



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

To,
 Project Manager
 CM Engineering (Pvt) Ltd
 Project CMPAK Site ID: 52805, 53349, 53334, 53361, 53216, 53236

Reference # CED/TFL **37262** (Dr. M Rizwan Riaz)
 Reference of the request letter # CME/Steel/CMPAK/309

Dated: 28-10-2021
 Dated: 27-10-2021

Tension Test Report (Page -1/1)

Date of Test 01-11-2021
 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	Remarks
		Nominal	Actual	Nominal	Actual			Nominal	Actual	Nominal	Actual			
1	0.383	10	9.62	0.12	0.113	3200	4900	58789	62610	90021	95900	1.40	17.5	
2	0.374	10	9.50	0.12	0.110	3100	4800	56952	62220	88184	96400	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: only two samples for tensile and one sample for bend test

Bend Test

10mm Dia 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
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- 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,
 DGM Civil (Line-IV)
 Maple Leaf Cement Factory Limited,
 Iskandarabad, Dist. Mianwali
 Civil Works of 7000 TPD Line-IV, MLCFL
 (Ittefaq Steel)

Reference # CED/TFL **37263** (Dr. M Rizwan Riaz)

Dated: 28-10-2021

Reference of the request letter # MLCFL/LINE-IV/CIVIL/2021/06

Dated: 16-10-2021

Tension Test Report (Page -1/2)

Date of Test 01-11-2021

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	4.226	32	31.95	1.25	1.242	45000	58000	79366	79840	102293	102900	1.40	17.5	
2	4.148	32	31.65	1.25	1.219	46000	58600	81129	83160	103352	106000	1.50	18.8	
3	4.215	32	31.90	1.25	1.239	39600	53200	69842	70460	93828	94700	1.60	20.0	
4	4.361	32	32.45	1.25	1.282	39600	54400	69842	68090	95944	93600	1.60	20.0	
5	4.134	32	31.59	1.25	1.215	46000	58000	81129	83430	102293	105200	1.30	16.3	
6	4.177	32	31.76	1.25	1.228	41200	55200	72664	73960	97355	99100	1.40	17.5	
7	4.170	32	31.73	1.25	1.226	43000	56600	75838	77320	99824	101800	1.40	17.5	
8	4.181	32	31.77	1.25	1.229	45800	58400	80777	82140	102999	104800	1.40	17.5	

Note: only eight samples for tensile and four sample 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

32mm 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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University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
 DGM Civil (Line-IV)
 Maple Leaf Cement Factory Limited,
 Iskandarabad, Dist. Mianwali
 Civil Works of 7000 TPD Line-IV, MLCFL
 (Mughal Steel)

Reference # CED/TFL **37263** (Dr. M Rizwan Riaz)

Dated: 28-10-2021

Reference of the request letter # MLCFL/LINE-IV/CIVIL/2021/06

Dated: 16-10-2021

Tension Test Report (Page -2/2)

Date of Test 01-11-2021

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	4.150	32	31.66	1.25	1.220	40800	54200	71958	73720	95591	98000	1.40	17.5	
2	4.167	32	31.72	1.25	1.225	42000	55400	74075	75570	97708	99700	1.50	18.8	
3	4.300	32	32.22	1.25	1.264	39200	52800	69136	68360	93122	92100	1.70	21.3	
4	4.166	32	31.72	1.25	1.225	39200	53600	69136	70560	94533	96500	1.70	21.3	
5	4.364	32	32.46	1.25	1.283	39000	53800	68784	67020	94886	92500	1.80	22.5	
6	4.262	32	32.08	1.25	1.253	39400	53400	69489	69310	94181	94000	1.70	21.3	
7	4.355	32	32.43	1.25	1.280	39400	54000	69489	67850	95239	93000	1.80	22.5	
8	4.183	32	31.78	1.25	1.230	39400	53800	69489	70630	94886	96500	1.60	20.0	

Note: only eight samples for tensile and four sample 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

32mm Dia Bar Bend Test Through 180° is Satisfactory

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 Z.Z. Associates
Lahore

Reference # CED/TFL **37266** (Dr. M Rizwan Riaz)
Reference of the request letter # ZZA/UET/01-21

Dated: 28-10-2021
Dated: 27-10-2021

Tension Test Report (Page -1/1)

Date of Test 01-11-2021
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	0.374	3/8	0.374	0.11	0.110	3700	4800	74200	74100	96200	96200	0.90	11.3	
2	0.423	3/8	0.398	0.11	0.124	3900	5200	78200	69060	104200	92100	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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 Laboratories
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,
Deputy General Manager Projects
Habib Rafiq Engineering (Pvt) Limited
Construction of Sky Gardens Tower, Lahore

Reference # CED/TFL **37270** (Dr. M Rizwan Riaz)
Reference of the request letter # HRLE/SKG/2021/033

Dated: 28-10-2021
Dated: 28-10-2021

Tension Test Report (Page -1/2)

Date of Test 01-11-2021
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)			
1	12.70 (1/2")	775.0	784.0	17000	166.77	19500	191.30	198	>3.50	xx
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
Only one sample 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 Laboratories
UET Lahore, Pakistan.

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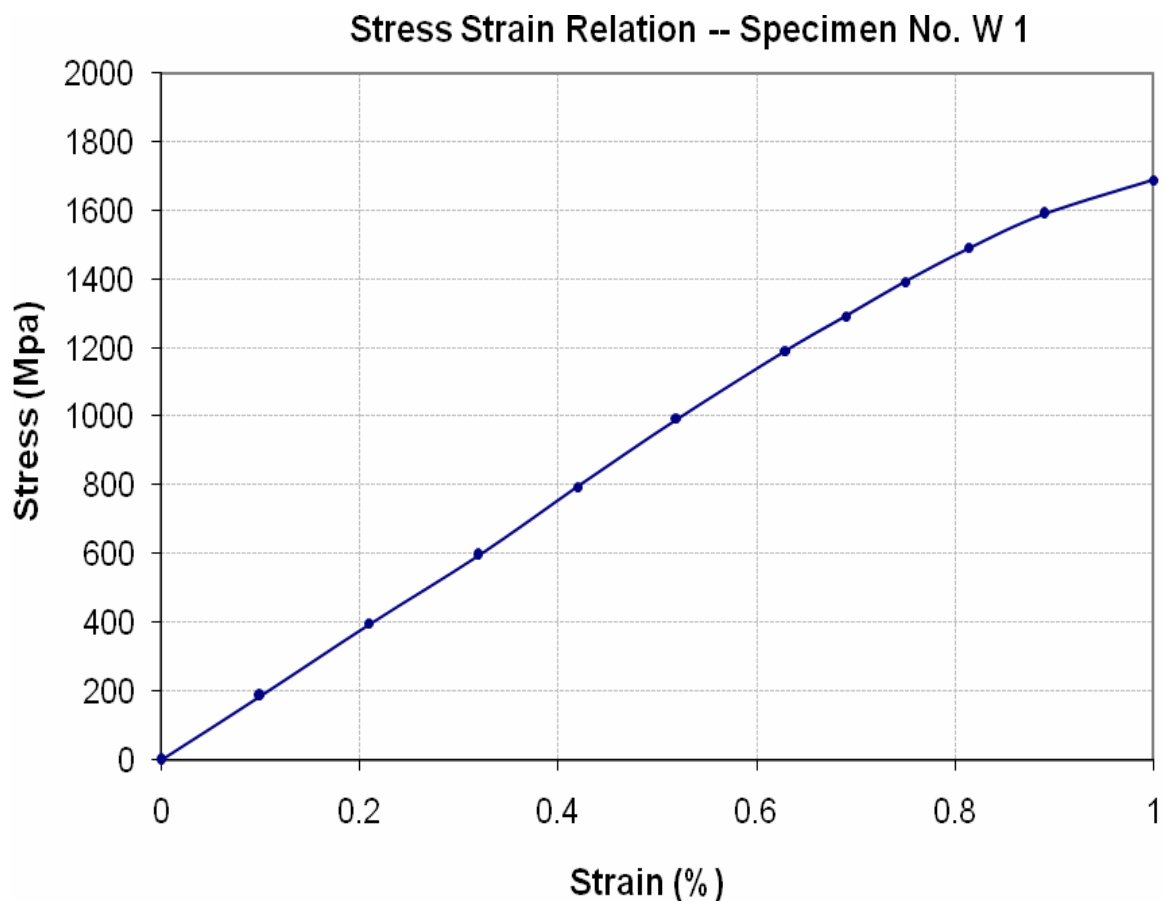
STRUCTURAL ENGINEERING DIVISION
Test Floor Laboratory
Department of Civil Engineering
University of Engineering and Technology Lahore, 54890
Pakistan. Ph: 92-42-99029202

To,
Deputy General Manager Projects
Habib Rafiq Engineering (Pvt) Limited
Construction of Sky Gardens Tower, Lahore

Reference # CED/TFL 37270 (Dr. M Rizwan Riaz)
Reference of the request letter # HRLE/SKG/2021/033

Dated: 28-10-2021
Dated: 28-10-2021

Graph (Page – 2/2)



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,
Resident Engineer-2
ACES (Pvt) Ltd
Sector-V DHA Multan

Reference # CED/TFL 37271 (Dr. M Rizwan Riaz)

Dated: 29-10-2021

Reference of the request letter # ACES/DHAM/DEV/CONSPLUS/36

Dated: 28-10-2021

Tension Test Report (Page -1/1)

Date of Test 01-11-2021

Description Deformed Steel Bar Tensile and Bend Test as per ASTM-A496

Sr. No.	Weight (kg/m)	Diameter/ Size (mm)		Area (mm ²)		Yield load (kg)	Breaking Load (kg)	Yield Stress (Mpa)		Ultimate Stress (Mpa)		Remarks
		Nominal	Actual	Nominal	Actual			Nominal	Actual	Nominal	Actual	
1	0.280	6	6.74	32.30	35.71	1900	2400	577	522	729	659	Ali Steel
2	0.276	6	6.69	32.30	35.14	1700	2100	516	475	638	586	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test												
Bend Test												
6mm Dia Bar Bend Test Through 180° is Satisfactory												

To,

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

Assistant Director - I
 Building Research Station
 Lahore
 (Model Steel)

Reference # CED/TFL 37272 (Dr. M Rizwan Riaz)
 Reference of the request letter # 154-R/3236

Dated: 29-10-2021
 Dated: 26-10-2021

Tension Test Report (Page -1/1)

Date of Test 01-11-2021
 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	0.380	3	0.377	0.11	0.112	4300	5500	86200	84860	110200	108600	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only one sample for tensile and one sample for bend test														
Bend Test														
#3 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,
 Site Engineer
 Orient Water Technologies
 Construction of Waste Water Treatment Plant, Sahianwala Industrial Estate

Reference # CED/TFL 37274 (Dr. M Rizwan Riaz)
 Reference of the request letter # 1

Dated: 29-10-2021
 Dated: 28-10-2021

Tension Test Report (Page -1/1)

Date of Test 01-11-2021
 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	0.377	3	0.376	0.11	0.111	3900	5200	78200	77610	104200	103500	1.00	12.5	
2	0.380	3	0.377	0.11	0.112	3900	5100	78200	77030	102200	100800	1.00	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile and one sample for bend test														
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
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To,
 Assistant Executive Engineer (Civil)
 KBCMA, CVAS Narowal
 Construction of Residences for Grade 01-10, Grade 11-14, Grade 15-17 and Grade 18 & 19 at
 KBCMA CVAS Narowal
 Construction of Girls Hostel and Residence Grade 20 & above

Reference # CED/TFL **37275** (Dr. M Rizwan Riaz)
 Reference of the request letter # A.E.E/NC/- 23

Dated: 28-10-2021
 Dated: 16-09-2021

Tension Test Report (Page -1/1)

Date of Test 01-11-2021
 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	0.379	3/8	0.377	0.11	0.111	3600	4700	72200	71230	94200	93000	1.20	15.0	FF Steel
2	0.374	3/8	0.374	0.11	0.110	3500	4600	70200	70260	92200	92400	1.40	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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