

BRITISH STANDARD

Fences –

Part 17: Specification for electric security fences – Design, installation and maintenance

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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*. A list of organizations represented on this committee can be obtained on request to its secretary.

Information about this document

BS 1722 is published in the following parts:

- *Part 1: Specification for chain link fences;*
- *Part 2: Specifications 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 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: Specification for electric security fences – Design, installation and maintenance;*
- *Part 18: Specification for steel mesh site perimeter temporary fencing systems.²⁾*

Information about this document

Due to the increasing number of electric security fencing installations in the UK during the past 10 years and the various and sometimes conflicting codes of practice in operation, this British Standard has been produced in order to provide a specification that can be used across the electric security fencing industry.

The specification is applicable in situations where the electric security fence is designed to provide both a deterrent effect and a physical security barrier. It therefore sets out the minimum criteria for the physical characteristics for the wire to be used in the barrier.

¹⁾ Obsolescent.

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

The British Standard does the following:

- a) addresses the specification and quality for manufactured products;
- b) provides guidance for the client in their selection of installation companies which, by their compliance with this standard, have the ability to design, install and maintain an electric security fence system;
- c) addresses competences and training requirements of electric security fence installers.

This British Standard is based on PAS 47:2003. PAS 47 was to provide an interim code of practice for electric security fences.

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 and all other operatives i.e. assistant installers should hold a current FISS/CSCS registration 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.

NOTE For further information on training, see 6.1.

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 British Standard specifies requirements for the design, installation and maintenance of electric security fences. This standard is not intended to cover the installation of any carrier fence or supporting structure and therefore should be read in conjunction of the appropriate part of BS 1722 for the type of carrier fence employed.

NOTE Due consideration should be given to the suitability of any existing fence or structure before the erection of the electric fencing.

It is applicable to installations where the electric security fence is to provide both a deterrent effect and a physical barrier.

It is not intended that this British Standard outlines the specific method to be used in construction. Construction specifics are covered in the appointed approved manufacturers installation courses and material available only to accredited installation dealers and marketing partners.

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 4737 (all parts), *Intruder alarm systems in buildings*

BS 7671, *Requirements for electrical installations – IEE Wiring Regulations – Sixteenth edition*

BS EN 10002-1, *Tensile testing of metallic materials – Part 1: Method of test at ambient temperature*

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 50131-1, *Alarm systems – Intrusion systems – Part 1: General requirements*

BS EN 60335-2-76:2005, *Household and similar electrical appliances – Safety – Particular requirements for electric fence energizers*

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

PD 6662, *Scheme for the application of European Standards for intruder and hold-up alarm systems*

3 Terms and definitions

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

3.1 accessory equipment

product other than the security controllers or security energizers, e.g. switching equipment, expansion modules, interface modules

3.2 ancillary equipment

electrical equipment used in the security installation

NOTE See Foreword for the recommended skill level.

3.3 assistant installer

person directly under the supervision of the installer

3.4 back-up battery

NOTE 1 This is not considered to be an alternative power supply. An example of an alternative power supply is a back-up generator.

battery source of no less than 8 hours to facilitate the activation and transmission of an alarm condition for a short duration if the normal power supply has been tampered with

NOTE 2 This should conform to the BS EN 50131-1 and would only apply to the common control equipment. This would facilitate the activation of an alarm transmission and low battery signal if the normal power supply has been lost for any reason.

3.5 configuration

means of uniquely connecting electric security fence wires to suit the geographical and security requirements of the site

3.6 deterrent pulse

short duration of electricity measuring no more than 5 J when measured into a 500 Ω load separated by a minimum of 1 s intervals

3.7 earth electrode

NOTE This is part of the electric security fence earth system.

metallic object intended to provide effective electrical contact with earth (e.g. an electrical earth stake)

3.8 electric security fence

NOTE 1 Used for security detection and deterrent purposes, the electric security fence is connected to a security energizer controller. It is typically constructed as an array of conductive wires (deterrent pulsed and earth or LV conductors).

array of un-insulated strained conductors held in supporting intermediate insulators for the purpose of protection of people, property and/or information

NOTE 2 The electric security fence could be internal, external, a self-standing barrier, or part of another barrier. The electric security fence can be angled and is intended to be in free air.

3.9 energizer

appliance intended to regulate and control the supply of electric energy to electric security fencing systems

3.10 fence zone

NOTE 1 Sometimes known as the "fence circuit".

identifiable section of the electric security fencing system which can be divided electrically into multiple fence zones

NOTE 2 Each individual zone should not exceed 150 m to help identify the location of attack or tampering.