

DEPARTMENT OF CIVIL ENGINEERING

STRENGTH OF MATERIALS LABORATORY

Sent by: Eng. Md. Maksudul Karim, General Manager (Plant)

Shahriar Steel Mills Limited, Konapara, Jatrabari, Dhaka.

Ref.: Letter; Dt. 20/4/2024

Date of Test: 22/4/2024

Project: - - -

Samples were received in UNSEALED condition.

Conversion factor: 1.0 MPa = 1.0 N/mm² = 145 psi. Strengths are based on nominal area

47

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 23mm dia. bars are derived based on nominal weight.

Actual dia. and TENS ratio are provided for other sizes in Table A1.1

Actual diameter is the diameter of a perfectly round ball. Actual diameter and 1.375 ratio are provided for informative purpose only. These are not requirements of ASTM A615M-16.

rod has diameter d and 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	Grade 75	Grade 80
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[420] [520] [550]

30 000 16201	100 000 16901	105 000 17251
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60 000	14201	75 000	15201	80 000	15501
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[000] 0000 [000]

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8 7 7

7	6	6
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applied to us have been tested. BRT

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Test results be collected by a duly au



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Countersigned by:

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

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

Test performed by:

Dr. Shohel Rana

Professor, Dept. of Civil Engg., BUET

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.

DEPARTMENT OF CIVIL ENGINEERING

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ERTG
Bureau of Research,
Testing & Consultation

TEST OF DEFORMED M.S. BARS [ASTM A 615M-16]

Sent by: Eng. Md. Maksudul Karim, General Manager (Plant)

Shahriar Steel Mills Limited, Konapara, Jatrabari, Dhaka.

Project: - - -

BRTC No.: 1103-19933/CE/23-24; Dt. 21/4/2024

Ref.: Letter, Dt. 20/4/2024

Date of Test: 22/4/2024

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[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 designation	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	1287	1963	2827
Nominal weight, kg/m	0.395	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 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 22m dia. bars are derived based on principle followed for other sizes in Table A1.1

Actual dia. and T/S ratio are provided for informative purpose only. These are not requirements of ASTM A615M-16.

ASTM A615M-16 Tensile Requirements for Common Steel Grades

Grade 60	Grade 75	Grade 80
[420]	[520]	[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]

Bar Designation No.

10, 12, 16, 20	9	7	7	7
25, 22	8	7	7	7
28, 32, 36, 40, 50, 60	7	6	6	6

Countersigned by:

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24 April 2024



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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	0.395	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 weight shall not be less than 94% of the nominal weight. 8mm bar size is not covered in ASTM A113. Area and weight of 8mm and 22mm dia. bars are derived based on principle followed for other sizes in Table A1.1.1.

Actual dia. and T/S 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	Grade 75	Grade 90
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[420] [520] [550]

Tensile strength, min. psi [MPa]	90 000 [620]	100 000 [690]	105 000 [725]
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Yield strength, min, psi [MPa]

Bar Designation No

10, 12, 16, 20

25,22

28, 32, 36, 40, 50, 60

Countersigned by:

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

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

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Dr. Shohel Rana

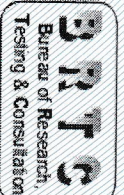
Professor, Dept. of Civil Engg., BUET

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STRENGTH OF MATERIALS LABORATORY

BRTC No. : 1103 10033/CE/22 24. D. 24/1/2024

Ref.: Letter; Dt. 20/4/2024

Date of Test: 22/4/2024

[illegible]

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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

10, 12, 16, 20

25, 22

28, 32, 36, 40, 50, 60

Countersigned by:

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

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

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ASTM A615M-16 Tensile Requirements for Common Steel Grades

Grade 60	Grade 75	Grade 80
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[420]

[520]

[550]

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Yield strength, min. psi [MPa]	60 000 [420]	75 000 [520]	80 000 [550]

Bar Designation No.

10, 12, 16, 20

25,22

28, 32, 36, 40, 50, 60

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