

UDC 669.14-42

March 1964

Steel Bars
Hot Rolled Flat Steel
for Special Purpose (in Bar Drawing Mills, Bolt and Screw Factories, etc.)
Dimensions, Weights, Permissible Variations

DIN
1017
Part 2

Stabstahl; Warmgewalzter Flachstahl für besondere Verwendung (in Stabziehereien, Schraubenwerken usw.), Maße, Gewichte, Zulässige Abweichungen

The figures for permissible variations stated in this Standard agree with the corresponding data in Euronorm 35-62 - Hot rolled steel bars for general purposes, permissible variations - except that up to width 33.5 the permissible variation on width is ± 0.75 instead of ± 1.0 .

Dimensions in mm

1. Scope

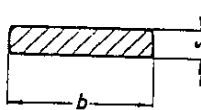
This Standard applies to hot rolled flat steel in the grades of steel according to Section 4 as required especially in bar drawing mills and bolt and screw factories in addition to the dimensions stated in the cross-sectional range of Table 1 in DIN 1017 Part 1.

DIN 1017 Part 1 deals with hot rolled flat steel for general purpose.

This Standard does not apply to the following:


- Hot rolled spring steel for the production of laminated springs (see DIN 4620)
- Flat wire rod (see DIN 59110)
- Hot rolled steel strip (see DIN 1016)
- Hot rolled wide flats (see DIN 59200)

2. Designation



Designation of hot rolled flat steel of width $b = 48$ mm and thickness $s = 20$ mm in a steel covered by the code number St 37-2 or the material number 1.0112 according to DIN 17100:

Flat 48 x 20 DIN 1017 - St 37-2
or Flat 48 x 20 DIN 1017 - 1.0112

Instead of writing out "Flat" in full, the simplified forms "F1" or "" to DIN 1353 may be used.

3. Dimensions and permissible dimensional and form variations

3.1. Widths and thicknesses

3.1.1. The widths and thicknesses in which flat steels are preferentially supplied, and the permissible variations on these dimensions, are contained in Table 1.

For Explanations see DIN-Mitteilungen Vol. 41 (1962), No. 11, pp. 517-519.

Continued on pages 2 and 3

Table 1

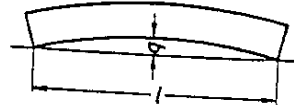
Width ¹⁾ b	Thickness s ¹⁾															Permissible variation																													
	±0,5															±1,0															±1,5														
	5	6	6,5	7	8	9	10	11	12	13	14	15	16	17	20	22	24	27	30	32	34	42	43	53																					
21,5	-	-	-	-	1,35	-	1,69	1,86	2,03	2,19	2,36	-	-	-	-	-	-	-	-	-	-	-	-																						
23,5	-	-	-	-	-	-	1,84	-	2,21	2,40	-	2,77	-	-	-	-	-	-	-	-	-	-	-																						
26,5	-	-	-	-	-	1,87	-	2,29	-	-	2,91	-	3,33	-	4,58	-	-	-	-	-	-	-	-																						
31,5	1,24	1,48	-	1,73	-	2,23	-	2,72	-	-	-	-	4,20	-	5,79	-	-	-	-	-	-	-	-																						
33,5	-	-	-	-	-	-	2,63	-	3,16	-	-	-	4,47	5,26	5,79	-	-	-	-	-	-	-	-																						
36,5	-	1,72	-	2,01	-	2,58	-	3,15	-	4,01	-	-	4,87	-	6,30	-	7,74	-	-	-	-	-	-																						
41,5	-	1,95	-	2,28	-	2,93	-	3,58	-	4,56	-	-	5,54	-	7,17	7,82	8,80	-	10,4	11,1	-	-	-																						
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9,54	-	-	-	-	-	-																						
46,5	-	2,19	-	2,56	-	3,29	-	4,02	-	(5,11)	-	-	6,21	-	8,03	-	9,86	-	-	12,4	-	-	-																						
48	-	-	-	-	-	-	-	-	-	-	-	-	-	7,54	-	-	-	-	-	-	-	-	-																						
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12,6	-	-	-	-																						
51,5	-	2,43	-	2,83	-	3,64	-	4,45	-	5,66	-	-	6,87	-	8,89	-	10,9	(12,1)	12,9	(13,7)	-	-	-																						
55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14,7	-	-	-																						
56,5	-	-	-	3,10	-	3,99	-	4,88	-	6,21	-	-	7,54	-	9,76	-	-	-	-	-	-	-	-																						
57	-	-	-	-	-	-	-	-	-	-	6,71	-	-	-	-	-	-	-	-	-	-	-	-																						
61,5	-	2,90	-	3,38	-	4,34	-	5,79	-	6,76	-	-	8,21	-	10,6	-	13,0	-	15,4	-	20,3	-	-																						
65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(17,3)	-	-	-																						
70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18,7	-	-	-																						
72	-	-	-	-	4,52	-	5,65	-	6,78	-	7,91	-	9,61	-	12,4	-	15,3	-	18,1	-	(24,3)	-	-																						
75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(15,9)	-	(20,0)	-	-	-	-																						
80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(17,0)	-	(21,4)	-	-	-	-																						
82	-	-	-	4,51	5,15	-	6,44	-	7,72	-	9,01	-	10,9	-	14,2	-	17,4	-	20,6	-	-	-	-																						
85	-	-	(4,34)	-	-	-	-	-	-	-	-	-	-	-	-	-	(18,0)	-	(22,7)	-	-	-	-																						
92	-	-	-	5,78	-	-	7,22	-	8,67	-	10,1	-	12,3	-	15,9	-	19,5	-	-	-	-	-	-																						
102	-	-	-	-	-	-	-	9,61	-	11,2	-	13,6	-	17,6	-	21,6	-	25,6	-	-	-	-	-																						
122	-	-	-	-	(7,66)	-	(9,58)	-	(11,5)	-	(13,4)	-	(16,3)	-	(21,1)	-	(25,9)	-	(30,6)	-	-	-	-																						

1) Only those sizes for which weights are indicated above are covered by the provisions of this Standard. Sizes for which the weights are indicated in brackets should be avoided where possible.

3.2. Straightness

Flat steel to this Standard shall be straight to within the permissible variations according to Table 2.

Straightness requirements more stringent than the above shall be agreed to at the time of ordering.



4. Material

Flat steel to this Standard shall preferably be made in steels St 37 and St 37-2 according to DIN 17100.

The grade of steel required shall be indicated when ordering.

5. Weight and permissible weight variations

5.1. The weights stated in Table 1 have been evaluated from the cross-section on the basis of a density of 7.85 kg/dm³.

5.2. Permissible weight variations as percentages of total weight are given in Table 3.

The weight variation for the purpose of this Standard is the difference between the actual weight supplied and the weight as calculated from the weight according to Table 1 and the metres supplied (when ordering in manufacturing lengths) or the metres ordered (when ordering in fixed lengths and exact lengths).

6. Form of delivery

6.1. Length data for deliveries of hot rolled flat steel are contained in Table 4.

6.2. When ordered by weight it is permissible for the length to vary between the maximum and minimum limits stated for manufacturing lengths.

6.3. Example of order

100 t hot rolled flat steel of width $b = 48$ mm and thickness $s = 20$ mm in steel according to the code number St 37-2 or the material number 1.0112 according to DIN 17100 in manufacturing lengths:

100 t Flat 48 x 20 DIN 1017 - St 37-2
or 100 t Flat 48 x 20 DIN 1017 - 1.0112

7. Checking accuracy to size

7.1. Scope of test

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

7.2. Procedure

7.2.1. The thickness and width according to Section 3.1 shall be measured at a distance of not less than 150 mm from the end of the bars when delivery is made in manufacturing lengths, and at any point desired when delivery is made in fixed lengths and exact lengths.

7.2.2. When checking straightness according to Section 3.2 the dimension q shall be measured over the full length of the bars.

Table 4

Description	Length		Length details to be given when ordering
	Range	Permissible variation	
Manufacturing length	3000 to 12000	anywhere between 3000 and 12000	none
Fixed length	up to 12000	± 100	required fixed length in mm
Exact length	up to 12000	under ± 100 to ± 5 ; the following being preferred: $\pm 50, \pm 25, \pm 10, \pm 5$	required exact length and required permissible variation in mm

Table 2

Cross-sectional area mm ²		Permissible variation from straightness q
over	to	
-	1000	0,004 · l
1000	-	0,0025 · l

Table 3

Thickness s Nominal		Permissible weight variation on deliveries	
over	to	of 5 t and above	less than 5 t
-	5	$\pm 6\%$	$\pm 8\%$
5	53	$\pm 4\%$	5,3%