

Specification for

# Fences —

**Part 13: Chain link fences for tennis  
court surrounds**

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British Wire Netting Association	Modular Society Limited
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Chartered Land Agents' Society	Society of Chain Link Fencing Manufacturers
Council for Small Industries in Rural Areas	Society of Chestnut Fencing Manufacturers
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Department of the Environment: Building Research Establishment, Princes Risborough Laboratory	Timber Trade Federation
	Wire Products Association

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# Foreword

This British Standard is published in separate Parts and relates to a number of types of fences that are considered suitable for standardization:

- *Part 1: Chain link fences;*
- *Part 2: Woven wire fences;*
- *Part 3: Strained wire fences;*
- *Part 4: Cleft chestnut pale fences;*
- *Part 5: Close-boarded fences;*
- *Part 6: Wooden palisade fences;*
- *Part 7: Wooden post and rail fences;*
- *Part 8: Mild steel (low carbon steel) continuous-bar fences;*
- *Part 9: Mild steel (low carbon steel) fences with round or square verticals and flat posts and horizontals;*
- *Part 10: Anti-intruder chain link fences;*
- *Part 11: Woven wood fences;*
- *Part 12: Steel palisade fences;*
- *Part 13: Chain link fences for tennis court surrounds.*

Consideration has been given to tubular steel fences and concrete panel fences, but it has been decided that standardization of these types would be premature.

The purpose of this standard is to establish minimum requirements for materials and workmanship for the more common types of fences in order to ensure satisfactory service for the purchaser, and to assist the manufacturers and erecting contractors by eliminating unnecessary minor variations in the demands of purchasers.

This Part of this standard, prepared under the direction of the Council for Building and Civil Engineering B/-, has been prepared at the request of both manufacturers and users of chain link fences.

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.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

## Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 4, 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

Part 13 of this British Standard specifies minimum requirements for chain link fencing and steel posts for tennis court surrounds. This standard also provides requirements for the erection of tennis court surrounds.

### 2 References

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

## Section 2. Materials

### 3 Height of fence

The minimum height of tennis court surrounds shall be 2.75 m.

### 4 Components and materials

**4.1 General.** The fencing and wire shall comply with the requirements of BS 4102.

**4.2 Mesh and gauge.** The fabric shall be one of the following:

- a) Galvanized wire:  
2.75 m high in 45 mm mesh by 2.50 mm diameter wire.
- b) Plastics coated on galvanized steel core wire, or plastics coated on bright steel core wire:  
2.75 m high in 45 mm mesh by 2.24/3.15 mm or 2.50/3.55 mm diameter wire.

**4.3 Line wires.** Line wire finished with a galvanized coating shall be 3.00 mm diameter and may be of mild steel or high tensile steel.

**4.3.1** Plastics coated line wire shall be 2.50/3.55 mm or 3.00/4.00 mm diameter respectively. The core may be either of the grades specified in BS 4102 as agreed between the purchaser and the supplier.

**4.3.2** Tying wire finished with a galvanized coating shall be 2.00 mm diameter mild steel.

**4.3.3** Plastics coated tying wire shall have a steel core wire of 1.4 mm diameter and an outside diameter of 2.00 mm. The core shall be of grade "A" as specified in BS 4102.

### 4.4 Steelwork

**4.4.1 Intermediate posts.** Intermediate posts shall be of 45 mm × 45 mm × 5 mm rolled steel angle or 40 mm × 40 mm × 3.2 mm rectangular hollow section.

**4.4.2 Corner straining posts and gate posts.** Corner straining posts and gate posts shall be of 60 mm × 60 mm × 6 mm rolled steel angle or 50 mm × 50 mm × 3.2 mm rectangular hollow section.

**4.4.3 Struts and braces.** Each two-way straining post shall have two struts, and each one-way straining post or gate post shall have one strut of 45 mm × 45 mm × 5 mm rolled steel angle or 40 mm × 40 mm × 3.2 mm rectangular hollow section. Each strut shall have two braces of the same material.

**4.4.4 Base plates and thrust plates (to be used if posts and struts are not set in concrete).** Base plates 150 mm × 150 mm × 3 mm shall be supplied to straining posts and struts, whether of rolled steel angle or rectangular hollow section; thrust plates of 230 mm × 150 mm × 3 mm and base plates of 150 mm × 150 mm × 3 mm may be supplied to line posts as required by ground conditions when (or if) specified by the purchaser. Base plates and thrust plates shall be of rolled steel plate having a minimum tensile strength of 430 N/mm<sup>2</sup> and shall comply with the requirements of BS 4360.

**4.4.5 Posts.** Intermediate line posts, straining posts and struts shall conform to the dimensions specified in 4.4.1 and 4.4.2 and shall comply with the requirements of the following British Standards as appropriate:

Rolled steel angle	BS 4848-4 and BS 4360 grade 43A
Hollow sections	BS 4848-2 and BS 4360 grade 43C

**4.4.5.1** All rectangular hollow section posts shall be capped.

**4.4.5.2** Where no base plates are specified, the angle section posts shall be pointed for driving into the ground or spragged at the ends if they are to be set in concrete.

**4.4.6 Gate frames.** Gate frames shall be a minimum of 2 m high and 1 m wide and manufactured from 40 mm × 40 mm × 5 mm rolled steel angle or 40 mm × 40 mm × 3.2 mm rectangular hollow section with a horizontal brace. Wider gates should be specified by the purchaser if access for plant is required. The space above the gate shall be filled by a panel of chain link fencing fixed to two lintel bars. The gates shall be fixed into the completed surround in a position agreed by the purchaser and the supplier.

NOTE Materials of lighter specification are available as agreed between the purchaser and the supplier.

#### 4.4.7 Fittings

**4.4.7.1 Eye bolt strainers.** Eye bolt strainers shall consist of bolts of 250 mm overall length and M10 diameter threaded and fitted with nuts and washers. They shall be galvanized.

**4.4.7.2 Ring nut fittings.** Ring nut fittings for the threaded ends of eye bolts shall be galvanized.

**4.4.7.3 Winding brackets.** Winding brackets shall be manufactured from mild steel flat of minimum dimensions 25 mm × 3 mm and shall be fitted with a winding bolt of M12 minimum diameter and with a friction type, ferrule or ratchet winder. Each shall have one fixing bolt M8 diameter. Winding brackets and fixing bolts shall be galvanized or sheradized.

**4.4.7.4 Stretcher bars.** Stretcher bars shall consist of mild steel flat 20 mm × 5 mm. They shall be secured to the straining posts by M8 diameter steel bolts. Stretcher bars shall be galvanized.

### 5 Concrete surrounding bases of posts and struts

Concrete for surrounding the bases of posts and struts shall not be leaner by weight than one part of cement to ten parts of aggregate of 40 mm nominal maximum size, mixed with the minimum requisite quantity of clean water. The constituents shall be thoroughly mixed and the concrete shall be placed in position and thoroughly compacted as soon as possible after mixing.

### 6 Protective treatment

**6.1 Fabric.** The chain link fabric shall be either of galvanized finish, or plastics coated on galvanized or hard drawn bright steel core wire.

#### 6.2 Steelwork

**6.2.1** All rust, loose scale, oil and dirt shall be removed from the surfaces before treatment. Unless otherwise specified in this standard, the treatment of steelwork shall be as agreed between the manufacturer and the purchaser or shall be one of the following works' treatments:

- a) one coat of steel priming paint complying with the requirements of BS 3698;
- b) a metal coating complying with the requirements of BS 2569-1;
- c) hot dipped galvanizing after manufacture complying with the requirements of BS 729;
- d) sheradizing complying with the requirements of BS 729;
- e) plastics coating as agreed between the purchaser and the supplier.

**NOTE** The protective treatment specified in (a) of this clause is not intended to serve as a finishing coat. Finishing coats are best applied immediately after erection. Reference should be made to BS 5493 (formerly CP 2008).

**6.2.2** Damaged areas of galvanizing shall be touched up after erection with an approved cold applied zinc rich paint.

## Section 3. Erection

### 7 Line and level

The tennis court surround shall be so erected that on completion it is truly on the line set out by the purchaser. It is the purchaser's responsibility to carry out any necessary cutting or filling of ground before erection is commenced.

### 8 Straining posts

**8.1 Positioning.** Straining posts shall be provided at all corners and at any points where a change in direction or an acute variation in level occurs.

**8.2 Depth in ground.** Straining posts shall be set in the ground to a depth of 0.76 m.

**8.3 Erection of posts.** The holes for straining posts shall be formed not less than 0.45 m square on plan with vertical sides. After insertion of the posts, the hole shall be filled for not less than half its depth with concrete which shall be well rammed as the filling proceeds. After the concrete has hardened, the remainder of the hole shall be filled with excavated material which shall be well rammed as the filling proceeds.

**8.3.1** If posts fitted with base plates are used and the excavated material is suitable for ramming, the concrete may, by agreement between the purchaser and the supplier, be omitted. The hole shall then be as small as is practicable to allow for refilling with excavated material which shall be well rammed as the filling proceeds.

### 9 Struts

**9.1 Positioning.** Struts shall be fitted to all straining posts in the direction of the line of fencing secured to them. The struts shall be bolted to the straining posts with M10 diameter bolts (see BS 4190) at a point within the top third of the length above ground and at an angle of not less than 30°.

**9.2 Depth in ground.** The bottom end of all struts, measured to the centre of the strut or base plate, shall be not less than 0.45 m below ground level.

**9.3 Erection of struts.** The hole to receive the strut shall be formed not less than 0.3 m wide  $\times$  0.45 m long in plan with vertical sides. After the insertion of the strut the hole shall be filled for not less than half its depth with concrete which shall be well rammed as filling proceeds. If so specified, a base plate may be used instead of a concrete filling. After the concrete has hardened, the remainder of the hole shall be filled with excavated material which shall be well rammed as the filling proceeds.

## 10 Intermediate posts

Intermediate posts shall be set at 3 m centres and either driven into the ground or post holes excavated in accordance with the purchaser's specification to a depth of 0.76 m. If thrust plates are used no part shall project above ground level. Post holes shall be 0.275 m square on plan or as specified by the purchaser.

## 11 Line wires

**11.1 Positioning.** Line wires shall be provided as specified in 4.3. There shall be five line wires supplied with the chain link fencing specified. Line wires shall be placed at the following approximate heights:

ground level, 0.45 m, 0.9 m, 1.9 m, 2.725 m.

**11.2 Fixing.** Each wire shall be strained tightly to each straining post by means of winding brackets or eyebolts, and shall also be secured to each intermediate post by passing through a hole in each post.

## 12 Fixing of chain link

**12.1** The chain link fence shall be strained between each pair of straining posts and secured at each straining post by means of a stretcher bar. The fence shall then be attached to the line wires by wire ties spaced 150 mm apart on the two lower line wires and 300 mm apart on the remaining line wires. Alternatively, where agreed between the purchaser and the supplier, the line wires may be threaded through the mesh, in which case they shall be secured to intermediate posts with hairpin fasteners.

**12.2** All steel work, including struts, shall be on the outside on the chain link fabric.





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## Publications referred to

- BS 729, *Hot dip galvanized coatings on iron and steel articles.*
- BS 2569, *Sprayed metal coatings.*
- BS 2569-1, *Protection of iron and steel by aluminium and zinc against atmospheric corrosion.*
- BS 3698, *Calcium plumbate priming paints.*
- BS 4102, *Steel wire for fences.*
- BS 4190, *ISO metric black hexagon bolts, screws and nuts.*
- BS 4360, *Weldable structural steels.*
- BS 4848, *Hot-rolled structural steel sections.*
- BS 4848-2, *Hollow sections.*
- BS 4848-4, *Equal and unequal angles.*
- BS 5493, *Protective coating of iron and steel structures against corrosion (formerly CP 2008).*

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