

DCRE

Test Performed By:

Dr. /Engr.

S. Asad Ali
Gillani

Zeeruk International (Pvt) Ltd. Lahore Sialkot Motorway Project

Client Reference: LSMP/RE-II/St/19/345

Dated: 05-07-2019

SOM Lab Ref: CED/SOM/1072 (Page-2/2)

Dated: 09-07-2019

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Sample Type: Deformed Bar(Mughal 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	3.848	25	24.98	491	490	274.00	340.50	558	560	694	695	30.0	200	15.0	
2	3.813	25	24.87	491	486	262.50	336.00	535	541	684	692	27.5	200	13.8	
3	3.869	25	25.05	491	493	274.00	345.20	558	556	703	701	27.5	200	13.8	
4	2.434	20	19.87	314	310	151.70	200.50	483	490	638	647	30.0	200	15.0	
5	2.450	20	19.93	314	312	156.00	203.20	497	500	647	652	30.0	200	15.0	
6	2.431	20	19.86	314	310	155.50	203.70	495	503	648	658	27.5	200	13.8	
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BEND TEST:

25mm	Sample bend through 180 degrees Satisfactorily without any crack	Note:- Only Eight Samples Received and Tested
20mm	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

DCRE

Test Performed By:

Dr. /Engr.

S. Asad Ali
Gillani

Zeeruk International (Pvt) Ltd. Lahore Sialkot Motorway Project

Client Reference: LSMP/RE-II/St/19/345

Dated: 05-07-2019

SOM Lab Ref: CED/SOM/1072 (Page-1/2)

Dated: 09-07-2019

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Sample Type: Deformed Bar(Mughal 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	1.529	16	15.76	201	195	102.50	126.00	510	526	627	647	25.0	200	12.5	
2	1.532	16	15.77	201	195	105.20	129.00	523	539	642	661	27.5	200	13.8	
3	1.539	16	15.80	201	196	105.00	129.20	522	536	643	660	30.0	200	15.0	
4	0.872	12	11.89	113	111	65.50	78.00	579	590	690	703	35.0	200	17.5	
5	0.900	12	12.08	113	115	65.00	78.70	575	567	696	687	32.5	200	16.3	
6	0.903	12	12.10	113	115	65.70	79.20	581	572	700	689	35.0	200	17.5	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

BEND TEST:

16mm	Sample bend through 180 degrees Satisfactorily without any crack	Note:- Only Eight Samples Received and Tested
12mm	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

Karamat Ali
 AB Contractor Builder and Civil Engineer, Lahore

Test Performed By: Dr. /Engr.

S. Asad Ali
Gillani

Client Reference: ABC/2019/09-07/01

SOM Lab

Ref: 1064 (Page-1/1)

Dated: 09-07-2019

Dated: 09-07-2019

Test: Tension 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	2.642	8	0.994	0.79	0.776	28.85	36.77	80540	81990	102650	104500	1.30	8.0	16.3	
2	2.636	8	0.993	0.79	0.775	26.91	35.29	75130	76590	98520	100430	1.10	8.0	13.8	
3	1.509	6	0.751	0.44	0.443	17.60	21.38	88240	87640	107150	106420	1.00	8.0	12.5	
4	1.490	6	0.747	0.44	0.438	17.28	21.00	86610	87000	105260	105740	1.10	8.0	13.8	
5	0.656	4	0.496	0.20	0.193	5.30	8.46	58460	60580	93300	96680	1.00	8.0	12.5	
6	0.655	4	0.494	0.20	0.192	5.35	8.51	59020	61480	93860	97770	1.00	8.0	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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BEND TEST:

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

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

Abdul Ghafar
Project Manager Liberty Builders, Lahore

Test Performed By: Dr. /Engr. M Irfan ul Hassan

Client Reference: CONC - 20190709

SOM Lab

Ref: 1065(Page-1/1)

Dated: 09-07-2019

Dated: 0907-2019

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar(Model 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	2.609	8	0.988	0.79	0.767	26.50	33.20	73990	76210	92690	95470	1.30	8.0	16.3	
2	2.594	8	0.985	0.79	0.762	26.88	34.25	75050	77800	95620	99130	1.40	8.0	17.5	
3	2.574	8	0.981	0.79	0.756	25.96	33.03	72480	75740	92210	96350	1.20	8.0	15.0	
4	1.475	6	0.743	0.44	0.433	16.43	20.46	82370	83700	102550	104210	1.00	8.0	12.5	
5	1.467	6	0.741	0.44	0.431	17.07	19.88	85590	87370	99640	101720	1.00	8.0	12.5	
6	1.489	6	0.747	0.44	0.438	19.98	22.94	100150	100600	114960	115490	1.10	8.0	13.8	
7	0.643	4	0.491	0.20	0.189	7.16	9.23	78910	83510	101730	107650	1.10	8.0	13.8	
8	0.649	4	0.493	0.20	0.191	7.54	9.63	83180	87100	106230	111230	1.10	8.0	13.8	
9	0.647	4	0.492	0.20	0.190	7.19	9.12	79250	83420	100610	105900	1.00	8.0	12.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

BEND TEST:

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

Shahzad Munir
Resident Engineer, G 3 Engineering Consultants (Pvt) Ltd. Lahore

Test Performed By: Dr. /Engr.

S Asad ali
Gillani

Client Reference: G3/224/RE-35

SOM Lab

Ref: 1066-(Page-1/1)

Dated: 09-07-2019

Dated: 09-07-2019

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	2.612	8	0.989	0.79	0.768	24.18	36.56	67500	69440	102080	105000	1.20	8.0	15.0	
2	2.645	8	0.995	0.79	0.777	23.11	35.58	64520	65600	99320	100980	1.30	8.0	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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BEND TEST:

# 8	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

Maj Mansoor Khaliq
 General Manager, H. Sadar Ali Akhtar Ali (Pvt) Ltd. Hallki, Lahore

Test Performed By: Dr. /Engr.

S. Asad Ali
Gillani

Client Reference: nil

Dated: 09-07-2019

Test: Tension Test

Gauge Length: 8 inch

Test Specification:

Sample Type:

SOM Lab

Ref: 1071 (Page-1/1)

Dated: 09-07-2019

ASTM-A-615

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	0.643	4	0.491	0.20	0.189	6.09	7.97	67110	71020	87910	93020	1.00	8.0	12.5	
2	0.649	4	0.493	0.20	0.191	5.98	7.95	65990	69100	87680	91810	1.10	8.0	13.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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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

Muhammad Asif Inrahim
 Managing Partner, The Signatures ,(Project: MCB Mehrapur Branch, Sukkar

Test Performed By: Dr. /Engr. Amna Rajput

Client Reference: nil

SOM Lab

Ref: 1073(Page-1/1)

Dated: 09-07-2019

Dated: 09-07-2019

Test: Tension Test & Bend Test

Test Specification:

BS-4449

Gauge Length: 4, 3 inch

Sample Type:

Tor
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	1.507	6	0.751	0.44	0.443	10.87	14.50	54500	54130	72660	72170	1.00	4.0	25.0	
2	0.685	4	0.506	0.20	0.201	5.58	7.56	61490	61180	83410	82990	0.70	3.0	23.3	
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BEND TEST:

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

Furqan Ali Malik
 Chief Resident Engineer, Package -I, NESPAK, (Pvt) Ltd. Lahore

Test Performed By: Dr. /Engr. M Irfan ul Hassan

Client Reference: 4042/13/FAM/Steel-032-A

SOM Lab
 Ref: 1074,75(Page-1/1)

Dated: 09-07-2019

Dated: 09-07-2019

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (Afco 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	0.637	4	0.488	0.20	0.187	5.56	7.96	61270	65520	87730	93820	1.50	8.0	18.8	
2	0.646	4	0.492	0.20	0.190	5.58	8.33	61490	64730	91840	96670	1.40	8.0	17.5	
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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

Test Performed by: Dr. S. Asad Ali Gillani

HYO-CHANG YOON
Project Manager
DAELIM-LOTTE
Bahria Town, ISLAMABAD
(Project: 102MW Gulpur Hydropower Project)

Client Reference No.: DLJV-OT-QT-183

Dated: 06-07-2019

SOM Lab Ref: CED/SOM/1068(Page-1/1)

Dated: 09-07-2019

Test: Tensile Test, Tear Strength Test, Hardness Test & Comp. Set Test

Sample Type: Expansion Joint

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	3.0 x 6.7	0.70	34.825	355.11	580

-- TEAR STRENGTH (AS PER ASTM-D-624)

S. No	Sample Size (mm)	Ultimate Load (kN)	Tear Strength (N/mm)	Tear Strength (Kg/cm)
1	3.0 x 12	0.25	83.33	84.976

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

S. No.	Thickness of Sample (mm)	Final Thickness (mm)	Compression set (%)
1	3.10	3.07	0.967

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

S. No	Sample Type	Hardness (Shore A)
1	Expansion Joint	45.83

Test Performed by: Dr. S. Asad Ali Gillani

Lt. Col. (R) Muhammad Farooq Khan
Resident Engineer
BTK Interchang Project (M- 9)
Exponent Engineers (Pvt) Ltd.

Client Reference No.: RE/EE/BTK-IC/2018/377
SOM Lab Ref: CED/SOM/1069(Page-1/1)

Dated: 26-06-2019
Dated: 09-07-2019

Test: Tensile Test, Tear Strength Test, Hardness Test & Comp. Set Test

Sample Type: Expansion Joint

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	2.9 x 6.7	0.53	27.277	278.147	480

-- TEAR STRENGTH (AS PER ASTM-D-624)

S. No	Sample Size (mm)	Ultimate Load (kN)	Tear Strength (N/mm)	Tear Strength (Kg/cm)
1	2.9 x 15	0.23	79.310	80.873

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

S. No.	Thickness of Sample (mm)	Final Thickness (mm)	Compression set (%)
1	2.90	2.87	1.034

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

S. No	Sample Type	Hardness (Shore A)
1	Expansion Joint	46.5

Test Performed by: Dr. S. Asad Ali Gillani

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

Client Reference No.: 310/CRE/QAT/SMP/2019

Dated: 05-07-2019

SOM Lab Ref: CED/SOM/1070(Page-1/1)

Dated: 09-07-2019

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

Sample Type: Expansion Joint (Elastomer Rubber Sealant)

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	2.0 x 6.0	0.20	16.667	169.95	540

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

S. No.	Thickness of Sample (mm)	Final Thickness (mm)	Compression set (%)
1	3.40	3.37	0.882

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

S. No	Sample Type	Hardness (Shore A)
1	Expansion Joint	46.33