DCRE/ RE-I, **Test Performed By:** **Dr. /Engr.** **Nauman Khurram**

Zeeruk International (Pvt) Ltd. Lahore Sialkot Motorway Project

Client Reference: **LSMP/RE-I/2019/1021** **Dated:** **22-08-2019**

SOM Lab Ref: **CED/SOM/1277 (Page-1/1)** **Dated:** **22-08-2019**

Test: **Tension Test & Bend Test** **Test Specification:** **ASTM-A-615**

Sample Type: **Deformed Bar(Mughal Steel)** **Gauge Length:** **200 mm**

S.No.	Weight	Dia.		Area		Yield Load	Ultimate Load	Yield Stress		Ult. Stress		Elongation	Gauge Length	%age Elongation	Remarks
		Nominal	Calculated	Nominal	Calculated			(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)				
	kg/m	mm	mm	mm^2	mm^2	kN	kN	MPa	MPa	MPa	MPa	mm	mm	%	
1	1.553	16	15.88	201	198	106.50	130.00	530	538	647	657	30.0	200	15.0	
2	1.554	16	15.88	201	198	105.50	128.70	525	533	640	650	32.5	200	16.3	
3	0.925	12	12.25	113	118	59.50	74.20	526	506	656	630	32.5	200	16.3	
4	0.917	12	12.20	113	117	60.00	75.20	531	514	665	644	27.5	200	13.8	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

BEND TEST:

16mm	Sample bend through 180 degrees Satisfactorily without any crack
12mm	Sample bend through 180 degrees Satisfactorily without any crack

Note:-

Only Six Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Maj Adnan khalid® **Test Performed By:** Dr. /Engr. Nauman Khurram

Dy Dir MTL, Infra Dev Works (Pkg-II , III & IV) - DHA , Ph-IX - (Prism) (M/S NLC)

Client Reference: 408/241/E/Lab/660/1443 **SOM Lab Ref:** 1278(Page-1/2)

Dated: 31-07-2019 **Dated:** 22-07-2019

Test: Tension Test & Bend Test **Test Specification:** ASTM-A-615

Gauge Length: 8 inch **Sample Type:** Deformed Bar (Kisan Steel)

S.No.	Weight	Dia.		Area		Yield Load	Ultimate Load	Yield Stress		Ult. Stress		Elongation	Gauge Length	%age Elongation	Remarks
		Nominal	Calculated	Nominal	Calculated			(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)				
	lb/ft	#	in	in^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.660	8	0.998	0.79	0.782	24.38	32.79	68070	68770	91550	92490	1.10	8.0	13.8	
2	2.648	8	0.995	0.79	0.778	23.72	32.59	66220	67250	90980	92380	1.30	8.0	16.3	
3	2.676	8	1.000	0.79	0.786	25.28	33.38	70580	70940	93200	93680	1.20	8.0	15.0	
4	2.666	8	0.998	0.79	0.783	24.69	33.05	68930	69540	92260	93090	1.20	8.0	15.0	
5	1.462	6	0.740	0.44	0.430	16.79	21.00	84160	86110	105260	107700	1.00	8.0	12.5	
6	1.467	6	0.741	0.44	0.431	17.28	21.38	86610	88420	107150	109380	1.00	8.0	12.5	
7	0.662	4	0.498	0.20	0.195	7.72	8.99	85100	87280	99150	101690	1.00	8.0	12.5	
8	0.661	4	0.497	0.20	0.194	7.49	8.84	82620	85180	97460	100470	1.00	8.0	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

BEND TEST:

# 8	Sample bend through 180 degrees Satisfactorily without any crack
# 8	Sample bend through 180 degrees Satisfactorily without any crack
# 6	Sample bend through 180 degrees Satisfactorily without any crack
# 4	Sample bend through 180 degrees Satisfactorily without any crack

Note:-

Only Twelve Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Maj Adnan khalid® **Test Performed By:** Dr. /Engr. **Nauman Khurram**

Dy Dir MTL, Infra Dev Works (Pkg-II , III & IV) - DHA , Ph-IX - (Prism) (M/S NLC)

Client Reference: **408/241/E/Lab/661/1418** **SOM Lab Ref:** **1278(Page-2/2)**

Dated: **31-07-2019** **Dated:** **22-07-2019**

Test: **Tension Test** **Test Specification:** **ASTM-A-615**

Gauge Length: **8 inch** **Sample Type:** **Deformed Bar (Kisan Steel)**

S.No.	Weight	Dia.		Area		Yield Load	Ultimate Load	Yield Stress		Ult. Stress		Elongation	Gauge Length	%age Elongation	Remarks
		Nominal	Calculated	Nominal	Calculated			(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)				
	lb/ft	#	in	in^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.657	8	0.997	0.79	0.781	24.89	32.93	69500	70300	91920	92980	1.30	8.0	16.3	
2	2.660	8	0.998	0.79	0.782	24.49	32.74	68360	69060	91410	92340	1.30	8.0	16.3	
3	2.659	8	0.997	0.79	0.781	24.89	33.33	69500	70300	93060	94130	1.00	8.0	12.5	
4	2.662	8	0.998	0.79	0.782	25.15	32.84	70210	70930	91690	92630	1.30	8.0	16.3	
5	2.665	8	0.998	0.79	0.783	26.76	34.48	74700	75370	96250	97110	1.00	8.0	12.5	
6	2.623	8	0.991	0.79	0.771	24.72	33.08	69010	70710	92350	94620	1.00	8.0	12.5	
7	1.471	6	0.742	0.44	0.432	17.55	21.48	87990	89620	107660	109650	1.00	8.0	12.5	
8	1.474	6	0.743	0.44	0.433	17.07	21.38	85590	86970	107150	108880	1.00	8.0	12.5	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

BEND TEST:

--	No Bend test performed

Note:-

Only Eight Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Maj Adnan khalid® **Test Performed By:** Dr. /Engr. **Nauman Khurram**

Dy Dir MTL, Infra Dev Works (Pkg-II , III & IV) - DHA , Ph-IX - (Prism) (M/S NLC)

Client Reference: **408/241/E/Lab/661/1418** **SOM Lab Ref:** **1278(Page-2/2A)**

Dated: **31-07-2019** **Dated:** **22-07-2019**

Test: **Tension Test** **Test Specification:** **ASTM-A-615**

Gauge Length: **8 inch** **Sample Type:** **Deformed Bar (Kisan Steel)**

S.No.	Weight	Dia.		Area		Yield Load	Ultimate Load	Yield Stress		Ult. Stress		Elongation	Gauge Length	%age Elongation	Remarks
		Nominal	Calculated	Nominal	Calculated			(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)				
	lb/ft	#	in	in^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	0.666	4	0.500	0.20	0.196	7.95	9.17	87680	89470	101170	103230	1.00	8.0	12.5	
2	0.661	4	0.497	0.20	0.194	7.70	8.97	84870	87500	98920	101980	0.90	8.0	11.3	
3	0.652	4	0.494	0.20	0.192	7.59	8.79	83750	87240	96900	100930	0.90	8.0	11.3	
4	0.663	4	0.498	0.20	0.195	7.82	9.12	86220	88430	100610	103190	0.90	8.0	11.3	
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BEND TEST:

--	No Bend test performed

Note:-

Only Four Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk

Ahmad Mukhtar **Test Performed By:** **Dr. /Engr.** **Nauman Khurram**

Assistant Engineer, State Bank of Pakistan, Lahore

Client Reference: **Engg./113973/2019** **SOM Lab Ref:** **1279(Page-1/1)**

Dated: **22-08-2019** **Dated:** **22-08-2019**

Test: **Tension Test & Bend Test** **Test Specification:** **ASTM-A-615 Deformed**

Gauge Length: **8 inch** **Sample Type:** **Bar**

S.No.	Weight	Dia.		Area		Yield Load	Ultimate Load	Yield Stress		Ult. Stress		Elongation	Gauge Length	%age Elongation	Remarks
		Nominal	Calculated	Nominal	Calculated			(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)				
	lb/ft	#	in	in^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	0.604	4	0.476	0.20	0.178	6.44	7.49	71040	79820	82620	92830	1.00	8.0	12.5	
2	0.604	4	0.476	0.20	0.178	6.47	7.75	71380	80200	85430	95990	0.90	8.0	11.3	
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BEND TEST:

# 4	Sample bend through 180 degrees Satisfactorily without any crack	**Note:-**
		Only Three Samples Received and Tested

Note: Please always confirm the results of above report on web www.uet-civil.edu.pk