

BRITISH STANDARD

Fences –

Part 1: Specification for chain link fences

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BSi
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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This part of BS 1722 supersedes BS 1722-1:1999, which is withdrawn.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 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: Chain link fences for tennis court surrounds¹⁾;*
- *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: Specification for electric security fences – Design, installation and maintenance;*
- *Part 18: Specification for steel mesh site perimeter temporary fencing systems²⁾.*

Information about this document

It should be noted that no attempt has been made to standardize fences or gates of a purely decorative nature, or those suited to special requirements; nor to specify requirements for “patent” proprietary fencing systems. However, the structure of such fences or gates should be in accordance with the applicable clauses of this part of BS 1722.

¹⁾ Obsolete.

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

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 installing contractors 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.

Choosing a suitable 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 by reference to Table 1 and Table 2, and also inform those installing the fence of the basic characteristics required.

Premature failure of the fence can be avoided by taking care neither to overstrain coated wire or to damage protective treatments during installation.

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

Use of this document

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.

Presentation 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 chain link fences and gates and gateposts for use with chain link fences. The gates specified are steel with a provision for chain link infill or other infill if required by the purchaser.

NOTE For gates for domestic purposes, timber or “wrought iron” gates may be preferred. These types of gate are specified in BS 4092-1.

This standard specifies requirements for fences up to 2.5 m in height with a chain link mesh infill. For other security fences, refer to BS 1722-10, BS 1722-12 and BS 1722-14, and for chain link fences for tennis court surrounds refer to BS 1722-13.

This standard specifies a method of allocating a reference code to each type of fence, indicating its height, the type and weight of infill, and the materials of the posts and the type of wire coating.

NOTE These type references are given in Table 1 and Table 2. For uniformity the heights given in Table 1 and Table 2 are of the main infill material and exclude any ground clearance at the base or additional height provided by extension arms for barbed wire. Wire and chain link sizes are selected from BS EN 10223-6.

This standard is divided into requirements for the material components for fences and for installation of the fences. This standard also includes requirements for protective treatments. However, maintenance requirements for the fence after installation are outside the scope of this standard.

This 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.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 1210, *Specification for wood screws*³⁾

BS 1722-7:2006, *Fences – Part 7: Specification for wooden post and rail fences*

BS 1722-16, *Fences – Part 16: Specification for organic powder coatings to be used as a plastics finish to components and mesh*

BS 3892 (all parts), *Pulverized fuel ash*

BS 4027, *Specification for sulfate-resisting Portland cement*

BS 4102, *Specification for steel wire for general fencing purposes*

BS 4320, *Specification for metal washers for general engineering purposes – Metric series*

³⁾ Obsolescent.

- BS 4449, *Steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product – Specification*
- BS 4482, *Steel wire for the reinforcement of concrete products – Specification*
- BS 4483, *Steel fabric for the reinforcement of concrete – Specification*
- BS 4652, *Specification for zinc-rich priming paint (organic media)*
- BS 8500 (all parts), *Concrete – Complementary British Standard to BS EN 206-1*
- BS EN 197-1, *Cement – Part 1: Composition, specifications and conformity criteria for common cements*
- BS EN 197-4, *Cement – Part 4: Composition, specifications and conformity criteria for low early strength blastfurnace cements*
- BS EN 206-1:2000, *Concrete – Part 1: Specification, performance, production and conformity*
- BS EN 287-1, *Qualification test of welders – Fusion welding – Part 1: Steels*
- BS EN 480 (all parts), *Admixtures for concrete, mortar and grout – Test methods*
- BS EN 844-9, *Round and sawn timber – Terminology – Part 9: Terms relating to features of sawn timber*
- BS EN 934 (all parts), *Admixtures for concrete, mortar and grout*
- BS EN 1011-1, *Welding – Recommendations for welding of metallic materials – Part 1: General guidance for arc welding*
- BS EN 1011-2, *Welding – Recommendations for welding of metallic materials – Part 2: Arc welding of ferritic steels*
- BS EN 10223-1, *Steel wire and wire products for fences – Part 1: Zinc and zinc alloy coated steel barbed wire*
- BS EN 10223-2, *Steel wire and wire products for fences – Part 2: Hexagonal steel wire netting for agricultural, insulation and fencing purposes*
- BS EN 10223-3, *Steel wire and wire products for fences – Part 3: Hexagonal steel wire netting for engineering purposes*
- BS EN 10223-4, *Steel wire and wire products for fences – Part 4: Steel wire welded mesh fencing*
- BS EN 10223-5, *Steel wire and wire products for fences – Part 5: Steel wire woven hinged joint and knotted mesh fencing*
- BS EN 10223-6:1998, *Steel wire and wire products for fences – Part 6: Steel wire chain link fencing*
- BS EN 10223-7, *Steel wire and wire products for fences – Part 7: Steel wire welded panels – For fencing*
- BS EN 10240, *Internal and/or external protective coatings for steel tubes – Specification for hot dip galvanized coatings applied in automatic plant*
- BS EN 10244-2, *Steel wire and wire products – Non-ferrous metallic coatings on steel wire – Part 2: Zinc or zinc alloy coatings*

BS EN 12620, *Aggregates for concrete*

BS EN 12839:2001, *Precast concrete products – Elements for fences*

BS EN 12878, *Pigments for the colouring of building materials based on cement and/or lime – Specifications and methods of test*

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

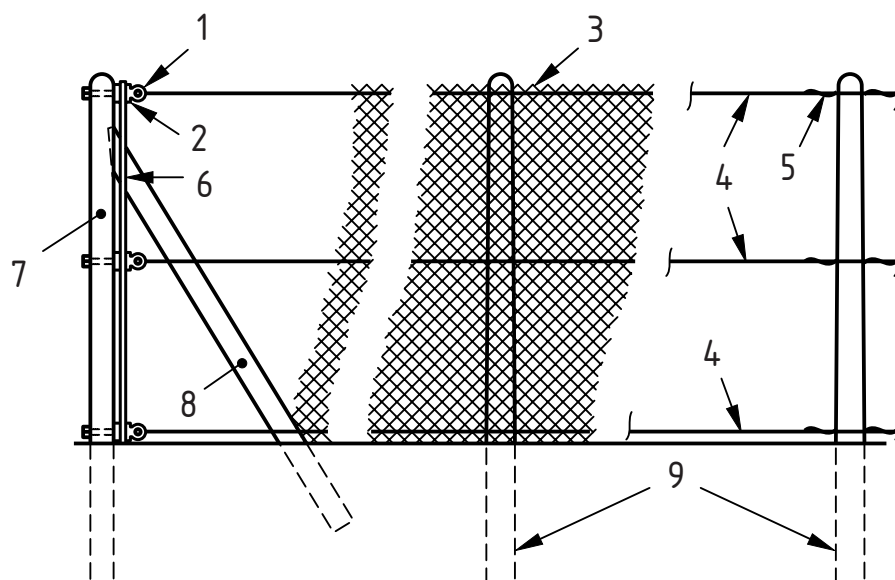
BS EN ISO 2063, *Thermal spraying – Metallic and other inorganic coatings – Zinc, aluminium and their alloys*

BS EN ISO 12944 (all parts), *Paints and varnishes – Corrosion protection of steel structures by protective paint systems*

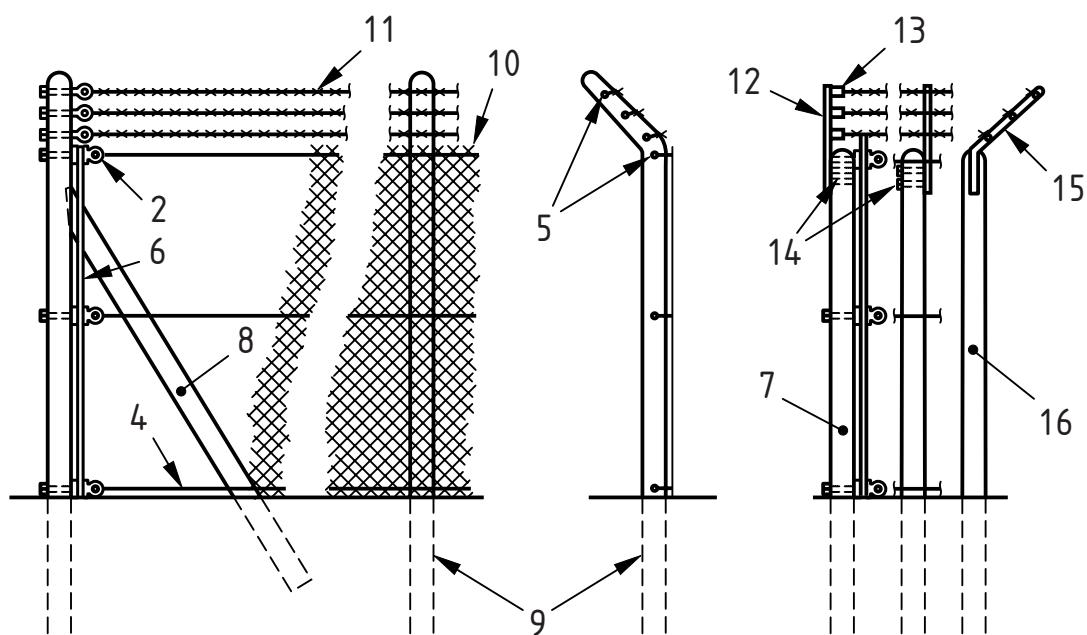
3 Terms and definitions

For the purposes of this part of BS 1722, the timber definitions in BS EN 844-9 and Figure 1 apply.

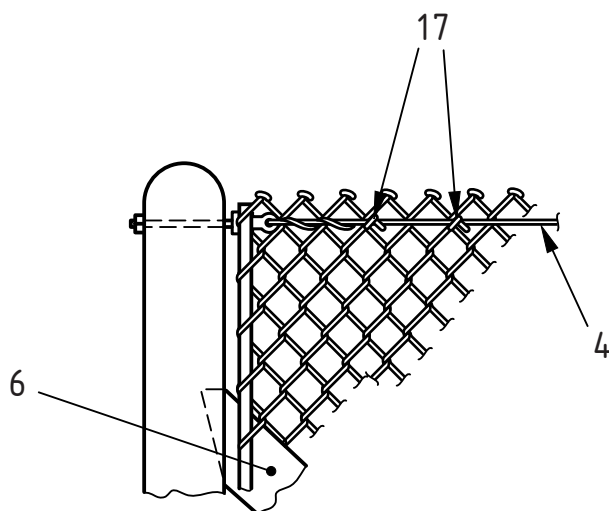
Figure 1 **General characteristics of a chain link fence**



a) Chain link fence without extension arms for barbed wire

Figure 1 General characteristics of a chain link fence (*continued*)

b) Chain link fence without extension arms for barbed wire



c) Details of mesh at straining post (showing knuckles only)

Key

- | | |
|----------------------|-----------------------------------|
| 1 Eyebolt | 10 Barbed top mesh (if specified) |
| 2 Cleat | 11 Barbed wire |
| 3 Mesh | 12 Steel angle extension arm |
| 4 Line wire | 13 Winder or eyebolts |
| 5 Stirrup | 14 Bolts |
| 6 Stretcher bar | 15 Steel flat extension arm |
| 7 Straining post | 16 Intermediate post |
| 8 Strut | 17 Wire ties |
| 9 Intermediate posts | |

4 Dimensions and general characteristics

4.1 Fences

The overall dimensions of chain link fence types shall conform to Table 1 and Table 2.

NOTE The general characteristics of a chain link fence with concrete posts, showing a typical layout and illustrating the terminology associated with chain link fences, are shown in Figure 1. Fences with steel or timber posts are similar but without cleats.

4.2 Gates

Single or double gates shall be used to fill openings up to and including 5 m in width. Double gates with leaves of equal width shall be used to fill openings between 5 m and 10 m in width.

Table 1 General characteristics of chain link fences with zinc (Z) or zinc alloy (ZA) coated mesh

Type of fence			Height at posts A)	Pattern	Chain link fencing			Line wires				Suitable uses		
Concrete post (ZC or ZAC) B)	Steel post (ZS or ZAS) B)	Wooden post (ZW or ZAW) B)			Width of roll	Length of side of mesh	Wire nominal diameter	Number of rows	Spacing (approx.)		Nominal diameter			
									Top to middle	Middle to bottom	Low carbon (mild steel)		High tensile steel	
90 90A	90 90A	90 90A	m		m	mm	mm				mm	mm		
			0.90 0.90	Medium Heavy	0.90 0.90	50 50	2.50 3.00	2 or 3 2 or 3	430 C) 430 C)	430 C) 430 C)		3.00 3.55	3.15 3.15	House garden fronts and divisions
120 120A	120 120A	120 120A	1.20 1.20	Heavy Extra heavy	1.20 1.20	50 50	3.00 3.55	3 3	580 580	580 580		3.55 4.00	3.15 3.15	Playgrounds, general purposes
140 140A	140 140A	140 140A	1.40 1.40	Medium Heavy	1.40 1.40	50 50	2.50 3.00	3 3	680 680	680 680		3.00 3.55	3.15 3.15	General purposes, railways, house garden flanks, highways
140B	140B	140B	1.40	Extra heavy	1.40	50	3.55	3	680	680		4.00	3.15	Playing fields, recreation grounds
140C 140D	140C 140D	140C 140D	1.40 1.40	Medium Heavy	1.40 1.40	40 40	2.50 3.00	3 3	680 680	680 680		3.00 3.55	3.15 3.15	Railways, general purposes
180 180A	180 180A	180 180A	1.80 D) 1.80 D)	Heavy Extra heavy	1.80 1.80	50 50	3.00 3.55	3 3	880 880	880 880		4.00 3.00	3.15 3.15	Commercial property
180B	180B	180B	1.80 D)	Heavy	1.80	40	3.00	3	880	880		3.55	3.15	Railways, general safety
180C 180D	180C 180D	— —	1.80 D), E) 1.80 D), E)	Heavy Extra heavy	1.80 1.80	50 50	3.00 3.55	3 3	880 880	880 880		3.55 4.00	3.15 3.15	Industrial security
180E	180E	—	1.80 D), E)	Heavy	1.80	40	3.00	3	880	880		3.55	3.15	Railways, general safety
215 215A	215 215A	215 215A	2.15 D) 2.15 D)	Heavy Extra heavy	2.15 2.15	50 50	3.00 3.55	3 3	1 055 1 055	1 055 1 055		3.55 4.00	3.15 3.15	Commercial property
215B	215B	215B	2.15 D)	Heavy	2.15	40	3.00	3	1 055	1 055		3.55	3.15	Railways, general safety
215C 215D	215C 215D	— —	2.15 D), E) 2.15 D), E)	Heavy Extra heavy	2.15 2.15	50 50	3.00 3.55	3 3	1 055 1 055	1 055 1 055		3.55 4.00	3.15 3.15	Industrial security
215E	215E	—	2.15 D), E)	Heavy	2.15	40	3.00	3	1 055	1 055		3.55	3.15	Railways, general safety

^{A)} Heights are of the main infill material, and exclude any ground clearance at the base, or additional height provided by extension arms for barbed wire.

^{B)} Z, ZA = zinc, zinc alloy coating, respectively; for the wire or mesh; C, S, W = concrete, steel, wooden posts, respectively.

^{C)} Two rows of line wires are more usual. A spacing of approx. 860 mm should be used, for both two and three line wire fences.

^{D)} The top of the fence may be barbed.

^{E)} The fence shall have cranked extension arms with barbed wire, increasing the height by approx. 340 mm.