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

Building Standards Material Testing, Quality Control & Geotechnical Services, Lahore

Client Reference: GT/LTR/210308-015 **Dated:** 08-03-2021

SOM Lab Ref: CED/SOM/3980 (Page-1/1) **Dated:** 08-03-2021

Test: Tension Test **Test Specification:** BS-4449

Sample Type: Deformed & Plane 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^2	mm^2	kN	kN	MPa	MPa	MPa	MPa	mm	mm	%	
1	2.253	20	19.12	314	287	153.70	193.50	489	536	616	675	30.0	200	15.0	J-Bolt
2	2.224	19	18.99	284	283	153.70	194.00	542	543	684	685	27.5	200	13.8	Main
3	1.833	16	17.24	201	234	99.00	154.20	492	424	767	661	30.0	200	15.0	J-Bolt
4	0.995	12.7	12.70	123	127	56.50	84.50	460	446	689	667	27.5	200	13.8	Foting
5	1.020	12.7	12.86	123	130	61.20	91.50	499	471	746	705	27.5	200	13.8	Sec
6	0.990	12.7	12.67	123	126	73.50	87.70	599	583	715	696	25.0	200	12.5	Foting
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BEND TEST:

--	No Bend test performed

Note:-

Only Six Samples Received and Tested

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

Construction Manager
NESPAK, (Pvt) Ltd. Lahore

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

Client Reference: 3976/13/MHK/01/217
Dated: 08-03-2021

SOM Lab Ref: 3994(Page-2/2)
Dated: 09-03-2021

Test: Tension Test & Bend Test
Gauge Length: 8 inch

Test Specification: ASTM-A-615
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^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	0.663	4	0.498	0.20	0.195	6.60	8.74	72730	74600	96340	98810	1.10	8.0	13.8	
2	0.659	4	0.497	0.20	0.194	6.60	8.87	72730	74980	97800	100820	1.00	8.0	12.5	
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BEND TEST:

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

Note:-

Only Four Samples Received and Tested

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

Construction Manager
NESPAK, (Pvt) Ltd. Lahore

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

Client Reference: 3976/13/MHK/01/216
Dated: 08-03-2021

SOM Lab Ref: 3994(Page-1/2)
Dated: 09-03-2021

Test: Tension Test & Bend Test
Gauge Length: 8 inch

Test Specification: ASTM-A-615
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^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	1.487	6	0.746	0.44	0.437	14.88	18.81	74600	75110	94270	94920	1.30	8.0	16.3	
2	1.528	6	0.756	0.44	0.449	17.13	20.64	85840	84120	103470	101390	1.20	8.0	15.0	
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BEND TEST:

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

Note:-

Only Four Samples Received and Tested

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

Construction Manager
NESPAK, (Pvt) Ltd. Lahore

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

Client Reference: 3976/13/MHK/01/218
Dated: 09-03-2021

SOM Lab Ref: 3995(Page-1/2)
Dated: 09-03-2021

Test: Tension Test & Bend Test
Gauge Length: 8 inch

Test Specification: ASTM-A-615
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^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	1.549	6	0.761	0.44	0.455	13.71	19.69	68730	66460	98720	95460	1.20	8.0	15.0	
2	1.551	6	0.762	0.44	0.456	13.46	19.13	67450	65080	95910	92540	1.30	8.0	16.3	
3	1.548	6	0.761	0.44	0.455	12.74	18.47	63870	61770	92590	89530	1.10	8.0	13.8	
4	1.554	6	0.763	0.44	0.457	13.12	18.98	65760	63320	95140	91600	1.20	8.0	15.0	
5	1.554	6	0.763	0.44	0.457	13.40	18.76	67190	64690	94020	90520	1.30	8.0	16.3	
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BEND TEST:

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

Note:-

Only Ten Samples Received and Tested

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

Construction Manager
NESPAK, (Pvt) Ltd. Lahore

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

Client Reference: 3976/13/MHK/01/219
Dated: 09-03-2021

SOM Lab Ref: 3995(Page-2/2)
Dated: 09-03-2021

Test: Tension Test & Bend Test
Gauge Length: 8 inch

Test Specification: ASTM-A-615
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^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	0.671	4	0.501	0.20	0.197	5.83	8.56	64300	65280	94420	95860	1.30	8.0	16.3	
2	0.672	4	0.501	0.20	0.197	6.24	8.82	68800	69840	97230	98720	1.40	8.0	17.5	
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BEND TEST:

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

Note:-

Only Four Samples Received and Tested

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

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

Siddique Sons

Lahore

Client Reference: SS/Letter # 572 **Dated:** 09-03-2021

SOM Lab Ref: CED/SOM/3993(Page-1/2) **Dated:** 09-03-2021

Test Type: Hardness Test

Sample Type: Aluminum Strips

Hardness Test Details:

Machine used: Avery Rockwell Hardness Testing Machine

(Minor Load: 10 Kgf Major Load: 60.0 kgf Scale: A)

Hardness Test Results

Sample No.	Sample Type	Hardness
1	Aluminum Strips	HR – 76.33 – A

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

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

Siddique Sons

Lahore

Client Reference: SS/Letter # 570 **Dated:** 09-03-2021

SOM Lab Ref: CED/SOM/3993(Page-2/2) **Dated:** 09-03-2021

Test Type: Hardness Test

Sample Type: Aluminum Strips

Hardness Test Details:

Machine used: Avery Rockwell Hardness Testing Machine

(Minor Load: 10 Kgf Major Load: 60.0 kgf Scale: A)

Hardness Test Results

Sample No.	Sample Type	Hardness
1	Aluminum Strips	HR – 71.83 – A

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