

Wang Bo

Test Performed By:

Dr. /Engr.

S. Asad Ali
Gillani

Chief Executive Officer for Pak Matiar - Lahore Transmission Company (Pvt) Ltd. Lahore (Lot 2&3)

Client Reference: CET/HVDC/2&3//UET/19-762

SOM Lab Ref: 1546(Page-1/1)

Dated: 08-10-2019

Dated: 09-10-2019

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar(Fiazan & Agha 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	2.537	8	0.975	0.79	0.746	23.80	30.78	66450	70370	85940	91010	1.40	8.0	17.5	
2	2.552	8	0.977	0.79	0.750	24.33	32.42	67930	71550	90500	95320	1.30	8.0	16.3	
3	1.057	5	0.629	0.31	0.311	11.59	13.99	82460	82190	99500	99180	1.10	8.0	13.8	
4	1.028	5	0.620	0.31	0.302	11.47	13.91	81590	83750	98990	101620	1.10	8.0	13.8	
5	1.067	5	0.632	0.31	0.314	11.54	13.71	82100	81050	97540	96300	1.30	8.0	16.3	
6	1.037	5	0.623	0.31	0.305	11.18	13.30	79560	80860	94640	96190	1.20	8.0	15.0	
7	0.995	5	0.610	0.31	0.292	11.21	13.53	79780	84690	96240	102170	1.10	8.0	13.8	
8	1.031	5	0.621	0.31	0.303	10.77	13.32	76660	78430	94790	96980	1.30	8.0	16.3	
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Witnessed By:

Mohsan Adeel J.E. (OE) Barqaab, & Muhammad Zaeem, S.E. NESPAK

BEND TEST:

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

Maj Adnan khalid®

Test Performed By:

Dr. /Engr.

S Asad Ali
Gillani

Dy Dir MTL, Const of Mosque , L- Block, DHA Ph-V - (M/S Ghazi Builders)

Client Reference: 408/241/E/Lab/734/75

SOM Lab

Ref: 1547(Page-1/1)

Dated: 08-10-2019

Dated: 09-10-2019

Test: Tension Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (Mughal Supreme)

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	0.685	4	0.506	0.20	0.201	6.47	8.82	71380	71030	97230	96750	1.20	8.0	15.0	
2	0.684	4	0.506	0.20	0.201	6.57	8.87	72510	72150	97800	97310	1.20	8.0	15.0	
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BEND TEST:

--	No Bend test performed	Note:- Only Two Samples Received and Tested

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

Test Performed by: Dr. Nauman Khurram

Nasir Ahmed Chishty
Chief Resident Engineer
Osmani & Co. (Pvt) Ltd
Swat Motorway Project,

Client Reference No.: 337/CRE/QAT/SMP/2019

Dated: 04-10-2019

SOM Lab Ref: CED/SOM/1531 (Page 1/1)

Dated: 07-10-2019

Test Type: Hardness Test

Sample Type: Wedge & Wedge Block

Hardness Test Details:

Machine used: Avery Rockwell Hardness Testing Machine

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

(Minor Load: 10 Kgf Major Load: 140.0 kgf Scale: C)

Hardness Test Results

Sample No.	Sample Type	Hardness
1	Wedge Block	HR – 93.00 – B
2	Wedge	HR – 57.50 – C
3	Wedge	HR – 58.00 – C

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

Test Performed By: Dr M Irfan Ul Hassan

Muhammad Zaheer
Station Incharge
Machhike, Distt, Sheikhupura

Client Reference: TS4/OPS/200/2019

Dated .3-10-2019

SOM Laboratory Reference: CED/SOM/1538(Page-1/1)

Dated 07-10-2019

Test: Tensile Strength, Yield Strength & Elongation

Sample Type: Geo Membrane Sheet

TENSILE STRENGTH AND ELONGATION TEST. (AS PER ASTM-D-638)

S. No	Sample ID	Yield Strength (MPa)	Tensile Strength at Break (MPa)	Elongation at Break (%)
1	Sample # 1	23.1	28.87	560
2	Sample # 2	32.1	40.1	620
3	Sample # 3	19.6	24.5	646
4	Average	24.93	31.15	608

Test Performed By: Dr. S. Asad Ali Gillni

Maj. Adnan Khalid ®,
Deputy Director, MTL
Infra Dev Works, PH – IX, (Prism), (Pkg-III & IV), DHA, Ph-IX - (M/S NLC)

Client Reference: 408/241/E/Lab/729A/505

Dated 07-10-2019

SOM Laboratory Reference: CED/SOM/1549(Page-1/1)

Dated 09-10-2019

Test: Stiffness Test, Tensile Test & Hoop Tensile Test

Sample Type: Fiberglass Blind Pipe

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

Total Length = 308 mm, External Diameter = 219 mm, Wall Thickness = 7.5 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%	9.5	3050	537	63300	No Crack Observed

Tensile Test

Sample Type	Size of Sample (mm)	Ultimate Load (kN)	Ultimate Stress (MPa)
Fiberglass Blind Pipe	29.0 x 7.5	42.7	198.97

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		
10.0	7.5	10.0	7.5	56.0	373.33

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

Test Performed by: Dr. S. Asad Ali Gillani

Akhtar Mahmood
Resident Engineer,
402/F, Shah Rukene Alam Colony,
Multan

Client Reference No.: 3969/11/HM/01/96

Dated: 23-09-2019

SOM Lab Ref: CED/SOM/1550(Page-1/1)

Dated: 09-10-2019

Test: Tensile Test, Elongation Test, Compression Set Test & Water Absorption Test

Sample Type: Rubber Ring

Tensile Strength & Elongation Test (ASTM-D-412)

S. No.	Sample Type	Sample Size	Tensile Strength Kgs/cm ²	% Elongation
1	Rubber Ring	12.2mm	61.499	440
2	Rubber Ring	9.5mm	54.666	360

Compression
Set Test
(ASTM D-

395)

S. No	Sample Type	Before Test (Thickness)	Final Test (Thickness)	% age Thickness
1	Rubber Ring	12.2mm	10.7	12.295
2	Rubber Ring	9.5mm	8.8	7.368

WATER ABSORPTION (AS PER ASTM-D-624)

S. No	Sample Type	Sample Size (mm)	Remarks
1	Rubber Ring	12.2	No absorption
2	Rubber Ring	9.5	No absorption

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

