

Umair Yousaf  
Project Manager, MA Engineering Services Lahore

**Test Performed By:** Dr. /Engr. S. Asad Ali Gillani

**Client Reference:** MA/UET/001

**SOM Lab** 2161(Page-

**Ref:** 1/1)

**Dated:** 03-02-2020

**Dated:** 03-02-2020

**Test:** Tension Test & Bend Test

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

**Guage Length:** 8 inch

**Sample Type:** Deformed 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 <sup>2</sup>	in <sup>2</sup>	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.713	8	1.007	0.79	0.797	24.36	37.05	68020	67420	103450	102540	1.40	8.0	17.5	
2	2.710	8	1.007	0.79	0.796	23.09	37.16	64460	63970	103730	102950	1.30	8.0	16.3	
3	1.544	6	0.760	0.44	0.454	14.09	20.00	70620	68440	100250	97160	1.00	8.0	12.5	
4	1.460	6	0.739	0.44	0.429	13.12	19.67	65760	67450	98610	101140	1.10	8.0	13.8	
5	0.638	4	0.488	0.20	0.187	6.37	8.66	70260	75140	95550	102190	1.20	8.0	15.0	
6	0.638	4	0.488	0.20	0.187	6.14	8.36	67670	72380	92180	98580	1.20	8.0	15.0	
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**BEND TEST:**

# 8	Sample bend through 180 degrees Satisfactorily without any crack	<b>Note:-</b>  Only Nine Samples Received and Tested
# 6	Sample bend through 180 degrees Satisfactorily without any crack	
# 4	Sample bend through 180 degrees Satisfactorily without any crack	

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)

Niamat Ullah Khan

Resident Engineer, Sub Campus University of Agriculture FSD at Depalpur Okara(G3 Engg Consultants (Pvt) Ltd.)

**Test Performed By:**

**Dr. /Engr.**

S. Asad Ali Gillani

**Client Reference:** RE/UAF/DEP/04

**SOM Lab Ref:** 2162(Page-1/1)

**Dated:** 16-01-2020

**Dated:** 03-02-2020

**Test:** Tension Test & Bend Test

**Test Specification:**

ASTM-A-615

**Gauge Length:** 8 inch

**Sample Type:**

Deformed 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 <sup>2</sup>	in <sup>2</sup>	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.679	8	1.001	0.79	0.787	28.61	36.11	79880	80190	100800	101180	1.20	8.0	15.0	
2	2.681	8	1.002	0.79	0.788	28.97	36.29	80880	81080	101310	101570	1.20	8.0	15.0	
3	1.496	6	0.748	0.44	0.440	14.95	21.00	74960	74960	105260	105260	1.10	8.0	13.8	
4	1.488	6	0.746	0.44	0.437	14.95	20.97	74960	75470	105100	105820	1.20	8.0	15.0	
5	0.668	4	0.500	0.20	0.196	6.29	9.86	69360	70770	108700	110920	1.10	8.0	13.8	
6	0.663	4	0.498	0.20	0.195	6.49	10.06	71610	73440	110950	113790	1.10	8.0	13.8	
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**BEND TEST:**

# 8	Sample bend through 180 degrees Satisfactorily without any crack	<b>Note:-</b>  Only Nine Samples Received and Tested
# 6	Sample bend through 180 degrees Satisfactorily without any crack	
# 4	Sample bend through 180 degrees Satisfactorily without any crack	

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)

Amjad Saeed  
Resident Engineer, NESPAK (Pvt) Ltd. Lahore

Test Performed By: Dr. /Engr.

S. Asad Ali  
Gillani

Client Reference: 3994/103/AS/02/191

Dated: 31-01-2019

Test: Tension Test & Bend Test

Gauge Length: 8 inch

Test Specification:

Sample Type:

SOM Lab

Ref: 2163(Page-1/1)

Dated: 03-01-2019

ASTM-A-615

Deformed Bar ( Mughal 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 <sup>2</sup>	in <sup>2</sup>	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.691	8	1.004	0.79	0.791	29.63	36.70	82730	82620	102450	102320	1.40	8.0	17.5	
2	2.685	8	1.002	0.79	0.789	32.54	38.76	90840	90950	108200	108340	1.20	8.0	15.0	
3	1.541	6	0.759	0.44	0.453	17.53	22.27	87880	85360	111640	108440	1.10	8.0	13.8	
4	1.533	6	0.758	0.44	0.451	18.25	22.19	91460	89230	111230	108520	0.90	8.0	11.3	
5	1.050	5	0.627	0.31	0.309	11.85	14.04	84270	84540	99860	100190	1.20	8.0	15.0	
6	1.047	5	0.626	0.31	0.308	11.69	14.02	83180	83720	99720	100370	1.00	8.0	12.5	
7	0.690	4	0.508	0.20	0.203	7.03	9.07	77560	76420	100050	98570	1.10	8.0	13.8	
8	0.691	4	0.508	0.20	0.203	7.08	9.14	78130	76970	100830	99340	1.00	8.0	12.5	
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**BEND TEST:**

# 8(Sr.1,2)	Sample bend through 180 degrees Satisfactorily without any crack	<b>Note:-</b>  Only Sixteen Samples Received and Tested
# 6(Sr.3,4)	Sample bend through 180 degrees Satisfactorily without any crack	
# 5(Sr.5,6)	Sample bend through 180 degrees Satisfactorily without any crack	
# 4(Sr.7,8)	Sample bend through 180 degrees Satisfactorily without any crack	

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)

**Test Performed by:** Dr. Syed Asad Ali Gillani

Muhammad Saleem  
Project Co-ordinator  
GT & GE Division  
NESPAK (Pvt) Ltd. Lahore  
Permanent Reconstruction Plan (PRP)

**Client Reference No.:** 3963/021/MS/01/SP-310

Dated: 30-01-2020

**SOM Lab Ref:** CED/SOM/2164(Page-1/1)

Dated: 03-02-2020

**Test:** Tensile Test, Elongation at break , Hardness (Shore A) & Compression Set Test

**Sample Type:** "Freyssinet" Expansion Joint (Rubber Sample)

**TENSILE STRENGTH AND ELONGATION TEST. (AS PER ASTM-D-412)**

S. No	Sample Size (mm)	Ultimate Load (kN)	Tensile Strength (Mpa)	Tensile Strength (kg/cm <sup>2</sup> )	Elongation at Break(%)
1	6.6 x 3.0	0.72	36.36	370.80	510

**- COMPRESSION SET TEST (AS PER ASTM-D-395)**

S. No.	Thickness of Sample (mm)	Final Thickness (mm)	Compression set (%)
1	3.0	2.95	1.666

**- HARDNESS TEST (AS PER ASTM-D-2240 )**

S. No	Sample Type	Hardness (Shore A)
1	Expansion Joint	48.83

