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

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

Shahnar Steel Mills Limited, Konapara, Jatrabari, Dhaka

Project: - - -

BRTC No.: 1103-19935/CE/23-24; Dt. 21/4/2024

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

Date of Test: 22/4/2024

Samples were received in UNSEALED condition.

[illegible]

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

Bar design	Nominal dia, mm	8	10	12	16	20	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

Area and weight of 8mm and 22m 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. Actual dia. and L/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 [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.

10, 12, 16, 20
25, 22
28, 32, 36, 40, 50, 60

Countersigned by:

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

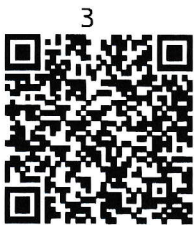
Dept. of Civil Engg., BUET, Dhaka-1000, Bangladesh

Test performed by:

Dr. Shohel Rana

Professor, Dept. of Civil Engng., BUET

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DEPARTMENT OF CIVIL ENGINEERING
- 55167100, 55167228-57 Ext. 7226, Info: <http://brtc.ce.bucl.ac.bd/#home>, Rep:
STRENGTH OF MATERIALS LABORATORY

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

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Shahriar Steel Mills Limited, Konapara, Jatrabari, Dhaka.

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Bureau of Research,
Testing & Consultation

[illegible]

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

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

Bar desig./Nominal dia., mm	8	10	12	16	20	24	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 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 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 (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)

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 Engrg., BUET, Dhaka-1000, Bangladesh

Test performed by:

Dr. Shohel Rana

Dr. Chongchit Rattana
Professor Dept. of Civil Engng. BULET

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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 98% of the nominal weight. Nominal 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 dia. and TSVS ratio are provided for reference.

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]
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Bar Designation No.			
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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]
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24 April 2024

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