

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.

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Bureau of Research
Testing & Consulting

TEST OF DEFORMED M.S. BARS [BDS ISO 6935-2:2016]

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]

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	6	8	0	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	380	491	616	804	1257	1964
Nominal mass per unit length	0.222	0.395	0.616	0.887	1.24	1.58	2.46	2.99	3.85	4.84	6.31	9.87	15.42
Permissible deviation, %	±8	±8	±5	±5	±5	±5	±5	±5	±4	±4	±4	±4	±4

Actual dia. bars 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.

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} min.	Elongation, % (min.) 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	17	8
B420DWR	420	1.3 R _{eH} (min.)	1.25	16	8
B500DWR	500	1.3 R _{eH} (min.)	1.25	13	8

Countersigned by:

Prof. Dr. Hasib Mohammed

Dept. of Civil Engrg. BUET

BDS ISO 6935-2 Tensile Requirements for Common Steel Grades

Actual diameter of bars are shown for informative purpose only. It is not a requirement of BDS ISO 6933-2:2016. Actual diameter is the diameter of a perfectly round plain bar having same mass per unit length.

Countersigned by:

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

Dept. of Civil Engg., BUET

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16 March 2023

Test performed by:

Dr. Mohammad Neaz Murshed

Associate Professor, Dept. of Civil Engg., B



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BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET)
DEPARTMENT OF CIVIL ENGINEERING
STRENGTH OF MATERIALS LABORATORY

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BT
Bureau of Research
Testing & Consulting

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

Sent by: Engr. Md. Maksudul Karim, General Manager (Plant)
Shahniar Steel Mills Ltd., Konapara, Jatrabai, 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]

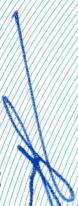
Conversion factor: $1.0 \text{ MPa} = 1.0 \text{ N/mm}^2 = 145 \text{ psi}$. Strengths are based on nominal area.

Nominal bar dia., mm	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	380	491	616	804	1257	1964
Nominal mass per unit length	0.222	0.399	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	±5	±5	±5	±5	±5	±4	±4	±4	±4	±4

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.

BDS ISO 6935-2 Tensile Requirements for Common Steel Grades

Steel Grade	Yield Strength, R_{eH} , MPa Min.	Ductility Properties				
		R_m/R_{eH} min.	Elongation, % (min.) 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	14	7	
B450CWR	450	1.25 R_{eH} (min.)	1.15	--	7.5	
B400DWR	400	1.3 R_{eH} (min.)	1.25	17	8	
B420DWR	420	1.3 R_{eH} (min.)	1.25	16	8	
B500DWR	500	1.3 R_{eH} (min.)	1.25	13	8	

Countersigned by: 

Prof. Dr. Hasib Mohammed

Dept. of Civil Engng., BUET

^a22mm 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 6935-5:2016. 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 Engng., BUET

Test performed by:

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Dr. Mohammad Neaz Murshed

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