

INTERNATIONAL
STANDARD

ISO
4066

Second edition
1994-09-01

Construction drawings — Bar scheduling

Dessins de bâtiment et génie civil — Cahiers de ferrailage

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Reference number
ISO 4066:1994(E)

Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 4066 was prepared by Technical Committee ISO/TC 10, *Technical drawings, product definition and related documentation*, Subcommittee SC 8, *Construction documentation*.

This second edition cancels and replaces the first edition (ISO 4066:1977), which has been technically revised.

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Introduction

The purpose of this International Standard is to ensure uniformity of practice in the scheduling of steel bars for the reinforcement of concrete. To establish a clear and unambiguous system for scheduling, it is necessary to specify the method of indicating dimensions to be used and the order in which the information is given on the bar schedule.

As the use of preferred shapes is considered to be very advantageous both for simplifying design and manufacture and for the use of computers, the opportunity has been taken to include a list of preferred shapes and a coding system; the layout of the bar schedule is based on the use of preferred shapes.

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Construction drawings — Bar scheduling

1 Scope

This International Standard establishes a system for the scheduling of reinforcing bars, and comprises

- the method of indicating dimensions;
- a coding system for bar shapes;
- a list of preferred shapes;
- the bar schedule.

This International Standard applies to all types of steel bar for the reinforcement of concrete. It does not apply to steel fabric and prestressing steel reinforcement.

2 Indication of bending dimensions

The bending dimensions shall be indicated as shown in figures 1 to 5.

Dimensions shall be outside dimensions, except for radii, and the standard radius of bend shall be the smallest radius permitted by national standards regulations for the size of bar scheduled.

If a national standard specifies different standard radii for different situations, the radius to be used shall be entered in the column e/R .

Except for shape codes 12, 13, 33, 67 and 77, all bends will be assumed to have standard radii. No dimension shall be zero.

The "free" dimensions shown in brackets shall be available to take up cumulative cutting and bending

tolerances; this dimension need not be shown on schedules.

The total length (cutting length) shall be calculated on the basis of the appropriate bending dimensions with corrections for bends.

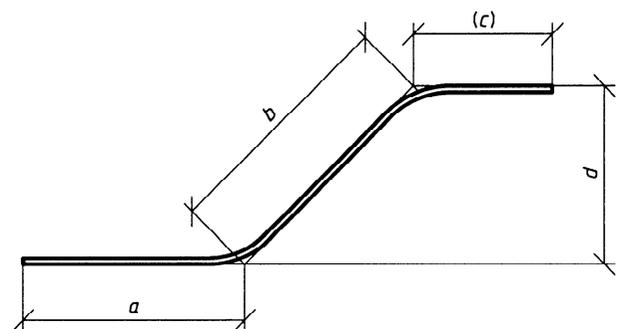


Figure 1 — Bending dimensions — Shape code 26

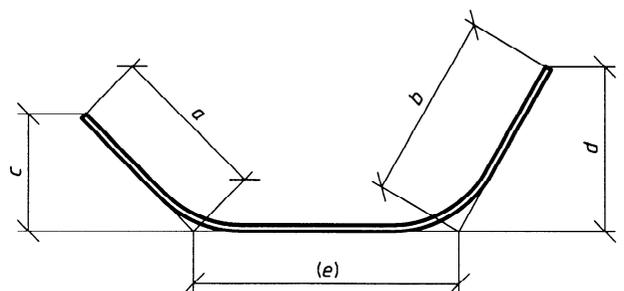


Figure 2 — Bending dimensions — Shape code 25

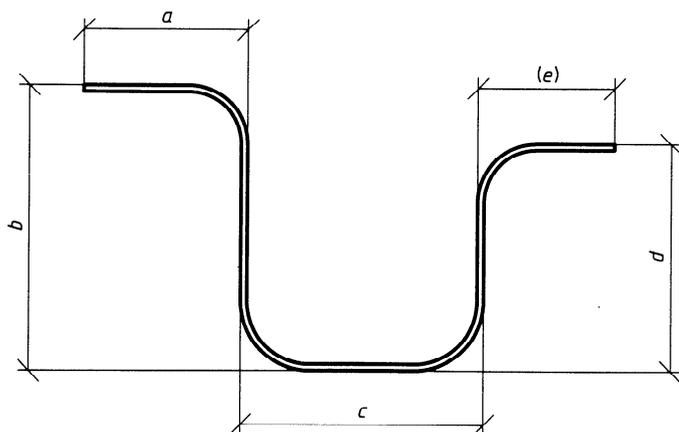


Figure 3 — Bending dimensions — Shape code 44

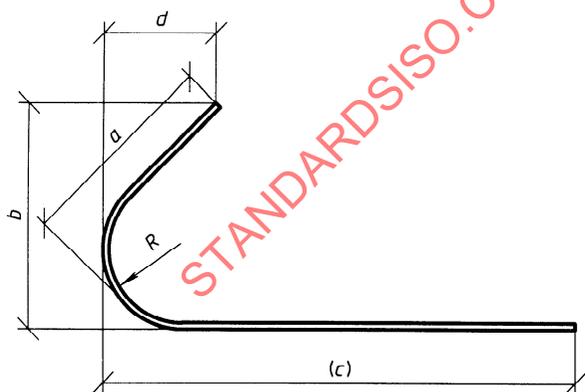
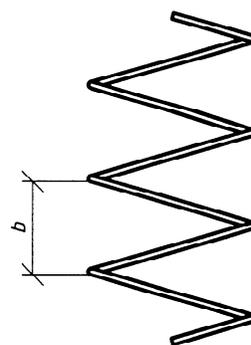
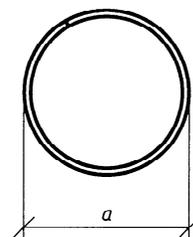


Figure 4 — Bending dimensions — Shape code 99 (non-standard)



a: Final diameter
c: Number of complete turns

Figure 5 — Bending dimensions — Shape code 77

3 Coding system for bar shapes

The shape code number shall consist of two characters, as defined in table 1.

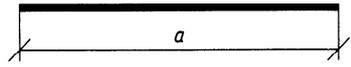
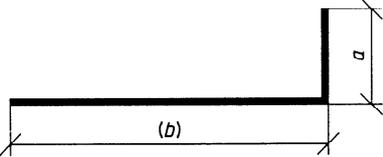
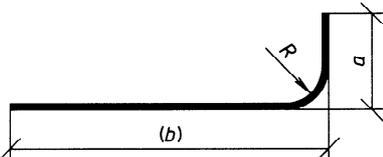
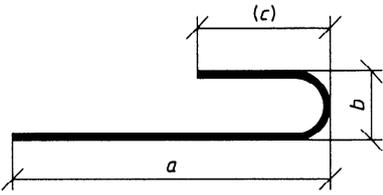
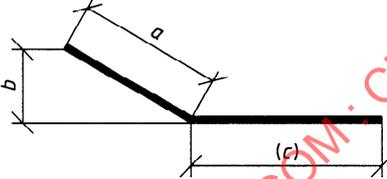
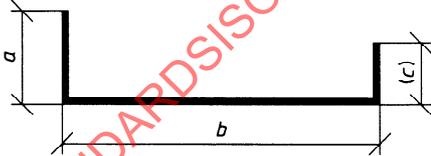
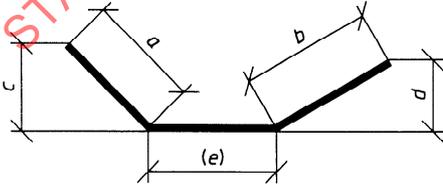
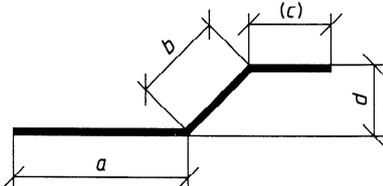
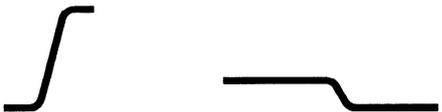
4 List of preferred shapes

Preferred shapes for bars are listed in table 2. The letter symbols in table 2 refer to the dimensions which shall be given in the bar schedule (although the "free" dimension may be omitted).

Table 1 — Code number composition

First character	Second character
0 — No bends (optional)	0 — Straight bars (optional)
1 — 1 bend	1 — 90° bend(s) of standard radius, all bent towards the same direction
2 — 2 bends	2 — 90° bend(s) of non-standard radius, all bent towards the same direction
3 — 3 bends	3 — 180° bend(s) of non-standard radius, all bent towards the same direction
4 — 4 bends	4 — 90° bends of standard radius, not all bent towards the same direction
5 — 5 bends ¹⁾	5 — Bends < 90°, all bent towards the same direction
6 — Arcs of circles	6 — Bends < 90°, not all bent towards the same direction
7 — Helices	7 — Arcs or helices
99 — Special non-standard shapes defined by a sketch. Shape code 99 shall be used for all non-standard shapes. Bending radii for shape 99 shall be assumed to be standard (<i>r</i>) unless specified otherwise (<i>R</i>) ²⁾ .	
NOTE — This table explains the logic behind the numbering of the shapes in table 2. It is not to be used for creating codes for additional shapes.	
1) Shape code 51 is the only preferred shape permitted to have more than four bends. Five bends or more are undesirable and may be impractical within permitted tolerances but they must be drawn out in full and coded 99.	
2) With the exception of shape codes 12 and 67 if a non-standard radius is required the shape code becomes 99 with <i>R</i> specified on the sketch.	

Table 2 — Preferred shapes

Shape code	Shape	Examples
00		
11		
12		
13		
15		
21		
25		
26		

Shape code	Shape	Examples
31	<p>Technical drawing of a stepped profile. It consists of a horizontal base of length c and height b. A top horizontal section of length a is positioned at height b. A vertical section of height (d) is attached to the right end of the base.</p>	<p>Two examples of the shape 31. The first is a horizontal line with a hook at the right end. The second is a horizontal line with a loop at the right end.</p>
33	<p>Both ends semicircular</p> <p>Technical drawing of a shape with semicircular ends. The total length is a, the height is b, and the width of the central opening is (c).</p>	<p>One example of the shape 33, a closed loop with semicircular ends.</p>
41	<p>Technical drawing of a stepped profile. It has a base of length c and height b. A top horizontal section of length a is at height b. A second horizontal section of length (e) is at height d on the right side.</p>	<p>Two examples of the shape 41. The first is a horizontal line with a hook at the right end. The second is a horizontal line with a loop at the right end.</p>
44	<p>Technical drawing of a stepped profile. It has a base of length c and height b. A top horizontal section of length a is at height b. A second horizontal section of length (e) is at height d on the right side.</p>	<p>Two examples of the shape 44. The first is a horizontal line with a hook at the right end. The second is a horizontal line with a loop at the right end.</p>
46	<p>Technical drawing of a trapezoidal profile. The total length is c, the height is d, and the width of the top section is a. The width of the top section on the right side is (e).</p>	<p>One example of the shape 46, a trapezoidal profile.</p>
51	<p>Technical drawing of a profile. The total length is a, the height is b, and the width of the top section is c. The width of the top section on the right side is (d).</p>	<p>Two examples of the shape 51. The first is a horizontal line with a hook at the right end. The second is a horizontal line with a loop at the right end.</p>
67	<p>Technical drawing of a curved profile. The length is a and the radius is R.</p>	<p>Two examples of the shape 67. The first is a horizontal line with a hook at the right end. The second is a horizontal line with a loop at the right end.</p>

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