

Test Report of BUET

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

Mobile: 01819 557 964; PABX: (8802) 55167100, 55167228-57 Ext: 7224, Information: <http://btrc.ce.buet.ac.bd>, Report verification: <http://verify.ce.buet.ac.bd>



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

Sent by: Engr. Afzal Hossain
Manager (QC & QA), The Rani Re-Rolling Mills Ltd., Plot# 32, Road# 21, Shyampur, Kadamtali I/A, Dhaka.
Project: Quality Control Test.

BRTC No.: 1102-32180/CE/20-21; Dt: 18/3/2021
Ref.: Letter; Dt: 18/3/2021
Date of Test: 21/3/2021

Samples were received in UNSEALED condition.

Sl. No.	Frog Mark / Identification	Nominal dia.	Actual dia.	Mass Per Unit Length	Average Mass Per Unit Length	Yield or Proof Load	Yield or Proof Strength	Average Yield Strength	Tensile Load	Tensile Strength	Average Tensile Strength	R_{m}/R_{el}	Total Elongation (%)	Average Total Elongation (%)	Bend Test (Separate samples)	Rebend Test (Separate samples)
		mm	mm	kg/m	kg/m	kN	MPa	MPa	kN	MPa	MPa		(G length = 50)	(%)		
1	RRM RANI B420 DWR	32	32.3	6.435	6.381	371	461	459	606	755	745	1.62	23	22	Satisfactory	Satisfactory
2	RRM RANI B420 DWR	32	32.1	6.361		368	458		598	745			22		Satisfactory	Satisfactory
3	RRM RANI B420 DWR	32	32.1	6.347		368	458		598	745			22		Satisfactory	Satisfactory
4	RRM RANI B420 DWR	8	8.2	0.410	0.412	23.5	468	462	30.6	610	610	1.32	38	-	Satisfactory	Satisfactory
5	RRM RANI B420 DWR	8	8.2	0.413		23.1	459		30.6	610			30		Satisfactory	Satisfactory
6	RRM RANI B420 DWR	8	8.2	0.413		23.1	459		31.1	620			30		Satisfactory	Satisfactory
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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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	380	491	616	804	1257	1964
Nominal mass per unit length	0.222	0.385	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	±8	±8	±8	±8	±8	±8	±8	±8	±8	±8	±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

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	1.3 R_{el} (min.)	1.25	16	8
B500DWR	500	1.3 R_{el} (min.)	1.25	13	8

Countersigned by:
Prof. Dr. A.B.M. Badruzzaman, Test-in-Charge
Dept. of Civil Engg., BUET



KLF6h5FXd

Test performed by:
Dr. Shohel Rana
Associate Professor, Dept. of Civil Engg.

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

Sent by: Afzal Hossain
Manager (QC & QA), The Rani Re-Rolling Mills Ltd.
Project: Rod Test

BRTC No.: 1102-31905/CE/20-21; Dt: 15/3/2021
Ref.: ; Dt: 15/3/2021
Date of Test: 15/3/2021

Samples were received in UNSEALED condition.

Sl. No.	Frog Mark / Identification	Nominal dia.	Actual dia.	Mass Per Unit Length	Average Mass Per Unit Length	Yield or Proof Load	Yield or Proof Strength	Average Yield Strength	Tensile Load	Tensile Strength	Average Tensile Strength	R_{m}/R_{el}	Total Elongation (%)	Average Total Elongation (%)	Bend Test (Separate samples)	Rebend Test (Separate samples)
		mm	mm	kg/m	kg/m	kN	MPa	MPa	kN	MPa	MPa		(G length = 50)	(%)		
1	RRM RANI B420 DWR	25	25.0	3.864	3.867	225	458	458	342	695	695	1.52	20	21	Satisfactory	Satisfactory
2	RRM RANI B420 DWR	25	25.1	3.879		226	460		341	695			21		Satisfactory	Satisfactory
3	RRM RANI B420 DWR	25	25.0	3.857		224	455		339	690			22		Satisfactory	Satisfactory
4	RRM RANI B420 DWR	20	20.2	2.513	2.510	138	439	441	221	705	705	1.60	24	24	Satisfactory	Satisfactory
5	RRM RANI B420 DWR	20	20.2	2.512		138	439		221	705			24		Satisfactory	Satisfactory
6	RRM RANI B420 DWR	20	20.2	2.506		139	443		221	705			23		Satisfactory	Satisfactory
7	RRM RANI B420 DWR	16	16.1	1.604	1.603	85	423	423	134	665	670	1.58	21	20	Satisfactory	Satisfactory
8	RRM RANI B420 DWR	16	16.1	1.606		85	423		135	670			20		Satisfactory	Satisfactory
9	RRM RANI B420 DWR	16	16.1	1.599		85	423		135	670			20		Satisfactory	Satisfactory
10	RRM RANI B420 DWR	12	12.1	0.902	0.903	51.9	460	458	81.2	720	720	1.57	25	24	Satisfactory	Satisfactory
11	RRM RANI B420 DWR	12	12.1	0.902		51.5	456		80.8	715			25		Satisfactory	Satisfactory
12	RRM RANI B420 DWR	12	12.1	0.905		51.9	460		81.7	725			23		Satisfactory	Satisfactory
13	RRM RANI B420 DWR	10	10.3	0.650	0.646	35.5	450	446	51.9	660	650	1.46	30	-	Satisfactory	Satisfactory
14	RRM RANI B420 DWR	10	10.2	0.643		34.6	438		50.6	640			26		Satisfactory	Satisfactory
15	RRM RANI B420 DWR	10	10.2	0.645		35.5	450		51.1	645			24		Satisfactory	Satisfactory

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Permissible deviation, %	±8	±8	±8	±8	±8	±8	±8	±8	±8	±8	±8	±8	±8

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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	1.3 R_{el} (min.)	1.25	16	8
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Countersigned by:
Prof. Dr. A.B.M. Badruzzaman, Test-in-Charge
Dept. of Civil Engg., BUET



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Test performed by:
Dr. Shohel Rana
Associate Professor, Dept. of Civil Engg.

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