



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

To,
Deputy Project Manager
NESPAK

Construction Infrastructure and Allied Works for Metro Bus Services Pk-3 GT Road interchange to NIIA & Thallian Interchange (NIIA)

Reference # CED/TFL **32900** (Dr. Qasim Khan)

Dated: 22-03-2019

Reference of the request letter # 3902/103/JUH/29/590

Dated: 14-03-2019

Tension Test Report (Page -1/8)

Date of Test 29-03-2019

Gauge length 8 inches

Description Anchor Bolt Tensile Test as per ASTM F-1554

Sr. No.	Weight	Diameter/ size		Area (mm ²)		Yield load	Breaking Load	Yield Stress (MPa)	Ultimate Stress (MPa)	Elongation	% Elongation	Remarks
	(kg/m)	Nominal (mm)	Actual (mm)	Nominal	Actual	(kg)	(kg)	Actual	Actual	(inch)		
1	5.803	30	30.68	-----	739.3	25200	38800	334	515	2.3	28.8	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile test												
Bend Test												

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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Reference # CED/TFL **32900** (Dr. Qasim Khan)

Dated: 22-03-2019

Reference of the request letter # 3902/103/JUH/29/590

Dated: 14-03-2019

Tension Test Report (Page – 2/8)

Date of Test 29-03-2019

Gauge length 2 inches

Description Steel Structure Steel Strip Tensile and Bend Test

Sr. No.	Designation		Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(mm)										
1	M.S Pipe	457.2x12.70	25.60x12.70	325.12	12200	15400	368.12	464.67	0.50	25.00	
2	M.S Pipe	273x9.27	28.90x12.25	354.03	20200	27400	559.74	759.25	0.50	25.00	
3	M.S Pipe	114.3x4.78	25.90x6.30	163.17	6300	8900	378.76	535.08	0.65	32.50	
4	M.S Pipe	219x8.18	26.20x7.40	193.88	6600	9300	333.95	470.56	0.70	35.00	
5	M.S Pipe	73x3.96	23.00x5.00	115.00	3800	4800	324.16	409.46	0.75	37.50	
6	M.S Angle	50x50x5	24.60x7.80	191.88	7000	10900	357.88	557.27	0.60	30.00	
7	M.S C Channel	75x50x3	23.00x2.70	62.10	2100	3100	331.74	489.71	0.60	30.00	

Only Seven Samples for Tensile and Seven Samples for Bend Test

Bend Test											
Strip Taken from M.S Pipe (457.2mm) Bend Test Through 180° is Satisfactory											
Strip Taken from M.S Pipe (273mm) Bend Test Through 180° is Satisfactory											
Strip Taken from M.S Pipe (114.3mm) Bend Test Through 180° is Satisfactory											
Strip Taken from M.S Pipe (219mm) Bend Test Through 180° is Satisfactory											
Strip Taken from M.S Pipe (73mm) Bend Test Through 180° is Satisfactory											
Strip Taken from M.S Angle (50x50x5mm) Bend Test Through 180° is Satisfactory											
Strip Taken from M.S Angle (75x50x3mm) Bend Test Through 180° is Satisfactory											

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To,
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Reference # CED/TFL **32900** (Dr. Qasim Khan)

Dated: 22-03-2019

Reference of the request letter # 3902/103/JUH/29/590

Dated: 14-03-2019

Tension Test Report (Page – 3/8)

Date of Test 29-03-2019

Gauge length 2 inches

Description Steel Structure Steel Strip Tensile and Bend Test

Sr. No.	Designation		Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(mm)										
1	M.S Angle	100x100x10	25.00x9.70	242.50	8900	14500	360.04	586.58	0.60	30.00	
2	Base Plate	300x300x20	25.00x19.65	491.25	17300	24100	345.47	481.26	0.65	32.50	
3	M.S Pipe	152.0 (6")	26.00x5.30	137.80	4300	6100	306.12	434.26	0.50	25.00	
4	M.S Pipe (Sq.)	50.80 (2")	20.00x1.50	30.00	900	1250	294.30	408.75	0.80	40.00	
5	M.S Plate	10	24.80x9.80	243.04	8400	12000	339.06	484.36	0.70	35.00	
6	G.I Sheet	1.8	22.30x1.90	42.37	1800	2400	416.76	555.68	0.60	30.00	
-	-	-	-	-	-	-	-	-	-	-	
Only Six Samples for Tensile and Six Samples for Bend Test											
Bend Test											
Strip Taken from M.S Angle (100x100x10mm) Bend Test Through 180° is Satisfactory											
Strip Taken from Base Plate (300x300x20mm) Bend Test Through 180° is Satisfactory											
Strip Taken from M.S Pipe (152.0mm (6")) Bend Test Through 180° is Satisfactory											
Strip Taken from M.S Pipe (50.8mm (2")) Bend Test Through 180° is Satisfactory											
Strip Taken from M.S Plate (10mm) Bend Test Through 180° is Satisfactory											
Strip Taken from G.I Sheet (1.80mm) Bend Test Through 180° is Satisfactory											

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NESPAK
Construction Infrastructure and Allied Works for Metro Bus Services Pk-3 GT Road interchange
to NIIA & Thallian Interchange (NIIA)

Reference # CED/TFL **32900** (Dr. Qasim Khan)
Reference of the request letter # 3902/103/JUH/29/590

Dated: 22-03-2019
Dated: 14-03-2019

Weight & Size Test Report (Page – 4/8)

Date of Test 29-03-2019
Gauge length -----
Description M.S Pipe Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	External Diameter	Internal Diameter	Thickness	Remark
	(mm)	(g)	(cm)	(kg/m)	(mm)	(mm)	(mm)	
1	457.2x12.70	48200	34.60	139.31	458.00	431.60	13.20	
2	273x9.27	53600	66.80	80.24	275.00	248.80	13.10	
3	114.3x4.78	5780	40.20	14.38	114.50	103.50	5.50	
4	219x8.18	11700	30.0	39.00	219.0	202.80	8.10	
5	73x3.96	3300	31.60	10.44	87.00	76.00	5.50	
6	152.0 (6")	7500	31.00	24.19	167.00	153.00	7.00	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only Six Samples for Test								

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Construction Infrastructure and Allied Works for Metro Bus Services Pk-3 GT Road interchange
to NIHA & Thallian Interchange (NIHA)

Reference # CED/TFL **32900** (Dr. Qasim Khan)
Reference of the request letter # 3902/103/JUH/29/590

Dated: 22-03-2019
Dated: 14-03-2019

Weight & Size Test Report (Page – 5/8)

Date of Test 29-03-2019
Gauge length -----
Description M.S Angle Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	L-1	L-2	Thickness	Remark
	(mm)	(g)	(cm)	(kg/m)	(mm)	(mm)	(mm)	
1	50x50x5	3350	45.50	7.36	62.00	62.00	8.00	
2	100x100x10	65500	45.7	143.33	100.00	100.00	10.00	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only Two Samples for Test								

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Reference # CED/TFL **32900** (Dr. Qasim Khan)
Reference of the request letter # 3902/103/JUH/29/590

Dated: 22-03-2019
Dated: 14-03-2019

Weight & Size Test Report (Page – 6/8)

Date of Test 29-03-2012
Gauge length -----
Description M.S C Channel Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	Depth (d)	Flange Width (b _f)	Thickness	Remark
	(mm)	(g)	(cm)	(kg/m)	(mm)	(mm)	(mm)	
1	75x50x3	2050	45.50	4.51	75.00	50.00	3.20	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for Test								

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Reference # CED/TFL **32900** (Dr. Qasim Khan)
Reference of the request letter # 3902/103/JUH/29/590

Dated: 22-03-2019
Dated: 14-03-2019

Weight & Size Test Report (Page – 7/8)

Date of Test 29-03-2019
Gauge length -----
Description Plate Weight and Size Test

Sr. No.	Designation		Weight	Length	Width	Weight per Unit Area	Thickness	Remark
	(mm)		(g)	(cm)	(mm)	(kg/m ²)	(mm)	
1	Base Plate	300x300x20	4800	31.00	100.00	154.84	20.00	
2	M.S Plate	10	2350	30.30	100.00	77.56	10.00	
3	G.I Sheet	1.8	700	45.70	100.00	15.32	2.00	
-	-		-	-	-	-	-	
-	-		-	-	-	-	-	
-	-		-	-	-	-	-	
-	-		-	-	-	-	-	
-	-		-	-	-	-	-	
-	-		-	-	-	-	-	
Only Three Samples for Test								

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to NIIA & Thallian Interchange (NIIA)

Reference # CED/TFL **32900** (Dr. Qasim Khan)
Reference of the request letter # 3902/103/JUH/29/590

Dated: 22-03-2019
Dated: 14-03-2019

Weight & Size Test Report (Page – 8/8)

Date of Test 29-03-2019
Gauge length -----
Description M.S Pipe (Sq.) Weight and Size Test

Sr. No.	Designation	Weight	Length	Weight per Unit Length	X-1	X-2	Thickness	Remark
	(mm)	(g)	(cm)	(kg/m)	(mm)	(mm)	(mm)	
1	50.80 (2")	1050	45.40	2.31	50.80	51.00	1.60	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	
Only One Sample for Test								

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To,
Resident Engineer
NESPAK
China – Pakistan Economic Corridor (CPEC), Western Route Halka (on M1) – Yarak (D.I.
Khan) Motorway, Package-3

Reference # CED/TFL **32920** (Dr. Usman Akmal) Dated: 25-03-2019
Reference of the request letter # CPEC/NESPAK/CS/RE/PKG3/19/866 Dated: 24-03-2019

Tension Test Report (Page – 1/1)

Date of Test 28-03-2019
Gauge length -----
Description Tension Wire & Wire Mesh Tensile Test

Sr. No.	Diameter of Single Wire	Breaking Load		Remarks
	(mm)	(kg)	(kN)	
1	3.20	440	4.32	Strand Tension Wire
2	3.20	320	3.14	Wire Mesh
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
-	-	-	-	
Only Four Samples for Test				

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To,
Dy. Manager (Transport)
GEPCO Ltd Gujranwala

Reference # CED/TFL **32925** (Dr. Qasim khan)
Reference of the request letter # 72048

Dated: 26-03-2019

Dated: 25-03-2019

Yield Test Report (Page -1/2)

Date of Test 29-03-2019

Gauge length -----

Description Pin Yield Test

Sr. No.	Diameter / size	Reduced Dia	Reduced Area	Yield load	Breaking Load	Yield Stress	Remarks
	-----	(inch)	(in ²)	(kg)	(kg)	(Psi)	
1	-----	0.98	0.754	32800	-----	95865	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
Note: only one sample for tensile test							
-	-	-	-	-	-	-	-
Bend Test							

Witness by M Haseeb (Add. Manager (Dev) GEPCO)

I/C Testing Laboratoires
UET Lahore, Pakistan.

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To,
Dy. Manager (Transport)
GEPCO Ltd Gujranwala

Reference # CED/TFL **32925** (Dr. Qasim khan)
Reference of the request letter # 72048

Dated: 26-03-2019

Dated: 25-03-2019

Yield Test Report (Page -2/2)

Date of Test 29-03-2019

Gauge length -----

Description Steel Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Remarks
	-----	(inch)	(in ²)	(kg)	(kg)	(Psi)	
1	Steel Strip	0.98x0.19	0.19	5600	-----	66303.76	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
Only One Sample for Tensile Test							
Bend Test							

Witness by M Haseeb (Add. Manager (Dev) GEPCO)

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To,
 Executive Engineer
 Highway Division, Nankana Sahib
 (Construction of Road Ahmed Wala Sheikh Da Kot, Wichla Pind, Kongran Walala and Sadar Da Kot with Mandi Faizabad at Faipur Colony Point Laengh 8.37 km)

Reference # CED/TFL **32948** (Dr. Qasim Khans)
 Reference of the request letter # 1692/M/CB

Dated: 28-03-2019
 Dated: 15-03-2019

Tension Test Report (Page -1/1)

Date of Test 29-03-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in ²)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.429	3	0.401	0.11	0.126	4100	6100	82200	71610	122300	106600	1.00	12.5	
2	0.382	3	0.378	0.11	0.112	2600	4000	52100	51060	80200	78600	1.90	23.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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UET Lahore, Pakistan.

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To,
 Executive Engineer
 Highway Division, Nankana Sahib
 (W/Improvement of Road Gird Station Bucheki to Chaindpur via Kot Akbar)

Reference # CED/TFL **32949** (Dr. Qasim Khans)
 Reference of the request letter # 1693/M/CB

Dated: 28-03-2019
 Dated: 15-03-2019

Tension Test Report (Page -1/1)

Date of Test 29-03-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size		Area (in ²)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal (#)	Actual (inch)	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.361	3	0.368	0.11	0.106	2500	3500	50100	51910	70200	72700	1.70	21.3	
2	0.389	3	0.382	0.11	0.114	2700	4100	54100	51990	82200	79000	1.50	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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Pakistan. Ph: 92-42-99029202

To,
M/S Sui Northern Gas Pipelines Limited
Lahore
(Construction of Foundation, Sewerage, Pits, Water Tank, Plumbing and Electrification at
Central Meter Shop Kot Lakhpat Lahore)

Reference # CED/TFL **32951** (Dr. Qasim Khan)
Reference of the request letter # CC/62/CMS/LHR

Dated: 28-03-2019
Dated: 28-03-2019

Tension Test Report (Page -1/1)

Date of Test 29-03-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		Area (in ²)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.361	3/8	0.368	0.11	0.106	3100	4900	62200	64330	98200	101700	1.30	16.3	
2	0.365	3/8	0.370	0.11	0.107	3200	4900	64200	65740	98200	100700	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														
Bend Test														

I/C Testing Laboratories
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
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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,
 Sub Div. Officer Multan
 PASSCO Div. Multan

Reference # CED/TFL **32953** (Dr.Qasim khan)
 Reference of the request letter # PASSCO/EE/MTN/19/62

Dated: 28-03-2019

Dated: 20-03-2019

Tension Test Report (Page -1/1)

Date of Test 29-03-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (inch)		Area (in ²)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.386	3/8	0.380	0.11	0.113	3300	5100	66200	64180	102200	99200	1.20	15.0	
2	0.367	3/8	0.371	0.11	0.108	3200	5000	64200	65350	100200	102100	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
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
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
DCRE/RE-1
Zeeruk International (Pvt) Ltd
Lahore Sialkot Motorway Project

Reference # CED/TFL **32954** (Dr. Qasim Khan)
Reference of the request letter # LSMP/RE-1/2018/714

Dated: 28-03-2019
Dated: 28-03-2019

Tension Test Report (Page – 1/1)

Date of Test 29-03-2019

Gauge length -----

Description Galvanized Strand Tension Wire & Chain Link Wire Tensile Test as per
AASHTO-M-181

Sr. No.	Diameter of Single Wire	Breaking Load		Remarks
	(mm)	(kg)	(kN)	
1	3.20	680	6.67	Strand Tension Wire
2	3.20	720	7.06	
3	3.20	320	3.14	Chain Link Wire
4	3.20	360	3.53	
-	-	-	-	
-	-	-	-	
-	-	-	-	
Only Four Samples for Test				

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,
 Chief Resident Engineer
 Osmani & Co. (Pvt) Ltd
 Swat Motorway Project

Reference # CED/TFL **32955** (Dr. Qasim Khan)
 Reference of the request letter # 274/CRE/QAT/SMP/2019

Dated: 28-03-2019
 Dated: 25-03-2019

Tension Test Report (Page – 1/4)

Date of Test 29-03-2019
 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	783.0	18000	176.58	20600	202.09	198	>3.50	93
2	12.70 (1/2")	775.0	782.0	18200	178.54	20500	201.11	199	>3.50	96
3	12.70 (1/2")	775.0	782.0	17500	171.68	20500	201.11	199	>3.50	100
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
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:

- 1- You can See your reports On Internet in the following web site
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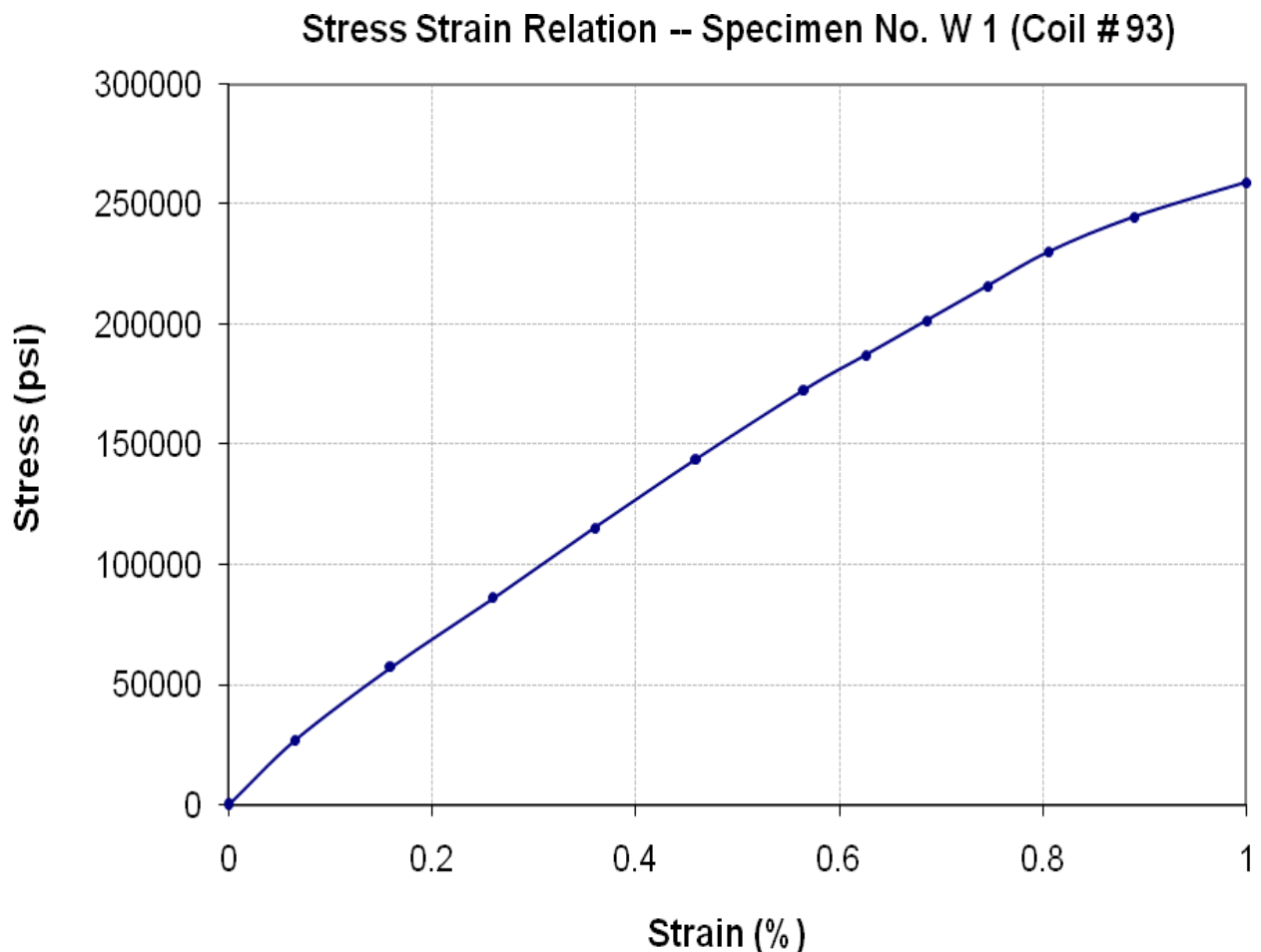
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Chief Resident Engineer
Osmani & Co. (Pvt) Ltd
Swat Motorway Project

Reference # CED/TFL **32955** (Dr. Qasim Khan)
Reference of the request letter # 274/CRE/QAT/SMP/2019

Dated: 28-03-2019
Dated: 25-03-2019

Graph (Page – 2/4)



I/C Testing Laboratoires
UET Lahore, Pakistan.

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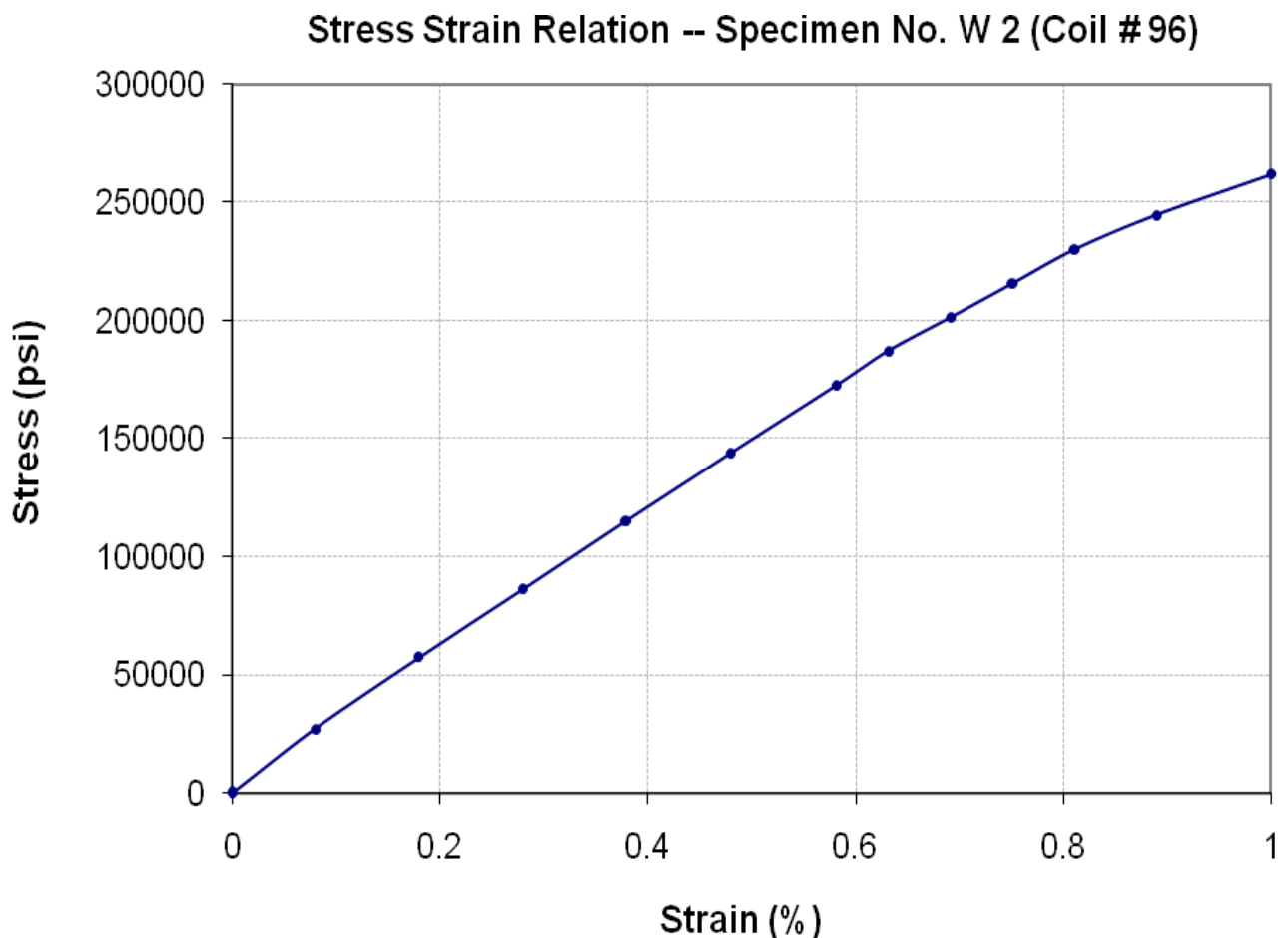
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Chief Resident Engineer
Osmani & Co. (Pvt) Ltd
Swat Motorway Project

Reference # CED/TFL **32955** (Dr. Qasim Khan)
Reference of the request letter # 274/CRE/QAT/SMP/2019

Dated: 28-03-2019
Dated: 25-03-2019

Graph (Page – 3/4)



I/C Testing Laboratoires
UET Lahore, Pakistan.

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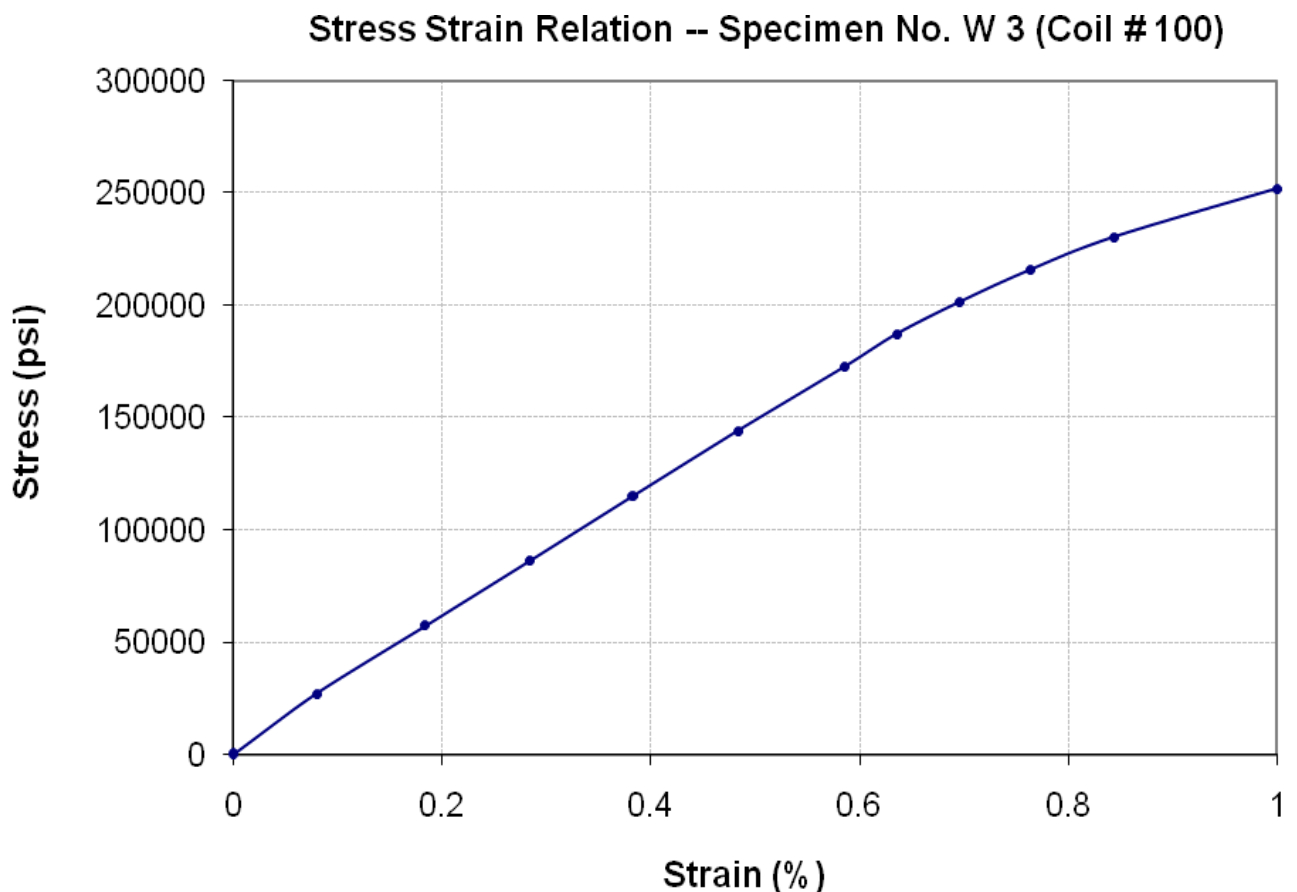
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Chief Resident Engineer
Osmani & Co. (Pvt) Ltd
Swat Motorway Project

Reference # CED/TFL **32955** (Dr. Qasim Khan)
Reference of the request letter # 274/CRE/QAT/SMP/2019

Dated: 28-03-2019
Dated: 25-03-2019

Graph (Page – 4/4)



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,
Chief Resident Engineer
Osmani & Co. (Pvt) Ltd
Swat Motorway Project
(Heat No. X51811192002)

Reference # CED/TFL **32956** (Dr. Qasim Khan)
Reference of the request letter # 274/CRE/QAT/SMP/2019

Dated: 28-03-2019
Dated: 25-03-2019

Tension Test Report (Page – 1/4)

Date of Test 29-03-2019
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	18000	176.58	20600	202.09	199	>3.50	104
2	12.70 (1/2")	775.0	788	18400	180.50	20700	203.07	198	>3.50	108A
3	12.70 (1/2")	775.0	784	18600	182.47	20000	196.20	199	>3.50	109
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
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.

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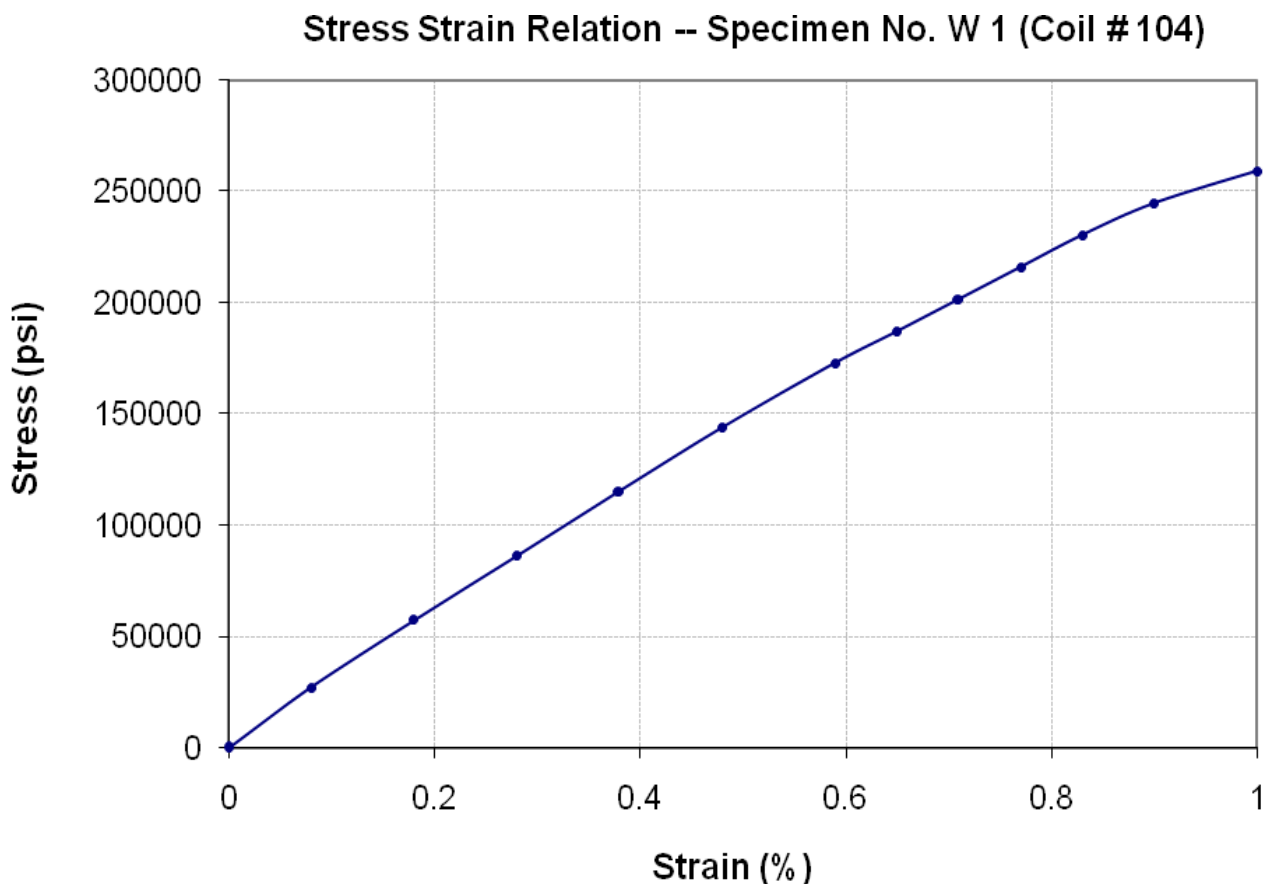
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Chief Resident Engineer
Osmani & Co. (Pvt) Ltd
Swat Motorway Project

Reference # CED/TFL **32956** (Dr. Qasim Khan)
Reference of the request letter # 274/CRE/QAT/SMP/2019

Dated: 28-03-2019
Dated: 25-03-2019

Graph (Page – 2/4)



I/C Testing Laboratories
UET Lahore, Pakistan.

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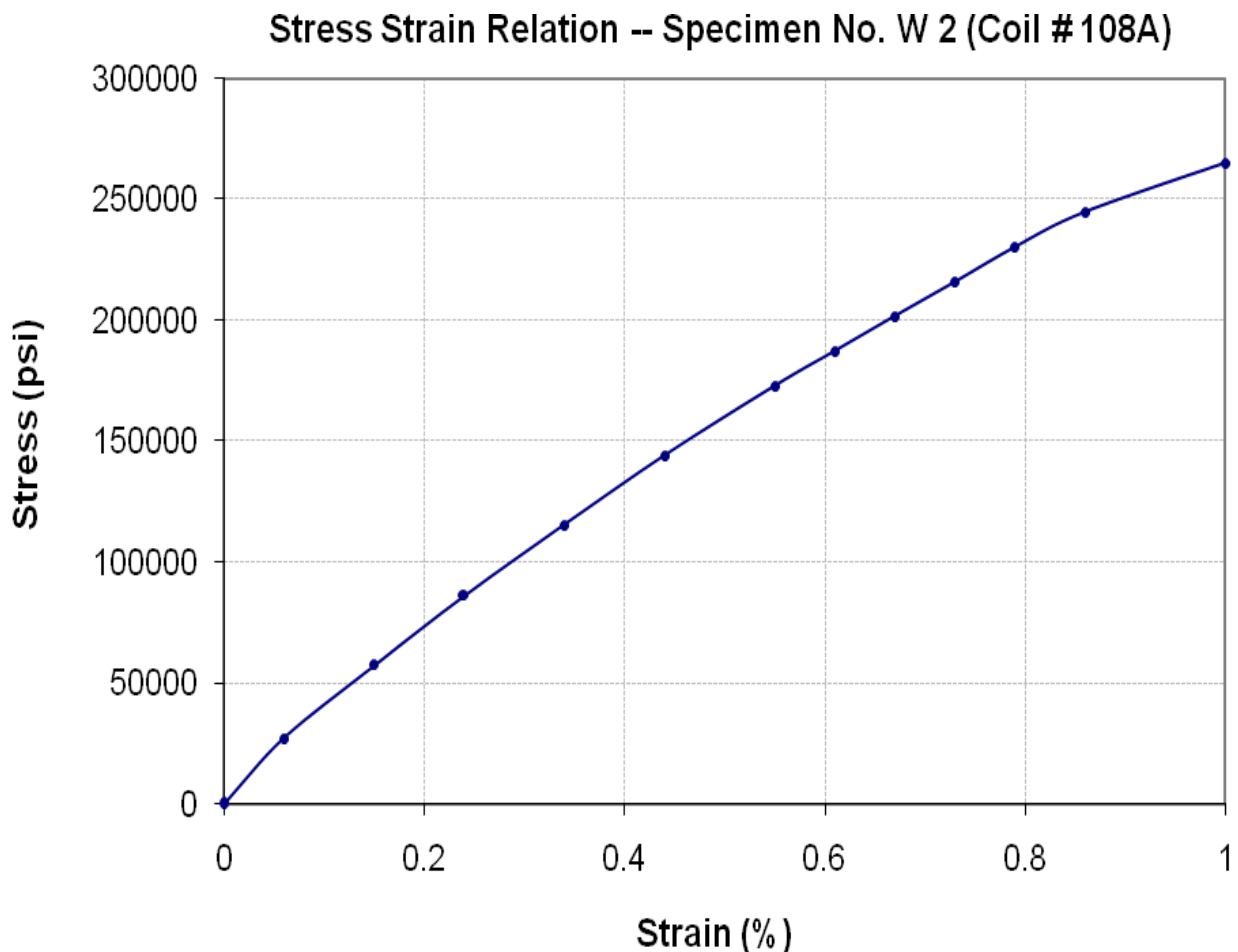
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Chief Resident Engineer
Osmani & Co. (Pvt) Ltd
Swat Motorway Project

Reference # CED/TFL **32956** (Dr. Qasim Khan)
Reference of the request letter # 274/CRE/QAT/SMP/2019

Dated: 28-03-2019
Dated: 25-03-2019

Graph (Page – 3/4)



I/C Testing Laboratoires
UET Lahore, Pakistan.

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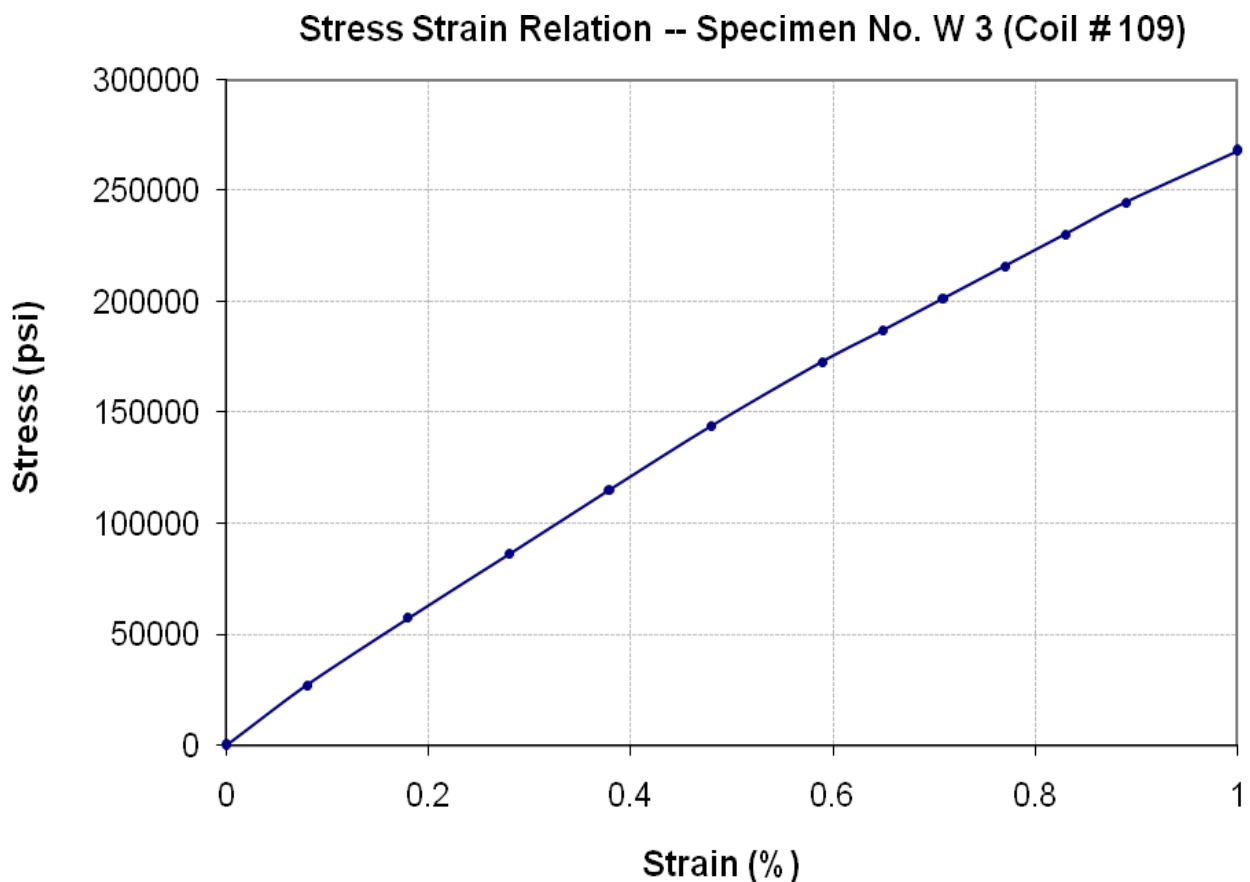
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Chief Resident Engineer
Osmani & Co. (Pvt) Ltd
Swat Motorway Project

Reference # CED/TFL **32956** (Dr. Qasim Khan)
Reference of the request letter # 274/CRE/QAT/SMP/2019

Dated: 28-03-2019
Dated: 25-03-2019

Graph (Page – 4/4)



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 Associates Tecnologies (Pvt) Ltd
Lahore
(CM Pak Rollout Project Site ID : 42403, 42477 & 42686)

Reference # CED/TFL **32957** (Dr. Qasim Khan)
Reference of the request letter # Nil

Dated: 28-03-2019
Dated: 28-03-2019

Tension Test Report (Page -1/1)

Date of Test 29-03-2019
Gauge length 8 inches
Description Deformed Steel Bar Tensile Test as per ASTM-A615

Sr. No.	Weight	Diameter/ Size (mm)		Area (in ²)		Yield load	Breaking Load	Yield Stress (psi)		Ultimate Stress (psi)		Elongation	% Elongation	Remarks
	(lbs/ft)	Nominal	Actual	Nominal	Actual	(kg)	(kg)	Nominal	Actual	Nominal	Actual	(inch)		
1	0.384	10	9.63	0.11	0.113	3600	5000	72200	70270	100200	97600	1.30	16.3	
2	0.377	10	9.54	0.11	0.111	3600	4900	72200	71570	98200	97500	1.10	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														
Bend Test														

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
Al-Imam Enterprises Pvt Ltd
Construction of Gold Crest Mall and Residency Phase 4, DHA Lahore

Reference # CED/TFL **32960, 961** (Dr. Ali Ahmed)

Dated: 29-03-2019

Reference of the request letter # Al-Imam/01/GIGA/DHA/LHE/717

Dated: 27-03-2019

Thickness Test Report (Page – 1/1)

Date of Test 29-03-2019

Gauge length -----

Description Channel and Cable Tray (Cover & Ladder) Thickness Test

Sr. No.	Designation	Thickness	Remark
	-----	(mm)	
1	Channel	3.20	
2	Cable Tray (Cover)	1.73	
3	Cable Tray (Ladder)	2.00	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
Only Three Samples for Test			

I/C Testing Laboratories
UET Lahore, Pakistan.

Note:

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