

Specification for scheduling, dimensioning, bending and cutting of steel reinforcement for concrete

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Committees responsible for this British Standard

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- British Precast Concrete Federation Ltd.
- Institute of Structural Engineers
- UK Certification Authority for Reinforcing Steels
- UK Steel Association

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Foreword

This British Standard has been prepared under the direction of the Engineering Standards Policy Committee. It supersedes BS 4466:1989 which is withdrawn. The standard has been revised to incorporate the shape codes in BS EN ISO 4066:2000.

Assessed capability. Users of this British Standard are advised to consider the desirability of quality system assessment and registration against the appropriate standard in the BS EN ISO 9000 series by an accredited third-party certification body (see annex B).

A British Standard does not purport to include all necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 18, an inside back cover and a back cover.

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1 Scope

This British Standard specifies requirements for the scheduling, dimensioning, bending, and cutting of steel reinforcement for concrete conforming to BS 4449, BS 4482, BS 4483, and BS 6744.

2 Normative references

The following normative documents contain provisions that, through reference in this text, constitute provisions of this British Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS 4000-1:1990, *Sizes of paper and board — Specification for A and B series of trimmed sizes of writing paper and certain classes of printed matters*.

BS 4449:1997, *Specification for carbon steel bars for the reinforcement of concrete*.

BS 4482:1985, *Specification for cold reduced steel wire for the reinforcement of concrete*.

BS 4483:1998, *Specification for steel fabric for the reinforcement of concrete*.

BS 6744:1986, *Specification for austenitic stainless steel bars for the reinforcement of concrete*.

BS 8110-1:1997, *Structural use of concrete — Code of practice for design and construction*.

3 Terms and definitions

For the purposes of this British Standard the following terms and definitions apply.

3.1

bar

steel product of any cross-section conforming to BS 4449 or BS 6744

3.2

wire

steel product of any cross-section conforming to BS 4482

3.3

nominal size

diameter of a circle, d , with an area equal to the effective cross-sectional area of the bar or wire, sometimes referred to as size

3.4

bar (or fabric) mark

identifying mark which cross-refers individual line entries on the schedule to the detailed drawing

NOTE The bar (or fabric) mark also appears on the delivery label.

3.5

shape code

two-digit coded designation of the reinforcement shape

NOTE See Table 1.

3.6

pitch

centre-to-centre spacing of bars or wires in a sheet of fabric

NOTE Pitch and other dimensions used to define fabric are shown in Figure 1.

3.7

mesh

rectangle defined by the pitch of the longitudinal wires and the pitch of the cross wires in a sheet of fabric

3.8

fabric

factory-made product consisting of welded bars or wires conforming to BS 4483

3.9

standard fabric

fabric reinforcement where the wire and mesh arrangement can be defined by an identifiable fabric reference, see Table 2

3.10

purpose made fabric

fabric reinforcement not included in Table 2, see Figure C.1

3.11

fabric reference

alpha numeric designation denoting fabric in accordance with Table 2

3.12

bar schedule

a list of reinforcement types, dimensions, quantities, and bar mark numbers cross-referring to the detailed drawing, see Figure 2. The preparation of the list is known as scheduling

3.13

fabric schedule

a list of fabric types, dimensions, quantities, and fabric mark numbers cross-referring to the detailed drawing, see Figure 3

4 Notation

The type and grade of steel reinforcement shall be designated as follows:

- R: grade 250 conforming to BS 4449;
- F: grade 460 deformed type 1 conforming to BS 4482 (for fabric conforming to BS 4483);
- D: grade 460 deformed type 2 conforming to BS 4482 or grade 460A conforming to BS 4449 (for fabric conforming to BS 4483);
- W: grade 460 plain round conforming to BS 4482 (for fabric conforming to BS 4483);
- T: grade 460A or grade 460B deformed type 2 conforming to BS 4449;
- B: grade 460B deformed type 2 conforming to BS 4449 (for bar or fabric conforming to BS 4483);
- S: a specified grade and type of stainless steel conforming to BS 6744;
- X: reinforcement of a type not included in the above list having material properties that are defined in the design or contract specification.

5 Form of schedule

5.1 For bar reinforcement, a bar schedule in accordance with Figure 2 shall be prepared. For cutting and bending purposes, schedules shall be provided on separate sheets of paper of size not significantly larger than A4 in accordance with BS 4000 and not as part of the detailed reinforcement drawings.

For fabric reinforcement a fabric schedule shall be prepared in accordance with Figure 3.

When used for purpose made fabric, the schedule shall include cross-reference to any relevant dimensional drawings.

5.2 For schedules that are not produced on a computer, the minimum width of the columns in the bar and fabric schedules shall be as shown in Figures 2 and 3.

For computer produced schedules, the column widths and the size of the schedule may vary from those shown in Figures 2 and 3, but the sequence of columns shall be maintained. The schedule shall not be significantly larger than size A4 in accordance with BS 4000.

5.3 The schedule reference shall be included at the top right-hand corner of the schedule form and shall be consecutively numbered. The first three characters of the schedule reference shall be the last three characters of the relevant detailed drawing number, starting at, for example, drawing number 001. The schedule number shall occupy the fourth and fifth spaces, starting at 01 and not exceeding 99 for any one drawing. The sixth space shall be used for schedule revision letters.

Terms such as “sheet number” or “page number” shall not be used on schedules. The styles “1 (of 6)” and “6 (and last)” may be used on manually prepared schedules but the words in parentheses shall not form part of the schedule reference.

EXAMPLE

	Drawing			Schedule		Revision
Bar schedule reference	0	4	6	0	3	A

Where a schedule revision is necessary, the line or lines affected shall be indicated by a suitable reference on the schedule, e.g. “A” at the right-hand side of the schedule in Figure 2.

NOTE If a job contains more than 999 drawings it can be broken down into groups by the use of a job number, e.g. job number 1234A foundations and job number 1234B ground floor.

5.4 The bar or fabric schedule shall include the statement “this schedule complies with BS 8666:2000”.

5.5 The bar (or fabric) mark shall comprise simple and consecutive numbers or letters with a maximum of six characters. Where special end preparation is required (e.g. for couplers), the bar mark shall commence with “E”. The bar (or fabric) mark shall be used for labelling purposes in accordance with clause 6.

5.6 In the “type and size” column of the schedule, the notations specified in clause 4 for the type and grade of reinforcement shall be given and this shall be followed by the nominal size in millimetres.

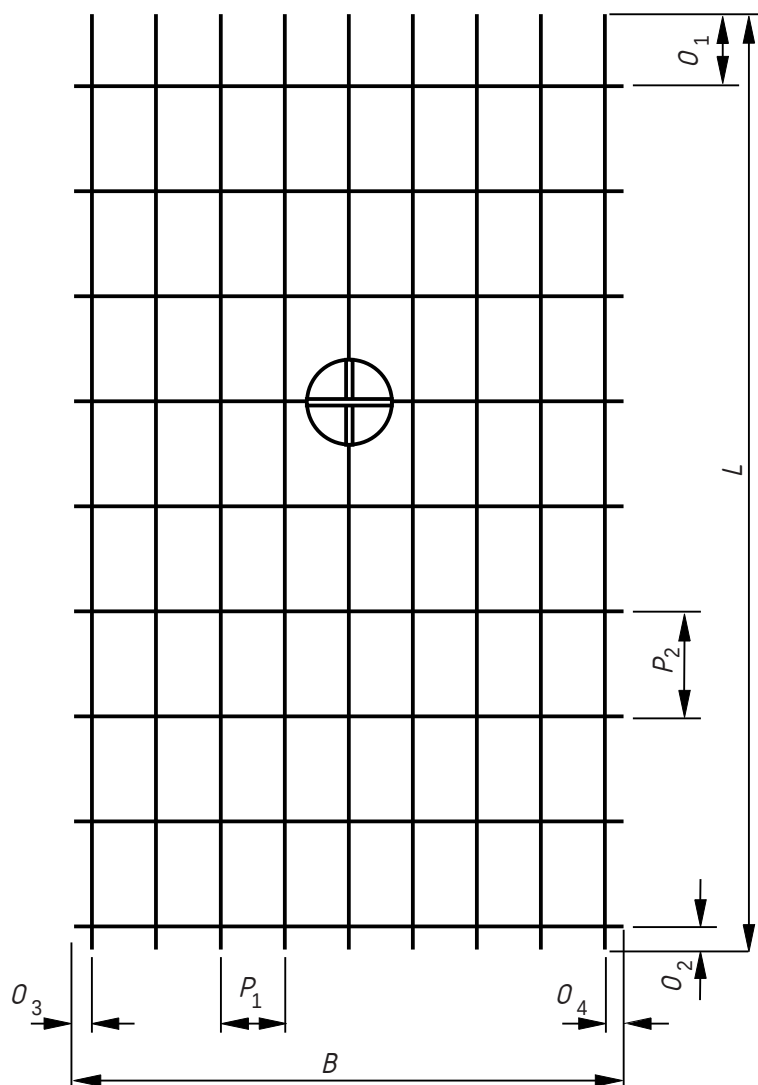
6 Form of bar or fabric label

The schedule reference and the mark given in the “bar (or fabric) mark” column of the schedule shall be put on the labels attached to the reinforcement.

EXAMPLE

Bar schedule reference	0	4	6	0	3	A
Bar mark						7

The labels shall be durable and securely tied to the reinforcement. Apart from any information required by the supplier for his own identification and internal system, no other information shall appear on the label.

**Key**

L is the length of the longitudinal wires (which are not necessarily the longer wires in the sheet)

B is the length of the cross wires

O_1 and O_2 are the overhangs of the longitudinal wires

O_3 and O_4 are the side overhangs of the cross wires

P_1 is the pitch of the longitudinal wires

P_2 is the pitch of the cross wires

Figure 1 — Fabric notation

Figure 2 — Form of bar schedule