Electrical Engineer, Test Performed By: Dr. /Engr. M Rehan Ashraf
BRT Peshawar

Client Reference: MMP/BRT/PSH/CD/ELECT/065 Dated: 24-05-2019
SOM Lab Ref: CED/SOM/892 (Page-1/1) Dated: 24-05-2019
Test: Tension Test Test Specification: ASTM-F-1554

Sample Type: J - Bolt Gauge Length: 200 mm

		D	ia.	Ar	ea	Yield	Ultimate	Yield	Stress	Ult. S	Stress		_	no	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	kg/m	mm	mm	mm ²	mm ²	kN	kN	MPa	MPa	MPa	MPa	mm	mm	%	
1	3.938	25	25.28	491	502	193.00	278.50	393	385	567	555	50.0	200	25.0	
2	3.937	25	25.27	491	502	183.00	259.00	373	365	528	517	57.5	200	28.8	
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BEND TEST:

 No Bend test performed	Note:-
	Only Two Samples
	Received and Tested

Five Sattar Corporation, Test Performed By: Dr. /Engr. M. Rizwan Azam

Bahawalpur (Project: Noor Care Hospital Rajanpur)

SOM Lab

Client Reference: 633/UET/LHR Ref: 884 (Page-1/1)

Dated: 23-05-2019 Dated: 24-05-2019

Deformed

Gauge Length: 8 inch Sample Type: Bar

		D	ia.	Α	rea	Yield	Ultimate	Yield	Stress	Ult. S	itress			Ē)
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in ²	in ²	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.585	8	0.984	0.79	0.760	24.97	35.27	69720	72480	98470	102350	1.20	8.0	15.0	
2	1.410	6	0.726	0.44	0.414	12.03	18.37	60290	64080	92070	97860	1.30	8.0	16.3	
3	1.026	5	0.620	0.31	0.302	8.18	12.18	58170	59710	86670	88960	1.60	8.0	20.0	
4	0.634	4	0.487	0.20	0.186	5.27	8.07	58120	62490	89030	95730	1.30	8.0	16.3	
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BEND TEST:

# 8	Sample bend through 180 degrees Satisfactorily without any crack	Note:-
# 6	Sample bend through 180 degrees Satisfactorily without any crack	
# 5	Sample bend through 180 degrees Satisfactorily without any crack	Only Eight Samples
# 4	Sample bend through 180 degrees Satisfactorily without any crack	Received and Tested

Sub Divisional Officer Test Performed By: Dr. /Engr. Bilal A. Khokhar

Buildings Sub Division, Kamoke

SOM Lab

Client Reference: <u>151/K</u> Ref: 885 (Page-1/1)
Dated: 06-04-2019 Dated: 24-05-2019

Deformed

Gauge Length: 8 inch Sample Type: Bar

		D	ia.	Α	rea	Yield	Ultimate	Yield	Stress	Ult. S	tress			٦	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in ²	in ²	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	1.523	6	0.755	0.44	0.448	15.65	21.00	78430	77030	105260	103380	1.20	8.0	15.0	
2	0.657	4	0.496	0.20	0.193	6.19	7.39	68230	70710	81500	84450	1.20	8.0	15.0	
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BEND TEST:

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

Assistant Engineer (C) University of Sargodha

Test Performed By:

Dr. /Engr.

Bilal A. Khokhar

SU/P.D.(W)/5035-19

Ref:

SOM Lab

886(Page-1/2)

Dated: 22-05-2019

Dated:

24-05-2019

Tension Test & Bend Test

Test Specification:

ASTM-A-615

Deformed

Gauge Length:

Test:

Client Reference:

8 inch

Sample Type:

Bar

		Dia. Area Yield		Yield	Ultimate			Ult. S	tress		_	u C			
S.No.	Weight	Nominal	Calculated	Nominal	Calculated			(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in ²	in ²	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	0.678	4	0.503	0.20	0.199	6.70	9.50	73850	74230	104770	105290	1.00	8.0	12.5	
2	0.682	4	0.505	0.20	0.200	6.65	9.48	73290	73290	104540	104540	1.10	8.0	13.8	
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BEND TEST:

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

Assistant Engineer (C) University of Sargodha

Test Performed By:

Dr. /Engr.

Bilal A. Khokhar

SOM Lab

Client Reference: <u>SU/P.D.(W)/5036-19</u>

Ref: Dated: 886(Page-2/2)

Dated: 22-05-2019

Date

24-05-2019

Tension Test & Bend Test

Test Specification:

ASTM-A-615

Deformed

Gauge Length:

Test:

8 inch

Sample Type:

Bar

		D	ia.	Α	rea	Yield	Ultimate	Yield	Stress	Ult. S	tress		,	วท	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in ²	in ²	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	1.531	6	0.757	0.44	0.450	10.93	16.84	54780	53560	84410	82530	1.50	8.0	18.8	
2	1.513	6	0.753	0.44	0.445	10.55	16.41	52890	52290	82260	81340	1.30	8.0	16.3	
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BEND TEST:

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

Naveed Anwar Test Performed By: Dr. /Engr. Bilal A. Khokhar

PEACH CLUB, Lahore

SOM Lab

 Client Reference:
 nil
 Ref:
 887(Page-1/1)

 Dated:
 24-05-2019
 Dated:
 24-05-2019

Deformed

Gauge Length: 8 inch Sample Type: Bar

		D	ia.	Α	rea	Yield	Ultimate	Yield	Stress	Ult. S	tress			2	% 5.0 5.0 - - -
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongatio	Remarks
	lb/ft	#	in	in ²	in ²	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	0.608	4	0.477	0.20	0.179	6.37	8.05	70260	78500	88800	99220	1.20	8.0	15.0	
2	0.606	4	0.476	0.20	0.178	6.73	8.33	74190	83360	91840	103190	1.20	8.0	15.0	
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BEND TEST:

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

Maj Adnan khalid® **Test Performed By:** Dr. /Engr. **Ubaid A. Mughal** Dy Dir MTL, Const. of Girls School W-Sector, DHA PH-VIII - (M/S Kingcrete) **SOM Lab** Client Reference: 408/241/E/Lab/591/10 Ref: 888(Page-1/1) Dated: 24-05-2019 Dated: 23-05-2019 Test: **Tension Test Test Specification: ASTM-A-615 Deformed Bar (Kamran** Gauge Length: 8 inch Sample Type: Steel) **Ultimate Yield Stress** Dia. Yield **Ult. Stress** Area %age Elongation Gauge Length Load Load (according to nominal area) (according to nominal area) (according to measured area) (according to measured area) Elongation Remarks Weight Calculated Calculated S.No. Nominal Nominal in² in² % lb/ft # in Tons **Tons** psi psi psi psi in 0.498 0.20 0.195 67670 98230 1 0.664 6.14 8.69 69410 95770 1.30 8.0 16.3 101230 2 0.672 0.501 0.20 0.197 6.60 9.04 72730 73840 99710 1.00 8.0 12.5 ---------------**BEND TEST:** No Bend test performed Note:-

Only Two Samples Received and Tested

Abdullah Khadim Test Performed By: Dr. /Engr. M Rizwan Azam

Resident Engineer, DAR Engineering

SOM Lab

DB-78/DAR/RE/ME/2019/0196 889(Page-1/1) **Client Reference:** Ref: 24-05-2019 Dated:

Dated: 24-05-2019

Test:

ASTM-A-615

Tension Test & Bend Test Test Specification: Deformed Bar(Kamran

Gauge Length: **Sample Type:** 8 inch Steel)

	Weight	Dia.		Area		Yield	Ultimate	Yield Stress		Ult. Stress				Ę	
S.No.		Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in ²	in ²	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	1.031	5	0.621	0.31	0.303	9.73	13.05	69260	70860	92830	94970	1.20	8.0	15.0	P-49
2	1.035	5	0.622	0.31	0.304	9.84	13.46	69990	71370	95730	97620	1.20	8.0	15.0	P-49
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BEND TEST:

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

Amna/Noor **Test Performed By:** Dr. /Engr. Bilal A. Khokhar

32-C/1, Gulberg-III, Lahore

Test:

SOM Lab

ST/TF/03/19 890(Page-1/1) **Client Reference:** Ref: 24-05-2019

Dated: 24-05-2019 Dated:

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

Deformed

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

	Weight	Dia.		Area		Yield	Ultimate	Yield Stress		Ult. Stress			_	E	
S.No.		Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in ²	in ²	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.600	8	0.986	0.79	0.764	23.30	35.70	65060	67270	99660	103050	1.00	8.0	12.5	
2	1.519	6	0.754	0.44	0.446	12.13	16.72	60810	59990	83800	82670	1.60	8.0	20.0	
3	0.639	4	0.489	0.20	0.188	5.50	8.79	60700	64580	96900	103080	1.30	8.0	16.3	
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BEND TEST:

# 8	Sample bend through 180 degrees Satisfactorily without any crack	Note:-
# 6	Sample bend through 180 degrees Satisfactorily without any crack	
# 4	Sample bend through 180 degrees Satisfactorily without any crack	Only Six Samples
		Received and Tested