Haris & Company, **Test Performed By:** Dr. /Engr. **S. Asad Ali Gillani**

Lahore (Project: Edotco B2S Project)

Client Reference: nil **Dated:** nil

SOM Lab Ref: CED/SOM/1565(Page-1/1) **Dated:** 14-10-2019

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	3.861	25	25.03	491	492	252.00	339.70	513	513	692	691	30.0	200	15.0	
2	2.154	20	18.69	314	274	141.00	188.50	449	514	600	687	32.5	200	16.3	
3	1.513	16	15.66	201	193	100.00	137.50	497	519	684	714	27.5	200	13.8	
4	0.881	12	11.95	113	112	51.50	74.50	455	459	659	664	30.0	200	15.0	
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BEND TEST:

25mm	Sample bend through 180 degrees Satisfactorily without any crack
20mm	Sample bend through 180 degrees Satisfactorily without any crack
16mm	Sample bend through 180 degrees Satisfactorily without any crack
12mm	Sample bend through 180 degrees Satisfactorily without any crack

Note:-

Only Eight Samples Received and Tested

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

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

Senior Site Engineer, PA-Chem Global (Pvt) Ltd.

Client Reference: **300/PGL/14102019/01** **Dated:** **nil**

SOM Lab Ref: **CED/SOM/1600(Page-1/1)** **Dated:** **18-10-2019**

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

Sample Type: **Deformed Steel 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	3.951	25	25.31	491	503	226.50	302.00	461	451	615	601	35.0	200	17.5	
2	3.949	25	25.31	491	503	249.70	326.20	509	497	665	649	30.0	200	15.0	
3	3.893	25	25.13	491	496	334.00	388.70	680	674	792	784	25.0	200	12.5	
4	3.788	25	24.79	491	483	258.70	321.70	527	537	655	667	27.5	200	13.8	
5	0.869	12	11.87	113	111	58.70	81.00	519	531	716	732	22.5	200	11.3	
6	0.881	12	11.95	113	112	56.50	78.20	500	504	691	697	20.0	200	10.0	
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BEND TEST:

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

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

Senior Resident Engineer, ProMag (Pvt) Ltd Site Office - DHA, Mattital Road, Multan

Client Reference: CRE/Villas/341 **Dated:** 12-10-2019

SOM Lab Ref: CED/SOM/1563(Page-1/1) **Dated:** 14-10-2019

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

Sample Type: Deformed Bar(FF Steel) **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	3.938	25	25.28	491	502	256.00	349.70	522	510	712	697	37.5	200	18.8	
2	4.004	25	25.48	491	510	261.70	356.50	533	514	726	699	40.0	200	20.0	
3	2.234	20	19.03	314	285	162.00	215.50	516	570	686	758	32.5	200	16.3	
4	2.235	20	19.04	314	285	149.00	190.70	474	524	607	670	35.0	200	17.5	
5	1.541	16	15.81	201	196	100.50	131.70	500	513	655	671	32.5	200	16.3	
6	1.529	16	15.75	201	195	102.20	133.70	508	525	665	687	30.0	200	15.0	
7	0.968	12	12.53	113	123	65.20	84.20	576	529	744	683	32.5	200	16.3	
8	0.980	12	12.61	113	125	64.20	86.20	568	515	762	691	30.0	200	15.0	
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BEND TEST:

25mm	Sample bend through 180 degrees Satisfactorily without any crack
20mm	Sample bend through 180 degrees Satisfactorily without any crack
16mm	Sample bend through 180 degrees Satisfactorily without any crack
12mm	Sample bend through 180 degrees Satisfactorily without any crack

Note:-

Only Twelve Samples Received and Tested

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

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

754 Const Team Engrs, FWO C/O Sigsen Center Multan Cantt.

Client Reference: **607/Lab/HMC/012** **Dated:** **14-10-2019**

SOM Lab Ref: **CED/SOM/1567 (Page-1/1)** **Dated:** **14-10-2019**

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

Sample Type: **Deformed Bar(Ittefaq Steel)** **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	3.938	25	25.28	491	502	330.90	383.70	674	660	782	765	25.0	200	12.5	
2	3.883	25	25.10	491	495	348.00	402.00	709	704	819	813	25.0	200	12.5	
3	3.819	25	24.89	491	487	229.00	305.70	467	471	623	629	45.0	200	22.5	
4	3.816	25	24.88	491	486	229.00	306.00	467	472	623	630	42.5	200	21.3	
5	2.172	19	18.77	284	277	161.00	193.70	568	582	683	701	32.5	200	16.3	
6	2.175	19	18.78	284	277	164.00	189.50	578	592	668	684	25.0	200	12.5	
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BEND TEST:

25mm	Sample bend through 180 degrees Satisfactorily without any crack
25mm	Sample bend through 180 degrees Satisfactorily without any crack
19mm	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

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

Ibrahim Fibres Limited. Faisal;abad

Client Reference: **IFL/** **SOM Lab Ref:** **1564 (Page-1/1)**

Dated: **13-10-2019** **Dated:** **14-10-2019**

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

Gauge Length: **8 inch** **Sample Type:** **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	2.570	8	0.980	0.79	0.755	21.41	34.25	59760	62530	95620	100050	1.50	8.0	18.8	
2	2.566	8	0.980	0.79	0.754	21.25	33.94	59340	62170	94770	99290	1.40	8.0	17.5	
3	1.487	6	0.746	0.44	0.437	15.55	19.42	77920	78460	97340	98010	1.20	8.0	15.0	
4	1.463	6	0.740	0.44	0.430	13.88	18.27	69590	71210	91560	93690	1.20	8.0	15.0	
5	0.659	4	0.497	0.20	0.194	6.01	8.74	66320	68370	96340	99310	0.90	8.0	11.3	
6	0.685	4	0.506	0.20	0.201	6.49	9.19	71610	71250	101390	100890	1.50	8.0	18.8	
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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
# 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

Ali Raza Qureshi
Project Director (HVDC), NTDC Lahore

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

Client Reference: **2044-48/PD/HVDC/NTDC.LHR**
Dated: **14-10-2019**

SOM Lab Ref: **1566(Page-1/2)**
Dated: **14-10-2019**

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

Gauge Length: **8 inch**
Sample Type: **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	2.695	8	1.004	0.79	0.792	26.91	34.88	75130	74940	97380	97140	1.40	8.0	17.5	
2	2.677	8	1.001	0.79	0.787	26.91	34.88	75130	75420	97380	97760	1.50	8.0	18.8	
3	2.688	8	1.003	0.79	0.790	26.42	34.35	73770	73770	95900	95900	1.40	8.0	17.5	
4	0.670	4	0.501	0.20	0.197	7.14	9.58	78690	79890	105670	107270	1.00	8.0	12.5	
5	0.668	4	0.500	0.20	0.196	7.19	9.48	79250	80870	104540	106670	0.90	8.0	11.3	
6	0.657	4	0.496	0.20	0.193	6.90	9.17	76100	78860	101170	104840	0.90	8.0	11.3	
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Witnessed By: M Abbas OE, M. Umair Asalam, DM (HVDC) NTDC, & Dr Ali Asnan CET Lot (7-8)

BEND TEST:

# 8(S.1,2)	Sample bend through 180 degrees Satisfactorily without any crack
# 8(S.3)	Sample bend through 180 degrees Satisfactorily without any crack
# 4(S.4,5)	Sample bend through 180 degrees Satisfactorily without any crack
# 4(S. 6)	Sample bend through 180 degrees Satisfactorily without any crack

Note:-

Only Twelve Samples Received and Tested

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

Ali Raza Qureshi
Project Director (HVDC), NTDC Lahore

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

Client Reference: **2044-48/PD/HVDC/NTDC.LHR**
Dated: **14-10-2019**

SOM Lab Ref: **1566(Page-2/2)**
Dated: **14-10-2019**

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

Gauge Length: **8 inch**
Sample Type: **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	1.039	5	0.623	0.31	0.305	10.35	13.78	73610	74820	98050	99660	1.10	8.0	13.8	
2	1.025	5	0.619	0.31	0.301	11.06	13.91	78690	81040	98990	101950	1.00	8.0	12.5	
3	1.031	5	0.621	0.31	0.303	9.55	13.07	67960	69530	92970	95120	1.10	8.0	13.8	
4	1.037	5	0.623	0.31	0.305	8.94	12.49	63600	64650	88840	90300	1.10	8.0	13.8	
5	1.022	5	0.618	0.31	0.300	9.33	12.84	66360	68570	91380	94420	1.20	8.0	15.0	
6	1.022	5	0.618	0.31	0.300	8.84	12.39	62880	64970	88120	91050	1.40	8.0	17.5	
7	1.012	5	0.615	0.31	0.297	10.16	13.35	72310	75470	95000	99160	1.10	8.0	13.8	
8	1.025	5	0.619	0.31	0.301	10.16	13.43	72310	74470	95510	98370	1.20	8.0	15.0	1.2
9	1.030	5	0.621	0.31	0.303	8.92	12.49	63460	64930	88840	90890	1.20	8.0	15.0	
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Witnessed By: M Abbas OE, M. Umair Asalam, DM (HVDC) NTDC, & Dr Ali Asnan CET Lot (7-8)

BEND TEST:

# 5(S.1,2)	Sample bend through 180 degrees Satisfactorily without any crack
# 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
# 5(S. 9)	Sample bend through 180 degrees Satisfactorily without any crack

Note:-

Only Eighteen Samples Received and Tested

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

Deputy Director (QCD)
WASA, LDA, Lahore

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

Client Reference: **QCD/ 1335-36**
Dated: **12-10-2019**

SOM Lab Ref: **1568(Page-1/2)**
Dated: **14-10-2019**

Test: **Tension Test & Bend Test** **Test Specification:** **ASTM-A-615**
Guage 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	0.577	4	0.465	0.20	0.170	6.01	9.14	66320	78030	100830	118620	0.90	8.0	11.3	
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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

Deputy Director (QCD)
WASA, LDA, Lahore

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

Client Reference: **QCD/ 1337-38**
Dated: **12-10-2019**

SOM Lab Ref: **1568(Page-2/2)**
Dated: **14-10-2019**

Test: **Tension Test & Bend Test** **Test Specification:** **ASTM-A-615**
Guage 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	0.611	4	0.479	0.20	0.180	4.51	6.93	49690	55210	76440	84930	1.00	8.0	12.5	
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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

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

GM, Professional Construction Services (Pvt) Ltd. Lahore

Client Reference: **PCS/19/Eng-71** **SOM Lab Ref:** **1569(Page-1/2)**

Dated: **14-10-2019** **Dated:** **14-10-2019**

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

Guage 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	0.658	4	0.496	0.20	0.193	5.40	8.05	59580	61740	88800	92030	1.30	8.0	16.3	
2	0.649	4	0.493	0.20	0.191	4.89	6.83	53960	56500	75320	78860	1.60	8.0	20.0	
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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

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

GM, Professional Construction Services (Pvt) Ltd. Lahore

Client Reference: **PCS/19/Eng-72** **SOM Lab Ref:** **1569(Page-2/2)**

Dated: **14-10-2019** **Dated:** **14-10-2019**

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

Guage 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	1.043	5	0.625	0.31	0.307	9.79	13.48	69620	70300	95880	96810	1.10	8.0	13.8	
2	1.055	5	0.628	0.31	0.310	9.12	13.00	64910	64910	92470	92470	1.40	8.0	17.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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