

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

BRTC No.: 1103-37749/CE/24-25; Dt. 3/12/2024
Ref.: Letter, Dt. 3/12/2024
Date of Test: 4/12/2024

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

Date of Test: 4/12/2024

Samples were received in UNSEALED condition

Project:

[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	8	10	12	14	16	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122	124	126	128	130	132	134	136	138	140	142	144	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194	196	198	200	202	204	206	208	210	212	214	216	218	220	222	224	226	228	230	232	234	236	238	240	242	244	246	248	250	252	254	256	258	260	262	264	266	268	270	272	274	276	278	280	282	284	286	288	290	292	294	296	298	300	302	304	306	308	310	312	314	316	318	320	322	324	326	328	330	332	334	336	338	340	342	344	346	348	350	352	354	356	358	360	362	364	366	368	370	372	374	376	378	380	382	384	386	388	390	392	394	396	398	400	402	404	406	408	410	412	414	416	418	420	422	424	426	428	430	432	434	436	438	440	442	444	446	448	450	452	454	456	458	460	462	464	466	468	470	472	474	476	478	480	482	484	486	488	490	492	494	496	498	500	502	504	506	508	510	512	514	516	518	520	522	524	526	528	530	532	534	536	538	540	542	544	546	548	550	552	554	556	558	560	562	564	566	568	570	572	574	576	578	580	582	584	586	588	590	592	594	596	598	600	602	604	606	608	610	612	614	616	618	620	622	624	626	628	630	632	634	636	638	640	642	644	646	648	650	652	654	656	658	660	662	664	666	668	670	672	674	676	678	680	682	684	686	688	690	692	694	696	698	700	702	704	706	708	710	712	714	716	718	720	722	724	726	728	730	732	734	736	738	740	742	744	746	748	750	752	754	756	758	760	762	764	766	768	770	772	774	776	778	780	782	784	786	788	790	792	794	796	798	800	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832	834	836	838	840	842	844	846	848	850	852	854	856	858	860	862	864	866	868	870	872	874	876	878	880	882	884	886	888	890	892	894	896	898	900	902	904	906	908	910	912	914	916	918	920	922	924	926	928	930	932	934	936	938	940	942	944	946	948	950	952	954	956	958	960	962	964	966	968	970	972	974	976	978	980	982	984	986	988	990	992	994	996	998	1000																																																																																																																																																																																																																																		
Nominal cross sectional area, sq. mm	28.3	50.3	78.5	113	154	201	314	380	491	616	804	1257	1964																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

*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_{eH} , MPa		Ductility Properties		
	Min.	Max.	R_m/R_{eH} mm.	Elongation, % (min.) Total	At R_{eH}
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.)	1.15	--	7.5
B400WR	400	1.3 R_{eH} (min.)	1.25	17	8
B420WR	420	1.3 R_{eH} (min.)	1.25	16	8
B500WR	500	1.3 R_{eH} (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 Engg.

07 December 2024

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.



5hdb3nX9

W. H. Miller

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

EUS ISO 9535-2-2017 weight requirements, nominal prices (table 5)													
	6	8	10	12	14	16	20	22*	25	28	32	40	50
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	3.55	4.84	6.31	9.87	15.42
	±8	±8	±6	±6	±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 BS 8007. 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_{m} , MPa		Ductility Properties		
	Min.	Max.	$R_{\text{m}}/R_{\text{m}}$ min.	Elongation, % (min.)	At R_{m}
B400C-R	400	--	1.15	14	7
B400C-WR	400	--	1.15	14	7
B500C-R	500	--	1.15	14	7
B500C-WR	500	--	1.15	14	7
B600C-R	600	--	1.15	10	7
B450C-WR	450	1.25 R_{m} (min.)	1.15	--	7.5
B400C-WR	400	1.3 R_{m} (min.)	1.25	17	8
B4200WR	420	1.3 R_{m} (min.)	1.25	16	8
B500D-WR	500	1.3 R_{m} (min.)	1.25	13	8

Countersigned by:

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

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



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07 December 2024

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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

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Nominal mass per unit length	0.222	0.395	0.616	0.887	1.21	1.58	2.46	2.89	3.85	4.84	6.31	9.87	15.42
Permissible deviation, %	±8	±8	±6	±5	±5	±5	±5	±4	±4	±4	±4	±4	

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

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WCfnHdmPf

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