Report (Page – 1/4)

Date of Test 16-06-2020

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)	GPa		
1	12.70 (1/2")	775.0	786.0	17900	175.60	19400	190.31	199	>3.50	
2	12.70 (1/2")	775.0	782.0	17700	173.64	19200	188.35	198	>3.50	
3	12.70 (1/2")	775.0	783.0	17700	173.64	18000	176.58	199	<3.50 Not ok	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
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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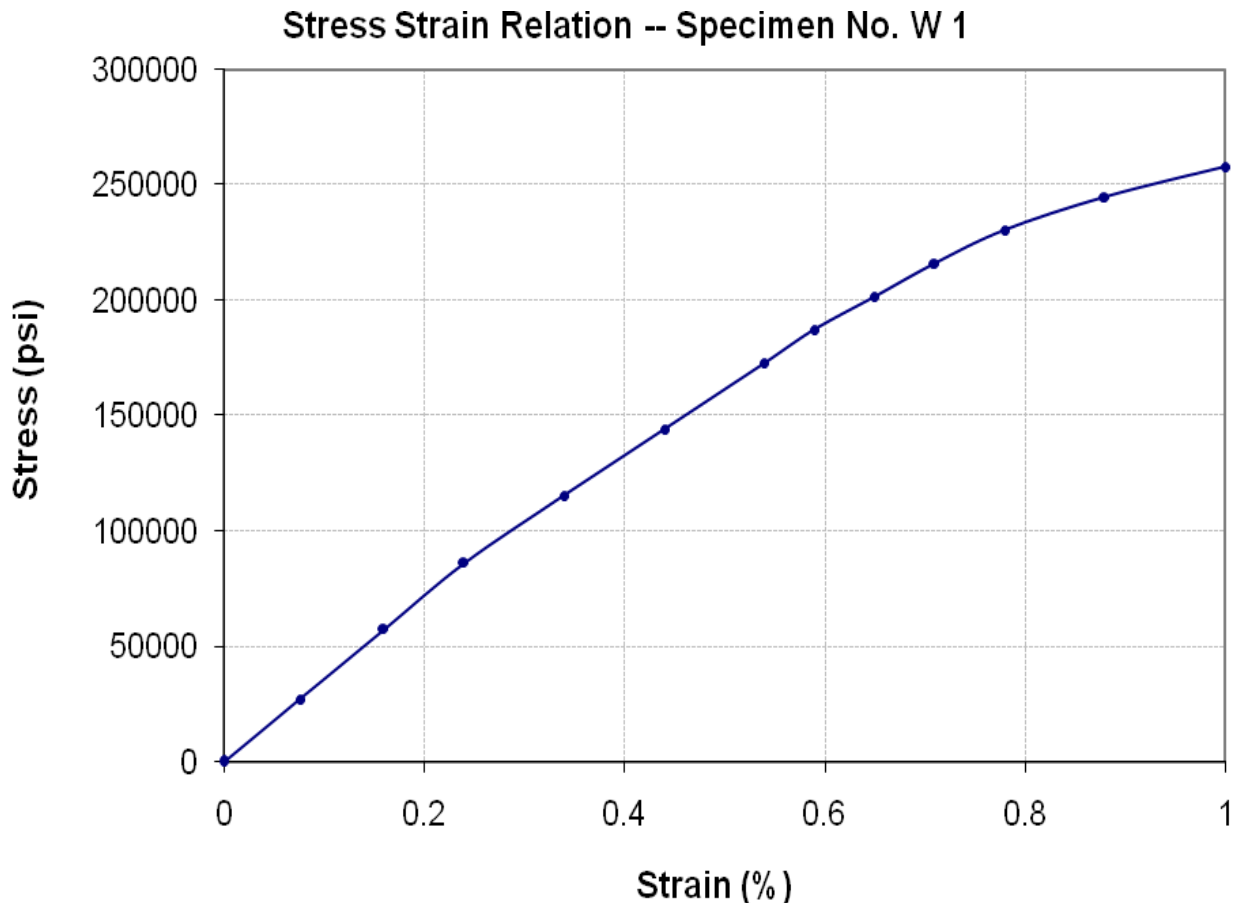
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NESPAK
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Reference # CED/TFL **34982** (Dr. M Rizwan Riaz)

Dated: 12-06-2020

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Graph (Page – 2/4)



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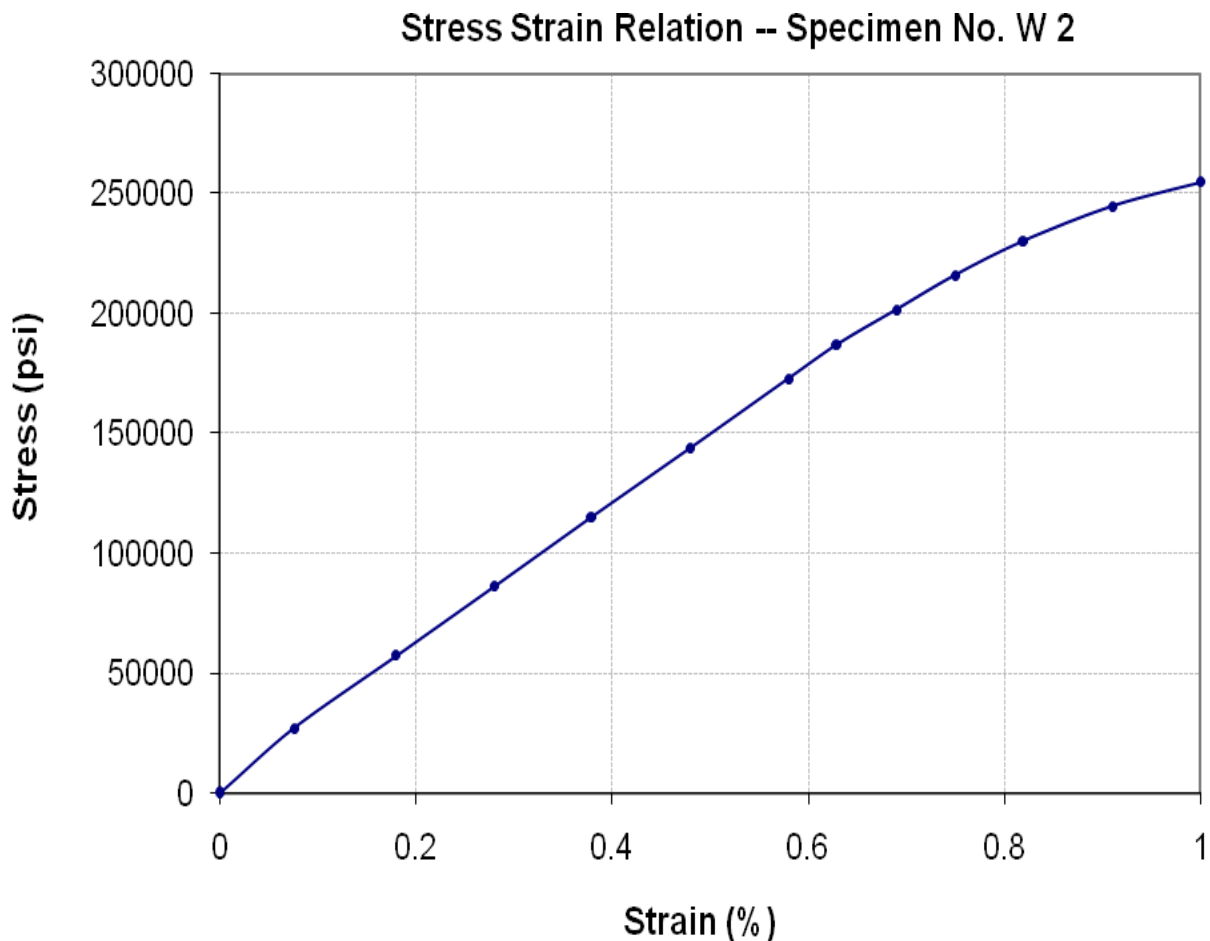
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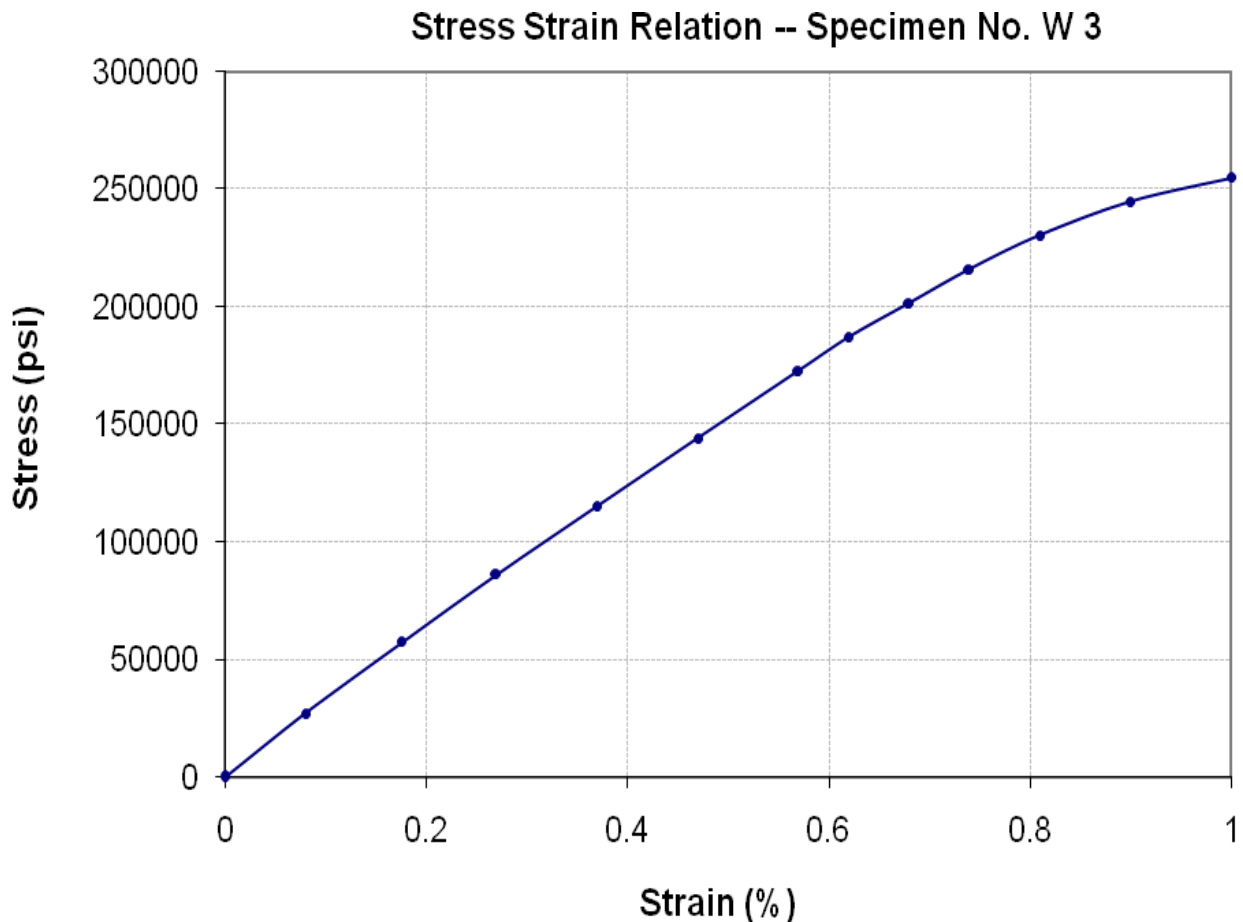
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To,
 Resident Engineer - I
 NESPAK
 Construction Underpass at Firdous Market, Lahore

Reference # CED/TFL **34984** (Dr. Safer Abbas)
 Reference of the request letter # 3772/FMU/103/MWA/04/27

Dated: 15-06-2020
 Dated: 12-06-2020

Tension Test Report (Page -1/1)

Date of Test 16-06-2020
 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	3.943	10	1.215	1.27	1.159	38200	51400	66300	72650	89300	97800	1.30	16.3	Pak Steel
2	4.013	10	1.226	1.27	1.180	31000	39800	53800	57930	69100	74400	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#10 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
 Resident Engineer - I
 NESPAK
 Construction Underpass at Firdous Market, Lahore

Reference # CED/TFL **34985** (Dr. Safer Abbas)
 Reference of the request letter # 3772/FMU/103/MWA/04/32

Dated: 15-06-2020
 Dated: 13-06-2020

Tension Test Report (Page -1/1)

Date of Test 16-06-2020
 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	4.232	10	1.258	1.27	1.244	44200	58400	76800	78320	101400	103500	1.30	16.3	Pak Steel
2	4.184	10	1.251	1.27	1.230	39000	52800	67700	69900	91700	94700	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#10 Bar Bend Test Through 180° is Satisfactory														

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To,
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 NESPAK
 Construction Underpass at Firdous Market, Lahore

Reference # CED/TFL **34989** (Dr. M Rizwan Riaz)
 Reference of the request letter # 3772/FMU/103/MWA/04/33

Dated: 16-06-2020
 Dated: 15-06-2020

Tension Test Report (Page -1/1)

Date of Test 16-06-2020
 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	4.100	10	1.239	1.27	1.205	37400	52600	65000	68400	91300	96200	1.40	17.5	Pak Steel
2	4.090	10	1.237	1.27	1.202	37200	52100	64600	68200	90500	95600	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#10 Bar Bend Test Through 180° is Satisfactory														

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