



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

To,
 Assistant Engineer (Civil)
 University of Okara
 (1. Construction of H.T, L.T & Transformer Rooms as per WAPDA Specification/ Standards at University of Okara)
 (2. Vonstruction of Parking Shed & Allied Works of Guest House)

Reference # CED/TFL **34095** (Dr. Usman Akmal)
 Reference of the request letter # UO/ENGG.CELL/2019

Dated: 30-10-2019
 Dated: 08-10-2019

Tension Test Report (Page -1/1)

Date of Test 31-10-2019
 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	0.368	3	0.371	0.11	0.108	3800	6200	76200	77490	124300	126500	0.80	10.0	
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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														

I/C Testing Laboratoires
UET Lahore, Pakistan.

Note:

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To,
 Material Engineer
 Defence Housing Authority
 Bahawalpur

Reference # CED/TFL **34099** (Dr. Usman Akmal)
 Reference of the request letter # 171/QC/MTL

Dated: 30-10-2019
 Dated: 29-10-2019

Tension Test Report (Page -1/1)

Date of Test 31-10-2019
 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	0.368	3	0.371	0.11	0.108	3200	4700	64200	65180	94200	95800	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														

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To,
 Managing Partner
 Shaheen Associates
 Z.I. Solar (Pvt) Ltd at Sundar Industrial Estate

Reference # CED/TFL **34100** (Dr. Usman Akmal)
 Reference of the request letter # SBA-1/6035

Dated: 30-10-2019
 Dated: 19-10-2019

Tension Test Report (Page -1/1)

Date of Test 31-10-2019
 Gauge length 8 inches
 Description Deformed Steel Bar Tensile 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	0.365	3/8	0.370	0.11	0.107	3400	4600	68200	69780	92200	94500	1.10	13.8	
2	0.335	3/8	0.354	0.11	0.099	3400	4500	68200	76060	90200	100700	1.20	15.0	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Note: only two samples for tensile test														
Bend Test														

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To,
 Resident Engineer
 G3 Engineering Consultants (Pvt) Ltd
 PSIC House, Davis Road, Lahore

Reference # CED/TFL **34103** (Dr. Usman Akmal)
 Reference of the request letter # G3/0161/SITE/874

Dated: 30-10-2019
 Dated: 19-10-2019

Tension Test Report (Page -1/1)

Date of Test 31-10-2019
 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	0.365	3/8	0.370	0.11	0.107	3400	4600	68200	69780	92200	94500	1.10	13.8	
2	0.335	3/8	0.354	0.11	0.099	3400	4500	68200	76060	90200	100700	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														

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To,
 Resident Engineer
 Ess Ess Associates
 Construction of Family Wing Hospital 500 Beds at Sarfraz Rafique Road, Lahore

Reference # CED/TFL **34104** (Dr. Usman Akmal)
 Reference of the request letter # Nil

Dated: 30-10-2019
 Dated: 30-10-2019

Tension Test Report (Page -1/1)

Date of Test 31-10-2019
 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	0.367	3	0.370	0.11	0.108	3800	5100	76200	77730	102200	104400	1.00	12.5	
2	0.368	3	0.371	0.11	0.108	3800	5000	76200	77430	100200	101900	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														

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To,
 Senior Resident Engineer
 ProMag Pvt Ltd
 Construction of Civil Infrastructure Works Including Road Work, Civil Utilities and Facilities for
 the Development of Sector "H" Defence Housing Authority Multan
 (Ali Brother's Industriewes & MSM Steel)
 Reference # CED/TFL **34107** (Dr. Usman Akmal) Dated: 31-10-2019
 Reference of the request letter # Sec-H/Material/348 Dated: 23-10-2019

Tension Test Report (Page -1/2)

Date of Test 31-10-2019
 Gauge length 8 inches
 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	0.168	5	5.22	19.40	21.37	960	1120	485	441	566	514	Saad Pipe Factory
2	0.174	5	5.31	19.40	22.14	1160	1560	587	514	789	691	
3	0.279	6	6.73	32.30	35.54	1350	1720	410	373	522	475	
4	0.251	6	6.38	32.30	31.95	1480	2000	449	454	607	614	
5	0.171	5	5.26	19.40	21.76	1000	1200	506	451	607	541	Malik Pipe Factory
6	0.171	5	5.27	19.40	21.82	1600	1800	809	719	910	809	
7	0.276	6	6.70	32.30	35.21	1840	2200	559	513	668	613	
8	0.270	6	6.62	32.30	34.43	1560	2160	474	444	656	615	
Note: only eight samples for tensile and four samples for bend test												
Bend Test												
5mm Dia Bar Bend Test Through 180° is Satisfactory									Saad Pipe Factory			
6mm Dia Bar Bend Test Through 180° is Satisfactory												
5mm Dia Bar Bend Test Through 180° is Satisfactory									Malik Pipe Factory			
6mm Dia Bar Bend Test Through 180° is Satisfactory												

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To,
 Senior Resident Engineer
 ProMag Pvt Ltrd
 Construction of Civil Infrastructure Works Including Road Work, Civil Utilities and Facilities for
 the Development of Sector "H" Defence Housing Authority Multan
 (Ali Brother's Industriewes & MSM Steel)
 Reference # CED/TFL **34107** (Dr. Usman Akmal) Dated: 31-10-2019
 Reference of the request letter # Sec-H/Material/348 Dated: 23-10-2019

Tension Test Report (Page -2/2)

Date of Test 31-10-2019
 Gauge length 8 inches
 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	0.171	5	5.26	19.40	21.76	1120	1440	566	505	728	649	Ahmed Pipe Factory
2	0.174	5	5.32	19.40	22.22	1280	1600	647	565	809	706	
3	0.277	6	6.70	32.30	35.26	1900	2500	577	529	759	695	
4	0.259	6	6.48	32.30	32.95	1960	2300	595	584	699	685	
5	0.208	5	5.81	19.40	26.47	1280	1560	647	474	789	578	Shah Hamza Pipe Factory
6	0.205	5	5.77	19.40	26.15	1240	1520	627	465	769	570	
7	0.230	6	6.10	32.30	29.26	1240	1600	377	416	486	536	
8	0.227	6	6.07	32.30	28.92	1240	1580	377	421	480	536	
Note: only eight samples for tensile and four samples for bend test												
Bend Test												
5mm Dia Bar Bend Test Through 180° is Satisfactory										Ahmed Pipe Factory		
6mm Dia Bar Bend Test Through 180° is Satisfactory												
5mm Dia Bar Bend Test Through 180° is Satisfactory										Shah Hamza Pipe Factory		
6mm Dia Bar Bend Test Through 180° is Satisfactory												

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