Client: Mr. Md. Golam Mowla
QC Manager
Shahriar Steel Mills Limited
Konapara, Jatrabari
Dhaka 1362

Client's Reference: Nil; Date 04/03/2020
BRTC Reference: 1102-09488/MME/2019-20; Date 04/03/2020
Sample Condition: Not Sealed

Date: 09 March 2020
MME No: **0956(11)**/2019-20

TEST OF DEFORMED M.S. REBAR

Frog Mark/ Description	Sample No.	Bar Designation / Nominal Dia	Actual Diameter	Weight/ Length	Average Weight/ Length	Yield Load	Yield Strength, R_{eL}	Average Yield Strength	Tensile Load	Tensile Strength, R_m	Average Tensile Strength	R_m/R_{eL}	Elongation (G.L. 5D)	Average Elongation	Elongation at Maximum Force, A_{gt}	Bend Test (Separate Samples)	Re-Bend Test (Separate Samples)
		mm	mm	kg/m	kg/m	kN	MPa	MPa (psi)	kN	MPa	MPa (psi)		%	%	%		
SSRM TMT 500W 20	1	20	19.91	2.444	**2.443**	158.82	506	**532 (77000)**	199.43	635	**656 (95000)**	1.25	21	**18**	10	Satisfactory	Satisfactory
	2	20	19.97	2.459		166.11	529		204.13	650		1.23	19		9	Satisfactory	Satisfactory
	3	20	19.84	2.427		176.11	561		214.80	684		1.22	15		5	Satisfactory	Satisfactory

* Strength values are calculated based on nominal area.

Weight Requirements and Nominal Cross-Sectional Area for Steel Rebar (As Per BDS ISO 6935-2 2016 Table 2)

Bar Designation Number/Nominal Bar Diameter, mm	6	8	10	12	16	20	25	28	32	40
Nominal Mass per Unit Length, kg/m	0.222	0.395	0.617	0.888	1.58	2.47	3.85	4.84	6.31	9.86
Permissible Variation of Nominal Mass per Unit Length, %	±8	±8	±6	±6	±5	±5	±4	±4	±4	±4
Nominal Cross-Sectional Area, mm^2	28.3	50.3	78.5	113	201	314	491	616	804	1257

Minimum Tensile Requirements for Steel Rebar (As Per BDS ISO 6935-2 2016 Table 6)

Steel Grade	Upper Yield Strength R_{eH} MPa		Ductility Properties R_m/R_{eH}	A %	A_{gt} %
	Minimum	Maximum	Minimum	Minimum	Minimum
B400C-R / B400CWR	400	-	1.15	14	7
B500C-R / B500CWR	500	-			
B400DWR	400	1.3 x R_{eH} (min.)	1.25	17	8
B420DWR	420			16	
B500DWR	500			13	

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Fahmida 09.03.2020
Dr. Fahmida Gulshan
Professor and Head

Please note: *The client supplied the sample and the result given herewith corresponds to the sample tested only. The Department of Materials and Metallurgical Engineering of BUET takes no responsibility regarding the misidentification, if any, of the sample.*

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