

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(05)/2019-20

TEST OF DEFORMED M.S. REBAR

Frog Mark/ Description	Sample No.	Bar	Actual Dia	Unit Weight	Average Unit Weight	Yield Load	Yield Strength	Average Yield Strength	Tensile Load	Tensile Strength	Average Tensile Strength	TS/YS Ratio	Elongation (G.L. 200 mm)	Average Elongation	Bend Test (Separate Samples)																																																																																																							
		Designation / Nominal Dia														mm	kg/m	kg/m	KN	MPa	MPa (psi)	KN	MPa	MPa (psi)	%	%	Remark																																																																																											
SSRM RB 400 25	1	25	24.87	3.814	3.824	210.28	428	433 (63000)	332.85	678	677 (98000)	1.58	20	20	Satisfactory																																																																																																							
	2	25	24.91	3.827		214.06	436		332.68	678		1.56	20		Satisfactory																																																																																																							
	3	25	24.93	3.832		213.17	434		331.18	675		1.56	21		Satisfactory																																																																																																							
	<p>Weight Requirements for Steel Rebar (As Per ASTM A615/A615M—16 Table A1.1)</p> <table border="1"> <thead> <tr> <th>Bar Designation Number/Nominal Dia., mm</th> <th>10</th> <th>12</th> <th>16</th> <th>20</th> <th>25</th> <th>28</th> <th>32</th> <th>36</th> <th>40</th> <th>50</th> <th>60</th> </tr> </thead> <tbody> <tr> <td>Nominal Weight, kg/m</td> <td>0.617</td> <td>0.888</td> <td>1.578</td> <td>2.486</td> <td>3.853</td> <td>4.834</td> <td>6.313</td> <td>7.990</td> <td>9.865</td> <td>15.410</td> <td>22.200</td> </tr> </tbody> </table> <p>* Measured unit weight shall not be less than 94% of the nominal weight.</p>																Bar Designation Number/Nominal Dia., mm	10	12	16	20	25	28	32	36	40	50	60	Nominal Weight, kg/m	0.617	0.888	1.578	2.486	3.853	4.834	6.313	7.990	9.865	15.410	22.200																																																																														
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<p>Minimum Tensile Requirements for Steel Rebar (As Per ASTM A615/A615M—16 Table A1.2)</p> <table border="1"> <thead> <tr> <th rowspan="2">Grade</th> <th colspan="3">ASTM A615</th> <th colspan="3">ASTM A615M</th> <th colspan="6">Minimum Elongation in 8 in. (200 mm) Gauge Length, per cent</th> </tr> <tr> <th>Yield Strength</th> <th>Tensile Strength</th> <th>Grade</th> <th>Yield Strength</th> <th>Tensile Strength</th> <th>Grade</th> <th colspan="6">Bar Designation Number</th> </tr> <tr> <th>psi (MPa)</th> <th>psi (MPa)</th> <th>MPa (psi)</th> <th>MPa (psi)</th> <th>MPa (psi)</th> <th>MPa (psi)</th> <th>ASTM A615 (A615M)</th> <th>10</th> <th>12, 16</th> <th>20</th> <th>25</th> <th>28, 32, 36</th> <th>40, 50, 60</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>40,000 (280)</td> <td>60,000 (420)</td> <td>280</td> <td>280 (40,000)</td> <td>420 (60,000)</td> <td>40 (280)</td> <td>11</td> <td>12</td> <td>12</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>60</td> <td>60,000 (420)</td> <td>90,000 (620)</td> <td>420</td> <td>420 (60,000)</td> <td>620 (90,000)</td> <td>60 (420)</td> <td>9</td> <td>9</td> <td>9</td> <td>8</td> <td>7</td> <td>7</td> </tr> <tr> <td>75</td> <td>75,000 (520)</td> <td>100,000 (690)</td> <td>520</td> <td>520 (75,000)</td> <td>690 (100,000)</td> <td>75 (520)</td> <td>7</td> <td>7</td> <td>7</td> <td>7</td> <td>6</td> <td>6</td> </tr> <tr> <td>80</td> <td>80,000 (550)</td> <td>105,000 (725)</td> <td>550</td> <td>550 (80,000)</td> <td>725 (105,000)</td> <td>80 (550)</td> <td>7</td> <td>7</td> <td>7</td> <td>7</td> <td>6</td> <td>6</td> </tr> <tr> <td>100</td> <td>100,000 (690)</td> <td>115,000 (790)</td> <td>690</td> <td>690 (100,000)</td> <td>790 (115,000)</td> <td>100 (690)</td> <td>7</td> <td>7</td> <td>7</td> <td>7</td> <td>6</td> <td>6</td> </tr> </tbody> </table>																Grade	ASTM A615			ASTM A615M			Minimum Elongation in 8 in. (200 mm) Gauge Length, per cent						Yield Strength	Tensile Strength	Grade	Yield Strength	Tensile Strength	Grade	Bar Designation Number						psi (MPa)	psi (MPa)	MPa (psi)	MPa (psi)	MPa (psi)	MPa (psi)	ASTM A615 (A615M)	10	12, 16	20	25	28, 32, 36	40, 50, 60	40	40,000 (280)	60,000 (420)	280	280 (40,000)	420 (60,000)	40 (280)	11	12	12	-	-	-	60	60,000 (420)	90,000 (620)	420	420 (60,000)	620 (90,000)	60 (420)	9	9	9	8	7	7	75	75,000 (520)	100,000 (690)	520	520 (75,000)	690 (100,000)	75 (520)	7	7	7	7	6	6	80	80,000 (550)	105,000 (725)	550	550 (80,000)	725 (105,000)	80 (550)	7	7	7	7	6	6	100	100,000 (690)	115,000 (790)	690	690 (100,000)	790 (115,000)	100 (690)	7	7	7	7	6	6
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**TS/YS ratio is not required as per ASTM A615M.
 *Strength values are calculated based on nominal area.

Dr. Fahmida Gulshan
 Professor and Head

Fahmida 09.03.2020
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Please note: The client supplied the sample(s) and the result given herewith corresponds to the sample(s) tested only. Department of MME, BUET takes no responsibility regarding the misidentification, if any, of the sample(s).

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