UDC 669.14-422.11-122.4 : 621.88 September 1978

Steel Bars

Hot Rolled Round Steel for Bolts and Rivets

Dimensions, Permissible Deviations on Dimension and Form

DIN 59 130

Stabstahl; Warmgewalzter Rundstahl für Schrauben und Niete; Masse, zulässige Mass- und Formabweichungen

For connection with Euronorm 65 issued by the European Coal and Steel Community, see Explanations.

Dimensions in mm

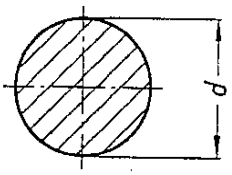
1 Scope

This Standard applies to hot rolled round steel in straight bars of 9.75 to 51.5 mm diameter made of the steel grades listed in Section 5 and intended for the manufacture of hot and cold formed bolts and rivets.

2 Other relevant standards

DIN	1353 Part 2	Abbreviations of denominations for half-finished products
DIN	1654 Part 1	(at present circulating as draft) Cold heading and cold extrusion pressed steels; quality specifications, general
DIN	1654 Part 2	(at present circulating as draft) Cold heading and cold extrusion pressed steels; quality specifications for steels not intended for heat-treatment
DIN	1654 Part 3	(at present circulating as draft) Cold heading and cold extrusion pressed steels; quality specifications for case-hardening steels
DIN	1654 Part 4	(at present circulating as draft) Cold heading and cold extrusion pressed steels; quality specifications for quenched and subsequently tempered steels
DIN	1654 Part 5	(at present circulating as draft) Cold heading and cold extrusion pressed steels; quality specifications for stainless steels
DIN 17 100		Steels for general structural purposes; quality specifications
DIN 17 111		Low-carbon unalloyed steels for bolts, nuts and rivets; quality specifications

3 Designation



Designation of a hot rolled round steel of steel with the code number USt 37-2 resp. the material number 1.0036 *) according to DIN 17 100 of diameter d = 15.7 mm

Round DIN 59 130 – USt 37-2 – 15.7

or Round DIN 59 130 – 1.0036 – 15.7

The denomination "Round" may be replaced by the abbreviation "Rd" according to DIN 1353 Part 2.

*) New material number which will be incorporated in the successor issue of DIN 17 100 (previously 1.0112)

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Explanations on page 4

4 Dimensions and permissible deviations on dimension and form

4.1 Diameter

4.1.1 The diameters in which round steel for bolts and rivets is preferably supplied, together with the permissible deviations therein, are listed in Table 1.

Series A shows the diameters to be preferred. Round steel of diameters in Series B should be ordered only if it is impossible to use a dimension according to Series A.

4.1.2 The difference between the largest and smallest diameter, measured in the same cross-sectional plane, may not exceed 80 % of the permissible total deviations in diameter according to Table 1 (e.g., a maximum of 0.4 mm for d = 26.65 mm).

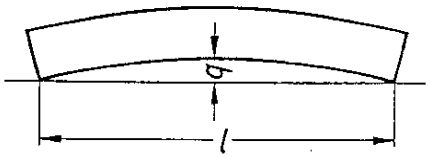
Table 1. **Nominal diameters, permissible deviations, cross-section and weight**

Diameter Nominal dimension d [1]			Cross-section [2]	Weight [3]
Series A	Series B	Perm. dev.	mm²	kg/m
	9,75	± 0,15	74,7	0,586
11,75			108	0,851
15,7		± 0,20	194	1,52
	17,7		246	1,93
19,7			305	2,39
21,7			370	2,90
23,65		± 0,25	439	3,45
26,65			558	4,38
29,6			688	5,40
	32,55	± 0,30	832	6,53
	35,55		993	7,79
	38,55		1167	9,16
	41,5	± 0,40	1353	10,6
	44,5		1555	12,2
	47,5		1772	13,9
	51,5		2083	16,4

1) See Section 4.1.1
2) Cross-section ≈ $0.785 \cdot d^2$
3) See Section 6

4.2 Straightness

For round steel of diameters above 25 mm, the permissible deviation q from straightness may not exceed $0.004 \cdot l$.



More exacting straightness requirements are to be specially agreed when ordering.

5 Material

Round steel according to this Standard is preferably made from steel grades according to DIN 1654 Part 1 to Part 5 **), DIN 17 100 **) and DIN 17 111. The desired steel grade is to be stated in the designation.

6 Weight

The weight stated in Table 1 has been calculated on the basis of a density of 7.85 kg/dm. For alloyed steels, the density given in quality standards is to be used in each case for calculating the weight.

**) At present circulating as draft

7 Mode of delivery

7.1 The length data according to Table 2 apply to the supply of hot rolled round steel according to this Standard.

7.2 In the case of orders based on weight only, the length may fluctuate between the maximum and minimum dimensions stated for manufacturing lengths.

Table 2. **Types of length and permissible length deviations**

Type of length	Length		Details of order for length
	Range [1]	Perm. dev.	
Manufacturing length [2]	6000 to 12 000	See Section 7.2	None [2]
Fixed length	6000 to 12 000	± 100 [3]	Required fixed length in mm
Exact length	6000 to 12 000	under ± 100 to be preferred: ± 50, ± 25, ± 10, ± 5 [3]	Required exact length and required permissible deviation in mm

1) Enquiries should be made to the manufacturer as to whether shorter or longer lengths can be supplied.
2) Round steel can also be supplied in limited manufacturing lengths with a length range to be stated when ordering. The span between the shortest or greatest lengths of this range must be at least 2000 mm (e.g. (e.g. 6000 to 8000 mm).
3) By agreement when ordering, the total spans of the permissible deviations may be arranged entirely on the plus side, e.g. $^{+200}_{0}$ (instead of ± 100 mm) in the case of fixed lengths or $^{+50}_{0}$ mm (instead of ± 25 mm) in the case of exact lengths.

7.3 Example of order

100 t hot rolled round steel of a steel with the code number USt 37-2 resp. the material number 1.0036 *) according to DIN 17 100 of diameter d = 15.7 mm in manufacturing length

100 t Round DIN 59 130 – USt 37-2 – 15.7
or 100 t Round DIN 59 130 – 1.0036 – 15.7

8 Testing for accuracy to size

8.1 Extent of testing

The number of bars which shall be tested for accuracy to size by measurements at the manufacturer's works prior to despatch shall be agreed when ordering.

8.2 Testing procedure

8.2.1 The diameter according to Section 4.1 shall be measured at least 150 mm from the ends of the bars when manufacturing lengths are supplied and at any point when fixed and exact lengths supplied.

8.2.2 When testing the straightness according to Section 4.2, the dimension q shall be measured over the full length of the bar.

*) See page 1

Further standards

Dimension standards for hot rolled round steel

DIN	488 Part 2	Reinforcing steel; reinforcing steel bar, dimensions
DIN	1013 Part 1	Steel bars; hot rolled round steel for general purposes; dimensions, permissible variations on dimension and form
DIN	1013 Part 2	Steel bars; hot rolled round steel for special purposes; dimensions, permissible variations on dimension and form
DIN	2077	Spring steel; round, hot rolled; permissible deviations on dimension and form

Dimension standards for round wire rod

DIN 59 110	Steel wire rod; dimensions, permissible variations, weights
DIN 59 115	Steel wire rod for bolts, nuts and rivets; dimensions, permissible deviations, weights

Explanations

In conjunction with the current revision of Euronorm 65 – Hot rolled round steel for bolts and rivets – (present issue of August 1967), DIN 59 130 has also been reworded. In so doing, it proved possible to reduce from 42 to 16 the number of special dimensions standardized for the production of bolts and rivets (i.e., the diameters not covered by DIN 1013) as compared with the October 1971 issue of the DIN Standard (see Table 1). A distinction is drawn between the dimensions of the main Series A, use of which is preferred, and the dimensions of Series B, which should be ordered only if the use of an adjacent diameter according to DIN 1013 Part 1 or Part 2 is not possible.

The values for permissible deviations in the nominal diameter remain unchanged. It should be noted that these values have also been incorporated into DIN 1013 as tolerances Class P (precision deviations) for round steel made of other materials.

The other changes also correspond to the agreements on the new version of DIN 1013. For example, the provisions regarding permissible deviations in straightness have been extended to diameters ≥ 25 mm and all data to permissible weight deviations have been omitted.

In the light of the present state of negotiations, it can be assumed that the successor issue of Euronorm 65 will to a large extent correspond to the present version of the DIN Standard.