



U S S R S T A T E S T A N D A R D

ROUND STEEL BARS

RANGE OF SIZES

GOST 2590-88
(CMEA Standard 3898-82)

Official Edition

USSR STATE COMMITTEE FOR STANDARDS

M o s c o w

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GOST
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OKP(All-Union Product Classification Code) 093100; 093200; 093300

Term from 01.01.90
to 01.01.95**Failure to comply with this Standard will result in legal proceedings**

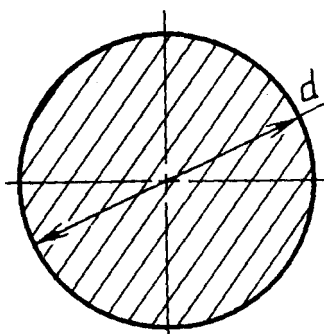
1. This Standard applies to steel bars with round cross-sections and diameters of 5 to 270 mm inclusive.

Round bars with diameters of more than 270 mm shall be manufactured by agreement between the manufacturer and the customer.

2. Round bars shall be manufactured in accordance with the following degrees of accuracy:

- A – extra accuracy;
- B – high accuracy;
- C – ordinary accuracy.

3. The diameter of round bars, the maximum deviations for it, the cross-sectional area and weight of a 1 m length shall correspond to those specified in the figure and in table 1.



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Table 1

Diameter <i>d</i> , mm	Maximum deviations, mm, with the following rolling accuracy:			Cross-sectional area, cm ²	Weight of 1 m of bar, kg
	A	B	C		
5				0.1963	0.154
5.5				0.2376	0.186
6				0.2827	0.222
6.3	+0.1			0.3117	0.245
6.5	-0.2			0.3318	0.260
7				0.3848	0.302
8				0.5027	0.395
9				0.6362	0.499
10		+0.1	+0.3	0.7854	0.616
11		-0.5	-0.5	0.9503	0.746
12				1.131	0.888
13				1.327	1.04
14	+0.1			1.539	1.21
15	-0.3			1.767	1.39
16				2.011	1.58
17				2.270	1.78
18				2.545	2.00
19				2.836	2.23
20				3.142	2.47
21				3.464	2.72
22	+0.1	+0.2	+0.4	3.801	2.98
23	-0.4	-0.5	-0.5	4.155	2.26
24				4.524	3.55
25				4.909	3.85
26	+0.1			5.307	4.17
27	-0.4			5.726	4.50
28			+0.3	6.158	4.83
29			-0.7	6.605	5.18
30				7.069	5.55
31				7.548	5.92
32				8.042	6.31
33				8.533	6.71
34				9.079	7.13
35				9.621	7.55
36		+0.2		10.18	7.99
37	+0.1	-0.7		10.75	8.44
38	-0.5			11.34	8.90
39			+0.4	11.95	9.38
40			-0.7	12.57	9.86
41				13.20	10.36
42				13.85	10.88
43				14.52	11.40
44				15.20	11.94
45				15.90	12.48
46				16.62	13.05
47				17.35	13.75
48				18.10	14.20

Table 1 (cont.)

Diameter d , mm	Maximum deviations, mm, with the following rolling accuracy:			Cross-sectional area, cm ²	Weight of 1 m of bar, kg
	A	B	C		
50				19.64	15.42
52				21.24	16.67
53				22.06	17.32
54	+0.1	+0.2	+0.4	22.48	17.65
55	-0.7	-1.0	-0.1	23.76	18.65
56				24.63	19.33
58				26.42	20.74
60				28.27	22.19
62				30.19	23.70
63				31.17	24.47
65				33.18	26.05
67	+0.1	+0.3	+0.5	35.26	27.68
68	-0.9	-1.1	-1.1	36.32	28.51
70				38.48	30.21
72				40.72	31.96
75				44.18	34.68
78				47.78	37.51
80				50.27	39.46
82				52.81	41.46
85				56.74	44.54
87	+0.3	+0.3	+0.5	59.42	46.64
90	-1.1	-1.3	-1.3	63.62	49.94
92				66.44	52.16
95				70.88	55.64
97				73.86	57.98
100				78.54	61.65
105		+0.4	+0.6	86.59	67.97
110	-	-1.7	-1.7	95.03	74.60
115				103.87	81.54
120				113.10	88.78
125				122.72	96.33
130				132.73	104.20
135		+0.6	+0.8	143.14	112.36
140	-	-2.0	-2.0	153.94	120.84
145				165.10	129.60
150				176.72	138.72
155				188.60	148.05
160				201.06	157.83
165				213.72	167.77
170				226.98	178.18
175				240.41	188.72
180	-	-	+0.9 -1.5	254.47	199.76
185				268.67	210.91
190				283.53	222.57
195				298.50	234.32
200				314.16	246.62

Table 1 (cont.)

Diameter d , mm	Maximum deviations, mm, with the following rolling accuracy:			Cross-sectional area, cm ²	Weight of 1 m of bar, kg
	A	B	C		
210				346.36	271.89
220				380.13	298.40
230	–	–	+1.2	415.48	326.15
240			-3.0	452.39	355.13
250				490.88	385.34
260	–	–	+2.0	530.66	416.57
270			-4.0	572.26	449.22

Notes:

1. Cross-sectional area and weight of a 1m length of a bar shall be calculated according to the stipulated dimensions. Steel density is equal to 7.85 g/cm³ for calculating the weight of 1 m of round bars. The weight of 1 m of round bars is a reference value.

2. The maximum deviations of a diameter of no more than ± 0.5 mm shall be allowed until 01.01.92 for round bars with a diameter up to 9 mm inclusive, manufactured in bundles on mills not equipped with finishing blocks.

3. The maximum deviations for the diameter of round bars, intended for the manufacture of calibrated round bars, shall be symmetric, but shall not exceed the established tolerance ranges.

4. Bars with diameters over 100 mm shall be manufactured of intermediate dimensions with maximum deviations of the nearest smaller dimension by agreement between the manufacturer and the customer.

4. At the customer's request, round bars shall be manufactured with the deviations with a + sign, specified in table 2

Table 2

mm

Diameter	Maximum deviation, not over
From 5 to 9 inclusive	+0.5
Over 9 " 19 "	+0.6
" 19 " 25 "	+0.8
" 25 " 31 "	+0.9
" 31	The sums of maximum deviations for round bars of regular rolling accuracy according to table 1.

5. Ovality of round bars shall not exceed 50 % of the sum of maximum deviations of the diameter.

Ovality, not exceeding 60 % of the sum of maximum deviations of the diameter, shall be allowed for tool alloyed and high-speed round bars.

6. Round bars with diameters of up to 9 mm shall be manufactured in bundles and also in rods for round bars with diameters of over 9 mm.

Round bars with diameters of over 9 mm shall be manufactured in bundles and also in rods for round bars with diameters of less than 9 mm by agreement between the manufacturer and the customer.

7. Round bars shall be manufactured of the following lengths according to the Order:

standard length;
multiple of standard length;
non-standard length.

8. Round bars shall be manufactured with the following lengths:
from 2 to 12 m for ordinary quality carbon and low-alloy steel;
from 2 to 6 m for quality carbon and alloy steel;
from 1.5 to 6 m for heat-resistant steel.

9. Round bars shall be manufactured with lengths of 2 to 24 m at the customer's request.

10. Maximum deviations of the length of a round bar with standard or multiple of standard lengths shall not exceed the following values:

+30 mm for a length of up to 4 m inclusive
+50 mm for a length of 4 m to 6 m inclusive;
+70 mm for a length over 6 m.

Maximum deviations shall not exceed the following values at the customer's request:

+40 mm for round bars with a length of 4 to 7 m;
+5 mm on each meter of length for round bars with a length of over 7 m.

11. Curvature of round bars shall not exceed the values specified in table 3.

T a b l e 3

mm

Circle diameter	Curvature	
	I class	II class
Up to 25 inclusive	0.5 % of length	—
Over 25	0.4 % of length	0.5 % of length

12. Curvature of round bars shall not exceed 0.2 % of a length at the customer's request.

13. Curvature of round bars shall be measured on a length of no less than 1 m and at a distance of no less than 150 mm from the ends.

14. The diameter and ovality of round bars shall be measured at a distance of no less than 150 mm from the end of a bar and no less than 1.5 m from the end of a bundle with its weight up to 250 kg and at a distance of no less than 3.0 m with a weight of a bundle more than 250 kg.

DETAILS

1. DEVELOPED AND INTRODUCED by the USSR State Committee for Standards

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3. APPROVED AND PUT INTO EFFECT by Decree No. 2519, dated 29.06.88, of the USSR State Committee for Standards

3. This Standard fully complies with CMEA Standard 3898-82

4. In the place of GOST 2590-71

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