

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



## STRENGTH OF MATERIALS LABORATORY

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

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

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

Ref.: Letter; Dt. 6/8/2023 BRTC No.: 1102-97526/CE/23-24; Dt. 6/8/2023

Date of Test: 7/8/2023

Samples were received in UNSEALED condition Contractor/supplier: -

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ı		7		-1	100	1	I	1	ı	1	SSRM B500 CWR	SSRM B500 CWR	SSRM B500 CWR				Identification	Frog Mark /	
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t	1	1	1	1	ı				ī	ı	9.7	9.7	9.8	mm			dia.	Actual	
1	-	- 1,22		- /	-			,	-	1	0.580	0.583	0.591	kg/m	Length	Unit	Per	Mass	
				**************************************	**(***********************************							0.585		kg/m	Length	Unit	Mass Per	Average	
			1	-							42.2	43.2	43.2	kN		Load	Proof	Yield or	
									•		535	545	545	MPa	Ref	Strength	Proof	Yield or	
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	1	T	-	-				-			49.3	49.3	49.3	KN.			Load	Tensile	
•		-	-	-			-	•		•	625	625	625	MPa	R <sub>m</sub>		Strength	Tensile	valilpica v
			•						•			625		MPa	<b>70</b> ∃	Strength,	Tensile	Average	(C) (C) (C) (C)
,						•						1.15						R <sub>m</sub> /R <sub>eH</sub>	ed III OI
1	1	,			•		•	•	•	-	26	24	24	= 5d)	(G.length	(%)	Elongation	Total	Camples were received in organizations
,												25			(%)	Elongation	Total	Average	91.
	1		1	1	1	•	1		•	1	Satisfactory	Satisfactory	Satisfactory		samples)	(Seperate	Test	Bend	
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Noninal bardia	Nominal hazalia mm	0	0 0	100	10.	4		20	**	2	28	30		50
Nominal bar dia., mm	3	6	00	5	12	14		16 20 22* 25	22*	25	28	32	40	50
Nominal cross secti	inal cross sectional area, sq.mm	28.3	50.3	78.5	50.3   78.5   113   154   201   314   380   491   616   804   1257   1964	154	201	314	380	491	616	804	1257	1964
Nominal mass per N	ominal, kg/m	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
unit length	Permissible deviation, %   ±8	8∓	±8	_±6	±6	±5	±5	±5	±5	±4	<b>‡</b> 4	±4	±4	±8 ±6 ±5 ±5 ±5 ±4 ±4 ±4 ±4 ±4
ממל מוש שמנה	*32	2.204	2	-	2	1	5		5	1		2	200	200

\*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	Yield S	Yield Strength, Ren, MPa	Du	<b>Ductiliy Properties</b>
Grade	Min.	Max.	Rm/ReH	Elongation, % (min.)
			min.	Total
B400C-R	400		1.15	14
B400CWR	400		1.15	14
B500C-R	500		1.15	14
B500CWR	500		1.15	14
B600C-R	600		1.15	10
B450CWR	450	1.25 R ен (min.)	1.15	
B400DWR	400	1.3 R <sub>ен</sub> (min.)	1.25	17
B420DWR	420	1.3 R <sub>eH</sub> (min.)	1.25	16
B500DWR	500	1.3 R <sub>eн</sub> (min.)	1.25	13

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



07 August 2023

Dr. Md. Shafiul Bari Test performed by:

Professor, Dept. of Civil Engg., BUET

It is also recommended that the test results be collected by a duly authorized person. samples are sent in a secure and sealed cover/packet/container under the signature of a competent authority. In order to avoid fradulent fabrication of test results, this report has been printed on a security paper. 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

Prof. Dr. Hasib Mohammed Ahsan, Test-in-Charge Dept. of Civil Engg., BUET, Dhaka-1000, Bangladesh

Countersigned by:



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Testing & Consultation Bureau of Research

#### STRENGTH OF MATERIALS LABORATORY

Sent by: Engr. Md. Maksudul Karim, General Manager (Plant) TEST OF DEFORMED M.S. BARS (BDS ISO 6935-2:2016)

Shahriar Steel Mills Ltd., Konapara, Jatrabari, Dhaka

Project:

Ref.: Letter; Dt. 6/8/2023 BRTC No.: 1102-97526/CE/23-24; Dt. 6/8/2023

Date of Test: 7/8/2023

Contractor/supplier: - -

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		No	
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	dia,	Actual	
	Per	Mass	
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Otton the	Yield	Average	
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	Strength	Tensile	Samples w
21-22-6	Tensile	Average	ere receiv
		R <sub>m</sub> /R <sub>eH</sub>	ed in UNS
901	Elongation	Total	vere received in UNSEALED condition.
Elemention !	Total	Average	dition.
Tionartion (Concrete	Test	Bend	
(Sonora	Test	Rebend	

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						9.0	ď					SSF	SSF	SSF				ıc	4
-	•	t	,	-	,	1			7	-	1	SSRM B500 CWR	SSRM B500 CWR	SSRM B500 CWR				Identification	Frog Mark /
												CWR	CWR	WR.				<b>5</b>	
	-	•	•	•			,	•	-	•		12	12	12	mm			dia.	Nominal
	1	1	-			-	1	-	1	•		12.1	12.1	12.1	mm			dia.	Actual
-	-	-		-	-	-			- %	- 10	-	0.898	0.902	0.898	kg/m	Length	Unit	Per	Mass
													0.899		kg/m	1 Length	Unit	Mass Per	Average
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					H							59.5	60.5	59.5	KN		Load	Proof	Yield or
												525	535	525	MPa	R 태	Strength	Proof	Yield or
HHHHH.													530		MPa	Ren	Strength,	Yield	Average
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				_									615		MPa	3	ngth,	ısile	Average R <sub>r</sub>
		T		•									1.16						R <sub>m</sub> /R <sub>eH</sub>
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	-												22			(%)	Elongation	Total	Average
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6 8 10 12	minal Area etc. (Table 2).
6 8 10 12	minal Area etc. (Table 2).
6 8 10 12	BDS ISO 6935-2:2016 Weight Requirements, Nominal Area etc. (Table 2).
6 8 10 12	minal Area etc. (Table 2).
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6 8 10 12 14	minal Area etc. (Table 2).
6 8 10 12 14	minal Area etc. (Table 2).
6 8 10 12 14	minal Area etc. (Table 2).

init length	Nominal mass per	Nominal cro	Nominal bar dia.,
70	-	ss sectio	rdia., mm
Permissible deviation, %	Nominal, kg/m	Nominal cross sectional area, sq.mm	
±8	0.222 0.395 0.616 0.887	28.3	6
±8	0.395	28.3 50.3 78.5 113 154 201 314 380 491 616 804 1257 1964	8
±6	0.616	78.5	10
±6	0.887	113	12
±5	1.21	154	14 16
±5	1.58	201	16
±5	2.46	314	20
±5	2.98	380	22*
±4	3.85	491	25
#4	4.84	616	28
<u>‡4</u>	6.31	804	32
<b>±</b> 4	1.21 1.58 2.46 2.98 3.85 4.84 6.31 9.87 15.42	1257	40 50
#	15.42	1964	50

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

BDS ISO 6935-2 Tensile Requirements for Common Steel Grades

Steel	Yield S	Yield Strength, Ret, MPa	Du	<b>Ductilly Properties</b>
Grade	Min.	Max.	Rm/Ren	Elongation
			min.	Total
B400C-R	400		1.15	14
B400CWR	400		1.15	14
B500C-R	500		1.15	14
B500CWR	500		1.15	14
B600C-R	600		1.15	10
B450CWR	450	1.25 R eн (min.)	1.15	
B400DWR	400	1.3 R <sub>ен</sub> (min.)	1.25	
B420DWR	420	1.3 R <sub>ен</sub> (min.)	1.25	16
D 50000WD	003	1 2 0	200	3

Conversion factor: 1.0 MPa = 1.0 N/mm<sup>2</sup> = 145 psi. Strengths are based on nominal area.

rjHFMQdng

07 August 2023

Dr. Md. Shafiul Bari Test performed by:

Professor, Dept. of Civil Engg., BUET

samples are sent in a secure and sealed cover/packet/container under the signature of a competent authority. In order to avoid fradulent fabrication of test results, this report has been printed on a security paper. 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 It is also recommended that the test results be collected by a duly authorized person.

Dept. of Civil Engg., BUET, Dhaka-1000, Bangladesh Prof. Dr. Hasib Mohammed Ahsan, Test-in-Charge Countersigned by:



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### STRENGTH OF MATERIALS LABORATORY

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

Project:

Samples were received in UNSEALED condition. Contractor/supplier: est era

Date of Test: 7/8/2023 Ref.: Letter; Dt. 6/8/2023

BRTC No.: 1102-97526/CE/23-24; Dt. 6/8/2023

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-	-	1	-	-	-	-	1	-	-	-	-	15.8	15.8	15.8	mm			dia.	Actual
1	1	-	1	1			-/-		- )	-	- 3	1.547	1.536	1.547	kg/m	Length	Unit	Per	Mass
	•												1.543		kg/m	Length	Unit	Mass Per	Average
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												560	575	560	MPa	Rel	Strength	Proof	Yield or
													565		MPa	Ref	Strength,	Yield	Average
8011175330	-	-	-		1				1			135	136	138	KN.			Load	Tensile
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***	unit length	Nominal n	Nominal c	Nominal bar dia., mm	000000
		lass per	ross sect	ar dia., m	333-6.60
the bar is the standard in BDC ICO 6035 3:3016 Its proporties are derived following the principle used for other har sizes	Permissible deviation, % ±8 ±8 ±6 ±6 ±5 ±5 ±5 ±4 ±4 ±4 ±4 ±4	Nominal mass per  Nominal, kg/m	Nominal cross sectional area, sq.mm	3	DO 130 0337-Z.Zo 10 weelging recepting the control of the control
2001	_±8	0.222	28.3	6	•
160 1	8∓	0.395	50.3	8	711 000
-	9∓	0.616	78.5	10	
200	9∓	0.887	113	12	7
dorivo	±5	1.21	154	14	
5	±5	1.58	201	16	
2	±5	2.46	314	20	
הם חדר	±5	2.98	380	22*	
200	#4	3.85	491	25	
Heed	±4	4.84	616	28	
or or	#	6.31	804	32	
her ha	12	9.87	1257	40	
29712	±4	15.42	1964	50	

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. 22mm dia, par is not covered in BDS ISO 0935-2:2010, its properties

000 100 000	7-6 1011011	DOS 100 0300-E tellane treganisments for Common Steel Steels		0.000	
Steel	Yield S	Yield Strength, ReH, MPa	Du	<b>Ductiliy Properties</b>	rties
Grade	Min	Max.	Rm/ReH	Elongation,	n, % (min.)
			Min.	Total	At R <sub>m</sub>
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 <sub>ен</sub> (min.)	1.15		7.5
B400DWR	400	1.3 R <sub>ен</sub> (min.)	1.25	17	8
B420DWR	420	1.3 R <sub>eH</sub> (min.)	1.25	16	8
DENNIND	200	1 2 D _ (min )	725	3	•

Prof. Dr. Hasib Mohammed Ahsan, Test-in-Charge Dept. of Civil Engg., BUET, Dhaka-1000, Bangladesh Countersigned by:



Conversion factor: 1.0 MPa = 1.0 N/mm<sup>2</sup> = 145 psi. Strengths are based on nominal area

07 August 2023

Dr. Md. Shafiul Bar Test performed by:

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#### Testing & Consultati Bureau of Research

#### BRTC No.: 1102-97526/CE/23-24; Dt. 6/8/2023

STRENGTH OF MATERIALS LABORATORY

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

Shahriar Steel Mills Ltd., Konapara, Jatrabari, Dhaka

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

Project:

Date of Test: 7/8/2023 Ref.: Letter; Dt. 6/8/2023

Contractor/supplier: -

Samples were received in UNSEALED condition.

No.			אר פאר	Conversion factor: $10 \text{ MPa} = 10 \text{ N/mm}^2 = 145 \text{ nsi. Strengths are based on nominal area.}$	the are has	5 nei Strengt	$1 \text{ N} \text{ I} \text{ mm}^2 = 14!$	0 MD= 10	sion factor 1	Convore					ble 2).	BDS ISO 6935-2:2016 Weight Requirements, Nominal Area etc. (Table 2).	BDS ISO 69
Frog Mark I     Nominal Actual     Mass Average Ida     Yield or Mass Per Proof     Yield or Proof     Average Proof     Total Instite     Average Proof     Rangth Instite     Average Ida     Rangth Instite     Average Ida     Mass Per Proof     Proof Proof     Yield Vield Instite     Load Strength Instite     Total Instite     Total Instite     Average Ida     Instite     Average Ida     Instite     Average Ida     Instite     Instite     Average Ida     Instite     Average Ida<							-						1	-	•	7	
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Frog Mark/I     Nominal Actual Identification     Actual Identification     Mass Page Identification     Yield or Yield or Yield or Yield Identification     Total Identification     Average Identification     Total Identification     Average Identification     Average Identification     Total Identification     Average							1						+//			Г	1
Frog Mark   Nominal Actual Mass   Average   Yield or Yield or Yield or Average   Tensile   Tensile   Average   R <sub>m</sub> /R <sub>e+</sub>   Total   Average   R <sub>m</sub> /R <sub>e+</sub>   Total   Average   R <sub>m</sub> /R <sub>e+</sub>   Total   Average   R <sub>m</sub> /R <sub>e+</sub>   Tensile							-	-	1		-			1		-1	1
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Frog Mark /     Nominal Identification     Actual Identification     Actual Identification     Actual Identification     Mass Per Identification     Yield or Proof		•	·				-						-	,		1	
Frog Mark /I     Nominal Actual Identification	E	•				L	1			•			1	-	•	ı	
Frog Mark /     Nominal Identification     Actual dia.     Mass Average dia.     Yield or Proof Pro		Satisfactory		22			670	210		570	179		2.435	19.9	20	SSRM B500 CWR	3
Frog Mark / Nominal Actual Mass Average Yield or Yield or Average Tensile Average R <sub>m</sub> /R <sub>eH</sub> Total Average Bend Identification dia. Per Mass Per Proof Proof Yield Load Strength Tensile Elongation Total Test Elongation (Seperate R <sub>m</sub> /R <sub>eH</sub> Elongation (Seperate R <sub>m</sub> /R <sub>eH</sub> Elongation (Seperate R <sub>m</sub> /R <sub>eH</sub> R <sub>e</sub>		Satisfactory	22	21	1.18	670	660	206	570	555	175	2.440	2.437	19.9	20	SSRM B500 CWR	2
Frog Mark / Nominal Actual Mass Average Yield or Yield or Yield or Average Tensile Average R <sub>m</sub> /R <sub>eh</sub> Total Average Identification dia. Per Mass Per Proof Proof Yield Load Strength Load Strength Tensile Elongation Total Length R <sub>eh</sub> R <sub>eh</sub> R <sub>m</sub> R <sub>m</sub> (G.length (%) = 5d)		Satisfactory		22			675	212		580	182		2.448	19.9	20	SSRM B500 CWR	_
Frog Mark I Nominal Actual Mass Average Yield or Yield or Average Tensile Average R <sub>m</sub> /R <sub>eH</sub> Total Average Bend Identification dia. dia Per Mass Per Proof Proof Yield Load Strength Tensile Elongation Test Elongation (Seperate Length Length Length Length R <sub>eH</sub> R <sub>eH</sub> R <sub>eH</sub> R <sub>m</sub> R <sub>m</sub> (G.length (%) samples)				= 5d)		MPa	MPa	KN.	MPa	MPa	kN	kg/m	kg/m	mm	mm		
Frog Mark $I$ Nominal Actual Mass Average Yield or Yield or Average Tensile Average R $_{\pi}/R_{eH}$ Total Average Bend Identification dia. Per Mass Per Proof Proof Yield Load Strength, S		samples)	(%)	(G.length		X) B	<b>2</b> 0		Re	R <sub>타</sub>		Length	Length				
Frog Mark $I$ Nominal Actual Mass Average Yield or Yield or Average Tensile Average R $_{\pi}/R_{\rm eH}$ Total Average Identification dia. Per Mass Per Proof Proof Yield Load Strength Tensile Elongation Total		(Seperate	Elongation	(%)		Strength,			Strength,	Strength	Load	Unit	Unit				
Frog Mark / Nominal Actual Mass Average Yield or Yield or Average Tensile Average Average Average Average		Test	Total	Elongation		Tensile	Strength		Yield	Proof	Proof	Mass Per	Per	dia.	dia.	Identification	Ŋ,
		Bend	Average	Total	R <sub>m</sub> /R <sub>eH</sub>	Average	Tensile		Average	MM	Yield or	Average	Mass	Actual	Nominal	Frog Mark /	SI.

Nominal bar dia., mm	0
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35	10
35	5
=	N
	BDS ISO 6935-2:2016 Weight Requirements, Nominal Area etc. (Table 2).
6 8 10 12 14 18	
4	
4	
m	1

*	e	-	-	7
22mm dia harien	unit length	lominal mass per	Nominal cross sectional area, sq.mm	Nominal bar dia., mm
*32mm dia har is not covered in BDC ISO 6035-2:2016 like properties are derived following the principle used for other har sizes	Permissible deviation, % :	Nominal, kg/m		m
3.301	±8	222	28.3	6
0 000	±8	0.395	50.3	60
3	±6	0.616	78.5	10
יסכ פרם	ts	0.887	113	12
Horive	±5	1.21	154	14
2	±5	1.58	201	16
£	±5	1.58 2.46 2.98 3.85	314	20
חם מחי	±5	2.98	380	22*
2	±4	3.85	491	25
1000	#4	4.84 6.31	616	28
5000	#	6.31	804	32
hor ha	#	9.87	1257	40
20713	±4 ±4 ±4 ±4	9.87 15.42	50.3   78.5   113   154   201   314   380   491   616   804   1257   1964	50
1	4111	////	11/1	////

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.

Steel	Yield S	Steel Yield Strength, R ett, MPa Ductiliy Properti	Du	<b>Ductiliy Properties</b>
Grade	Min.	Max.	Rm/ReH	Elongation,
			min.	Total
B400C-R	400		1.15	14
B400CWR	400	-	1.15	14
B500C-R	500	-	1.15	7.6
B500CWR	005	-	1.15	7.4
B600C-R	600		1.15	10
B450CWR	450	1.25 R <sub>eH</sub> (min.)	1.15	
B400DWR	400	1.3 R eH (min.)	1.25	77
B420DWR	420	1.3 R <sub>ен</sub> (min.)	1.25	16
B500DWR	500	1.3 R eH (min.)	1.25	2

Dept. of Civil Engg., BUET, Dhaka-1000, Bangladesh Prof. Dr. Hasib Mohammed Ahsan, Test-in-Charge Countersigned by:



07 August 2023

Dr. Md. Shafiul Bari Test performed by:

Professor, Dept. of Civil Engg., BUET

samples are sent in a secure and sealed cover/packet/container under the signature of a competent authority. In order to avoid fradulent fabrication of test results, this report has been printed on a security par It is also recommended that the test results be collected by a duly authorized person 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



Project:

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

Shahriar Steel Mills Ltd., Konapara, Jatrabari, Dhaka

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

#### BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET) DEPARTMENT OF CIVIL ENGINEERING

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



10 of

# STRENGTH OF MATERIALS LABORATORY

BRTC No.: 1102-97526/CE/23-24; Dt. 6/8/2023

Ref.: Letter; Dt. 6/8/2023 Date of Test: 7/8/2023

Contractor/supplier: -

			Ī																
-	I	-					,	-			3	2	_				No.	SI.	
1	1	1	1	1	1		1	1	-1		SSRM B500 CWR	SSRM B500 CWR	SSRM B500 CWR				Identification	Frog Mark /	
•	1									1	25	25	25	mm			dia.	Nominal	
-	1	-	1	-	-	ı	,	-	-	1	24.7	24.6	24.7	mm			dia.	Actual	
1	-	ı	1			1/4		- 184	-	-	3.747	3.739	3.759	kg/m	Length	Unit	Per	Mass	
		Ŷ			and and order							3.748		kg/m	Length	Unit	Mass Per	Average	
			1	7							274	273	275	kN		Load	Proof	Yield or	
						•	•				560	555	560	MPa	Ren	Strength	Proof	Yield or	
												560		MPa	Ren	Strength,	Yield	Average	
			1	-1					-		324	323	326	N			Load	Tensile	
-			-			•				•	660	655	665	MPa	<b>7</b> 2 ■		Strength	Tensile	samples v
						•						660		MPa	<b>2</b> 0	Strength,	Tensile	Average	ere receiv
			,			•			•			1.18						R <sub>m</sub> /R <sub>eH</sub>	ed in UN
1		-	•	•	•			-		-	22	22	22	= (5d)	(G.length	(%)	Elongation	Total	Samples were received in UNSEALED condition.
									•			22			(%)	Elongation	Total	Average	naition.
	-				•		•	•	•	•	Satisfactory	Satisfactory	Satisfactory		samples)	(Seperate	Test	Bend	
•	-	1	,	1	•	-	•	•		•	Satisfact	Satisfact	Satisfact		sample	(Sepera	Test	Rebenc	

BDS ISO 6935-2:2016 Weight Requirements, Nominal Area etc. (Table 2).

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

\*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.

Steel	Yield S	Steel Yield Strength, R at, MPa Ductiliy Properti	Du	Ductilly Properties
Grade	.uiM	Max.	Rm/ReH	Elongation,
			min.	Total
B400C-R	400		1.15	ታ¢
B400CWR	400		1.15	14
B500C-R	005		1.15	14
B500CWR	500		1.15	14
B600C-R	600		1.15	10
B450CWR	450	1.25 R <sub>ен</sub> (min.)	1.15	
B400DWR	400	1.3 R eн (min.)	1.25	17
B420DWR	420	1.3 R <sub>ен</sub> (min.)	1.25	16
B500DWR	500	1.3 R eH (min.)	1.25	13

Countersigned by:

Dept. of Civil Engg., BUET, Dhaka-1000, Bangladesh Prof. Dr. Hasib Mohammed Ahsan, Test-in-Charge



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

Dr. Md. Shafiul Bari Test performed by: 07 August 2023

Professor, Dept. of Civil Engg., BUET

samples are sent in a secure and sealed cover/packet/container under the signature of a competent authority. In order to avoid fradulent fabrication of test results, this report has been printed on a security pap It is also recommended that the test results be collected by a duly authorized person 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