

Specification for

Field gates and posts

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- Society of Chestnut Fencing Manufacturers
- The Royal Institution of Chartered Surveyors
- Timber Growers' Organisation Limited
- Timber Research and Development Association
- Timber Trade Federation of the United Kingdom
- Wire Products Association

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Foreword

Gates and posts complying with this British Standard are suitable for general purposes on farms, including use in stock yards and other paved areas as well as between fields. The standard may provide a basis for the specification of other gates and posts, although consideration should be given to any special requirements before it is used for this purpose.

This standard is a revision and metrication of the appropriate sections of the 1962 version of BS 3470, and has been prepared under the authority of the Council for Building and Civil Engineering. It differs from the 1962 version in that dimensions are expressed in SI units and additional information has been included, and it now supersedes these sections of that edition.

For further information on SI units reference should be made to BS 3763 "The International System of units (SI)".

Because site conditions vary so much, the scope of the standard is restricted to gates and posts as supplied and no recommendations are made for methods of erection. It is preferable that fencing wires should not be strained from a gate post but that a separate straining post should be used. If however fencing secured to a gate post is specified, it is essential that proper provision is made for strutting and for straining fittings.

A British Standard does not purport to include all the 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 14, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 1. General

1 Scope

Section 2. of this British Standard specifies the requirements for timber field gates, covering the quality, the construction and the sizes. Details are given for timber and concrete posts and the fittings. Section 3 specifies the requirements for steel field gates, cattle yard gates and posts, including the fittings. Owing to the different designs of steel gates that are available it is not practicable to specify the positions of fixing holes in the posts for the hinges and the keeps. The dimensions, quality, material and performance requirements for four widths of field gates of three types are given. Figure 1 illustrates in diagrammatic form the components of a steel field gate of the character specified in this standard.

2 References

The titles of the British Standards referred to in this standard are listed on the inside back cover.

Section 2 . Timber field gates

3 Materials

3.1 Dimensions. The dimensions of members shall be those specified in Table 1.

3.1.1 Width. The width of the gates measured from the outside of the hanging stile to the outside of the shutting stile shall be:

2.4 m 2.7 m 3 m 3.3 m 3.6 m and 4.2 m

The permissible deviation on width shall be ± 25 mm.

Where access for fire purposes is required the minimum width should be 2.7 m.

It is recommended that gates over 3.6 m should be made in softwood. For openings over 4.2 m, gates shall be made in two leaves.

3.1.2 Height. The height of the gate from the bottom of the bottom rail to the top of the top rail shall be 1.1 m.

The permissible deviation on height may be ± 5 mm.

Gates of differing width and height supplied by agreement between the manufacturer and the purchaser may be deemed to comply with this standard.

4 Design and construction

4.1 All gates shall be properly framed together and suitably braced. Every angle brace shall be not less than 30° to the horizontal and shall be supported where it meets the top rail.

In a gate with a single angle brace:

- a) there shall be one or more vertical braces at not more than 600 mm centres between the end of the angle brace and the shutting stile; such vertical braces shall be fixed to all under rails and to the top rail and
- b) if the angle of the brace to the horizontal is less than 45° , the brace shall have intermediate support.

4.2 Gates shall be constructed with members of not less than the dimensions given in Table 1, subject to the cutting allowances specified in A.5.1.

4.3 All timber used in the construction of gates shall comply with the requirements of Appendix A.

All timber used for gates shall be free of wane.

The top of stiles shall be weathered or rounded one way and shall extend above the top rail not less than 90 mm and shall also extend below the bottom rail not less than 80 mm.

The joints between the members shall be of the following form.

- a) Top rail to stile: morticed and tenoned, passing right through the stiles. The top rail shall be shouldered and either let into the stiles 5 mm or birdsmouthed.
- b) Under rails to stiles: tenoned 40 mm into stiles except the second rail from the bottom which shall pass right through the stiles. Tenons passing right through stiles shall be pegged.
- c) Braces to top rails shall be housed or bolted with M 8 diameter bolts, washers and nuts.
- d) Braces, where meeting the bottom of the hanging stile, shall be birdsmouthed.
- e) Rails to braces shall be bolted with M 8 diameter bolts, washers and nuts.

5 Fittings

5.1 General. Unless otherwise specified by the purchaser, the fittings shall be so arranged that the gates are hung on and shut against the posts so that they open one way only and do not swing between the posts. The fittings shall be of malleable iron, cast iron, or mild steel. They may be supplied in self-colour, dipped black or galvanized as specified by the purchaser. If galvanized they shall comply with the requirements of BS 729.

5.2 Hinges. Where not of special design, hinges shall comply with paragraphs a) and b) of this subclause. The strength of specially designed hinges shall be not less than those specified in paragraphs a) and b).

Provision should be made in one or both of the hinges for adjustment to compensate for any dropping of the gate in service.

a) *Top hinges.* Each top hinge shall consist of a double strap and a hook. The double strap shall be not less than 6 mm thick by 45 mm wide and not less than 600 mm long on the face of the gate. Each strap shall be provided with an eye and be holed for not less than three bolts, one of which shall pass through the stile of the gate.

A sufficient number of 9 mm cupheaded, square shanked bolts and nuts complying with the requirements of BS 325 shall be supplied. The hook shall have a pin of not less than 70 mm long by 20 mm in diameter. It shall be welded to a shouldered lug not less than 20 mm thick with a shank 225 mm long and 20 mm in diameter and threaded not less than 125 mm. The hook shall be supplied with not less than one washer and one nut.

b) *Lower hinges.* Each lower hinge shall consist of a double strap and hook. The double strap shall be not less than 6 mm thick by 45 mm wide and not less than 100 mm long on the face of the gate. It shall be provided with an eye and drilled for one bolt at the centre of the strap. A 9 mm cupheaded, square shanked bolt and nut shall be provided. The hook shall conform to the requirements for top hooks except that the shank may be pointed for driving 100 mm into the post.

5.3 Headstraps. Each headstrap, if used, shall be a double strap not less than 6 mm thick $\times$ 45 mm wide and not less than 250 mm long on the face of the gate, screwed to the top rail with not less than three countersunk screws.

5.4 Fastenings. The fastenings shall be such that when closed the gates are held securely in position.

6 Protective treatment for gate fittings

6.1 This standard does not specify finishing coats; these are best applied after erection. The protective treatment shall be agreed between the purchaser and the supplier. All rust and loose scale shall be removed from the surfaces before protective treatment.

6.2 The protective treatment shall be one of the following:

- a) one works coat of red oxide primer complying with the requirements of BS 2524 or its equivalent;
- b) one works coat of a primer containing an effective proportion of inhibitive pigment;
- c) one works coat of black bituminous paint;
- d) a sprayed metal coating complying with the requirements of BS 2569-1;
- e) galvanizing complying with the requirements of BS 729;
- f) when gates are pressure treated it is recommended that all fittings, including bolts, nuts and washers shall be galvanized.

7 Timber posts

7.1 All timber used shall comply with the requirements of Appendix A.

7.2 The tops of posts shall be weathered. Timber posts shall have dimensions as given in Table 2, subject to the tolerances as specified in A.5.1 and A.5.2.

8 Concrete posts

Concrete posts shall be of reinforced concrete of the dimensions of Table 7 and shall comply with the requirements of Appendix B. The following permissible deviations shall apply to all the specified dimensions of concrete posts:

Cross section	– 4 mm + 6 mm
Length	– 12 mm + 38 mm

In addition a demoulding draw allowance of 4 mm is permissible on each of two sides. The two long arrises at the back of the posts shall be rounded, or sharp edges shall be removed before despatch. The shape of heads shall be weathered.