

[illegible]

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

Nominal bar dia., mm Nominal cross sectional area, sq. mm Nominal mass per unit length Permissible deviation, %									
25	8	8	10	12	14	16	18	20	22
28.3	50.3	78.5	113	155	198	241	283	325	367
0.222	0.395	0.616	0.887	1.21	1.58	1.96	2.34	2.71	3.09
±8	±8	±6	±6	±6	±5	±5	±5	±5	±5
Actual dia. bar is not covered in BDS ISO 6935-2:2016. Its properties are determined from actual diameter of bars shown for informative purpose only. It is not a reference diameter. Actual diameter is the diameter of a perfectly round plain bar having same mass.									
BDS ISO 6935-2:2016 Tensile Requirements for Common Steel Grades									
Steel Grade	Yield Strength, R _{eH} , MPa		Ductility Properties						
	Min.	Max.	R _m /R _{eH}	Elongation, %	At R _m				
				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 _{eH} (min.)	1.15	—	7.5				
B400DWR	400	1.3 R _{eH} (min.)	1.25	16	8				
B420DWR	420	1.3 R _{eH} (min.)	1.25	17	8				
B500DWR	500	1.3 R _{eH} (min.)	1.25	13	8				

22mm dia. bar is not covered in BDS ISO 6935-2:2016. 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

Countersigned by:

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

Dept. of Civil Engg., BUET

4dfBdHB4m

48

16 March 2023

Test performed by:

Dr. Mohammad Neaz Murshed

Associate Professor, Dept. of Civil Engg., BU

Important Note: Samples as supplied to us have been tested. BRTG 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.



TEST OF DEFORMED M.S. BARS IBDS ISO 6935-2:2016

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

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

BRTC No.: 1102-85850/CE/22-23; Dt. 12/3/2023

Ref.: Letter, Dt. 12/3/2023

Date of Test: 13/3/2023

Samples were received in UNSEALED condition.

[illegible]

	6	8	10	12
Nominal Area etc.				

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

Nominal cat dia., mm	0	9	10	12	14	16	20	25	32
Nominal cross sectional area, sq. mm	28.3	50.3	78.5	113	154	201	314	380	491
Nominal mass per unit length	0.222	0.395	0.616	0.887	1.21	1.58	2.46	2.98	3.85
Permissible deviation, %	±8	±8	±6	±5	±5	±5	±5	±4	±4

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

BDS ISO 6935-2 Tensile Requirements for Common Steel Grades

Steel Grade	Yield Strength, R_{eH} , MPa		Ductility Properties		
	Min.	Max.	R_m/R_{eH} mm	Elongation, % (mm), Total	$A_5 R_m$
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_{eH} (mm), 1.3 R_{eH} (mm)	1.15	--	7.5
B400DWR	400	1.3 R_{eH} (mm), 1.3 R_{eH} (mm)	1.25	17	8
B420DWR	420	1.3 R_{eH} (mm), 1.3 R_{eH} (mm)	1.25	16	8
B500DWR	500	1.3 R_{eH} (mm), 1.3 R_{eH} (mm)	1.25	13	8

Countersigned by:

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

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/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.



49

Ej8j3Hdbz

16 March 2023

Test performed by:

Dr. Mohammad Neaz Murshed

Associate Professor, Dept. of Civil Engng., BU



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.

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 (BDS ISO 6935-2:2016)

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

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

BRTC No.: 1102-85850/CE/22-23; Dt. 12/3/2023

Ref.: Letter; Dt. 12/3/2023

Date of Test: 13/3/2023

Samples were received in UNSEALED condition.

[illegible]

Nominal bar diameter	BDS ISO 6935-2:2016 Weight Requirements, Nominal Area etc. (Table 2).			
	5	8	10	12

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

Reinforcing bar, width, mm	9	10	11	12	13	14	15	16	17	18	19	20	22	25
Nominal cross sectional area, sq. mm	28.3	50.3	78.5	113	154	201	254	380	491	616	804	1257	1964	
Nominal mass per	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 mass per														
Reinforcing bar, diameter, mm	9	10	11	12	13	14	15	16	17	18	19	20	22	25

^a22mm dia. bar is not covered in BDS ISO 6935-2:2016. 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} mm	Total Elongation, % (mm.)	A_5 R_m
BA400C-R	400	--	1.15	14	7
BA400CWR	400	--	1.15	14	7
BS500C-R	500	--	1.15	14	7
BS500CWR	500	--	1.15	14	7
BS600C-R	600	--	1.15	10	7
BS450CWR	450	1.25 R_{el} (mm.)	1.15	--	7.5
BA400DWR	400	1.3 R_{el} (mm.)	1.25	17	8
BA420DWR	420	1.3 R_{el} (mm.)	1.25	16	8
BS500DWR	500	1.3 R_{el} (mm.)	1.25	13	8

Countersigned by:

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

Dept. of Civil Engg., BUET

16 March 2023

Test performed by:

Dr. Mohammad Neaz Murshed

Associate Professor, Dept. of Civil Engg., BU

Important Note: Samples as supplied to us have been tested. BRTG 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.

