



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 Infra Works Overseas Enclave Sector T DHA Ph-VII) - (M/s DHAC)

Reference # CED/TFL 36487 (Dr. Ali Ahmed)
Reference of the request letter # 408/241/E/Lab/76/20

Dated: 01-06-2021
Dated: 01-06-2021

Tension Test Report (Page – 1/1)

Date of Test 09-06-2021
Gauge length 2 inches
Description MS Pipe Steel Strip Tensile and Bend Test as Per ASTM A-53

Sr. No.	Designation		Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
	(inch)		(mm)	(mm ²)	(kg)	(kg)	(MPa)	(MPa)	(in)		
1	MS Pipe	18	24.50x6.00	147.00	6600	7280	440.45	485.83	0.50	25.00	
2			24.00x6.00	144.00	6400	7300	436.00	497.31	0.50	25.00	
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Only Two Samples for Tensile and One Sample for Bend Test											
Bend Test											
Strip Taken from MS Pipe (18") Bend Test Through 180° is Satisfactory											

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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To,
 General Manager
 Digi Watch Solutions
 DHA Signal Free Corridor

Reference # CED/TFL **36494** (Dr. Ali Ahmed)
 Reference of the request letter # Nil

Dated: 02-06-2021
 Dated: 02-06-2021

Tension Test Report (Page – 1/1)

Date of Test 09-06-2021
 Gauge length 2 inches
 Description DBs Sheet Strip Tensile Test

Sr. No.	Designation	Size of Strip	X Section Area	Yield load	Breaking Load	Yield Stress	Ultimate Stress	Elongation	% Elongation	Remarks
1	DBs	24.10x1.50	36.15	1040	1200	282.22	325.64	0.70	35.00	
2		24.10x1.50	36.15	1000	1080	271.37	293.08	0.70	35.00	
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-	-	-	-	-	-	-	-	-	-	
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-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Only Two Samples for Tensile for Bend Test										
Bend Test										

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To,
Resident Engineer
Allied Engineering Consultants (Pvt) Ltd
Construction of Industrial Area from G.T Road to Ghazi Chak including Bridge on Bhimber
Nullah and Upper Jhelum Gujrat-II District Gujrat

Reference # CED/TFL **36524** (Dr. Ali Ahmed)
Reference of the request letter # AEC/GUJ/2021/23

Dated: 07-06-2021
Dated: 01-06-2021

Tension Test Report (Page -1/4)

Date of Test 09-06-2021
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	780	18100	177.56	19700	193.26	198	>3.50	xx
2	12.70 (1/2")	775.0	779	18000	176.58	19500	191.30	199	>3.50	xx
3	12.70 (1/2")	775.0	783	17400	170.69	19700	193.26	199	>3.50	xx
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-	-	-	-	-	-	-	-	-	-	-
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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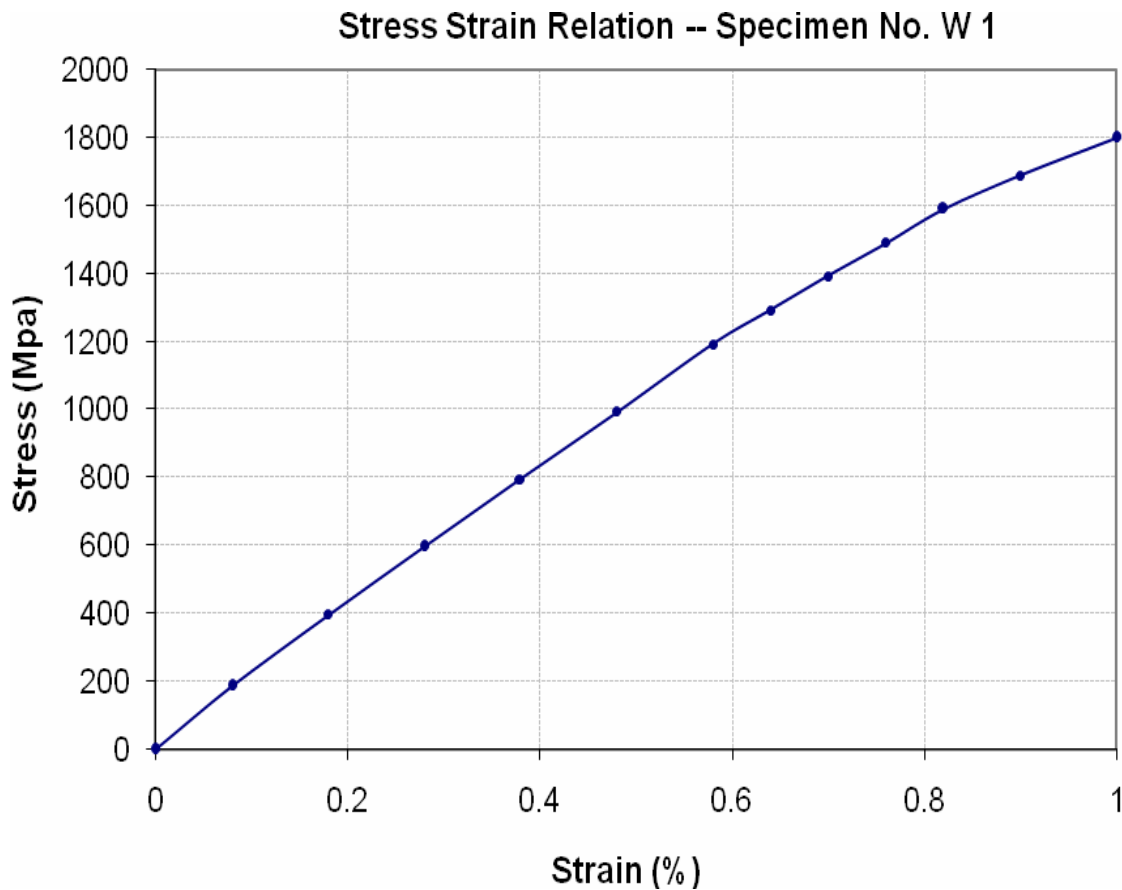
To,
Resident Engineer
Allied Engineering Consultants (Pvt) Ltd
Construction of Industrial Area from G.T Road to Ghazi Chak including Bridge on Bhimber
Nullah and Upper Jhelum Gujrat-II District Gujrat

Reference # CED/TFL 36524 (Dr. Ali Ahmed)
Reference of the request letter # AEC/GUJ/2021/23

Dated: 07-06-2021

Dated: 01-06-2021

Graph (Page – 2/4)



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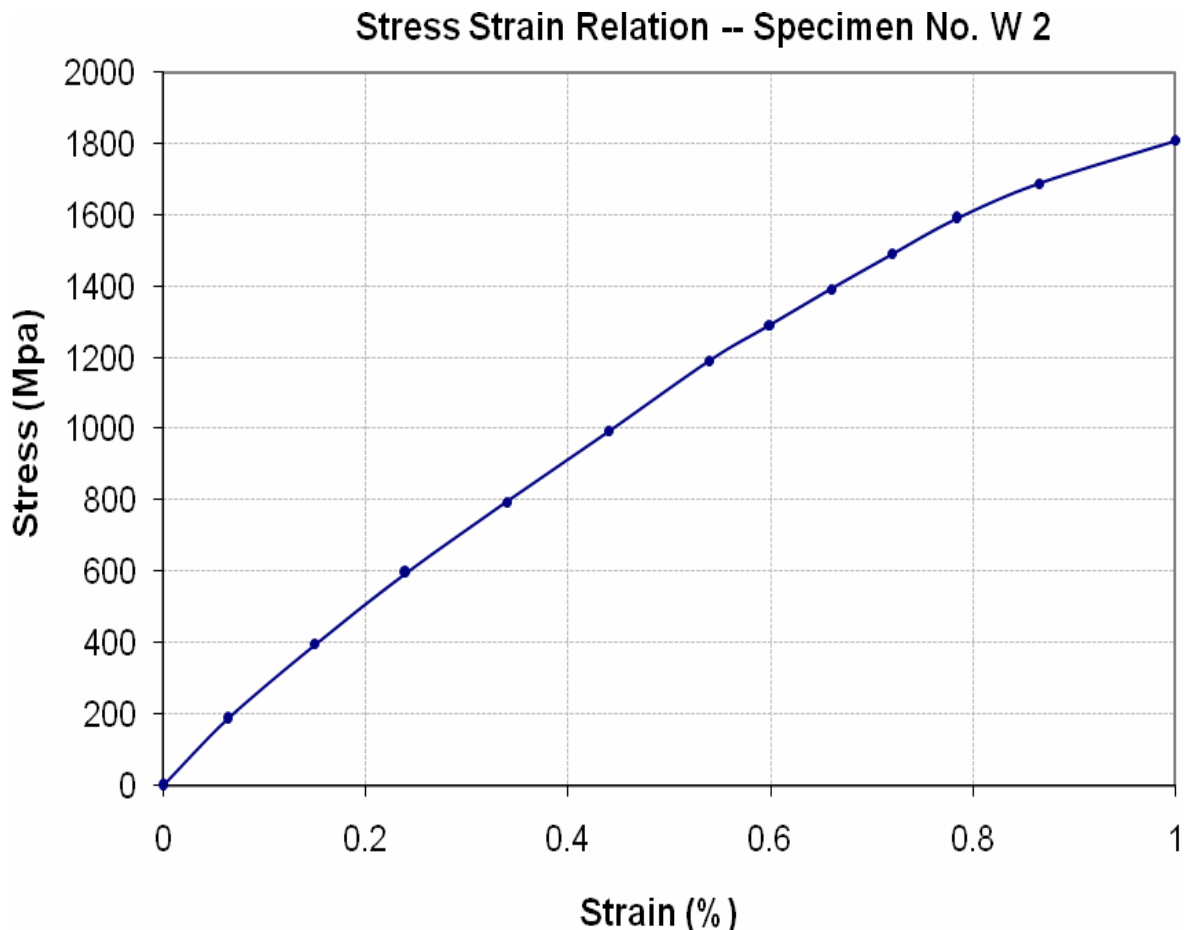
To,
Resident Engineer
Allied Engineering Consultants (Pvt) Ltd
Construction of Industrial Area from G.T Road to Ghazi Chak including Bridge on Bhimber
Nullah and Upper Jhelum Gujrat-II District Gujrat

Reference # CED/TFL 36524 (Dr. Ali Ahmed)
Reference of the request letter # AEC/GUJ/2021/23

Dated: 07-06-2021

Dated: 01-06-2021

Graph (Page – 3/4)



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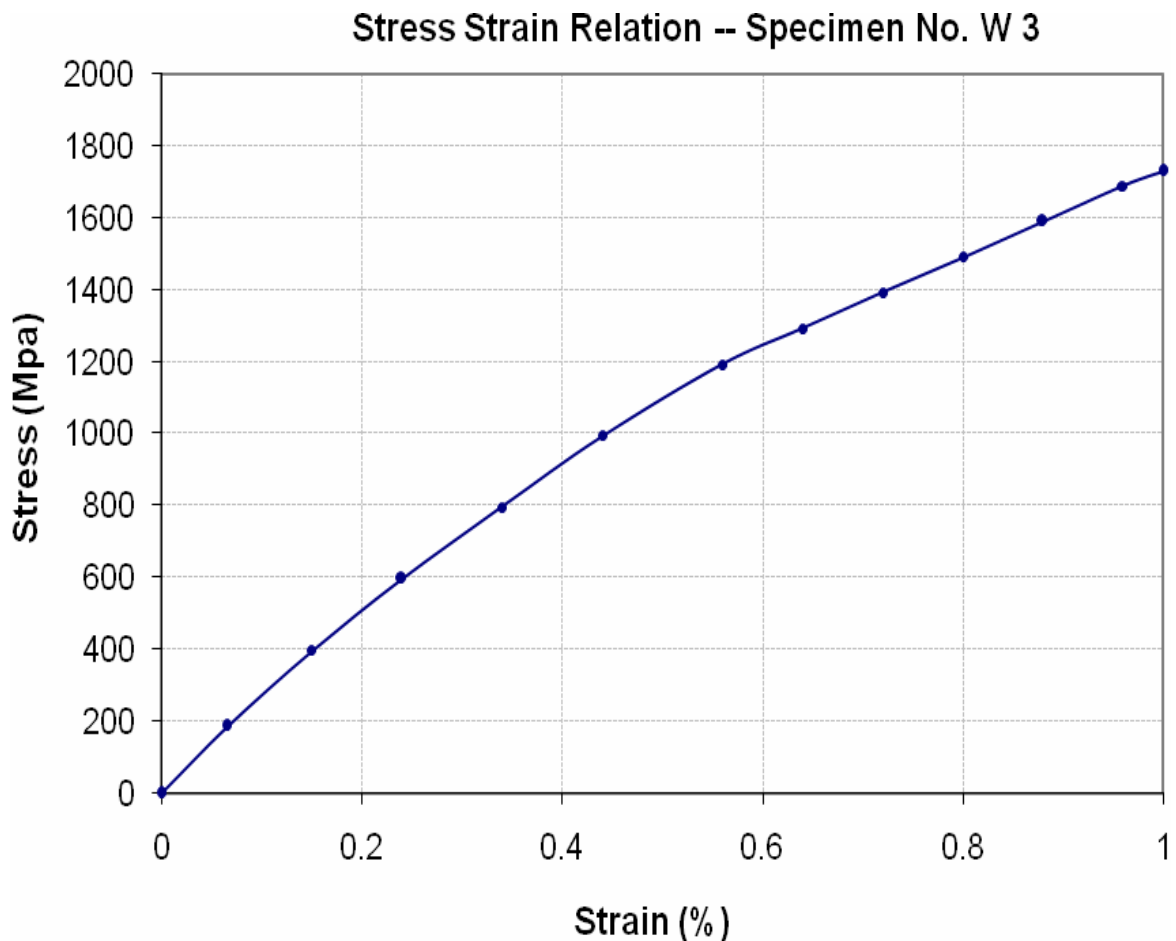
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Reference of the request letter # AEC/GUJ/2021/23

Dated: 07-06-2021

Dated: 01-06-2021

Graph (Page – 4/4)



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To,
 Sub Divisional Officer
 Highway Sub Division
 (M&R), Narowal
 (Special Repair of Road from Narowal to Shakargarh km No. 0/0 to 40/24 Total Length = 40.24
 km (Taken Length = 13.60kms) in District Narowal)
 Reference # CED/TFL 36531 (Dr. Ali Ahmad)
 Reference of the request letter # 761/NL

Dated: 08-06-2021
 Dated: 15-03-2021

Tension Test Report (Page -1/1)

Date of Test 09-06-2021
 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 ²)		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	0.387	3/8	0.380	0.11	0.114	4100	5400	82200	79500	108200	104800	1.20	15.0	
2	0.386	3/8	0.380	0.11	0.113	4100	5300	82200	79690	106200	103100	1.30	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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To,
 DGM Civil (Line-IV)
 Maple Leaf Cement Factory Limited, Mainwali
 7000 TPD Line-IV, MLCFL

Reference # CED/TFL **36534** (Dr. Ali Ahmed)
 Reference of the request letter # MLCFL/LINE-IV/CIVIL/2021/01

Dated: 08-06-2021
 Dated: 01-06-2021

Tension Test Report (Page -1/2)

Date of Test 09-06-2021
 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 ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Heat No
		Nominal	Actual	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.400	10	9.82	0.12	0.118	4300	5600	78998	80660	102881	105100	1.10	13.8	1416
2	0.404	10	9.88	0.12	0.119	4000	5400	73487	74220	99207	100200	1.00	12.5	
3		10	10.06	0.12	0.123	4100	5300	75324	73350	97370	94900	1.30	16.3	2674
4	0.418	10	10.04	0.12	0.123	3900	5200	71650	70030	95533	93400	1.20	15.0	
5	0.387	10	9.66	0.12	0.114	4200	5500	77161	81440	101044	106700	1.00	12.5	B- 2233
6	0.389	10	9.69	0.12	0.114	4500	5600	82673	86830	102881	108100	0.80	10.0	
Note: only six samples for tensile and three samples for bend test														
Bend Test														
10mm Dia Bar Bend Test Through 180° is Satisfactory														
10mm Dia Bar Bend Test Through 180° is Satisfactory														
10mm Dia Bar Bend Test Through 180° is Satisfactory														

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To,
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 Maple Leaf Cement Factory Limited, Mainwali
 7000 TPD Line-IV, MLCFL

Reference # CED/TFL **36534** (Dr. Ali Ahmed)
 Reference of the request letter # MLCFL/LINE-IV/CIVIL/2021/01

Dated: 08-06-2021
 Dated: 01-06-2021

Tension Test Report (Page -21/2)

Date of Test 09-06-2021
 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 ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (psi)		Ultimate Stress (psi)		Elongation (inch)	% Elongation	Heat No
		Nominal	Actual	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	4.246	32	32.02	1.25	1.248	36600	52400	64551	64630	92417	92600	1.70	21.3	3458
2	4.253	32	32.05	1.25	1.250	43200	57600	76191	76170	101588	101600	1.50	18.8	
3	4.314	32	32.28	1.25	1.268	39000	54600	68784	67790	96297	94900	1.70	21.3	9624
4	4.278	32	32.14	1.25	1.258	36800	52600	64903	64500	92770	92200	1.70	21.3	
5	4.038	32	31.23	1.25	1.187	41000	54200	72311	76130	95591	100700	1.30	16.3	E-5117
6	4.050	32	31.27	1.25	1.191	42400	55400	74780	78500	97708	102600	1.50	18.8	
Note: only six samples for tensile and three samples for bend test														
Bend Test														
32mm Dia Bar Bend Test Through 180° is Satisfactory														
32mm Dia Bar Bend Test Through 180° is Satisfactory														
32mm Dia Bar Bend Test Through 180° is Satisfactory														

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To,
M/S Linker
Gulburg III, Lahore
(Project: 5 Marla model House-Dream Gardens, Wazirabad)

Reference # CED/TFL **36537** (Dr. Ali Ahmad)
Reference of the request letter # Nil

Dated: 09-06-2021
Dated: 09-06-2021

Tension Test Report (Page -1/1)

Date of Test 09-06-2021
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	0.421	3	0.397	0.11	0.124	4000	5400	80200	71300	108200	96300	1.00	12.5	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
#3 Bar Bend Test Through 180° is Satisfactory														

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