Engr. Zaheer Ud Din Babar Test Performed By: Dr. /Engr. Asad Ali Gillani

Dy. General Manager Projects.HRL Engineering (Pvt.) Ltd.(Const Of sky Gardens Tower,Lahore)

1340 (Page-

Client Reference: HRLE/SKG/2022/089/2404-5 SOM Lab Ref: 1/1)

**Dated:** 01-12-2022 **Dated:** 01-12-2022

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

Guage Length: 200 mm Sample Type: MS Deformed Bar (Afco Steel)

		D	ia.	Ar	ea	Yield	Ultimate	Yield	Stress	Ult. S	tress			L	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	kg/m	mm	mm	mm <sup>2</sup>	mm <sup>2</sup>	kN	kN	MPa	MPa	MPa	MPa	mm	mm	%	
1	3.797	25	24.82	491	484	269.00	364.70	548	556	743	754	35.0	200	17.5	
2	3.785	25	24.78	491	482	270.00	365.20	550	560	744	758	35.0	200	17.5	
3	3.821	25	24.90	491	487	198.20	318.00	404	408	648	654	37.5	200	18.8	
4	3.785	25	24.78	491	482	264.00	372.70	538	548	759	773	27.5	200	13.8	
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#### **BEND TEST:**

25mm	Sample bend through 180 degrees Satisfactorily without any crack	Note:-
25mm	Sample bend through 180 degrees Satisfactorily without any crack	
		Only Six Samples
		Received and Tested

Seref Dover, Country Manager **Test Performed By:** Dr. /Engr. Asad Ali Gillani SA-RA Group, (ADB-201-2018(Lot 1)220Kv Double Circuit Transmission Line From D.I Khan To Zhob)

**SOM Lab** 

 Client Reference:
 MIG/2022/2919
 Ref:
 1335 (Page-1/1)

**Dated:** 29-11-2022 **Dated:** 01-12-2022

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

Gauge Length: 8 inch Sample Type: Deformed Bar(Al-Moiz Steel)

		D	ia.	А	rea	Yield	Ultimate	Yield	Stress	Ult. S	tress			L	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in <sup>2</sup>	in <sup>2</sup>	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.658	8	0.997	0.79	0.781	24.13	34.71	67360	68140	96900	98020	1.70	8.0	21.3	
2	2.667	8	0.999	0.79	0.784	23.29	34.22	65030	65530	95530	96270	1.80	8.0	22.5	
3	2.652	8	0.996	0.79	0.779	24.08	34.30	67220	68170	95760	97110	1.50	8.0	18.8	
4	2.652	8	0.996	0.79	0.779	23.26	34.07	64940	65860	95110	96450	1.70	8.0	21.3	
5	0.682	4	0.505	0.20	0.200	6.44	8.79	71040	71040	96900	96900	1.30	8.0	16.3	
6	0.683	4	0.506	0.20	0.201	6.65	8.97	73290	72930	98920	98430	1.30	8.0	16.3	
7	0.681	4	0.505	0.20	0.200	6.57	8.87	72510	72510	97800	97800	1.10	8.0	13.8	
8	0.672	4	0.501	0.20	0.197	6.22	8.53	68570	69620	94090	95520	1.10	8.0	13.8	
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\A/:4	Witnessed By				L A I''/O			1 D:	/ A 44 B A	T/1 /	24 DA E				

Witnessed By: Sohaib Ali(Sub-Engr, NESPAK), M. Rizwan (Asstt Manager T/L, SA-RA Energy)

#### **BEND TEST:**

# 8	Sample bend through 180 degrees Satisfactorily without any crack	Note:-
# 8	Sample bend through 180 degrees Satisfactorily without any crack	
# 4	Sample bend through 180 degrees Satisfactorily without any crack	Only Twelve Samples
# 4	Sample bend through 180 degrees Satisfactorily without any crack	Received and Tested

Muhammad Shahzad Anwar **Test Performed By:** Dr. /Engr. Asad Ali Gillani

RE Nespak Bwp.(Const Of Road From Bwp Jhangra Sharqi Interchange L 42.0 Km Distt.Bwp)

**SOM Lab** 

 Client Reference:
 RE/SA-467(B)/MSA-JS/120
 Ref:
 1336 (Page-1/1)

**Dated:** 21-11-2022 **Dated:** 01-12-2022

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

Gauge Length: 8 inch Sample Type: Deformed Bar (SJ Steel)

		D	ia.	А	rea	Yield	Ultimate	Yield	Stress	Ult. S	tress			_	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in <sup>2</sup>	in <sup>2</sup>	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	1.514	6	0.753	0.44	0.445	14.34	18.81	71890	71090	94270	93210	1.70	8.0	21.3	
2	1.519	6	0.754	0.44	0.446	14.32	18.73	71790	70820	93860	92600	1.70	8.0	21.3	
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#### **BEND TEST:**

# 6	Sample bend through 180 degrees Satisfactorily without any crack	Note:-
		Only Three Samples
		Received and Tested

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

RE AZ Engg Associates) Gujranwala.(Dualization Of Rd From Shadiwal To Chak Gillan L 16.50KMS)

**SOM Lab** 

Client Reference: AZEA/RE/GRW/485 Ref: 1337 (Page-1/1)

**Dated:** 08-11-2022 **Dated:** 01-12-2022

Test:Tension Test & Bend TestTest Specification:ASTM-A-615Gauge Length:8 inchSample Type:Deformed Bar

		D	ia.	А	rea	Yield	Ultimate	Yield	Stress	Ult. S	Jlt. Stress			_	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in <sup>2</sup>	in <sup>2</sup>	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	0.686	4	0.507	0.20	0.202	5.76	8.72	63510	62880	96110	95160	1.40	8.0	17.5	
2	0.680	4	0.505	0.20	0.200	5.91	9.48	65200	65200	104540	104540	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

PRIME STEEL Re-Rolling Mills

Sheikhupura.

**SOM Lab** 

Dr. /Engr.

Asad Ali Gillani

**Test Performed By:** 

 Client Reference:
 Nil
 Ref:
 1338 (Page-1/1)

 Dated:
 01-11-2022
 Dated:
 01-11-2022

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

Gauge Length: 8 inch Sample Type: Deformed Bar (Prime Steel)

			ia.	А	rea	Yield	Ultimate	Yield	Stress	Ult. S	Stress			_	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	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	19.64	30.70	54840	54220	85720	84750	1.30	8.0	16.3	H#5
2	1.483	6	0.745	0.44	0.436	12.39	19.16	62080	62650	96060	96940	1.60	8.0	20.0	H#4
3	0.656	4	0.496	0.20	0.193	6.22	9.53	68570	71060	105100	108920	1.10	8.0	13.8	H#3
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# **BEND TEST:**

# 8	Sample bend through 180 degrees Satisfactorily without any crack	Note:-
# 6	Sample bend through 180 degrees Satisfactorily without any crack	
# 4	Sample bend through 180 degrees Satisfactorily without any crack	Only Six Samples
		Received and Tested

Associate Consulting Engineers

(ACE) Test Performed By: Dr. /Engr. Asad Ali Gillani

RE (ACE) UAEET Sambrial, Sialkot. (Estb Of UAEET Sambrial, Sialkot)

**SOM Lab** 

 Client Reference:
 ER/UAEET/ACE/2022/116
 Ref:
 1339 (Page-1/1)

 Dated:
 30-11-2022
 Dated:
 01-12-2022

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

Gauge Length: 8 inch Sample Type: Deformed Bar (SJ Steel)

		Di	a.	А	rea	Yield	Ultimate	Yield	Stress	Ult. S	tress				
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in <sup>2</sup>	in <sup>2</sup>	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.621	8	0.990	0.79	0.770	25.50	34.25	71200	73050	95620	98100	1.40	8.0	17.5	
2	2.668	8	0.999	0.79	0.784	25.69	34.30	71720	72270	95760	96500	1.40	8.0	17.5	
3	1.491	6	0.747	0.44	0.438	15.80	20.36	79200	79560	102040	102500	1.50	8.0	18.8	
4	1.489	6	0.747	0.44	0.438	15.77	20.36	79050	79410	102040	102500	1.40	8.0	17.5	
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#### **BEND TEST:**

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

Adnan Aslam Test Performed By: Dr. /Engr. Asad Ali Gillani

PD QABP,SKP.(Const Of Storm Water Pumping Station at Interceptive Drain along Front Rd QABP)

**SOM Lab** 

Client Reference: QABP/PIE/CIV/084 Ref: 1341(Page-1/1)

**Dated:** 11-11-2022 **Dated:** 01-12-2022

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

Gauge Length: 8 inch Sample Type: Deformed Bar (SJ Steel)

		Dia.		Area		Yield	Ultimate	Yield Stress		Ult. Stress				Ē	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in <sup>2</sup>	in <sup>2</sup>	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.656	8	0.997	0.79	0.781	31.04	38.35	86660	87650	107060	108290	1.30	8.0	16.3	
2	2.655	8	0.997	0.79	0.780	31.09	37.64	86800	87910	105070	106410	1.40	8.0	17.5	
3	1.501	6	0.749	0.44	0.441	15.34	19.24	76900	76730	96420	96200	1.30	8.0	16.3	
4	1.502	6	0.749	0.44	0.441	15.75	19.83	78940	78760	99380	99160	1.10	8.0	13.8	
5	0.667	4	0.500	0.20	0.196	5.78	8.36	63740	65040	92180	94060	1.30	8.0	16.3	
6	0.665	4	0.498	0.20	0.195	5.83	8.36	64300	65950	92180	94540	1.10	8.0	13.8	
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### **BEND TEST:**

# 8	Sample bend through 180 degrees Satisfactorily without any crack	Note:-
# 6	Sample bend through 180 degrees Satisfactorily without any crack	
# 4	Sample bend through 180 degrees Satisfactorily without any crack	Only Nine Samples
		Received and Tested

Test Performed by: .S. Asad Ali Gillani

Abdul Azeem Manager, Polymer Tek Gujranwala.

Client Reference No.:Nil Dated: 30-11-2022

**SOM Lab Ref**: CED/SOM/1334 (Page 1/3) Dated: 01-12-2022

**Test Type:** Tension Test

**Sample Type:** FRP Pultruted Square Pipe (4"x4"x6mm)

# **Tension Test Results**

Sample No.	Sample Size	Area (mm²)	Ultimate Breaking Load (kN)	Ultimate Breaking Strength (MPa)	Remarks
1	25.0 x 6.2	155.0	55.5	358.06	
2	25.0 x 6.2	155.0	48.7	314.19	

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

Test Performed by: S. Asad Ali Gillani

Abdul Azeem Manager, Polymer Tek Gujranwala.

Client Reference No.:Nil Dated: 30-11-2022

**SOM Lab Ref**: CED/SOM/1334 (Page 2/3) Dated: 01-12-2022

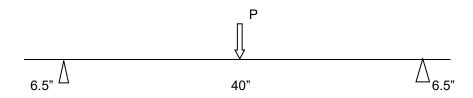
Test Type: Load Test

**Sample Type:** FRP Pultruted Square Pipe (4"x4"x6mm)

#### **Load Test Results**

Sample No.	Sample Type	Ultimate Breaking Load (kN)	Remarks
1	FRP Pultruted Square Pipe (Bending)	22.50	Pin Punches into top fiber

**Note:** Please always confirm the results on web <a href="https://www.uet-civil.edu.pk">www.uet-civil.edu.pk</a>



Test Performed by: .S. Asad Ali Gillani

Abdul Azeem Manager, Polymer Tek Gujranwala.

Client Reference No.:Nil Dated: 30-11-2022 SOM Lab Ref: CED/SOM/1334 (Page 3/3) Dated: 01-12-2022

Test Type: Load Test

**Sample Type:** FRP Pultruted Square Pipe (4"x4"x6mm)

# **Load Test Results**

Sample No.	Sample Type	Ultimate Breaking Load (kN)	Remarks
1	FRP Pultruted Square Pipe (Buckling)	400.0	Buckling & Delamination

**Note:** Please always confirm the results on web <u>www.uet-civil.edu.pk</u>