Test Performed By: Dr. Syed Asad Ali Gillani

Malik Riaz
Manager Technical
Bin Tariq Pvt Ltd Lahore.
(Rehabilitation of Mehmood Booti Dumpsite)

Client Reference: BTPL/Sales/GRP-L WMC/25/254 Dated: 10-04-2025
SOM Laboratory Reference: CED/SOM/1052(Page-1/1) Dated: 10-04-2025
Test: Stiffness Test, Hoop Tensile Test & Compressive Test
Sample Type: Fiber Glass GRP Dia 450mm (18")

Stiffness Test (Parallel Plate Loading Test as per ASTM-D-2412)

(Fiber Glass 18" Dia)

Total Length = 305 mm, External Diameter = 467 mm, Wall Thickness = 10.10 mm

Percentage Reduction in Diameter of Sample	Compression Load, P (kN)	Stiffness (Corrected)			Remarks
		Pipe Stiffness (kN/m^2)	Stiffness Factor (N-m)	Specific Tangential Initial Stiffness (N/m^2)	
5%	6.2	941	1671	18734	No Crack Observed
10%	15.5	1268	2252	25253	No Crack Observed
12%	20.0	1636	2906	32584	No Crack Observed
15%	22.0	1800	3197	35842	No Crack Observed
20%	26.7	1263	2244	25154	No Crack Observed

Hoop Tensile Test (ASTM-D-2290-04)

Sample Size (mm)				Hoop Tensile Load (kN)	Hoop Stress (MPa)
b_1	t_1	b_2	t_2		
14.7	9.85	16.8	10.0	72.6	232.17

Compression Strength Test (ASTM-D-695)

Sample Type	Size of Sample (mm)	Compression Load (kN)	Compressive Stress (MPa)
Fiber Glass	26.6 x 30.5	70.2	86.52

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

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

QAQC Manager Zameen Development.(Const. Of JADE Project by Zameen Development,Lahore)

Client Reference: ZD/QAQC/KS-DC013375/JADE/10 **SOM Lab Ref:** 1048 (Page-1/1)

Dated: 09-04-2025 **Dated:** 10-04-2025

Test: Tension Test & Bend Test **Test Specification:** ASTM-A-706 Def. Bar (H # M-130)

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^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	1.451	6	0.736	0.44	0.426	12.56	18.40	62950	65020	92230	95260	1.70	8.0	21.3	
2	1.471	6	0.742	0.44	0.432	14.39	20.51	72150	73480	102800	104710	1.50	8.0	18.8	
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BEND TEST:

# 6	Sample bend through 180 degrees Satisfactorily without any crack

Note:-

Only Three Samples Received and Tested

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

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

QAQC Manager Zameen Development.(Const. Of Phoenix Project by Zameen Development,Lahore)

Client Reference: ZD/QAQC/KS-0133376/Phoenix/14 **SOM Lab Ref:** 1049 (Page-1/1)

Dated: 09-04-2025 **Dated:** 10-04-2025

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

Gauge Length: 8 inch **Sample Type:** Def. Bar (H # KS-105)

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	1.452	6	0.737	0.44	0.427	12.97	18.78	65000	66970	94120	96980	1.40	8.0	17.5	
2	1.467	6	0.741	0.44	0.431	13.20	18.91	66170	67550	94780	96760	1.50	8.0	18.8	
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BEND TEST:

# 6	Sample bend through 180 degrees Satisfactorily without any crack

Note:-

Only Three Samples Received and Tested

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

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

QAQC Manager Zameen Development.(Const. Of JADE Project by Zameen Development,Lahore)

Client Reference: ZD/QAQC/SS-2503-000167/JADE/09 **SOM Lab Ref:** 1050 (Page-1/1)

Dated: 09-04-2025 **Dated:** 10-04-2025

Test: Tension Test & Bend Test **Test Specification:** ASTM-A-706

Gauge Length: 8 inch **Sample Type:** Def. Bar (H # SS-113)

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	0.657	4	0.496	0.20	0.193	6.39	9.68	70480	73040	106790	110660	1.10	8.0	13.8	
2	0.654	4	0.494	0.20	0.192	6.32	9.60	69700	72600	105890	110300	1.30	8.0	16.3	
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BEND TEST:

# 4	Sample bend through 180 degrees Satisfactorily without any crack

Note:-

Only Three Samples Received and Tested

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

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

QAQC Manager Zameen Development.(Const. Of ARX Project by Zameen Development,Lahore)

Client Reference: ZD/QAQC/KS-DC013377,378,379/ARX/08 **SOM Lab Ref:** 1051 (Page-1/1)

Dated: 09-04-2025 **Dated:** 10-04-2025

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

Gauge Length: 8 inch **Sample Type:** Def. 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	2.637	8	0.993	0.79	0.775	24.36	34.63	68020	69330	96670	98540	1.60	8.0	20.0	H #AP-21
2	2.664	8	0.998	0.79	0.783	21.83	30.86	60960	61500	86140	86910	1.10	8.0	13.8	H #AP-21
3	2.655	8	0.997	0.79	0.780	23.98	34.48	66940	67790	96250	97480	1.10	8.0	13.8	H #AP-22
4	2.652	8	0.996	0.79	0.779	24.77	35.52	69160	70130	99180	100580	1.40	8.0	17.5	H #AP-22
5	2.644	8	0.995	0.79	0.777	24.16	33.00	67450	68580	92120	93660	1.30	8.0	16.3	H #AP-23
6	2.626	8	0.991	0.79	0.772	24.36	32.77	68020	69600	91490	93630	1.20	8.0	15.0	H #AP-23
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BEND TEST:

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

Note:-

Only Nine Samples Received and Tested

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

Sub Divisional officer, **Test Performed By:** **Dr. /Engr.** Asad Ali Gillani

BSD Sambrial.(Program Of Revamping Of BHUS Of North And CentralPunjab BHU Of Distt Sialkot)

Client Reference: 147/SMBL
Dated: 07-04-2025

SOM Lab Ref: 1053(Page-1/1)
Dated: 10-04-2025

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

Test Specification: ASTM-A-615
Sample Type: Deformed Bar (Sheikhoo 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^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	1.484	6	0.745	0.44	0.436	13.71	19.69	68730	69360	98720	99620	1.60	8.0	20.0	
2	1.486	6	0.746	0.44	0.437	13.73	19.80	68830	69300	99230	99910	1.60	8.0	20.0	
3	0.649	4	0.493	0.20	0.191	6.90	8.97	76100	79690	98920	103580	1.20	8.0	15.0	
4	0.652	4	0.494	0.20	0.192	6.75	8.92	74420	77520	98360	102460	1.10	8.0	13.8	
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BEND TEST:

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

Note:-

Only Six Samples Received and Tested

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