

BRITISH STANDARD

Fences –

Part 9: Specification for mild steel (low carbon steel) fences with round or square verticals and flat horizontals

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Summary of pages

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Foreword

Publishing information

This part of BS 1722 was published by BSI and came into effect on 30 November 2006. It was prepared by Technical Committee B/201, *Fences and Gates*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This part of BS 1722-9 supersedes BS 1722-9:2000, which is withdrawn.

Relationship with other publications

BS 1722 is published in parts as follows:

- *Part 1: Specification for chain link fences*
- *Part 2: Specification for strained wire and wire mesh netting fences*
- *Part 4: Specification for cleft chestnut pale fences*
- *Part 5: Specification for close-boarded fences and wooden palisade fences*
- *Part 7: Specification for wooden post and rail fences*
- *Part 8: Specification for mild steel (low carbon steel) continuous bar fences and hurdles*
- *Part 9: Specification for mild steel (low carbon steel) fences with round or square verticals and flat horizontals*
- *Part 10: Specification for anti-intruder fences in chain link and welded mesh*
- *Part 11: Specification for prefabricated wood panel fences*
- *Part 12: Specification for steel palisade fences*
- *Part 13: Specification for chain link fences for tennis court surrounds ¹⁾*
- *Part 14: Specification for open mesh steel panel fences*
- *Part 16: Specification for organic powder coatings to be used as a plastics finish to components and mesh*
- *Part 17: Electric security fences. Design, installation and maintenance – Specification*
- *Part 18: Specification for steel mesh site perimeter temporary fencing systems ²⁾*

¹⁾ Obsolescent.

²⁾ Part 18 is in development and will be published as a Draft for Development (DD).

Information about this document

The various parts specify requirements for the types of fence that are considered suitable for standardization. No attempt has been made to standardize fences or gates of a purely decorative nature, nor to specify requirements for “patent” proprietary fencing systems. It is recommended, however, that such fences or gates should be designed in accordance with the relevant clauses of this part of BS 1722.

This new edition represents a full revision of the standard, and introduces the following principal changes:

- a) the removal of flat posts from the standard, the inclusion of RHS posts;
- b) removal of requirements for angle corner posts, which in this edition are specified as for line posts;
- c) revision of the requirements for gates.

The opportunity has also been taken to simplify the construction and installation requirements in line with current practice.

It has been assumed in the drafting of this part of BS 1722 that the execution of its provision is entrusted to appropriately qualified and experienced people. Before installation commences the Lead Installer should hold a current FISS/CSCS registration card skilled level (blue card) or equivalent and all other operatives should hold the basic fence operative card (green card) or equivalent.

At the time of publication of this British Standard the registration cards are validated by the Joint Fencing Industry Skills Scheme (FISS) and Construction Scheme Skills Certification Scheme (CSCS). FISS/CSCS maintains a national register of fence installers and operatives. There might be other schemes available.

This standard aims to establish minimum requirements for materials and workmanship of the more common types of fence in order to ensure satisfactory service for the purchaser, and to assist manufacturers and installers by eliminating unnecessary minor variations in the demands of purchasers. It specifies requirements for the components that make up a fence and the way in which the fence needs to be constructed. The standard includes requirements for sizes of components, together with the permissible tolerances on size. These are minimum requirements and it will normally be acceptable to use larger sizes, except if this could adversely affect the fitting of components or if replacement parts are required to match with those already present.

Choosing a fence is affected by factors such as intended purpose, desired service life, aesthetic considerations and availability of components. The specifier can match a suitable choice of fence to its intended purpose and also inform those installing the fence of the basic characteristics required. This standard includes requirements for protective treatment. However, maintenance requirements of the fence after installation are outside the scope of this standard. Premature failure of the fence can be avoided by taking care not to damage protective treatments during installation.

Ground conditions can indicate that a variation in the length of a post, or the depth to which it should be set, is desirable. The post setting depths specified in this standard are intended for use in normal ground conditions, but if special conditions exist that warrant a change in the specification, e.g. the ground is softer or firmer than usual, such a change should be agreed with the specifier.

It is generally assumed in this standard that the fence is installed on horizontal ground. Where it is installed on a gradient, special measures can be required.

It should be noted that throughout this part of BS 1722 the fence post spacings are given in terms of centre distances. It should also be noted that, while 110 mm spacing (as clear space, not between centres) “general purpose fencing” is common, local authorities often test for a 100 mm clear space.

This standard specifies requirements for fence materials and their combination and installation to provide a serviceable fence. Because a fence is made up of a number of separate components, of which the particular features can vary, a number of permissible combinations are available to the user. When preparing a specification for a fence it is therefore important to give precise details of the requirements of the fence and of the site. Annex A provides details of the fence requirements and installation site that should be agreed between the fence supplier and purchaser. However, as conditions vary from site to site, Annex A should not be assumed to be exhaustive.

Annex A is informative.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Requirements in this standard are drafted in accordance with *The BSI guide to standardization – Section 2: Rules for the structure, drafting and presentation of British Standards*, subclause **11.3.1**, which states, “Requirements should be expressed using wording such as: ‘When tested as described in Annex A, the product shall ...’”. This means that only those products that are capable of passing the specified test will be deemed to conform to this standard.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

1 Scope

This part of BS 1722 specifies requirements for self-adjusting (nibbed) or welded mild steel (low carbon steel) fences with round or square verticals and rolled hollow section (RHS) or rolled steel joist (RSJ) posts and flat horizontals. It also specifies requirements for their installation.

Maintenance of the fence after installation is outside the scope of this standard.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part 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 8500-1:2002, *Concrete – Complementary British Standard to BS EN 206-1 – Part 1: Method of specifying and guidance for the specifier*

BS 8500-2:2002, *Concrete – Complementary British Standard to BS EN 206-1 – Part 2: Specification for constituent materials and concrete*

BS EN 12620, *Aggregates for concrete*

BS EN ISO 1461, *Hot dip galvanized coatings on fabricated iron and steel articles – Specifications and test methods*

BS EN ISO 2063:2005, *Thermal spraying – Metallic and other inorganic coatings – Zinc, aluminium and their alloys*

BS EN 10058:2003, *Hot rolled flat steel bars for general purposes – Dimensions and tolerances on shape and dimensions*

BS EN 10059:2003, *Hot rolled square steel bars for general purposes – Dimensions and tolerances on shape and dimensions*

BS EN 10060:2003, *Hot rolled round steel bars for general purposes – Dimensions and tolerances on shape and dimensions*

BS EN 10210-2:2006, *Hot finished structural hollow sections of non-alloy and fine grain steels – Part 2: Tolerances, dimensions and sectional properties*

BS EN 10219-1:2006, *Cold formed welded structural hollow sections of non-alloy and fine grain steels – Part 1: Technical delivery conditions*

BS EN 10025-2:2004, *Hot rolled products of structural steels – Part 2: Technical delivery conditions for non-alloy structural steels*

3 Dimensional and general characteristics

Except for make-up purposes, panels shall be 2.72 m long. The dimensions of the metal sections for vertical bar fences and the centre to centre distance between verticals shall be as shown in Tables 2, 3 and 4.

4 Materials

4.1 Steel

The steel grade(s) employed for the production of fences and gates shall be specified by the customer (the purchaser, fence designer, supplier, component manufacturer, fabricator or erector, as applicable), on the basis of the mechanical properties, formability and weldability required. Appropriate mild steel grades shall be selected from National or International Standards or suitable equivalent proprietary materials can be used.

Steel used in the construction of fences shall conform to designation S235JR of BS EN 10025:2000 or equivalent. Where components are to be hot dipped galvanized, the purchaser shall confirm with the supplier that the steel composition is suitable.

NOTE A non-exhaustive range of recommended material grades is given in Table 1.

Table 1 Recommended steel grades

Material	Dimensional standard	Material standard	Material grade ^{A)}
Flat bar	BS EN 10058	BS EN 10025-2	S185 / S235JR
Square bar	BS EN 10059	BS EN 10025-2	S185 / S235JR
Round bar	BS EN 10060	BS EN 10025-2	S185 / S235JR
Flat bar	BS EN 10058	BS EN 10025-2	S185 / S235JR
Square bar	BS EN 10059	BS EN 10025-2	S185 / S235JR
Round bar	BS EN 10060	BS EN 10025-2	S185 / S235JR
Rectangular hollow sections (RHS)	BS EN 10210-2	BS EN 10210-1	S235JRH
	BS EN 10219-2	BS EN 10219-1	S235JRH
Plate for baseplates, caps, etc.	—	BS EN 10025-2	S185 / S235JR

^{A)} Higher strength or more enhanced grades than those shown can be used, provided that they meet the necessary requirements for formability, weldability or galvanizing.