

Professor, Dept. of Civil Engg., BUET



STRENGTH OF MATERIALS LABORATORY

BRTC No.: 1103-13677/CE/23-24; Dt. 8/2/2024

Ref.: Letter; Dt. 8/2/2024

Date of Test: 10/2/2024

Samples were received in UNSEALED condition.

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

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.

Appendix A: Minimum Requirements for Common Core Standards

DATE	DESCRIPTION	AMOUNT	CHECK NO.	BANK	INITIALS
10/1/19	DEPOSIT	100.00			
10/2/19	PAYROLL	50.00	101		
10/3/19	RENT	25.00	102		
10/4/19	UTILITIES	15.00	103		
10/5/19	FOOD	10.00	104		
10/6/19	TRANSPORT	20.00	105		
10/7/19	ENTERTAINMENT	12.00	106		
10/8/19	SALES	30.00	107		
10/9/19	INVENTORY	18.00	108		
10/10/19	REPAIRS	22.00	109		
10/11/19	INSURANCE	14.00	110		
10/12/19	DEPOSIT	100.00			
10/13/19	PAYROLL	50.00	111		
10/14/19	RENT	25.00	112		
10/15/19	UTILITIES	15.00	113		
10/16/19	FOOD	10.00	114		
10/17/19	TRANSPORT	20.00	115		
10/18/19	ENTERTAINMENT	12.00	116		
10/19/19	SALES	30.00	117		
10/20/19	INVENTORY	18.00	118		
10/21/19	REPAIRS	22.00	119		
10/22/19	INSURANCE	14.00	120		
10/23/19	DEPOSIT	100.00			
10/24/19	PAYROLL	50.00	121		
10/25/19	RENT	25.00	122		
10/26/19	UTILITIES	15.00	123		
10/27/19	FOOD	10.00	124		
10/28/19	TRANSPORT	20.00	125		
10/29/19	ENTERTAINMENT	12.00	126		
10/30/19	SALES	30.00	127		
10/31/19	INVENTORY	18.00	128		
11/1/19	REPAIRS	22.00	129		
11/2/19	INSURANCE	14.00	130		
11/3/19	DEPOSIT	100.00			
11/4/19	PAYROLL	50.00	131		
11/5/19	RENT	25.00	132		
11/6/19	UTILITIES	15.00	133		
11/7/19	FOOD	10.00	134		
11/8/19	TRANSPORT	20.00	135		
11/9/19	ENTERTAINMENT	12.00	136		
11/10/19	SALES	30.00	137		
11/11/19	INVENTORY	18.00	138		
11/12/19	REPAIRS	22.00	139		
11/13/19	INSURANCE	14.00	140		
11/14/19	DEPOSIT	100.00			
11/15/19	PAYROLL	50.00	141		
11/16/19	RENT	25.00	142		
11/17/19	UTILITIES	15.00	143		
11/18/19	FOOD	10.00	144		
11/19/19	TRANSPORT	20.00	145		
11/20/19	ENTERTAINMENT	12.00	146		
11/21/19	SALES	30.00	147		
11/22/19	INVENTORY	18.00	148		
11/23/19	REPAIRS	22.00	149		
11/24/19	INSURANCE	14.00	150		
11/25/19	DEPOSIT	100.00			
11/26/19	PAYROLL	50.00	151		
11/27/19	RENT	25.00	152		
11/28/19	UTILITIES	15.00	153		
11/29/19	FOOD	10.00	154		
11/30/19	TRANSPORT	20.00	155		
11/31/19	ENTERTAINMENT	12.00	156		
12/1/19	SALES	30.00	157		
12/2/19	INVENTORY	18.00	158		
12/3/19	REPAIRS	22.00	159		
12/4/19	INSURANCE	14.00	160		
12/5/19	DEPOSIT	100.00			
12/6/19	PAYROLL	50.00	161		
12/7/19	RENT	25.00			

Dai Designation No.

07, 01, 71, 01

38 33 36 40 50 60

Prof. Dr. Hasib Mohammed Ahsan, Test-in-Charge
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Dr. Md. Mafizur Rahman
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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 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 and is also recommended that the test results be collected by a duly authorized person.



12 February 2024

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>

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: - - -

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[illegible]

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

Bar designation	Nominal dia., mm	Nominal area, sq mm	Nominal weight, kg/m
8	12	113	0.395
10	16	201	0.617
12	20	314	0.888
16	28	616	1.578
20	32	804	2.466
25	36	1018	2.98
32	40	1257	3.853
40	50	1963	4.834
50	60	2827	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/SMS 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.

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

Countersigned by:

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

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

Test performed by:

Dr. Md. Mafizur Rahman

Professor, Dept. of Civil Engng., BUET



12 February 2024

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