

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 paper. It is also recommended that the test results be collected by a duly authorized person.

Professor, Dept. of Civil Engg.

BUETCE 0521976

DEPARTMENT OF CIVIL ENGINEERING AND ELECTRONICS

STRENGTH OF MATERIALS LABORATORY

TEST OF DEFORMED M.S. BARS JBDS ISO 6935-2:20161

Sent by: Engr. Md. Maksudul Karim, General Manager

Shahriar Steel Mills Ltd., Konapara, Jatrabari, Dhaka.

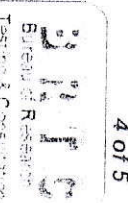
Project: ---

BRTC No.: 1103-37749/CE/24-25. Dt 3/12/2024

Ref: Letter: Dt. 3/12/2024

Date of Test: 4/12/2024

Samples were received in UNSEALED condition.

[illegible]

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

	6	8	10	12	14	16	20	22*	25	28	32	40	50
Nominal bar dia., mm													
Nominal cross sectional area, sq. mm	28.3	50.3	78.5	113	154	201	314	380	491	616	804	1257	1964
Nominal mass per unit length	0.222	0.395	0.616	0.887	1.21	1.58	2.46	2.98	3.85	4.84	6.31	9.87	15.42
Permissible deviation, %	±8	±8	±6	±6	±5	±5	±5	±4	±4	±4	±4	±4	±4

22mm dia bar is not covered in BDS ISO 6935-5:2016. Its properties are derived (following the principle used for other bar sizes. Actual diameter of bars are shown for informative purpose only. It is not a requirement of BDS/ISO 6935-2:2016. Actual diameter is the diameter of a perfectly round plain bar having same mass per unit length.

BDS ISO 6935-2 Tensile Requirements for Common Steel Grades

Steel Grade	Yield Strength, R_{el} , MPa		Ductility Properties		
	Min.	Max.	R_m/R_{el} min.	Elongation, % (mm.) Total	At R_m
B400C-R	400	--	1.15	14	7
B400CWR	400	--	1.15	14	7
B500C-R	500	--	1.15	14	7
B500CWR	500	--	1.15	14	7
B600C-R	600	--	1.15	10	7
B450CWR	450	1.25 R_{el} (min.)	1.15	--	7.5
B400DWR	400	1.3 R_{el} (min.)	1.25	17	8
B420DWR	420	1.25 R_{el} (min.)	1.25	16	8
B500DWR	500	1.3 R_{el} (min.)	1.25	13	8

Countersigned by:

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

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

Important Note: Samples as supplied to us have been tested BPTC for

It is also recommended that the test results be collected by a duly authorized person



AEKr5EFmj

07 December 2024

Test performed by:

Dr. Abdul Jabbar Khan

Professor, Dept. of Civil Enng.



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

STRENGTH OF MATERIALS LABORATORY

TEST OF DEFORMED M.S. BARS (BDS ISO 6935-2:2016)

Sent by: Engr. Md. Maksudul Karim, General Manager

Shahriar Steel Mills Ltd., Konapara, Jatrabari, Dhaka.

Project: - - -

BRTC No.: 1103-37749/CE/24-25; Dt. 3/12/2024

Ref.: Letter; Dt. 3/12/2024

Date of Test: 4/12/2024

Samples were received in UNSEALED condition.

[illegible]

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

BDS ISO 6935-2:2016 Weight Requirements, Nominal Area etc. (Table 2).														
Nominal bar dia., mm	6	8	10	12	14	16	20	22*	25	28	32	40	50	
Nominal cross sectional area, sq. mm	28.3	50.3	78.5	113	154	201	314	360	491	616	804	1257	1964	
Nominal mass per unit length	0.222	0.395	0.616	0.887	1.21	1.58	2.46	2.98	3.85	4.84	6.31	9.87	15.42	
	Nominal, kg/m													
Permissible deviation, %	±8	±8	±6	±6	±5	±5	±5	±5	±4	±4	±4	±4	±4	

* 20 mm nominal bar size is not covered by the standards and is not included in the table. The standards are followed for other bar sizes.

*22mm dia. bar is not covered in BDS ISO 6935-2:2016. Its properties are derived following the principle used in BDS ISO 6935-2:2016.

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

BDS ISO 6935-2 Tensile Requirements for Common Steel Grades

Steel Grade	Yield Strength, R_{el} , MPa		Ductility Properties		
	Min.	Max.	R_m/R_{el} min.	Elongation, % (min.)	At $R_{m-0.2}$
B400C-R	400	--	1.15	14	7
B400CWR	400	--	1.15	14	7
B500C-R	500	--	1.15	14	7
B500CWR	500	--	1.15	14	7
B600C-R	600	--	1.15	10	7
B450CWR	450	1.25 R_{el} (min.)	1.15	--	7.5
B420DWR	400	1.3 R_{el} (min.)	1.25	17	8
B420DWR	420	1.3 R_{el} (min.)	1.25	16	8
B500DWR	500	1.3 R_{el} (min.)	1.25	13	8

Countersigned by:

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

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

Test performed by:

Dr. Abdul Jabbar Khan

Professor, Dept. of Civil Engng.

07 December 2024



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