Muhammad Waseem
PM Ittefaq Building Solution (Pvt)Ltd.Lahore

Test Performed By: **Dr. /Engr.** Wasim Abbas

Client Reference: IBS/Master Textile Raiwind
Dated: 13-12-2022
SOM Lab Ref: CED/SOM/1437(Page-1/1)
Dated: 20-12-2022
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^2	mm^2	kN	kN	MPa	MPa	MPa	MPa	mm	mm	%	
1	3.968	25	25.38	491	506	259.20	345.00	528	513	703	682	32.5	200	16.3	
2	0.995	12	12.71	113	127	66.00	91.20	584	521	806	720	37.5	200	18.8	
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BEND TEST:

25mm	Sample bend through 180 degrees Satisfactorily without any crack
12mm	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

M. Adeel Shafqat **Test Performed By:** **Dr. /Engr.** Wasim Abbas

PM ZSK Associates Lahore.(Swiss Mall Gulberg-Lahore)

Client Reference: Nil **SOM Lab Ref:** 1436 (Page-1/2)

Dated: 20-12-2022 **Dated:** 20-12-2022

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

Gauge 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^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.726	8	1.010	0.79	0.801	25.28	35.02	70580	69610	97750	96410	1.40	8.0	17.5	
2	1.459	6	0.739	0.44	0.429	13.51	19.98	67700	69440	100150	102710	1.20	8.0	15.0	
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BEND TEST:

# 8	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

M. Adeel Shafqat **Test Performed By:** **Dr. /Engr.** Wasim Abbas

PM ZSK Associates Lahore.(Swiss Mall Gulberg-Lahore)

Client Reference: Nil **SOM Lab Ref:** 1436 (Page-2/2)

Dated: 20-12-2022 **Dated:** 20-12-2022

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

Gauge 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^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	0.664	4	0.498	0.20	0.195	7.70	9.99	84870	87050	110160	112990	1.10	8.0	13.8	
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BEND TEST:

# 4	Sample bend through 180 degrees Satisfactorily without any crack

Note:-

Only Two Samples Received and Tested

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

Li Shi, Manager **Test Performed By:** **Dr. /Engr.** Nauman Khurram

Sinohydro Corporation Ltd.(220 Kv Transmission Lines associated With Lahore North substation)

Client Reference: ABD-301B/2018/562 **SOM Lab Ref:** 1438 (Page-1b/1)

Dated: 17-12-2022 **Dated:** 20-12-2022

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

Gauge 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^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	0.672	4	0.501	0.20	0.197	6.19	8.51	68230	69270	93860	95290	1.30	8.0	16.3	
2	0.674	4	0.502	0.20	0.198	6.29	8.51	69360	70060	93860	94810	1.40	8.0	17.5	
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Witnessed By: M.Zahid Sharif (Jn Engr.Barqaab Nespak JV)

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

Li Shi, Manager **Test Performed By:** **Dr. /Engr.** Nauman Khurram

Sinohydro Corporation Ltd.(220 Kv Transmission Lines associated With Lahore North substation)

Client Reference: ABD-301B/2018/562 **SOM Lab Ref:** 1438 (Page-1a/1)

Dated: 17-12-2022 **Dated:** 20-12-2022

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

Gauge 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^2	in^2	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	3.097	9	1.076	1.00	0.910	27.01	39.93	59580	65470	88060	96770	1.80	8.0	22.5	
2	3.232	9	1.100	1.00	0.950	30.94	42.53	68230	71830	93800	98730	1.20	8.0	15.0	
3	3.301	9	1.111	1.00	0.970	23.11	33.97	50970	52550	74910	77230	1.80	8.0	22.5	
4	3.076	9	1.073	1.00	0.904	21.94	31.98	48380	53520	70530	78020	1.70	8.0	21.3	
5	2.640	8	0.994	0.79	0.776	22.91	33.51	63950	65100	93540	95230	1.50	8.0	18.8	
6	2.627	8	0.991	0.79	0.772	22.80	33.76	63660	65150	94250	96450	1.50	8.0	18.8	
7	1.519	6	0.754	0.44	0.446	13.22	18.86	66270	65380	94530	93260	1.20	8.0	15.0	
8	1.495	6	0.748	0.44	0.439	13.07	19.62	65510	65660	98360	98580	1.50	8.0	18.8	
9	1.521	6	0.754	0.44	0.447	13.43	19.95	67290	66240	99990	98430	1.40	8.0	17.5	
10	1.525	6	0.755	0.44	0.448	12.97	19.69	65000	63830	98720	96950	1.50	8.0	18.8	

Witnessed By: M.Zahid Sharif (Jn Engr.Barqaab Nespak JV)

BEND TEST:

# 9	Sample bend through 180 degrees Satisfactorily without any crack
# 9	Sample bend through 180 degrees Satisfactorily without any crack
# 8	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 Fifteen Samples Received and Tested

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

Kamran Tahir Sandhu,ME **Test Performed By:** **Dr. /Engr.** Wasim Abbas

Planning Branch DHA Multan.(Const of Electrical Infrastructure Dev SecV,T and N)(M/S FESCON)

Client Reference: 701/92/Planning/DHA **SOM Lab Ref:** 1439 (Page-1/1)

Dated: 20-12-2022 **Dated:** 20-12-2022

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

Gauge Length: 8 inch **Sample Type:** Deformed Bar (FF 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	14.39	21.51	72150	72810	107810	108800	1.20	8.0	15.0	
2	1.496	6	0.748	0.44	0.440	14.24	21.38	71380	71380	107150	107150	1.10	8.0	13.8	
3	1.040	5	0.624	0.31	0.306	9.35	13.78	66500	67370	98050	99330	1.20	8.0	15.0	
4	1.023	5	0.619	0.31	0.301	9.28	13.53	66000	67970	96240	99120	1.30	8.0	16.3	
5	0.678	4	0.503	0.20	0.199	6.37	9.19	70260	70610	101390	101900	1.10	8.0	13.8	
6	0.678	4	0.503	0.20	0.199	6.63	8.97	73070	73440	98920	99420	1.40	8.0	17.5	
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BEND TEST:

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

Associate Consulting Engineers
(ACE)

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

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

Client Reference: ER/UAEET/ACE/2022/125

Dated: 20-12-2022

SOM Lab Ref: 1441 (Page-1/1)

Dated: 20-12-2022

Test: Tension Test & Bend Test

Test Specification: ASTM-A-615

Gauge Length: 8 inch

Sample Type: Deformed Bar (AF 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	1.523	6	0.755	0.44	0.448	14.53	19.52	72810	71510	97850	96100	1.20	8.0	15.0	
2	1.532	6	0.757	0.44	0.450	15.14	19.93	75880	74190	99890	97670	1.10	8.0	13.8	
3	1.518	6	0.754	0.44	0.446	15.09	19.88	75620	74610	99640	98300	1.10	8.0	13.8	
4	1.525	6	0.755	0.44	0.448	15.39	20.13	77160	75780	100910	99110	1.30	8.0	16.3	
5	1.523	6	0.755	0.44	0.448	15.24	20.10	76390	75020	100760	98960	1.10	8.0	13.8	
6	1.526	6	0.755	0.44	0.448	15.30	20.05	76700	75330	100500	98710	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
# 6	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

Test Performed by: Dr. S. Asad Ali Gillani

Khan Muhammad
RE M/S Umar Munshi Associates,
Islamabad.
Project:Construction Of Bharakahu Bypass Road,Islamabad.

Reference No.: BKB/Lab-01/001/024 Dated: 19-12-2022
SOM Lab Ref: CED/SOM/1434(Page-1/1) Dated: 20-12-2022

Test: Tensile Test, Elongation at Break, Tear Test, Hardness Test & Comp. Set Test

Sample Type: Expansion Joint (Rubber)

TENSILE STRENGTH AND ELONGATION TEST. (AS PER ASTM-D-412)

S. No	**Sample Size (mm)**	**Ultimate Load (kN)**	**Tensile Strength (Mpa)**	**Tensile Strength (kg/cm^2)**	**Elongation at Break**(%)
1	5.0 x 3.0	0.22	14.6	149.55	440.0
2	5.0 x 3.2	0.25	15.6	159.32	460.0

TEAR STRENGTH (AS PER ASTM-D-624)

S. No	**Sample Size (mm)**	**Ultimate Load (kN)**	**Tear Strength (N/mm)**
1	7.3 x 3.7	0.17	45.9
2	7.3 x 3.7	0.15	40.5

- COMPRESSION SET TEST (AS PER ASTM-D-395)

S. No.	**Thickness of Sample (mm)**	**Final Thickness (mm)**	**Compression set (%)**
1	3.50	3.34	4.57

- HARDNESS TEST (AS PER ASTM-D-2240)

S. No	**Sample Type**	**Hardness (Shore A)**
1	Elastomeric Bearing Pad	46.3

Test Performed by: Dr. S. Asad Ali Gillani

Khan Muhammad
RE M/S Umar Munshi Associates,
Islamabad.
Project:Construction Of Bharakahu Bypass Road,Islamabad.

Reference No.: BKB/Lab-01/001/001 Dated: 19-12-2022
SOM Lab Ref: CED/SOM/1435(Page-1/1) Dated: 20-12-2022

Test: Tensile Test, Elongation at Break, Tear Test, Hardness Test & Comp. Set Test

Sample Type: Elastomeric Bearing Pad (Afleen Gendex (Turkey))

TENSILE STRENGTH AND ELONGATION TEST. (AS PER ASTM-D-412)

S. No	**Sample Size (mm)**	**Ultimate Load (kN)**	**Tensile Strength (Mpa)**	**Tensile Strength (kg/cm^2)**	**Elongation at Break**(%)
1	4.7 x 2.1	0.22	22.2	227.2	500.0
2	4.8 x 2.4	0.25	21.7	221.2	520.0

TEAR STRENGTH (AS PER ASTM-D-624)

S. No	**Sample Size (mm)**	**Ultimate Load (kN)**	**Tear Strength (N/mm)**
1	13.4 x 7.0	0.18	25.71
2	13.4 x 7.0	0.20	28.50

- COMPRESSION SET TEST (AS PER ASTM-D-395)

S. No.	**Thickness of Sample (mm)**	**Final Thickness (mm)**	**Compression set (%)**
1	3.00	2.74	8.60

- HARDNESS TEST (AS PER ASTM-D-2240)

S. No	**Sample Type**	**Hardness (Shore A)**
1	Elastomeric Bearing Pad	62.3

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

Kamran Tahir Sandhu

ME DHA Multan.

(Electrical Infrastructure Development Sector V,T and N (M/S FESCON)

Client Reference: 701/92/Planning/DHA Dated: 20-12-2022

SOM Lab Ref: CED/SOM/1440(Page-1/2) Dated: 20-12-2022

Test: Tension Test **Test Specification:** ASTM-F -1554

Sample Type: Anchor- Bolt (Y-Shaped) **Gauge Length:** 50 mm

S.No.	Diameter	Area	Yield Load	Ultimate Load	Yield Stress	Ultimate. Stress	Elongation	Gauge Length	%age Elongation	Reduction of Area (%)
	mm	mm^2	kN	kN	MPa	MPa	mm	mm	%	
1	12	113.09	37.0	48.7	327.3	430.8	12.5	50	25.0	42.5

	(L 250mm)									
2	12 (L 250mm)	113.09	39.0	58.7	345.0	519.3	15.0	50	30.0	40.0
3	12 (L 250mm)	113.09	45.4	83.0	401.6	734.3	10.0	50	20.0	41.6

		Note:-
		Only Three Samples Received and Tested

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

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

Kamran Tahir Sandhu

ME DHA Multan.

(Electrical Infrastructure Development Sector V,T and N (M/S FESCON)

Client Reference: 701/92/Planning/DHA **Dated:** 20-12-2022

SOM Lab Ref: CED/SOM/1440(Page-2/2) **Dated:** 20-12-2022

Test: Tension Test **Test Specification:** ASTM-F -1554

Sample Type: Anchor- Bolt (J-Shaped) **Gauge Length:** 200 mm

S.No.	Diameter	Area	Yield Load	Ultimate Load	Yield Stress	Ultimate. Stress	Elongation	Gauge Length	%age Elongation	Reduction of Area (%)
	mm	mm^2	kN	kN	MPa	MPa	mm	mm	%	
1	25 (L 956mm)	490.87	173.0	257.5	352.43	524.57	50.0	200	25.0	33.6
2	25 (L 956mm)	490.87	170.0	248.7	346.32	506.65	52.5	200	26.3	30.4
3	25 (L 956mm)	490.87	178.0	277.5	362.62	656.32	45.0	200	22.5	19.6

Note:-

Only Three Samples Received and Tested

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

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

Kaleem Iftikhar

Sammar International Sialkot

Client Reference: Nil **Dated:** 20-12-2022

SOM Lab Ref: CED/SOM/1442(Page-1/1) **Dated:** 20-12-2022

Test: Tension Test

Sample Type: Plain Wire (Steel 316L) **Gauge Length:** 50 mm

S.No.	Measured Diameter	Area	Yield Load	Ultimate Load	Yield Stress	Ultimate. Stress	Elongation	Gauge Length	%age Elongation	Remarks
	mm	mm^2	kN	kN	MPa	MPa	mm	mm	%	
3	3.5	9.62	5.2	6.5	540.54	675.67	20.0	50	40.0	
4	4.5	15.90	8.2	10.2	515.72	641.50	17.0	50	35.0	