



Mobile: 01819557964; PABX: (8802) - 55167100, 55167228-57 Ext. 7226, Info: <http://btrc.ce.buet.ac.bd/#home>, Report verification: <http://verify.ce.buet.ac.bd>

BRTC No.: 1103-02581/CE/23-24; Dt. 8/10/2023

TEST OF DEFORMED M.S. BARS (ASTM A 615M-16)
Sent by: Engr. Maksudul Karim, General Manager

Project: - - - -

Samples were received in UNSEALED condition.

Ref.: Letter, Dt. 7/10/2023
Date of Test: 9/10/2023

Sl. No.	Frog Mark / Identification	Bar Desig / Nominal dia.	Actual bar dia.	Unit Weight	Average Unit Weight	Yield or Proof Load	Yield or Proof Strength	Average Yield or Proof Strength (YS)	Tensile Load	Tensile Strength	Average Tensile Strength (TS)	TS/YS	Elongation (%) (G. length = 200 mm)	Average Elongation (%)	(See sat
		mm	mm	kg/m	kg/m	kN	MPa	MPa	kN	MPa	MPa				Sat
1	SSRM B500 DWR	10	10.0	0.613	0.617	43	545	540	59.2	750	745	1.38	14	15	Sat
2	SSRM B500 DWR	10	10.0	0.620		42	530	(78500 psi)	58.2	735	(108000 psi)		Sat		
3	SSRM B500 DWR	10	10.0	0.618		43	545		59.2	750			Sat		
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Conversion factor: $1.0 \text{ MPa} = 1.0 \text{ N/mm}^2 = 145 \text{ psi}$. Strengths are based on nominal area

ASTM A615M-16 Weight Requirements and Nominal Area of Bars Table A6.1.1														
Bar design	Nominal dia., mm	8	10	12	16	20	22	25	28	32	36	40	50	60
Nominal area, sq mm		50.3	79	113	201	314	380	491	616	804	1018	1257	1963	2827
		0.205	0.457	0.888	1.578	2.466	2.98	3.853	4.834	6.313	7.99	9.865	15.41	22.2

Measured unit weight shall not be less than 94% of the nominal weight. 8mm bar size is not covered in ASTM A615M-16

Area and weight of 8mm and 12mm dia. bars are uniaxial based on properties of ASTM A615M-16. Actual dia. and T/SVS ratio are provided for informative purpose only. These are not requirements of ASTM A615M-16. Actual diameter is the diameter of a perfectly round plain bar having same mass per unit length.

ASTM A615M-16 Tensile Requirements for Common Steel Grades

	Grade 60 [420]	Grade 75 [520]	Grade 80 [550]
Tensile strength, min. psi [MPa]	90 000 [620]	100 000 [690]	105 000 [725]
Yield strength, min. psi [MPa]	60 000 [420]	75 000 [520]	80 000 [550]

Elongation in 8 in. [200 mm], min, %

Bar Designation No.

Bar Designation No.	9	7	7
10, 12, 16, 20	8	7	7
25, 22	7	6	6
28, 32, 36, 40, 50, 60	7	6	6

Countersigned by:

Prof. Dr. Hasib Mohammed Ahsan, Test-in-Charge

Dept. of Civil Engg., BUET, Dhaka-1000, Bangladesh

Test performed by:
Dr. Annesha Enam
Assistant Professor, Dept. of Civil Engg.,

16 October 2023

Assistant Professor, Dept. of Civil Engg.,

Important Note: Samples as supplied to us have been tested. BRTC does not have any responsibility as to the representativeness of the samples. Samples are sent in a secure and sealed cover/package/container under the signature of a competent authority. In order to avoid fraudulent fabrication of test results, this report has been printed on a secure paper. It is also recommended that the test results be collected by a duly authorized person.



11

6AhngC8Qt

BIT
Bureau of Rese
Testing & Consu



Important Note: Samples as supplied to us have been tested. BRTC does not have any responsibility as to the representative character of the samples required to be tested. It is recommended that the samples are sent in a secure and sealed cover/packet/container under the signature of a competent authority. In order to avoid fraudulent fabrication of test results, this report has been printed on a secure paper. It is also recommended that the test results be collected by a duly authorized person.

Mobile: 01819557964, PABX: (8802) - 55167100, 55167228-57 Ext. 7226, Info: <http://btrc.ce.buel.ac.bd/#/home>, Report verification: <http://verify.ce.buel.ac.bd/>

UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET)
DEPARTMENT OF CIVIL ENGINEERING
55/67/100, 55/67/228-57 Ext. 7226, Info: <http://btrc.ce.buet.ac.bd/#/home>, Report verification: <http://verify.ce.buet.ac.bd>
STRENGTH OF MATERIALS LABORATORY

TEST OF DEFORMED M.S. BARS IASTM A 615M-16P
Sent by: Engr. Maksudul Karim, General Manager

Sent by: Engr. Maksudul Karim, General Manager
Shahriar Steel Mills Ltd., 18, Konapara, Jatrabari, Dhaka

Project: - - - -

BRTC No.: 1103-02581/CE/23-24; Dt. 8/10/2023

Ref.: Letter; Dt. 7/10/2023

Date of Test: 9/10/2023

**Bureau of Re
Testing & Com**

Samples were received in UNSEALED condition.

[illegible]

Conversion factor: $1.0 \text{ MPa} = 1.0 \text{ N/mm}^2 = 145 \text{ psi}$. Strengths are based on nominal area

ASTM A615M-16 Weight Requirements and Nominal Area of bars (Table A1.1)

Bar design, Nominal dia., mm	8	10	12	16	20	22	25	28	32	36	40	50	60
Nominal area, sq. mm	50.3	79	113	201	314	380	491	616	804	1018	1257	1963	2827
Nominal weight, kg/m	0.617	0.888	1.578	2.466	2.98	3.853	4.834	6.313	7.99	9.865	15.41	22.2	

Measured unit weights shall not be less than 90% of the nominal unit weights given in Table 1.

Measured unit weight shall not be less than 94% of the nominal weight. 8mm bar size is not covered in ASTM A615M-16.

Area and weight of 8mm and 22mm dia. bars are derived based on principle followed for other sizes in Table A1.1

Actual diameter is the diameter of a perfectly round plain bar having same mass per unit length.

ASTM A615M-16 Tensile Requirements for Common Steel Grades

	Grade 60 [420]	Grade 75 [520]	Grade 80 [550]
Tensile strength, min. psi [MPa]	90 000 [620]	100 000 [690]	105 000 [725]
Yield strength, min. psi [MPa]	60 000 [420]	75 000 [520]	80 000 [550]
Elongation in 8 in. [200 mm], min. %			
Bar Designation No.			
10, 12, 16, 20	9	7	7
25, 22	8	7	7
28, 32, 36, 40, 50, 60	7	6	6

Countersigned by:

Prof. Dr. Hasib Mohammed Ahsan, Test-in-Charge

Dept. of Civil Engng., BUET, Dhaka-1000, Bangladesh

Test performed by:

Dr. Annesha Enam

Assistant Professor, Dept. of Civil Engg., BU



49

hBFF7B2GP

15 October 2023



Important Note: Samples as supplied to us have been tested. BRTC does not have any responsibility as to the representative character of the samples required to be tested. It is recommended that the samples are sent in a secure and sealed cover/package/container under the signature of a competent authority. In order to avoid fraudulent fabrication of test results, this report has been printed on a security paper. It is also recommended that the test results be collected by a duly authorized person.

Important Note: Samples as supplied to us have been tested. BRTC does not have any responsibility as to the representative character of the samples required to be tested. It is recommended that the samples are sent in a secure and sealed cover/packet/container under the signature of a competent authority. In order to avoid fraudulent fabrication of test results, this report has been printed on a security. It is also recommended that the test results be collected by a duly authorized person.

