



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/Team Leader
Prime Engineering Consultancy
Kallurkot Bridge Project
Construction of 4 Lane Bridge over River Indus Connecting Kallur Kot with D.I Khan

Reference # CED/TFL **34427** (Dr. Usman Akmal)
Reference of the request letter # KK-DIK—BR-PJ/2019/109

Dated: 06-01-2020
Dated: 04-01-2020

Tension Test Report (Page – 1/3)

Date of Test 09-01-2020
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	782.0	17500	171.68	19400	190.31	199	>3.50	xx
2	12.70 (1/2")	775.0	782.0	16900	165.79	19500	191.30	198	>3.50	xx
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-	-	-	-	-	-	-	-	-	-	-
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

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Note:

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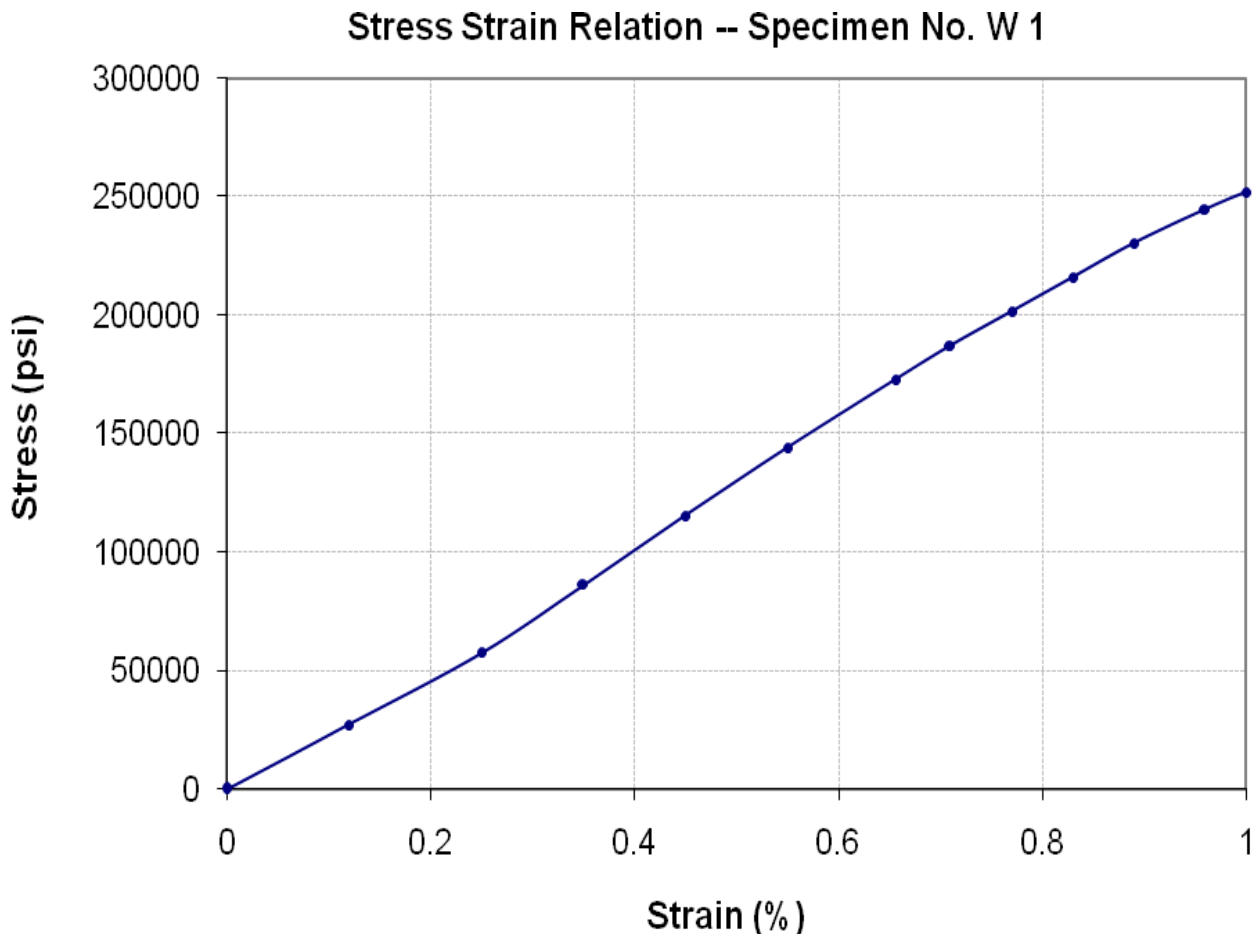
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Graph (Page – 2/3)



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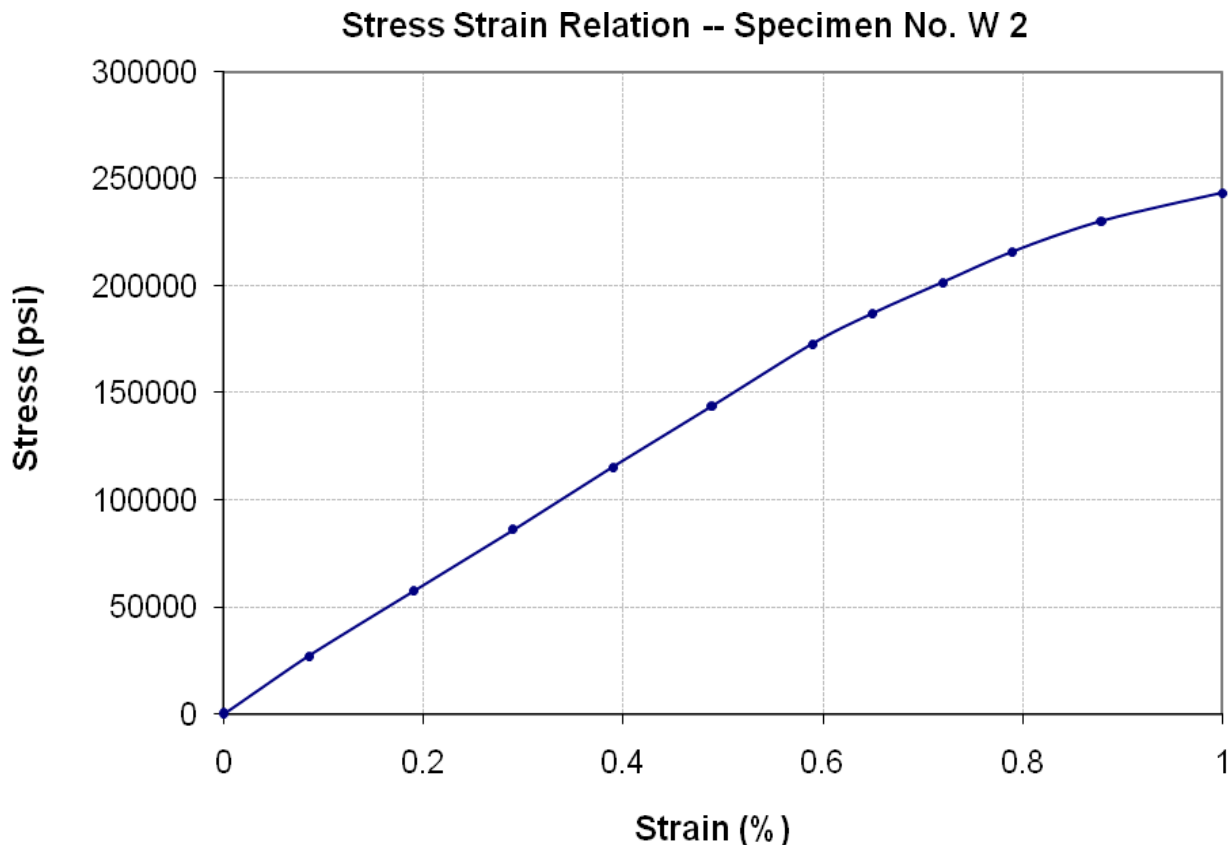
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Graph (Page – 3/3)



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To,
M/S Defence Housing Authority.
Lahore Cantt
(Infra Dev Works Ph-IX Prism (Pkg-II, III & IV), DHA Ph-IX - (M/s NLC)

Reference # CED/TFL **34440** (Dr. Usman Akmal)
Reference of the request letter # 408/241/E/Lab/814/1852

Dated: 07-01-2020
Dated: 02-01-2020

Tension Test Report (Page -1/1)

Date of Test 09-01-2020
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	5.336	11	1.413	1.56	1.568	48400	69800	68400	68020	98700	98100	1.50	18.8	S.J Steel
2	5.342	11	1.414	1.56	1.570	47000	68600	66500	65970	97000	96300	1.40	17.5	
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Note: only two samples for tensile and one sample for bend test														
Bend Test														
#11 Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
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To,
 Waseem Butt
 Lahore

Reference # CED/TFL **34443** (Dr. Usman Akmal)
 Reference of the request letter # Nil

Dated: 08-01-2020
 Dated: 08-01-2020

Tension Test Report (Page -1/1)

Date of Test 09-01-2020
 Gauge length 8 inches
 Description Plain Steel Bar Tensile Test

Sr. No.	Weight (kg/m)	Diameter/ size		Area (mm ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (MPa) Actual	Ultimate Stress (MPa) Actual	Elongation (inch)	% Elongation	Remarks
		Nominal (inch)	Actual (mm)	Nominal	Actual							
1	6.140	1 ¹ / ₄	31.56	-----	782.2	29400	47200	369	592	1.90	23.8	
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Note: only one sample for tensile test												
Bend Test												

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To,
 Executive Engineer
 Highway Division, Nankana Sahib
 (Improvement of Nankana City Roads District Nankana Sahib)

Reference # CED/TFL **34446** (Dr. Usman Akamal)
 Reference of the request letter # 2325/M/CB

Dated: 09-01-2020
 Dated: 10-10-2019

Tension Test Report (Page -1/1)

Date of Test 09-01-2020
 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	0.417	3	0.395	0.11	0.123	4300	5200	86200	77360	104200	93600	1.00	12.5	
2	0.419	3	0.396	0.11	0.123	4300	5400	86200	76910	108200	96600	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Dia Bar Bend Test Through 180° is Satisfactory														

I/C Testing Laboratoires
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