



**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 Old Banu Road/Domail – Khurram Project (P – 01)

Reference # CED/TFL **35686** (Dr. Ali Ahmed) Dated: 30-11-2020  
Reference of the request letter # 3968/OBR/P-01/RE/GRD/GRD/871 Dated: 25-11-2020

**Tension Test Report** (Page – 1/4)

Date of Test 02-12-2020  
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" GPa	% Elongation	Remarks / Coil No.
	(mm)	(kg/km)	(kg/km)	(kg)	(kN)	(kg)	(kN)			
1	12.70 (1/2")	775.0	786	18000	176.58	19800	194.24	199	>3.50	21835
2	12.70 (1/2")	775.0	784	18100	177.56	19600	192.28	198	>3.50	21839
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
<b>Only two 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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To,  
Resident Engineer  
NESPAK  
Dualization & Improvement of Old Banu Road/Domail – Khurram Project (P – 01)

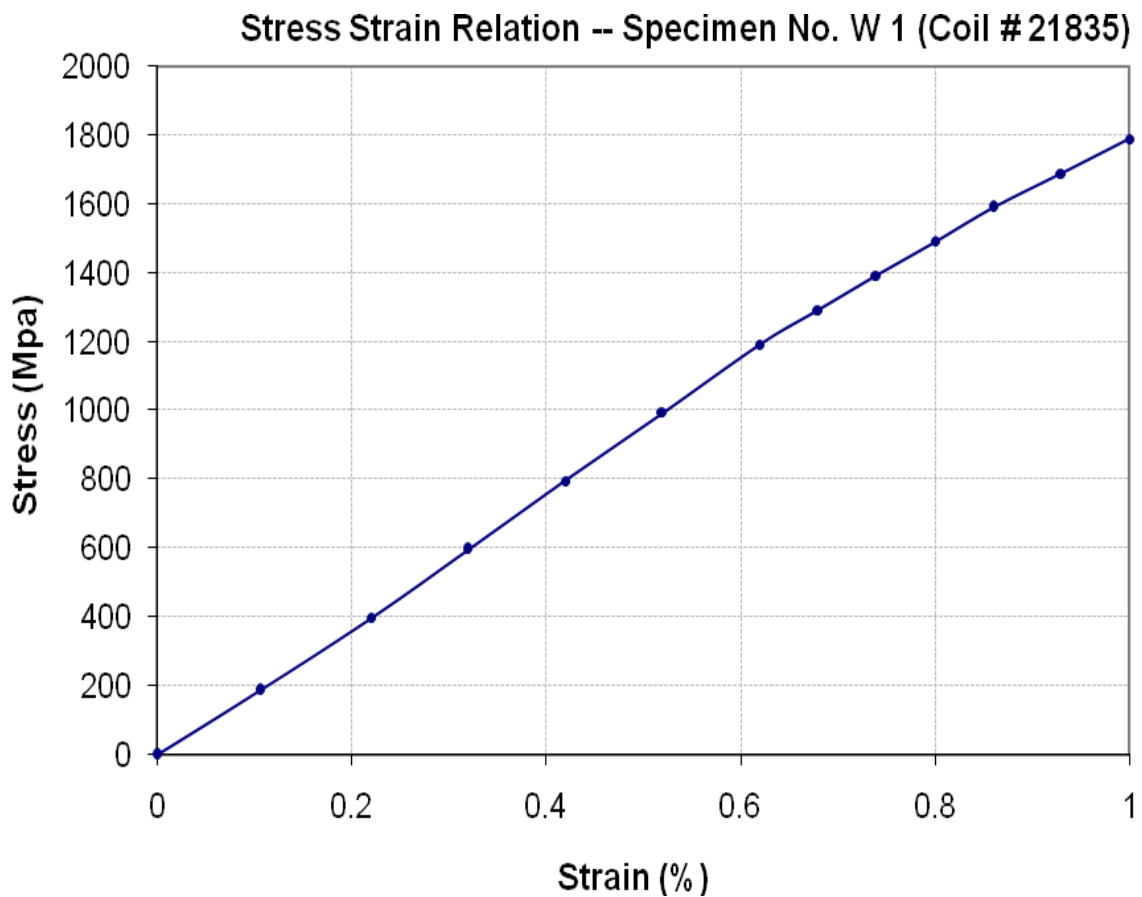
Reference # CED/TFL **35686** (Dr. Ali Ahmed)

Dated: 30-11-2020

Reference of the request letter # 3968/OBR/P-01/RE/GRD/GRD/871

Dated: 25-11-2020

**Graph** (Page – 2/3)



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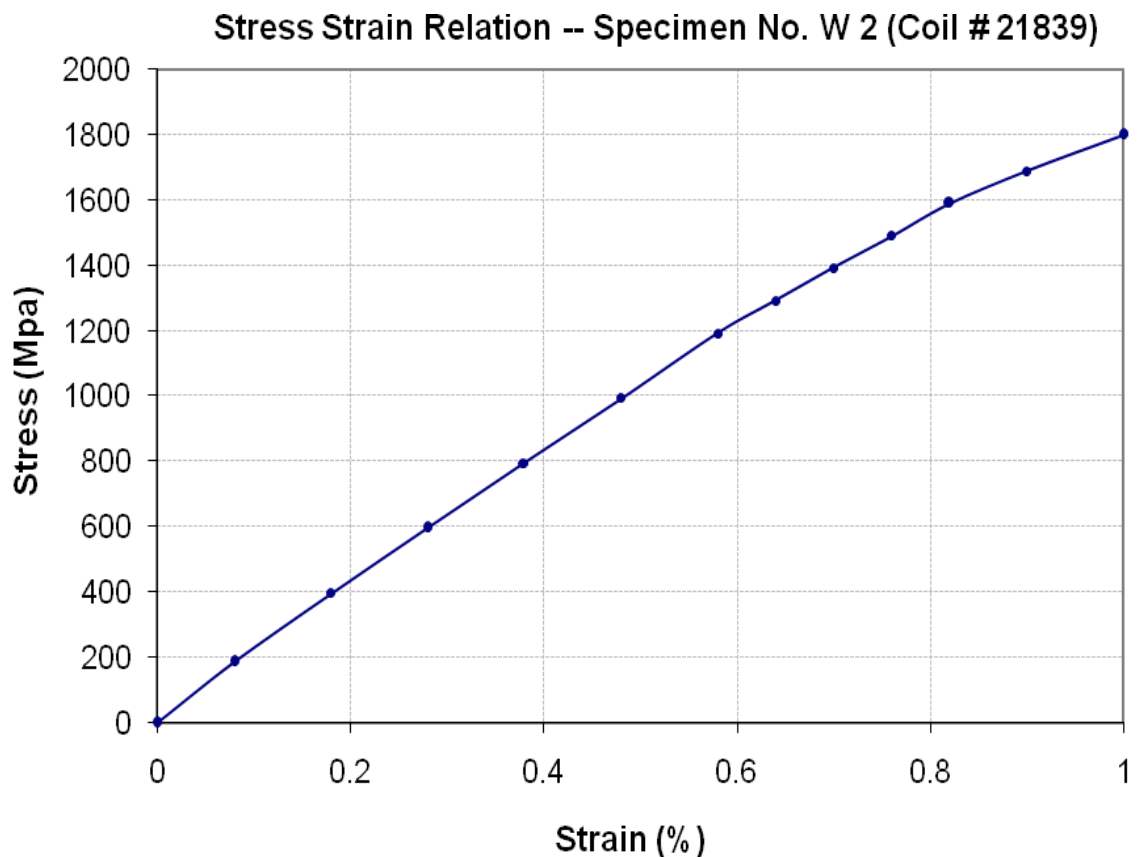
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**Graph** (Page – 3/3)



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**University of Engineering and Technology Lahore, 54890**  
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To,  
 CFO  
 Indigo Developers  
 Gulberg-III, Lahore

Reference # CED/TFL **35690** (Dr. Ali Ahmed)  
 Reference of the request letter # Nil

Dated: 01-12-2020  
 Dated: 30-11-2020

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

Date of Test 02-12-2020

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 <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	0.382	3	0.378	0.11	0.112	3400	4800	68200	66690	96200	94200	1.00	12.5	
2	0.380	3	0.377	0.11	0.112	3400	4900	68200	67140	98200	96800	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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

Note:

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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  
 Dar Engineering  
 Punjab Agriculture Food and Durg Authority's Science Enclave, Lahore Pakistan

Reference # CED/TFL **35691** (Dr. Ali Ahmed) Dated: 01-12-2020  
 Reference of the request letter # DB-78/DAR/RE/ME/2020/245 Dated: 01-12-2020

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

Date of Test 02-12-2020

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 <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	0.366	3	0.370	0.11	0.108	3500	4900	70200	71650	98200	100400	1.10	13.8	Kamran Steel
2	0.366	3	0.370	0.11	0.107	3300	4800	66200	67670	96200	98500	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
**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  
 Osmani & Company (Pvt) Ltd  
 M-3 IC Industrial City, Faisalabad  
 Infrastructure Development Works of Phase-II (Including Construction of UG, OH Tank, Water Supply and Sewerage System) at M-3 Industrial City Near Sahianwala Interchange, M3 Motorway, Faisalabad (Contract No. FIC-040)  
 Reference # CED/TFL **35692** (Dr. Ali Ahmed) Dated: 01-12-2020  
 Reference of the request letter # CRE/M3IC/FIC-040/Lab/843 Dated: 30-11-2020

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

Date of Test 02-12-2020

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 <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	3300	5000	66200	65470	100200	99200	1.20	15.0	Itthad
2	0.375	3	0.374	0.11	0.110	3200	5000	64200	64050	100200	100100	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

**I/C Testing Laboratoires**  
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**Test Floor Laboratory**  
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**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
 Resident Engineer  
 Osmani & Company (Pvt) Ltd  
 M-3 IC Industrial City, Faisalabad  
 Infrastructure Development Works of Commercial Zone-A for M-3 Motorway, Faisalabad  
 (Contract No. FIC-034)

Reference # CED/TFL **35692** (Dr. Ali Ahmed) Dated: 01-12-2020  
 Reference of the request letter # CRE/M3IC/FIC-040/Lab/840 Dated: 30-11-2020

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

Date of Test 02-12-2020

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 <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	0.375	3	0.375	0.11	0.110	3200	4900	64200	63980	98200	98000	1.30	16.3	Irthad Steel
2	0.385	3	0.380	0.11	0.113	3300	5100	66200	64200	102200	99300	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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To,  
 Garrison Engineer (Navy)  
 Naval Complex Walton  
 Gulberg - III, Lahore  
 (Construction of 01 X POs Block (G+3) (08 X Flates) at SRE Land Lahore)

Reference # CED/TFL **35694** (Dr. Ali Ahmed)  
 Reference of the request letter # 6021/152/36/E-6

Dated: 01-12-2020  
 Dated: 01-12-2020

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

Date of Test 02-12-2020

Gauge length 8 inches

Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (inch)		Area (in <sup>2</sup> )		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Remarks
		Nominal	Actual	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.373	3/8	0.374	0.11	0.110	2900	4300	58200	58270	86200	86400	1.60	20.0	
2	0.374	3/8	0.374	0.11	0.110	2800	4300	56200	56130	86200	86200	1.60	20.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
3/8" Dia Bar Bend Test Through 180° is Satisfactory														

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To,  
 Executive Engineer  
 State Bank of Pakistan  
 Construction of Balance Works of SBP New Office Building at Sialkot

Reference # CED/TFL **35695** (Dr. Ali Ahmed)  
 Reference of the request letter # ED/089482/SKT-NB/2020

Dated: 01-12-2020  
 Dated: 01-12-2020

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

Date of Test 02-12-2020

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 <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	0.364	3	0.369	0.11	0.107	3600	4500	72200	74260	90200	92900	0.90	11.3	
2	0.377	3	0.376	0.11	0.111	3800	4700	76200	75500	94200	93400	0.75	9.4	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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