

Engr Zaheer ud Din Babar

**Test Performed By:**

Dr. /Engr.

Nauman Khurram

Deputy Genral Manager (Projects) Habib Rafiq Engineering (Pvt) Ltd. Lahore

**Client Reference:** HRLE/SKG/2021/011

**Dated:** 15-06-2021

**SOM Lab Ref:** CED/SOM/4482,4485 (Page-1/1)

**Dated:** 15-06-2021

**Test:** Tensile Test & Bend Test

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

**Sample Type:** Deformed Bar(AFCO 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 <sup>2</sup>	mm <sup>2</sup>	kN	kN	MPa	MPa	MPa	MPa	mm	mm	%	
1	2.443	20	19.90	314	311	165.70	222.50	527	533	708	716	37.5	200	18.8	
2	2.431	20	19.86	314	310	162.00	220.70	516	524	703	713	32.5	200	16.3	
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**BEND TEST:**

20mm	Sample bend through 180 degrees Satisfactorily without any crack	<b>Note:-</b>  Only Three Samples Received and Tested

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

Engr. M. Usman Shahid  
Project Engineer,

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

**Client Reference:** Nil  
**SOM Lab Ref:** CED/SOM/4483 (Page-1/1)  
**Test:** Tension Test Bend Test  
**Sample Type:** M S Deformed Bar

**Dated:** 15-06-21  
**Dated:** 15-06-2021  
**Test Specification:** ASTM-F-1554  
**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 <sup>2</sup>	mm <sup>2</sup>	kN	kN	MPa	MPa	MPa	MPa	mm	mm	%	
1	3.846	25	24.98	491	490	224.70	324.70	458	459	661	663	42.5	200	21.3	
2	3.982	25	25.41	491	507	223.70	321.00	456	442	654	633	37.5	200	18.8	
3	2.423	20	19.83	314	309	143.70	211.00	457	466	672	684	37.5	200	18.8	
4	2.445	20	19.91	314	311	143.70	206.70	457	462	658	664	45.0	200	22.5	
5	1.643	16	16.33	201	209	100.70	136.50	501	481	679	652	32.5	200	16.3	
6	1.612	16	16.17	201	205	101.00	133.20	502	492	662	649	40.0	200	20.0	
7	0.980	12	12.61	113	125	53.20	78.70	470	427	696	631	37.5	200	18.8	
8	0.985	12	12.64	113	126	53.50	78.70	473	427	696	628	30.0	200	15.0	
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**BEND TEST:**

25mm	Sample bend through 180 degrees Satisfactorily without any crack	<b>Note:-</b>  Only Twelve Samples Received and Tested
20mm	Sample bend through 180 degrees Satisfactorily without any crack	
16mm	Sample bend through 180 degrees Satisfactorily without any crack	
12mm	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)

Muhammad Shabbir  
Construction Manager, Opal, Deevar Developers Pvt. Ltd. Lahore

**Test Performed By:** Dr. /Engr.

S. Asad Ali  
Gillani

**Client Reference:** ZD/ZO/L/029

**Dated:** 15-06-2021

**SOM Lab**

**Ref:** 4479(Page-1/1)

**Dated:** 15-06-2021

**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	2.718	8	1.009	0.79	0.799	24.46	35.22	68300	67530	98320	97220	1.30	8.0	16.3	
2	2.658	8	0.997	0.79	0.781	23.65	35.42	66020	66790	98890	100030	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 Three Samples Received and Tested

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

Muhammad Shabbir  
 Construction Manager, Opal, Deevar Developers Pvt. Ltd. Lahore

**Test Performed By:** Dr. /Engr.

S. Asad Ali  
Gillani

**Client Reference:** ZD/ZO/L/029

**Dated:** 15-06-2021

**SOM Lab**

**Ref:** 4479(Page-1/1)

**Dated:** 15-06-2021

**Test:** Tension Test & Bend Test

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

ASTM-A-615

**Gauge Length:** 8 inch

**Sample Type:** Deformed Bar

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	2.718	8	1.009	0.79	0.799	24.46	35.22	68300	67530	98320	97220	1.30	8.0	16.3	
2	2.658	8	0.997	0.79	0.781	23.65	35.42	66020	66790	98890	100030	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 Three Samples Received and Tested

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

Safdar Hussain  
Resident Engineer, ACE, Danish School Mankera Residency

Test Performed By: Dr. /Engr.

S. Asad Ali  
Gillani

Client Reference: ACE/RE-PDS/MNK/BHK/21/416

SOM Lab

Ref: 4480(Page-1/1)

Dated: 14-06-2021

Dated: 15-06-2021

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	1.481	6	0.744	0.44	0.435	14.09	19.59	70620	71430	98210	99330	1.10	8.0	13.8	
2	1.479	6	0.744	0.44	0.435	14.02	19.42	70260	71070	97340	98460	1.20	8.0	15.0	
3	1.063	5	0.630	0.31	0.312	9.12	13.27	64910	64490	94420	93820	1.30	8.0	16.3	
4	1.064	5	0.631	0.31	0.313	9.38	13.40	66720	66080	95370	94450	1.10	8.0	13.8	
5	0.683	4	0.506	0.20	0.201	7.19	9.55	79250	78860	105330	104800	1.10	8.0	13.8	
6	0.681	4	0.505	0.20	0.200	6.95	9.45	76660	76660	104200	104200	1.20	8.0	15.0	
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**BEND TEST:**

# 6	Sample bend through 180 degrees Satisfactorily without any crack	<b>Note:-</b>  Only Nine Samples Received and Tested
# 5	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)

Safdar Hussain  
Resident Engineer, ACE, Danish School Mankera Residency

**Test Performed By:** Dr. /Engr.

S. Asad Ali  
Gillani

**Client Reference:** ACE/RE-PDS/MNK/BHK/21/416

**SOM Lab**

**Ref:** 4480(Page-1/1)

**Dated:** 14-06-2021

**Dated:** 15-06-2021

**Test:** Tension Test & Bend Test

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

ASTM-A-615

**Gauge Length:** 8 inch

**Sample Type:** Deformed Bar

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	1.481	6	0.744	0.44	0.435	14.09	19.59	70620	71430	98210	99330	1.10	8.0	13.8	
2	1.479	6	0.744	0.44	0.435	14.02	19.42	70260	71070	97340	98460	1.20	8.0	15.0	
3	1.063	5	0.630	0.31	0.312	9.12	13.27	64910	64490	94420	93820	1.30	8.0	16.3	
4	1.064	5	0.631	0.31	0.313	9.38	13.40	66720	66080	95370	94450	1.10	8.0	13.8	
5	0.683	4	0.506	0.20	0.201	7.19	9.55	79250	78860	105330	104800	1.10	8.0	13.8	
6	0.681	4	0.505	0.20	0.200	6.95	9.45	76660	76660	104200	104200	1.20	8.0	15.0	
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**BEND TEST:**

# 6	Sample bend through 180 degrees Satisfactorily without any crack	<b>Note:-</b>  Only Nine Samples Received and Tested
# 5	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)

Maj Adnan khalid®

**Test Performed By:**

Dr. /Engr. S. Asad Ali Gillan

Dy Dir MTL, Const. of Infra Works Oversras Enclave Sector - T, Phase VII, DHA, Lahore - (M/S DHAC )

**Client Reference:** 408/241/E/Lab/83/17T/SDS

**SOM Lab Ref:** 4481(Page-1/1)

**Dated:** 14-06-2021

**Dated:** 15-06-2021

**Test:** Tension Test & Bend Test

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

**Gauge Length:** 8 inch

**Sample Type:**

Deformed Bar ( Kamran 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	0.660	4	0.497	0.20	0.194	6.17	8.79	68010	70110	96900	99890	1.30	8.0	16.3	
2	0.665	4	0.498	0.20	0.195	6.17	8.87	68010	69750	97800	100300	1.40	8.0	17.5	
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**BEND TEST:**

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

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

Maj Adnan khalid®

**Test Performed By:**

Dr. /Engr. S. Asad Ali Gillan

Dy Dir MTL, Const. of Infra Works Oversras Enclave Sector - T, Phase VII, DHA, Lahore - (M/S DHAC )

**Client Reference:** 408/241/E/Lab/83/17T/SDS

**SOM Lab Ref:** 4481(Page-1/1)

**Dated:** 14-06-2021

**Dated:** 15-06-2021

**Test:** Tension Test & Bend Test

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

**Gauge Length:** 8 inch

**Sample Type:**

Deformed Bar ( Kamran 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	0.660	4	0.497	0.20	0.194	6.17	8.79	68010	70110	96900	99890	1.30	8.0	16.3	
2	0.665	4	0.498	0.20	0.195	6.17	8.87	68010	69750	97800	100300	1.40	8.0	17.5	
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**BEND TEST:**

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

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



Lt. Col. Ubaid Ur Rehman (Retd)

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

SPM (JV) PEC Bldg Proj NLC Engineers-Tijaarat Developers(JV)Const. of PEC Regional Office, Lahore

**Client Reference:** 901/NLC-C-TD (JV) PEC/208

**SOM Lab**

**Ref:** 4484(Page-1/1)

**Dated:** 15-06-2021

**Dated:** 15-06-2021

**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	1.501	6	0.749	0.44	0.441	14.22	19.42	71280	71120	97340	97120	1.30	8.0	16.3	
2	1.503	6	0.750	0.44	0.442	14.12	19.24	70770	70450	96420	95980	1.20	8.0	15.0	
3	0.716	4	0.517	0.20	0.210	6.29	8.72	69360	66060	96110	91530	1.40	8.0	17.5	
4	0.717	4	0.518	0.20	0.211	6.44	8.79	71040	67340	96900	91850	1.20	8.0	15.0	
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**BEND TEST:**

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

Lt. Col. Ubaid Ur Rehman (Retd)

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

SPM (JV) PEC Bldg Proj NLC Engineers-Tijaarat Developers(JV)Const. of PEC Regional Office, Lahore

**Client Reference:** 901/NLC-C-TD (JV) PEC/208

**SOM Lab**

**Ref:** 4484(Page-1/1)

**Dated:** 15-06-2021

**Dated:** 15-06-2021

**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	1.501	6	0.749	0.44	0.441	14.22	19.42	71280	71120	97340	97120	1.30	8.0	16.3	
2	1.503	6	0.750	0.44	0.442	14.12	19.24	70770	70450	96420	95980	1.20	8.0	15.0	
3	0.716	4	0.517	0.20	0.210	6.29	8.72	69360	66060	96110	91530	1.40	8.0	17.5	
4	0.717	4	0.518	0.20	0.211	6.44	8.79	71040	67340	96900	91850	1.20	8.0	15.0	
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**BEND TEST:**

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

Lt. Col. Ubaid Ur Rehman (Retd)

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

SPM (JV) PEC Bldg Proj NLC Engineers-Tijaarat Developers(JV)Const. of PEC Regional Office, Lahore

**Client Reference:** 901/NLC-C-TD (JV) PEC/237

**SOM Lab**

**Ref:** 4484(Page-1/1)

**Dated:** 15-06-2021

**Dated:** 15-06-2021

**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	1.451	6	0.736	0.44	0.426	13.88	18.01	69590	71880	90290	93250	1.30	8.0	16.3	
2	1.453	6	0.737	0.44	0.427	13.68	17.84	68570	70660	89420	92140	1.70	8.0	21.3	
3	0.664	4	0.498	0.20	0.195	6.78	8.58	74750	76670	94650	97080	1.20	8.0	15.0	
4	0.667	4	0.500	0.20	0.196	6.93	8.72	76440	78000	96110	98070	1.20	8.0	15.0	
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**BEND TEST:**

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

Lt. Col. Ubaid Ur Rehman (Retd)

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

SPM (JV) PEC Bldg Proj NLC Engineers-Tijaarat Developers(JV)Const. of PEC Regional Office, Lahore

Client Reference: 901/NLC-C-TD (JV) PEC/237

SOM Lab

Ref: 4484(Page-1/1)

Dated: 15-06-2021

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Test: Tension Test & Bend Test

Test Specification: ASTM-A-615

Gauge Length: 8 inch

Sample Type: Deformed Bar

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