



**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  
Al-Imam Enterprises (Pvt) Ltd.  
Construction of Penta Square, Phase-V, D.H.A, Lahore

Reference # CED/TFL **34932** (Dr. Qasim Khan)  
Reference of the request letter # Al-Imam/746/PS-1/DHA/LHE/1088

Dated: 02-06-2020  
Dated: 18-05-2020

**Tension Test Report** (Page – 1/2)

Date of Test 08-06-2020  
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	789.0	18200	178.54	19800	194.24	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:

- 1- You can See your reports On Internet in the following web site  
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2. The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples



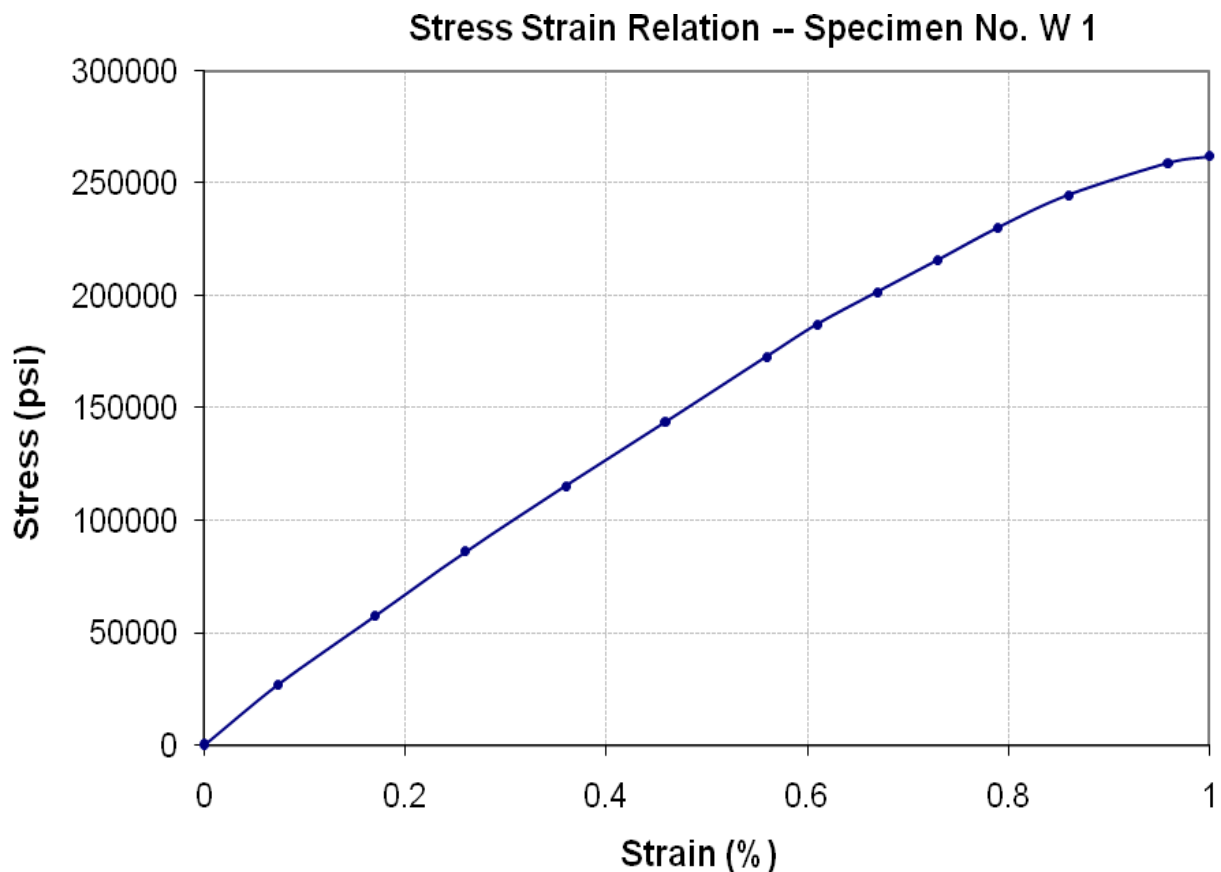
**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
Resident Engineer  
Al-Imam Enterprises (Pvt) Ltd.  
Construction of Penta Square, Phase-V, D.H.A, Lahore

Reference # CED/TFL **34932** (Dr. Qasim Khan)  
Reference of the request letter # Al-Imam/746/PS-1/DHA/LHE/1088

Dated: 02-06-2020  
Dated: 18-05-2020

**Graph** (Page – 2/2)



**I/C Testing Laboratories**  
**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,  
Material Engineer  
Cameos Consultants  
Construction / Widening of Road from Dargai Shabozai to Drug Taunsa Road

Reference # CED/TFL **34933** (Dr. Qasim Khan)  
Reference of the request letter # CC/CUD-TS/RE/2020/027

Dated: 03-06-2020  
Dated: 03-06-2020

**Tension Test Report** (Page – 1/6)

Date of Test 08-06-2020  
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	784.0	18000	176.58	19500	191.30	199	>3.50	xx
2	12.70 (1/2")	775.0	784.0	18400	180.50	19500	191.30	199	>3.50	xx
3	12.70 (1/2")	775.0	783.0	18100	177.56	19500	191.30	198	>3.50	xx
4	12.70 (1/2")	775.0	783.0	18400	180.50	19400	190.31	199	>3.50	xx
5	12.70 (1/2")	775.0	784.0	18300	179.52	19500	191.30	199	>3.50	xx
-	-	-	-	-	-	-	-	-	-	
Only five 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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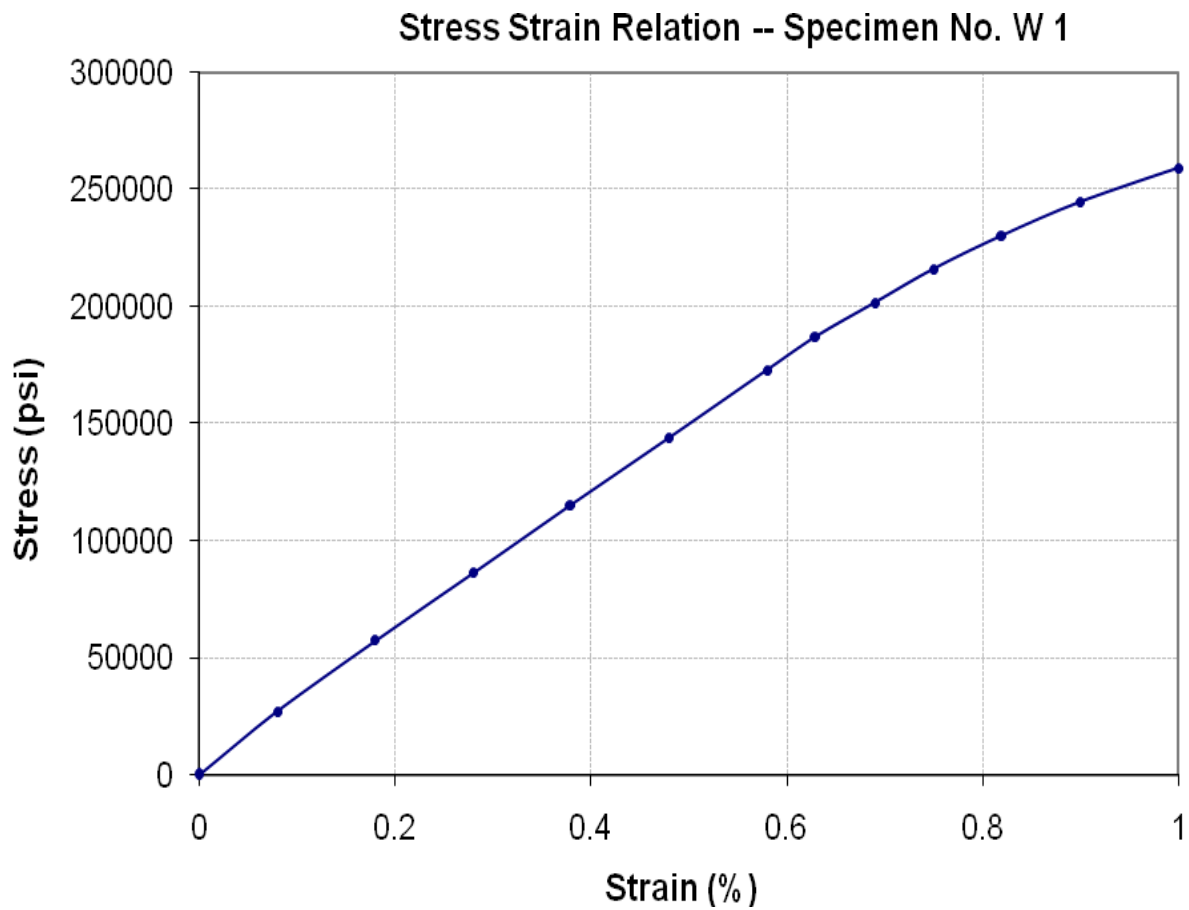
**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
Material Engineer  
Cameos Consultants  
Construction / Widening of Road from Dargai Shabozai to Drug Taunsa Road

Reference # CED/TFL **34933** (Dr. Qasim Khan)  
Reference of the request letter # CC/CUD-TS/RE/2020/027

Dated: 03-06-2020  
Dated: 03-06-2020

**Graph** (Page – 2/6)



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

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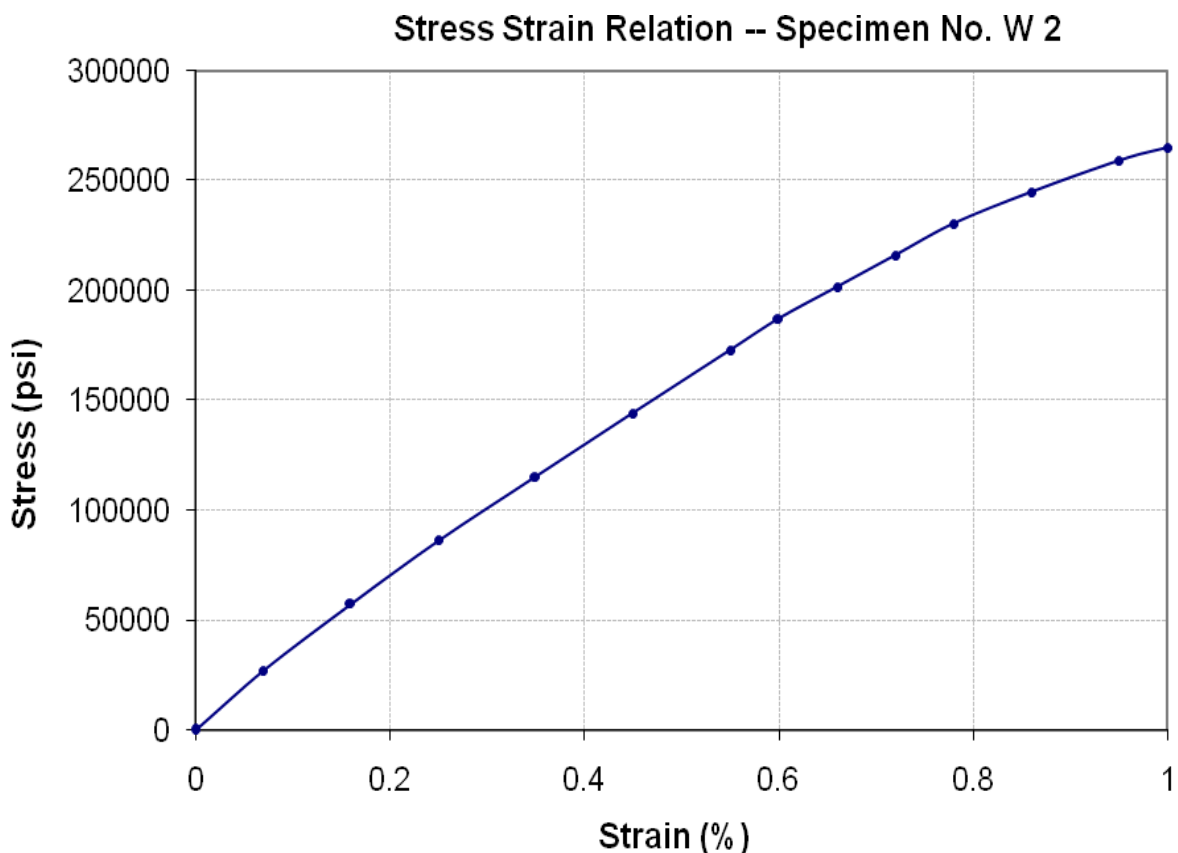
**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
**Pakistan. Ph: 92-42-99029202**

To,  
Material Engineer  
Cameos Consultants  
Construction / Widening of Road from Dargai Shabozai to Drug Taunsa Road

Reference # CED/TFL **34933** (Dr. Qasim Khan)  
Reference of the request letter # CC/CUD-TS/RE/2020/027

Dated: 03-06-2020  
Dated: 03-06-2020

**Graph** (Page – 3/6)



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

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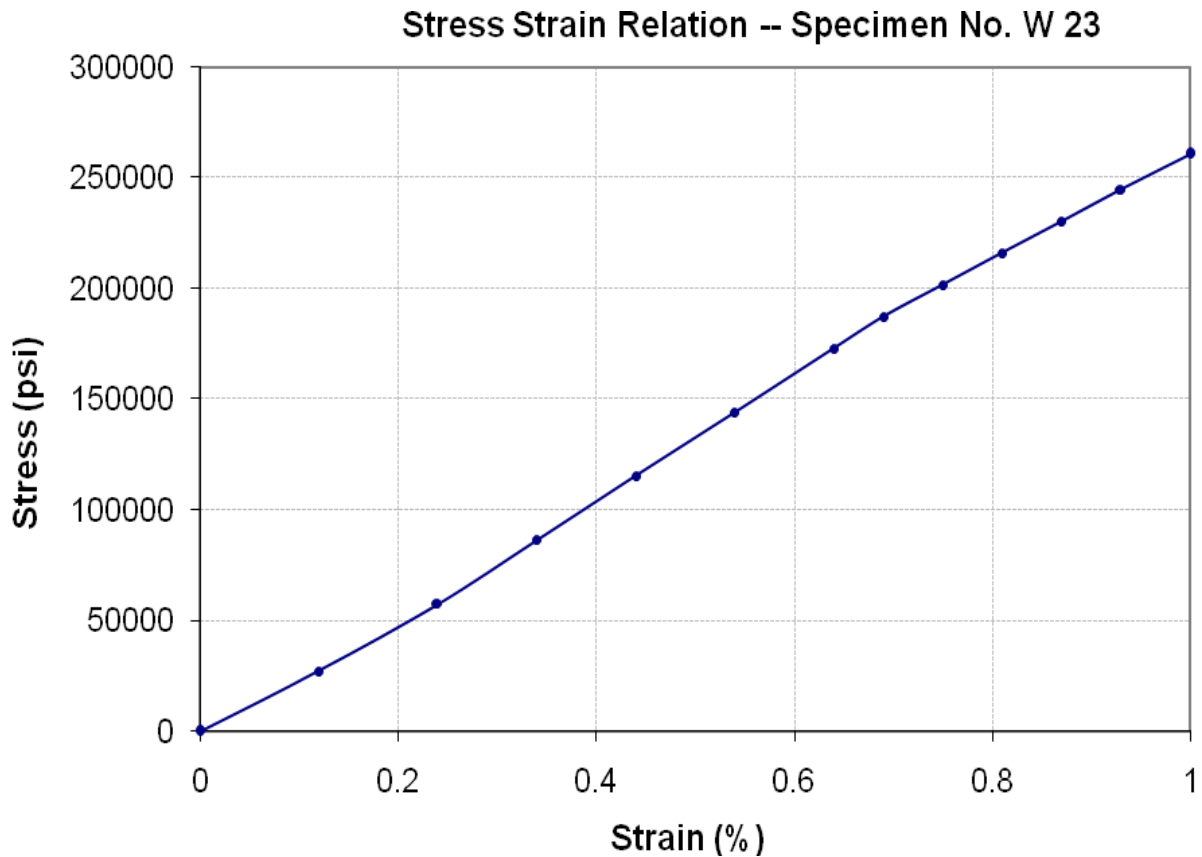
**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
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To,  
Material Engineer  
Cameos Consultants  
Construction / Widening of Road from Dargai Shabozai to Drug Taunsa Road

Reference # CED/TFL **34933** (Dr. Qasim Khan)  
Reference of the request letter # CC/CUD-TS/RE/2020/027

Dated: 03-06-2020  
Dated: 03-06-2020

**Graph** (Page – 4/6)



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

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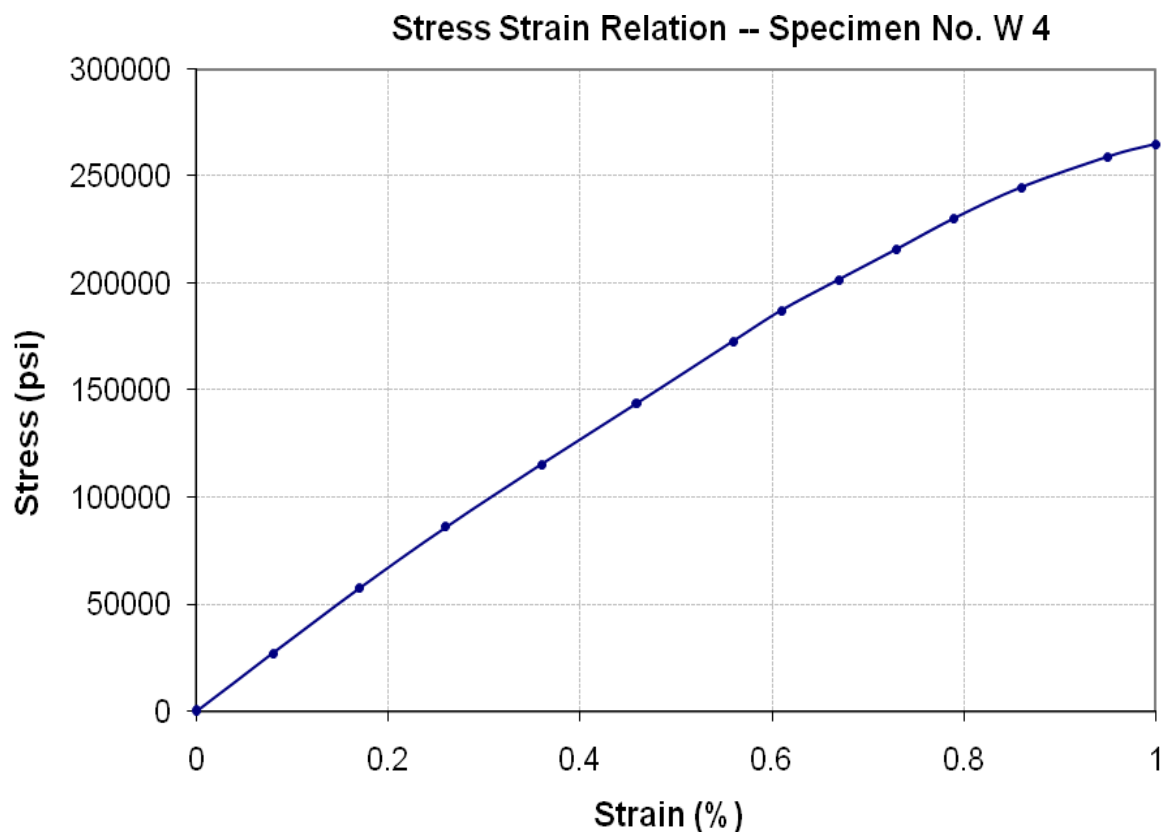
**STRUCTURAL ENGINEERING DIVISION**  
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To,  
Material Engineer  
Cameos Consultants  
Construction / Widening of Road from Dargai Shabozai to Drug Taunsa Road

Reference # CED/TFL **34933** (Dr. Qasim Khan)  
Reference of the request letter # CC/CUD-TS/RE/2020/027

Dated: 03-06-2020  
Dated: 03-06-2020

**Graph** (Page – 5/6)



**I/C Testing Laboratories**  
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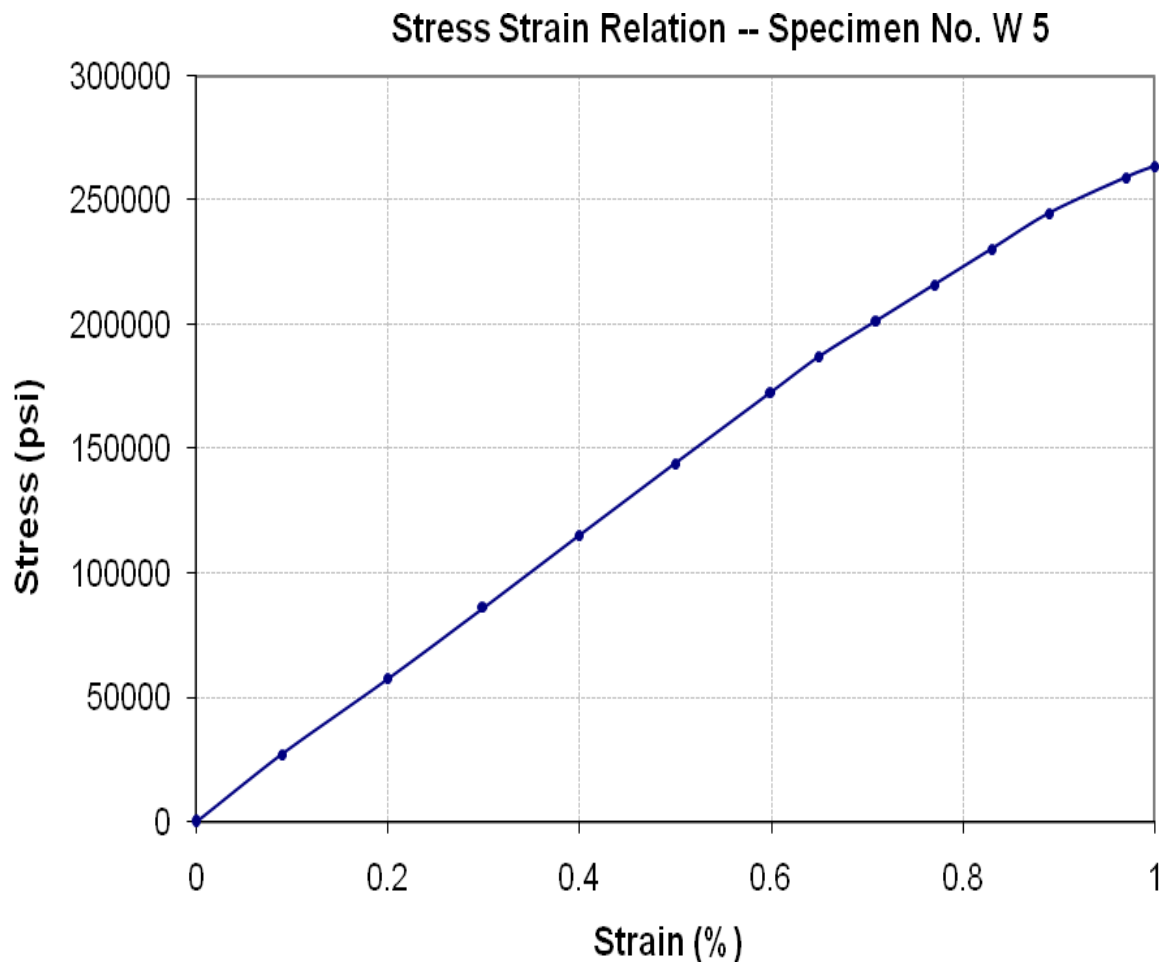
**STRUCTURAL ENGINEERING DIVISION**  
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**Department of Civil Engineering**  
**University of Engineering and Technology Lahore, 54890**  
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To,  
Material Engineer  
Cameos Consultants  
Construction / Widening of Road from Dargai Shabozai to Drug Taunsa Road

Reference # CED/TFL **34933** (Dr. Qasim Khan)  
Reference of the request letter # CC/CUD-TS/RE/2020/027

Dated: 03-06-2020  
Dated: 03-06-2020

**Graph** (Page – 6/6)



**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 - I  
 NESPAK  
 Construction Underpass at Firdous Market, Lahore

Reference # CED/TFL **34944** (Dr. Qasim Khan)  
 Reference of the request letter # 3772/FMU/103/MWA/04/01

Dated: 05-06-2020  
 Dated: 03-06-2020

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

Date of Test 08-06-2020  
 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 <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	4.242	10	1.260	1.27	1.247	40800	55400	70900	72120	96200	98000	1.30	16.3	SJ Steel
2	4.249	10	1.261	1.27	1.249	40600	55200	70500	71650	95800	97500	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#10 Bar Bend Test Through 180° 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 Head (Civil)  
Jaggran-II Hydropower Consultants  
JHC- 48 MW Jaggran-II Hydropower Project

Reference # CED/TFL **34945** (Dr. Qasim Khan)  
Reference of the request letter # E314-L-JHC-RE-EPCC-OC-253

Dated: 05-06-2020  
Dated: 02-06-2020

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

Date of Test               08-06-2020  
Gauge length             -----  
Description               Steel Coupler Load Test

Sr. No.	Diameter/ Size (mm)	Breaking Load (kg)	Remarks
1	32	42600	Steel Break
2	32	39000	Steel Break
3	32	46200	Steel Break
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
<b>Note : Only three samples for test</b>			

**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,  
M/S Defence Housing Authority.  
Lahore Cantt  
(Const of Entry Gate Towards Ring Road Sector-F Prism-9, DHA Ph-9 (M/s N.A. Associates))

Reference # CED/TFL **34947** (Dr. Qasim Khan)  
Reference of the request letter # 408/241/E/Lab/905/11

Dated: 05-06-2020  
Dated: 05-06-2020

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

Date of Test 08-06-2020  
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 <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	0.370	3	0.372	0.11	0.109	3600	4900	72200	72890	98200	99300	0.90	11.3	AF Steel
2	0.376	3	0.375	0.11	0.110	3700	4800	74200	73870	96200	95900	0.80	10.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<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.**

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

To,  
 Resident Engineer  
 Architectural & Civil Engineering Services  
 Civil Infrastructure Works Sector H – DHA Multan

Reference # CED/TFL **34949** (Dr. Qasim Khan)  
 Reference of the request letter # ACES-DHAM-SEC-H-076

Dated: 08-06-2020  
 Dated: 03-06-2020

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

Date of Test 08-06-2020  
 Gauge length 8 inches  
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (mm)		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	0.403	10	9.87	0.12	0.119	3800	4900	69812	70620	90021	91100	1.00	12.5	Mughal Steel
2	0.403	10	9.87	0.12	0.119	3800	4900	69812	70620	90021	91100	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
<b>Bend Test</b>														
10mm Dia Bar Bend Test Through 180° 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,  
M/S N.A. Associates  
Lahore  
(Construction of Commercial Building at Plot No. 44-D-1, Gulberg - III, Lahore)

Reference # CED/TFL **34950** (Dr. Qasim Khan)  
Reference of the request letter # NAA/Bill/44-D-I/20

Dated: 08-06-2020  
Dated: 08-06-2020

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

Date of Test 08-06-2020  
Gauge length 8 inches  
Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight (lbs/ft)	Diameter/ Size (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	0.415	3/8	0.394	0.11	0.122	3900	5000	78200	70480	100200	90400	1.20	15.0	Amereli Steel
2	0.412	3/8	0.393	0.11	0.121	3900	5000	78200	71030	100200	91100	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<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														

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

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**STRUCTURAL ENGINEERING DIVISION**  
**Test Floor Laboratory**  
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To,  
 Resident Engineer - I  
 NESPAK  
 Construction Underpass at Firdous Market, Lahore

Reference # CED/TFL **34954, 956** (Dr. Qasim Khan)  
 Reference of the request letter # 3772/FMU/103/MWA/04/16

Dated: 08-06-2020  
 Dated: 08-06-2020

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

Date of Test 08-06-2020  
 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 <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	4.257	10	1.262	1.27	1.251	44400	59600	77100	78220	103500	105000	1.20	15.0	SJ Steel
2	4.270	10	1.264	1.27	1.255	45400	62000	78800	79720	107600	108900	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Note: only two samples for tensile and one sample for bend test</b>														
Bend Test														
#10 Bar Bend Test Through 180° is Satisfactory														

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

Note:

- 1- You can See your reports On Internet in the following web site  
[http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing\\_reports](http://www.uet.edu.pk/faculties/facultiesinfo/civil/index.html?RID=testing_reports)
- 2- The above results pertain to sample /samples supplied to this laboratory.
- 3- Sealed sample / Unsealed sample / Marked sample/Signed Samples