

Ahmad Hussain  
 Coordination Engineer, IZHAR Construction (Pvt) Ltd. Lahore

Test Performed By: Dr. /Engr. Nauman Khurram

Client Reference: ICPL/CONST-HNMPL/20/088

Dated: 09-12-2020

SOM Lab Ref: CED/SOM/3406(Page-1/1)

Dated: 10-12-2020

Test: Tension Test & bend Test

Test Specification: ASTM-A 615

Sample Type: Deformed Bar ( FF 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	3.932	25	25.26	491	501	253.20	334.50	516	506	681	668	37.5	200	18.8	
2	3.931	25	25.25	491	501	262.70	344.00	535	525	701	687	40.0	200	20.0	
3	1.493	16	15.56	201	190	92.70	126.20	461	488	628	664	32.5	200	16.3	
4	1.489	16	15.54	201	190	97.00	131.50	482	512	654	694	30.0	200	15.0	
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**BEND TEST:**

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

Qurban Ali Khan

Test Performed By:

Dr. /Engr.

S. Asad Ali Gillani

Resident Engineer, Techno Consultant International (Pvt) Ltd. D. I. Khan

Client Reference: RE/CPEC/DIK/2020/743

Dated: 10-12-2020

SOM Lab Ref: CED/SOM/3408 (Page-1/1)

Dated: 10-12-2020

Test: Tension Test & Bend Test

Test Specification: ASTM-A-615

Sample Type: Deformed Bar

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	2.498	20	20.12	314	318	150.20	206.20	478	473	656	649	25.0	200	12.5	
2	2.490	20	20.10	314	317	151.70	207.70	483	479	661	655	32.5	200	16.3	
3	1.420	16	15.18	201	181	87.00	120.00	433	481	597	664	35.0	200	17.5	
4	1.440	16	15.28	201	183	88.00	121.00	438	480	602	660	32.5	200	16.3	
5	0.893	12	12.04	113	114	51.70	74.50	457	455	659	655	37.5	200	18.8	
6	0.893	12	12.03	113	114	51.20	74.20	453	451	656	653	35.0	200	17.5	
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**BEND TEST:**

20mm	Sample bend through 180 degrees Satisfactorily without any crack	<b>Note:-  Only Nine Samples Received and Tested</b>
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 Zubair Yousaf  
 Manager Monitoring & Coordination, Shajar Road Ltd.

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

Client Reference: MMC/SHJR/SGRP/14  
 SOM Lab Ref: CED/SOM/3311-12(Page-1/1)

Dated: 08-12-2020  
 Dated: 10-12-2020

Test: Tension Test & Bend Test  
 Sample Type: Deformed Bar

Test Specification: ASTM-A 615  
 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	1.590	16	16.08	201	203	107.50	137.20	535	530	682	676	30.0	200	15.0	
2	1.602	16	16.12	201	204	106.00	135.50	527	520	674	664	30.0	200	15.0	
3	0.900	12	12.08	113	115	64.00	79.20	566	559	700	691	25.0	200	12.5	
4	0.888	12	12.00	113	113	64.50	79.50	570	571	703	703	20.0	200	10.0	
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Witnessed By: Shahmim Zafar, Chief Material Speicalist(Adv)H&TED NESPAK, A. Rashid Abbas, M.E.(SHAJAR)

**BEND TEST:**

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

Maqsood Ahmad  
Project Coordinator, Banu Mukhtar Contracting (Pvt) Ltd., Lahore

Test Performed By: Dr. /Engr.

S Asad Ali  
Gillani

Client Reference: BML/300841/002

SOM Lab

Ref: 3405(Page-2/2)

Dated: 10-12-2020

Dated: 10-12-2020

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 <sup>2</sup>	in <sup>2</sup>	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	1.488	6	0.746	0.44	0.437	14.29	19.01	71640	72130	95290	95950	1.70	8.0	21.3	
2	1.476	6	0.743	0.44	0.434	14.37	19.06	72050	73040	95550	96870	1.50	8.0	18.8	
3	0.668	4	0.500	0.20	0.196	6.21	9.04	68460	69860	99710	101740	1.60	8.0	20.0	
4	0.663	4	0.498	0.20	0.195	6.19	9.02	68230	69980	99480	102030	1.50	8.0	18.8	
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**BEND TEST:**

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

Hafiz Ozair Ahmad  
Deputy Director (QCD), WASA, LDA, Lahore

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

Client Reference: QCD/ 2977-78

SOM Lab Ref: 3409(Page-1/1)

Dated: 09-12-2020

Dated: 10-12-2020

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	2.662	8	0.998	0.79	0.782	19.67	30.19	54930	55490	84290	85160	1.40	8.0	17.5	
2	2.651	8	0.996	0.79	0.779	19.78	30.28	55210	55990	84520	85720	1.50	8.0	18.8	
3	1.478	6	0.743	0.44	0.434	11.06	16.26	55440	56210	81500	82620	1.70	8.0	21.3	
4	1.480	6	0.744	0.44	0.435	11.01	16.23	55190	55820	81340	82280	1.50	8.0	18.8	
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**BEND TEST:**

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

By Dir MTL, External Elec. Works U/G Pkg. 2 & 4, at Sector-P, DHA Ph -IX - (M/S NLC)

Client Reference: 408/241/E/Lab/1054/31

SOM Lab

Ref: 3410(Page-1/1)

Dated: 10-12-2020

Dated: 10-12-2020

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Deformed Bar ( Mughal Steel)

Gauge Length: 8 inch

Sample Type:

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	0.701	4	0.512	0.20	0.206	6.85	8.89	75540	73340	98020	95170	1.20	8.0	15.0	
2	0.669	4	0.501	0.20	0.197	7.08	8.96	78130	79320	98810	100310	1.10	8.0	13.8	
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**BEND TEST:**

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

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. M. Irfan ul Hassan

Mohsin Hussain  
Manager I & QC,  
DTR & SG  
Pak Elektron Ltd. (PEL)  
Lahore

Client Reference No.: I & QC

Dated: 09-12-2020

SOM Lab Ref: CED/SOM/3403 (Page 1/2)

Dated: 10-12-2020

Test Type: Tensile Test & Hardness Test

Sample Type: Hex Head - Bolts (M12x35mm) M/s One Stop Discouted Supplies

**-Tensile Test Results**

Sample No.	Sample Type	Tested Diameter of Bolt (mm)	Ultimate Load (kN)	Ultimate Tensile Stress (MPa)	% Elongation
1	Hex Head Bolt (12 x 35mm)	6.0	21.0	742.7	24.0

**-Hardness Test Details:**

Machine used: Avery Rockwell Hardness Testing Machine

(Minor Load: 10 Kgf Major Load: 90.0 kgf Scale: B )

**Hardness Test Results**

Sample No.	Sample Type	Hardness	Sample Type	Hardness
1	Bolt 12mm	HR – 84.5 – B	Nut	HR – 95.83- B

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