

Guide for security of buildings against crime —

Part 1: Dwellings

ICS 13.310

Confirmed December 2011

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee B/209, General Building Codes, to Sub-committee B/209/10, Security of Buildings, upon which the following bodies were represented:

- Construction Confederation
- Chartered Institute of Building
- Department of the Environment, Transport and the Regions
- National Council of Building Material Producers
- National House Building Council
- Royal Institute of British Architects
- Royal Institution of Chartered Surveyors

The following bodies were also represented in the drafting of the standard, through sub-committees and panels:

- Association of Builders Hardware Manufacturers
- Association of Building Engineers
- Association of Burglary Insurance Surveyors
- British Security Industry Association
- British Woodworking Federation
- Building Research Establishment
- Chief and Assistant Chief Fire Officers Association
- Consumer Policy Committee of BSI
- Council for Aluminium in Building
- Door and Shutter Manufacturers Association
- Flat Glass Manufacturers Association
- Glass and Glazing Federation
- Guild of Architectural Ironmongers
- Home Office
- International Professional Security Association
- Loss Prevention Council
- Master Locksmiths Association

This British Standard, having been prepared under the direction of the Sector Committee for Building and Civil Engineering, was published under the authority of the Standards Committee and comes into effect on 15 June 2000

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First published February 1986
Second edition June 2000

The following BSI references relate to the work on this standard:
Committee reference B/209/10
Draft for comment 98/106410 DC

ISBN 0 580 33145 8

Amendments issued since publication

Amd. No.	Date	Comments

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Foreword

This revision of BS 8220-1 has been prepared by Technical Committee B/209 and replaces BS 8220-1:1986 which is withdrawn.

The scope of this new edition has been enlarged to include guidance on the layout and landscaping of neighbourhoods to deter potential burglars, increase their risk of detection and provide people with a safer, more secure environment. Advice is given on new Product Assessment Specifications (PASs) for doors and windows designed to provide enhanced security. New guidance is also included on external lighting, CCTV and intruder detection systems.

Because of the many different situations which may need to be addressed when trying to reduce the risk of crime, commentary has been included to encourage creative design solutions.

This part of BS 8220 has been published at the request of the Home Office and the recommendations it contains should be read in conjunction with the fire safety requirements of BS 5588-1, regarding the provision of means of escape in residential buildings.

The other parts of BS 8220 are concerned with the security of the following types of building:

- *Part 2: Shops and offices;*
- *Part 3: Warehouses and distribution units.*

This standard should not be regarded as a substitute for expert advice; the intention is that it should complement it. Crime prevention should be considered at all stages of the design life of the built environment.

Annex A is normative.

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 15 and a back cover.

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Introduction

Crime problems are caused by a multiplicity of factors: family, social groups, education, moral, culture, drug and alcohol abuse etc. The influence of the layout of neighbourhoods and the design of buildings on these factors is limited.

The built environment, however, does have an influence on specific crime problems and the fear of crime, by influencing the behaviour of the following:

- offenders;
- guardians (police and informal guardians, such as residents); and
- potential victims (and/or targets) of crime and the fear of crime.

Factors influencing offenders are accessibility, the presence, number or concentration of offenders, and the availability of escape routes.

Factors influencing guardians are the presence and number of guardians able to exercise surveillance and control, good visibility, layout, lighting etc., and the physical willingness and ability of guardians to react.

Most burglaries and other crimes relating to dwellings are committed by offenders who have been given easy opportunities to commit crimes. The most basic levels of security can deter such persons and are likely to deter even determined offenders. The more experienced burglar is usually a person with local knowledge, who intends to steal but has no specific target in mind. This type of opportunist offender spends time systematically checking out neighbourhoods to target properties where access is easy, surveillance is low and the contents are valuable. If he is unable to find what he is looking for, or he considers it too risky or difficult to break into, he is likely to go elsewhere.

Once a burglar has chosen a neighbourhood and focused on a particular street, he is likely to be influenced as much by symbolic and psychological barriers as actual or physical ones. A narrowed road entrance or a change in texture of the road surface imposes a feeling of unease or trespass on a stranger who enters that space, making the would-be-burglar feel conspicuous and heightening perceptions of the risk involved.

In making the final selection of a target dwelling, the potential burglar looks for features that makes one property stand out from the others in terms of small risk for rich pickings. In this respect, dwellings that appear to be unoccupied are more at risk than others. Clues the burglar looks for include open windows, lights on, uncollected deliveries, a car on the hardstanding. He may also look to see whether the grass has been cut. Features that may deter a burglar include good natural surveillance from passers-by and other dwellings, dogs and burglar alarms.

The aim of this standard is to provide guidance for architects, designers, town planners, builders, housing managers and crime prevention officers, to enable them to make neighbourhoods attractive to residents and unattractive to burglars, by reducing opportunities for crime through building detail, landscaping and site layout.

Specification and design of materials used for windows and doors is given in annex A.

1 Scope

This British Standard gives guidance and information on layout, landscaping, and security measures aimed at deterring burglars from selecting and entering dwellings, whether new or existing, single or multiple units.

This standard covers measures to enhance the security of windows and external doors, access control, the use and deployment of security lighting, CCTV, intruder detection systems, and measures to improve security and reduce fear of crime.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this British Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For updated references, the latest edition of the publication referred to applies.

BS 459:1988, *Specification for matchboarded wooden door leaves for external use.*

BS 644-1:1989, *Wood windows — Specification for factory assembled windows of various types.*

BS 1186-2:1988, *Timber for and workmanship in joinery — Specification for workmanship.*

BS 1245:1975, *Specification for metal door frames (steel).*

BS 2911:1974, *Specification for letterplates.*

BS 3621:1998, *Specification for thief resistant locks.*

BS 4533-102.1:1990, *Luminaires — Particular requirements — Specification for general purpose luminaires.*

BS 4533-102.5:1990, *Luminaires — Particular requirements — Specification for floodlighting.*

BS 4737-1:1986, *Intruder alarm systems — Specification for installed systems with local audible and/or remote signalling.*

BS 4873:1986, *Specification for aluminium alloy windows.*

BS 4787-1:1980, *Internal and external wooden door sets, door leaves and frames — Specification for dimensional requirements.*

BS 5286:1978, *Specification for aluminium framed sliding glass doors.*

BS 5489-9:1996, *Road lighting — Code of practice for lighting of urban areas and public open spaces.*

BS 5588-1:1990, *Fire precautions in the design and construction of buildings — Code of practice for residential buildings.*

BS 6100 (all parts), *Glossary of building and civil engineering terms.*

BS 6262:1982, *Code of practice for glazing for buildings.*

BS 6375-2:1987, *Performance of windows — Specification for operation and strength characteristics.*

BS 6510:1984, *Specification for steel windows, sills, window boards and doors.*

BS 6799:1986, *Code of practice for wire-free intruder alarm systems.*

BS 7150:1989, *Code of practice for intruder alarm systems with mains wiring communication.*

BS 7412:1991, *Specification for plastics — Windows made from PVC-U — Extruded hollow profiles.*

BS 7950:1997, *Specification for enhanced security performance of casement and tilt/turn windows for domestic application.*

BS 8213-4:1990, *Windows doors and rooflights — Code of practice for the installation of replacement windows and doorsets in dwellings.*

BS 8214:1990, *Code of practice for fire door assemblies with non-metallic leaves.*

BS EN 485-1:1994, *Aluminium and aluminium alloys — Sheet, strip and plate — Technical conditions for inspection and delivery.*

BS EN 755-1:1997, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Technical conditions for inspection and delivery.*

BS EN 942:1996, *Timber in joinery — General classification of timber quality.*

BS EN 50132-7:1996, *Alarm systems — CCTV surveillance systems for use in security applications — Application guidelines.*

DD ENV 1627:1999, *Windows, doors, shutters — Burglar resistance — Requirements and classification.*

PAS 023-1:1999, *General performance requirements for door assemblies — Single leaf doors.*

PAS 024-1:1999, *Enhanced security performance for door assemblies — Single leaf doors.*

3 Terms and definitions

For the purpose of this British Standard, the definitions given in BS 6100 (some of which are replicated below for convenience) and the following apply.

3.1

bolt

moveable part of a lock or latch that usually engages a component fixed to a frame and withdraws into the case

3.2

casement

window, or part of a window, that opens on hinges, pivots or variable geometry stays

3.3

cylinder lock

lock in which the lock mechanism is operated by one or more cylinders

3.4

deadbolt

bolt that is operated in both directions by a key or a thumb turn/lever or both

3.5

door

building component for closing an opening in a wall, with hinged, pivoted or sliding operation that allows access or passage

3.6

door assembly

complete unit, as installed, consisting of the following, any of which may be obtained from separate sources: doorframe, door leaf, any side panels or fanlights, essential hardware

3.7

doorframe

part of the door assembly, in which the door leaf moves

3.8

door hardware

devices to facilitate opening, closing, or making secure the door leaf in the frame, such as: hinges, hinge or dog bolts, door bolts, latches, locks and lock cylinders

3.9

door leaf

element which, when fitted with hinges in a doorframe, forms part of the door assembly

3.10

doorset

complete unit consisting of a door frame and door leaf or leaves, supplied with the essential hardware and weatherseal, from a single source

3.11

door viewer

component which, when fitted to a door, permits wide angle one-way vision from the secure side of the door