

NEW HOMES 2010



PREFACE

Readers and applicants should note that the requirements and recommendations within this guide are based upon sound research. ACPO SBD are continually re-evaluating the effectiveness of Secured by Design and respond to new research findings and make amendments accordingly.

This 2010 edition of the guidance incorporates several new and improved security standards that have been recently developed to address emerging criminal methods of attack. The guidance has also been closely scrutinised by independent experts to ensure that it complements the Code for Sustainable Homes.

ACPO SBD places great importance upon the need to build sustainable communities. This not only includes the need to use environmentally friendly materials, construction and operational methods, but also the need to raise awareness of the reduction of crime as a positive sustainability issue.

The authors are always ready to receive and respond to constructive criticism and if necessary make alterations to the guidance providing this is based upon evidence. Should you wish to contribute to this or any of the Secured by Design guides please contact our head office by email at sbd.guides@acpocpi.co.uk

INTRODUCTION

Secured by Design (SBD) is a police initiative to guide and encourage those engaged within the specification, design and build of new homes to adopt crime prevention measures in new development. The advice given in this guide has been proven to reduce the opportunity for crime and the fear of crime, creating safer, more secure and sustainable environments. Secured by Design is owned by the Association of Chief Police Officers (ACPO) and is supported by the Home Office and Communities and Local Government (CLG)

Recent research conservatively estimates the carbon cost of crime within the UK to be in the region of 6,000,000 tonnes of CO₂. This is roughly equivalent to the total CO₂ output of 6 million UK homes. At current domestic burglary rates the marginal carbon costs of building a home to SBD standards will be recovered within four years.

The environmental benefits of Secured by Design are fully supported by independent research proving that SBD housing developments suffer at least 50% less burglary, 25% less vehicle crime and 25% less criminal damage. Therefore the carbon costs of replacing windows or doorsets on SBD developments as a result of criminal activity is more than 50% less than that of non-SBD developments.

These impressive crime reductions have been achieved through the adherence to well researched and effective design solutions (contained within Section 1) and the use of building products, such as doors and windows, that have independent third party certification to police preferred specifications (contained within Section 2). It therefore follows that Secured by Design certification can only be awarded to a development that meets the relevant requirements of both these sections.

If you would like to apply for Secured by Design certification, please use the SBD New Homes application form:

<http://www.securedbydesign.compdfs/newHomesapplicationForm2009.pdf>

SCOPE

The 2010 edition of SBD New Homes addresses the community safety and security requirements for most types of housing development including individual houses, housing estates and low rise apartment blocks up to a maximum of five stories above ground level. The design and layout and physical security sections of this edition can be applied to both new and refurbished homes, regardless of their existing or future tenure. Additional information for sheltered housing projects and high rise developments is available in separate design guides available from the Secured by Design website.

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POLICY AND STRATEGIC GUIDANCE IN SUPPORT OF SECURED BY DESIGN

Secured by Design principles reflect the established principles of designing out crime. The application of these principles, the design details and specifications for the particular development, must be agreed between the developer and/or the developer's agent and the police Crime Prevention Design Adviser (CPDA) or Architectural Liaison Officer (ALO).

All subsequent references within this guidance will refer to the application of the process being administered and delivered by the CPDA. Local planning conditions, crime risk assessment and other statutory provisions may influence the measures to be adopted. Examples are detailed in the Communities and Local Government Guide 'Safer Places – The Planning System & Crime Prevention', available at: <http://www.securedbydesign.com/pdfs/newHomesapplicationForm2010.pdf>

1.1

For Scotland, PAN 77 Designing Safer Places applies, available at www.scotland.gov.uk & in Wales TAN 12 applies, available at <http://new.wales.gov.uk>. In Northern Ireland Secured by Design is referenced in the government guidance for new buildings.



1.2

The advice given by the CPDA will be dependent upon the outcome of a crime risk analysis and an understanding of local crime occurrence. Consequently, specific measures recommended to address particular types of crime may vary from one site to another. It is important to note that the national SBD guidelines are **minimum** requirements and in areas of higher risk, greater crime resistance will be required. Therefore it is inevitable that the advice given to design professionals may occasionally vary according to crime risk whilst still maintaining a consistent approach.

SAFER PLACES – THE PLANNING SYSTEM AND CRIME PREVENTION

1.3

Creating a sense of place where residents and legitimate users are able to go about their daily routine without unduly fearing crime or insecurity is a key element of the Secured by Design initiative for New Homes.

1.4

The following sections (1.5 to 1.8 inclusive) have been extracted from *Safer Places – The Planning System and Crime Prevention*, a planning guidance document issued by the Home Office and the ODPM (now the CLG) for England and referenced by Planning Policy Statement 1 (PPS 1). The police service supports the seven attributes contained within Safer Places, listed below, and therefore developers must demonstrate that all of the attributes have been considered and applied within the design of the development regardless of the geographical location within the United Kingdom.

1.5

Crime and anti-social behaviour are more likely to occur if the following seven attributes of sustainable communities are not incorporated:

1.5.1

Access and movement: places with well defined and well used routes with spaces and entrances that provide for convenient movement without compromising security



1.5.2

Structure: places that are structured so that different uses do not cause conflict

1.5.3

Surveillance: places where all publicly accessible spaces are overlooked

1.5.4

Ownership: places that promote a sense of ownership, respect, territorial responsibility and community

1.5.5

Physical protection: places that include necessary, well-designed security features

1.5.6

Activity: places where the level of human activity is appropriate to the location and creates a reduced risk of crime and a sense of safety at all times

1.5.7

Management and maintenance: places that are designed with management and maintenance in mind, to discourage crime in the present and the future

1.6

Encouraging residents and legitimate users of places to feel a sense of ownership and responsibility for their surroundings can make an important contribution to community safety and crime prevention.

1.7

When it is unclear whether space is public or private it is difficult to determine what is acceptable behaviour. Where private space is easily accessible to people who have no right to be there and when a place feels like it is not under the supervision of local residents; an offender's presence in the area will not attract attention and is therefore unlikely to be challenged.



1.8

This can be facilitated by clarity in where public space ends and where communal, semi-private or private space begins. Uncertainty of ownership can reduce responsibility and increase the likelihood of crime and anti-social behaviour going unchallenged. (*Safer Places - The Planning System and Crime Prevention Home Office and ODPM 2004*)

DESIGN & ACCESS STATEMENTS

1.9

Compliance with the government backed Secured by Design award scheme criteria can be a major indication that a scheme proposal has adequately addressed the crime prevention component required to be included in Design and Access Statements (DAS).

1.10

Communities and Local Government (CLG) circular 1/2006 "Guidance on changes to the Development Control System" emphasises the PPS1 policy that a

key objective for new developments should be that they create safe and accessible environments where crime and disorder or fear of crime does not undermine quality of life or community cohesion. Clause 87 of this document states unequivocally that Design and Access Statements for outline and detailed planning applications should therefore demonstrate how crime prevention measures have been considered in the design of the proposal and how the design reflects the attributes of safe sustainable places set out in 'Safer Places – the planning system and crime prevention (Home Office/ODPM 2003)'.

As 'crime' has a potentially adverse economic, social and environmental impact upon a development, and PPS1 requires such impacts to be avoided or mitigated, it should be afforded due consideration within the DAS. Insufficient or inadequate crime prevention information within the DAS may hinder the application. Applicants should pay particular attention to key issues such as the scale of the development, layout, landscaping, appearance and context of the development.

1.11

The government planning document 'Safer Places' which should inform all DAS can be found at: http://www.securedbydesign.com/pdfs/safer_places.pdf

1.12

Information and advice on crime risk and site specific crime prevention design criteria are available free of charge to planning applicants compiling a DAS from the local police CPDA whose contact details may be found via the home page of the Secured by Design website: http://www.securedbydesign.com/professionals/design_advisors.aspx

1.13

A DAS that addresses crime enables the applicant to demonstrate to the planning authority an awareness of the crime and disorder problems in the area of the application and, importantly, shows precisely what measures are being taken to alleviate these problems. In many cases compliance with Secured by Design guidance and specifications will deliver solutions (Note 1.13).

Note 1.13: Paragraph 69 of Planning Policy Statement 3 (PPS3): Housing says 'In general, in deciding planning applications, Local Planning Authorities should have regard to: - Achieving high quality housing'. Achieving Secured by Design may indicate a commitment, by the Developer, to meet this objective of PPS 3. An SBD guidance booklet on design and access statements can be downloaded at www.securedbydesign.com

CODE FOR SUSTAINABLE HOMES

1.14

The Code for Sustainable Homes (DCLG 2007) awards points to developments that have met the requirements of Secured by Design – New Homes, Section 2. Please refer to the SBD New Homes application form.



HOMES AND COMMUNITIES AGENCY (HCA)

1.15

Secured by Design carries the full support of the Homes and Communities Agency (HCA), which now incorporates what was the 'Housing Corporation'. The Housing Corporation's Design and Quality Strategy and Standards documents relate directly to Secured by Design and the 2008-2011 National Affordable Housing Programme, to which these documents relate, still exist as an HCA legacy programme. The specific requirements for Secured by Design are specified below.

- Housing Corporation Design and Quality Strategy, Page 18, states "Secured by Design: The Code [The Code for Sustainable Homes] is written in a manner that allows the achievement of the various Code levels (star ratings) utilising a range of optional, tradable criteria. In recognition of the importance of ensuring that the developments we support create safe living environments, all grant funded schemes will be required to achieve the maximum available points for security in addition to achieving Code level 3."
- Housing Corporation Design and Quality Standards, Page 21 states (under Safety and Security) "Obtain Secured by Design certification wherever possible"



LAYOUT OF ROADS AND FOOTPATHS

2.1

Vehicular and pedestrian routes should be designed to ensure that they are visually open, direct and well used. They should not undermine the defensible space of neighbourhoods. Design features can help to identify the acceptable routes through a development, thereby encouraging their use, and in doing so enhance the feeling of safety. Where it is desirable to limit access/use to residents and their legitimate visitors, features such as rumble strips, change of road surface (by colour or texture), pillars, brick piers or narrowing of the carriageway may be used. This helps to define the defensible space, psychologically giving the impression that the area beyond is private.



THROUGH-ROADS AND CUL-DE-SACS

3.1

There are advantages in some road layout patterns over others especially where the pattern frustrates the searching behaviour and escape desire of the criminal. Whilst it is accepted that through routes will be included within development layouts the designer must ensure that the development's security is not compromised by excessive permeability, such as allowing the criminal legitimate access to the rear or side boundaries of dwellings or providing too many or unnecessary segregated footpaths (Note 3.1). Overlooking of the street from the dwellings and a high level of street activity are desirable, but are no guarantee of lower crime, which evidence proves is achieved through the control and limitation of permeability.

Note 3.1: Safer Places – The Planning System and Crime Prevention states, under 'Access and Movement' (page 16), "routes for pedestrians, cyclists and vehicles should, in most cases, run alongside one another, and not be segregated. Movement frameworks based upon 'primary routes' and shared spaces, remove the need for under-used alleyways, short-cuts, footpaths and a large number of minor access points that can become vulnerable to or facilitate crime".

A review of available research in this area concluded that: "Neighbourhood permeability... is one of the community level design features most reliably linked to crime rates, and the connections operate consistently in the same direction across studies: more permeability, more crime. Several studies across several decades link neighbourhood property crime rates with permeability versus inaccessibility of neighbourhood layout. Neighbourhoods with smaller streets or more one-way streets, or fewer entrance streets or with more turnings have lower property crime rates..." Source: Taylor R B 2002 "Crime Prevention Through Environmental Design (CPTED): Yes, No, Maybe, Unknowable, and all of the above" in Bechtel RB (ed) "Handbook of Environmental Psychology", John Wiley, New York, Pages 413 – 426. Cited by Professor Ted Kitchen Sheffield Hallam University 2007.



3.2

Cul-de-sacs that are short in length and not linked by footpaths can be very safe environments in which residents benefit from lower crime. Research shows that features that generate crime within cul-de-sacs invariably incorporate one or more of the following undesirable features:

- backing onto open land, railway lines, canal towpaths etc, and/or
- are very deep
- linked to one another by footpaths.

If any of the above features are present in a development, additional security measures may be required. Footpaths linking cul-de-sacs to one another can be particularly problematic, and in such cases the layout may need to be re-considered.

4

FOOTPATH DESIGN

4.1

Routes for pedestrians, cyclists and vehicles should not be segregated from one another. Networks of separate footpaths to unsupervised areas facilitate crime and anti-social behaviour and should also be avoided.

4.2

Public footpaths should not run to the rear of, and provide access to gardens, rear yards or dwellings as these have been proven to generate crime.

4.3

Where a segregated footpath is unavoidable, for example a public right of way, an ancient field path or heritage route, designers should consider making the footpath a focus of the development and ensure that it is:

- as straight as possible
- wide
- well lit (see clause 7)
- devoid of potential hiding places
- overlooked by surrounding buildings and activities

Physical barriers may also have to be put in place where 'desire' lines (unsanctioned direct routes) place pedestrians in danger, such as at busy road junctions. It is important that the pedestrian has good visibility along the route of the footpath. The footpath should be as much 'designed' as the buildings.

4.4

Where isolated footpaths are unavoidable, and where space permits, they should be at least 3 metres wide (to allow people to pass without infringing personal space), with at least a 2 metre verge on either side. If footpaths are designated as an emergency access route they must be wide enough to allow the passage of emergency and service vehicles and have lockable barriers.



4.5

If a pedestrian subway is necessary and there are no other alternative routes it should be as wide and as short as possible, well lit, with a clear line of sight to the exit. Chamfering the access points can help reduce areas of concealment. Radius (convex) entrance/exit walls can reduce the length of the subway and the opportunity for inappropriate loitering. The designer should consider wall finishes that enable easy removal of graffiti.



5

PLANTING NEXT TO A FOOTPATH

5.1

In general, planting next to a footpath should begin at the outer edge of the verge, starting with low growing plants with taller shrubs and trees to the rear. Planting immediately abutting the path should generally be avoided as shrubs and trees have a tendency to grow over the path creating pinch points, places of concealment and unnecessary maintenance.

5.2

Where footpaths run next to buildings or roads the path should be open to view. This does not prevent planting, but will influence the choice of species and the density of planting. Public footpaths should not run immediately next to doors and windows, therefore buffer zones should be created to separate a path from a building elevation.

This is particularly important in areas with a known graffiti or anti-social behaviour problem where the use of defensive planting may be appropriate.

5.3

Careful selection of plant species is critical in order not to impede natural surveillance and to avoid an unnecessarily high maintenance requirement. Some hedging plants, for example, will require trimming twice a year, whereas other species might only need one visit every two years. Trees on appropriate root stocks can provide a more reliable means of reducing the likelihood of impeding natural surveillance. The potential cost savings of a reduced maintenance requirement could be substantial.





SEATING NEXT TO A FOOTPATH

6.1

Before placing any seating (or structure capable of being used for seating) next to a footpath, always consider the context in terms of the physical and social environment. Seating can be a valuable amenity or a focus for anti-social behaviour. In some parts of the country there may not be a problem, in others seating may have to be provided only after careful consideration. On the same footpath, seating at one point may be a focus for trouble. Whereas at a different point on the same footpath, perhaps with better natural surveillance, it may be trouble-free. Where existing seating appears to be a problem, relocation is often an option worth exploring. The following specific points should be considered:

6.1.1

Who is most likely to be using the footpath? For example, is it likely to be used by elderly people? Can it be made more/less attractive to certain groups of users by the way it is designed?

6.1.2

Is the footpath required simply as a means for travelling from one place to another without stopping?

6.1.3

Is it the intention to encourage stopping and social interaction at particular points along the footpath?

6.1.4

Would seating encourage or attract inappropriate loiterers such as drinkers or drug users?

6.1.5

Is vandal resistant seating necessary?

6.1.6

Should seating be placed right next to the path or set at the back of the verge?

6.2

Where seating is necessary and inappropriate loitering is a problem consider the use of single seats or stools set several metres apart to deter congregation. In some locations the use of leaning bars might be more appropriate than seats. Where the path includes a wide verge it may be most appropriate to position the seat to the back of the verge (avoid creating a climbing aid). Creating space between pedestrians and inappropriate loiterers can help reduce the fear associated with having to walk past and thus promote legitimate use of the route.

7

LIGHTING OF FOOTPATHS

7.1

The need for lighting will be determined by local circumstances. In an inner city environment the lighting of a footpath is generally only effective in reducing crime levels (or preventing them from rising) if it is matched with a high degree of natural surveillance from surrounding buildings where reaction to an identified incident can be expected i.e. a witness calls the police, or the footpath is well used. The lighting of an underused footpath may give the user a false sense of security. If there is a history of crime along an existing footpath, or where the additional connectivity due to the development could attract criminal or anti-social behaviour, it might make more sense to close the path at night rather than light it. It is accepted that this would only be an option in exceptional circumstances.

7.2

Footpaths that are to include lighting should be lit to the relevant levels as defined in BS 5489 (*Note 7.2*). It is important that the landscape architect and lighting engineer co-ordinate their plans. This will help avoid problems such as conflict between lighting and tree canopies.

Note 7.2: BS 5489 has been developed from EN 13201 and other European lighting standards. The British Standards reflect the elements of European Standards that are considered to be the minimum level required within the United Kingdom.

Please also see 19.1 and 19.6 with regard to 'dark sky' policies and light pollution.



FOOTPATHS ON PHASED DEVELOPMENTS

8.1

Where the completion of a footpath will be delayed because of phased development or long term planning policy, it may be best to safeguard the land required for the footpath link, but fence it off and not actually construct the path until such time as the full connection can be made. This will avoid in the short to medium term the creation of an underused and possibly isolated movement route.



COMMUNAL AREAS

9.1

Communal areas, such as playgrounds and seating areas have the potential to generate crime, the fear of crime and anti-social behaviour. They should be designed to allow supervision from nearby dwellings with safe routes for users to come and go. Boundaries between public and private space should be clearly defined and open spaces must have features which prevent unauthorised vehicular access. Communal spaces as described above should not immediately abut residential buildings.

9.2

The provision of public open amenity space, as an integral part of new residential developments, should make a valuable contribution towards the quality of the development and the character of the neighbourhood. In order to do this it must be carefully located and designed to suit its intended purpose – mere residual space unwanted by the developer is very unlikely to be acceptable. In particular:

9.2.1

The open space must be designed with due regard for natural surveillance, and

9.2.2

Adequate mechanisms and resources must be put in place to ensure its satisfactory future management, and

9.2.3

Care should be taken to ensure that a lone dwelling will not be adversely affected by the location of the amenity space.

9.2.4

It should be noted that positioning amenity/play space to the rear of dwellings can increase the potential for crime and complaints arising from increased noise and nuisance. For further reference see – Better Places to Live by Design, companion guide to PPG3 available at www.communities.gov.uk/documents/planningandbuilding/pdf/154277.pdf





9.3

Toddler play areas should ideally be designed so that they can be secured at night. This is to reduce the amount of damage and graffiti that occurs after dark. The type of fencing and security measures will need to vary to suit the particular area. Fencing at a minimum height of 1200mm can often discourage casual entry and reduce damage to a useful extent. The specific requirements must be discussed with the CPDA.

9.4

Consideration should be given to the provision of informal association spaces for members of the community, particularly young people. These must be subject to surveillance but sited so that local residents will not suffer from possible noise pollution. In addition, they should be sited in such a way that those using adjacent foot and cycle paths will not be subject to harassment or otherwise be put in fear. Further information about shelters for young people can be obtained from <http://www.communities.gov.uk/publications/planningandbuilding/betterplaces>

9.5

External communal drying spaces should be enclosed and have secured access via a locked gate so that they are only accessible to residents. The CPDA will provide advice in respect to fencing, gate construction and locking.

9.6

The Code for Sustainable Homes awards 1 credit for the provision of private or semi-private outdoor space (Hea 3) and states that the "space must be designed in a way that makes it clear that the space is only to be used by occupants of designated dwelling(s). This could be achieved by using the buildings themselves, fencing, planting or other barrier to seal off the space". It is a requirement of Secured by Design that such space, whether provided under the Code or not is so secured and the CPDA will provide the necessary guidance. The Code states that outdoor space could be a private garden, a communal garden or courtyard, balconies, roof terraces or patios.

DWELLING BOUNDARIES

FRONT BOUNDARIES

10.1

It is important that the boundary between public and private areas is clearly indicated. For the majority of housing developments, it will be desirable for dwelling frontages to be open to view, so walls, fences and hedges will need to be kept low or alternatively feature a combination of wall (maximum height 1 metre) and railings or timber picket fence if a more substantial front boundary is required by the CPDA.

10.2

In some cases, although not ideal or recommended, a dwelling may immediately front a public footpath, road or other public area. Whilst it is accepted that it is not possible to erect a formal boundary, it is highly likely that the CPDA will require the security of doors and windows to be upgraded to reflect the vulnerability of the dwelling.

10.3

Front garden planting of feature shrubs and suitable trees (e.g. open branched or light foliage or columnar habit etc) will also be acceptable provided they are set back from paths and placed to avoid obstructing visibility of doors windows and access gates to the rear of the property.

10.4

Generous hard paving (of a type that is permeable to allow rainwater to easily drain away) to the front of the dwelling may reduce the likelihood of any planting growing to excess and obscuring vulnerable areas.

ACCESS GATES TO REAR GARDENS OR YARDS

10.5

Gates to the side of the dwelling that provide access to rear gardens or yards must be robustly constructed of timber, be the same height as the fence (minimum height 1.8m) and be lockable. Such gates must be located on or as near to the front of the building line as possible.

SIDE AND REAR BOUNDARIES

10.6

Vulnerable areas, such as side and rear gardens, need more robust defensive barriers by using walls or fencing to a minimum height of 1.8m. There may be circumstances where more open fencing is required to allow for greater surveillance. Trellis topped fencing can be useful in such circumstances. Additional deterrent features such as increasing the height of fencing or planting thorny shrubs may be considered as an alternative.

10.7

It is expected that developers will install fencing to a high standard to ensure the security and longevity of the boundary. A high quality fence that lasts for a long time will provide security and reduce overall maintenance costs for residents or landlords. A fence that has a long predicted life is also more sustainable. For this reason the SBD requirement for fencing will be as follows with effect from 1st January 2011. However whilst it is expected that it may be difficult to meet the entire specification now, there is an expectation that developers will strive to achieve compliance with as many of the attributes as possible with immediate effect:



10.7.1

The method of fixing between panel/rails and posts should create a secure mechanical bond so that panels/slats cannot be easily removed and in addition should provide a chain linking effect where each panel and post acts in concert with the next to resist attack by pushing and pulling

10.7.2

The fixings employed in the panel/pale to rail construction should be of galvanized steel or stainless steel with a design life to match the timber components.

10.7.3

Posts should allow the construction of an unbroken panel to post chain and be of a non-brittle material.

10.7.4

Where the fence panel is of a slatted design, they should be oriented vertically to avoid step-up points for climbing and be flush across the attack face to resist being pried off and should be no less than 15mm thick and securely affixed to the frame/rails.

10.7.5

Fence heights should be of a minimum 1.8m overall and be capable of raking stepping to maintain height over different terrain.

10.7.6

Pedestrian gates should be of a framed design and employ galvanized adjustable hinges and fixings mounted behind the attack face. On outward opening gates, where the hinges/brace is mounted on the attack face, fixings should be of a galvanized coach bolt design. Hinge systems must not allow the gate to be 'lifted off' and therefore should employ a method to restrict the removal of the gate from the fence post or wall. Gates should be fitted with a galvanized latch and lockable shot bolt. The gate construction should have the same design and construction attributes as the fence.

10.7.7

Entrance/driveway gates should be inward opening, of substantial framed construction and employ galvanized adjustable hinges and fixings mounted behind the attack face. Hinge systems must not allow the gate to be 'lifted off' and therefore should employ a method to restrict the removal of the gate from the adjoining fence post or wall. Gates should be fitted with a galvanized drop bolts and facility for padlocking (manual gates) or electro-mechanical locking (automated gates) and employ mechanical/electro-mechanical devices as applicable to hold gate leaves in the open position. The gate construction should have the same design and construction attributes as the fence.

10.7.8

The gate construction should have the same design and construction attributes as the fence.

10.7.9

Automated gates supplied and installed must meet with the EU Machinery Directive and be CE marked accordingly.

10.7.10

The tops of fences should finish flush with their posts and a securely fixed capping rail run across the fence and posts to affect a continuous chain. The tops/top rail/capping of fencing and gates should be of a design able to accommodate a security topping to deter attempts to scale over the perimeter.

10.7.11

All timber employed in the manufacture of the fencing should be fit for purpose, from FSC certified sustainable sources and be treated to provide protection against all types of rot and insect infestation for a minimum of 25 years.

FENCING IN HIGH CRIME VULNERABLE AREAS

10.8

Where a development is to be located in an area of extremely high crime and the gardens abut open land, footpaths or other vulnerable areas, for example railway property, tow paths etc, fencing certified to LPS 1175 Security Rating 1 may be required (*Note 10.6*).

Note 10.6: ACPO Secured by Design is currently working with industry and other interested parties to develop a security and 'fit for purpose' standard for a sustainable domestic timber fence. Work on this new standard will take place during 2009 and it is hoped to introduce the standard as a requirement during 2010.

10.9

Following consultation with the CPDA and local planning authority these requirements may be changed with agreed alternative measures.

SUB-DIVISIONAL BOUNDARIES

10.10

Sub-divisional fencing design should be agreed with the CPDA and the local planning authority. Such fencing must provide clear demarcation and at the same time enable interaction between neighbours. If a crime risk assessment indicates a high level of domestic burglary, a more secure sub-divisional fence may be required. A suitable means of achieving this may include the following design features:

10.10.1

For the first section of the boundary starting from the building provide a 1.8m high timber privacy screen.

10.10.2

From the privacy screen to the end of the garden provide a 1.2m high timber fence topped with 600mm of timber trellis. The trellis will help to deter climbing and the whole of the boundary can be made more secure by using it as a framework to carry deterrent planting (e.g. thorny shrubs), which if required, can be planted by the developer or the occupier.

11

LAYOUT AND ORIENTATION OF DWELLINGS

11.1

Dwellings should be positioned to face each other to allow neighbours to watch over each other and to create the conditions which will make the potential offender feel vulnerable to detection.

11.2

Larger schemes should incorporate a mix of dwellings, enabling greater potential for homes to be occupied throughout the day. This gives increased opportunity for natural surveillance, community interaction and environmental control.



GABLE END WALLS

12.1

It is important to avoid the creation of windowless elevations and blank walls adjacent to space to which the public have access. This type of elevation, commonly at the end of a terrace, tends to attract graffiti and inappropriate loitering. Where possible, provide at least one window, which can be at first floor level, to give views over the public area.

12.2

Where blank gable walls are unavoidable, one of the following methods should be used to protect them;

12.2.1

Provide a 1m buffer zone using either a 1.2 – 1.4m railing (with an access gate) or a 1m mature height hedge with high thorn content. Hedging will have to be protected with a fence such as chestnut paling until it becomes established. The hedge shall be contained within the boundary of the adjacent building to increase the likelihood that it will be maintained.

12.2.2

Where there is insufficient room for a buffer zone then an appropriate (non destructive) climbing plant should be planted adjacent to the wall, or a finish applied to the wall that will allow easy removal of graffiti.



REAR ACCESS PATHS

13.1

Research studying the distribution of burglary in terraced housing with open rear access footpaths has shown that up to 85% of entries occurred at the back of the house.

13.2

It is preferable that footpaths are not placed to the back of properties. If they are essential to give access to the rear of properties they must be gated. The gates must be placed at the entrance to the footpath, as near to the front building line as possible, so that attempts to climb them will be in full view of the street. Where possible the street lighting scheme should be designed to ensure that the gates are well illuminated. The gates must have a key operated lock, operable from both sides. The gates must not be easy to climb or remove from their hinges.

13.3

Gates will generally be constructed of timber when allowing access to the rear of a small number of dwellings. However in larger developments where the rear footpath provides access to a large number of properties then a gate constructed of steel may be required by the CPDA. Substantial purpose made gate products meeting LPS 1175 security rating 2 or Sold Secure Gold standard are available and may be required by the CPDA. Any gate providing access to the rear of dwellings must be designed to resist climbing, forced entry and allow a high degree of surveillance of the footpath from the street.

13.4

In order to achieve a degree of permanence and a secure fixing for the gate, in a city centre location, brick walls may be required on both sides of the entrance to the path if indicated by the CPDA. The minimum height of the gates and walls shall be 2m.



14

15

DWELLING IDENTIFICATION

14.1

Clear naming and/or numbering of properties is essential to assist residents, postal workers and the attendance of emergency services.

CLIMBING AIDS

15.1

Boundary walls, bins and fuel stores, low flat roofs or balconies should be designed so as not to provide climbing aids to gain access into the property.



CAR PARKING

16.1

Cars should either be parked in locked garages or on a hard standing within the dwelling boundary, preferably behind a gate (*Note 16.1*).

Note 16.1: The 'Code for Sustainable Homes Checklist (Hea 4 – Lifetime Homes)' requires that 'the distance from the car parking space to the home should be kept to a minimum and should be level or gently sloping.' The Code does not specify a maximum distance, but this requirement does apply to 'all parking spaces, for any type of dwelling, whether the space is within the boundary or not'.

16.2

Where communal car parking areas are necessary they should be in small groups, close and adjacent to homes and must be within view of the active rooms within these homes (*Note 16.2*). It may be necessary to provide additional windows to provide the opportunity for overlooking of the parking facility.

Note 16.2: The word 'active' in this sense means rooms in building elevations from which there is direct and regular visual connection between the room and the street or parking court. Such visual connection can be expected from rooms such as kitchens and living rooms, but not from more private rooms, such as bedrooms and bathrooms. This is not to deny that the potential for spotting activity in the street from a bedroom window does not exist, but such potential is considerably lower than that from a room used for most daytime activity, which in practice also extends into the late evening. A glance out onto the street or parking court at night from a bedroom just prior to drawing the curtains is not sufficient visual activity to make much difference to the crime levels.

16.3

Car parking courtyards are discouraged for the following reasons:

- They introduce access to the vulnerable rear elevations of dwellings where the majority of burglary is perpetrated
- In private developments such areas are often left unlit and therefore increase the fear of crime
- Particularly where un-gated the courtyards provide areas of concealment which can encourage anti social behaviour
- Although not specifically an SBD issue the introduction of large paved areas can lead to excessive run off of water into storm drains and subsequent flooding.



16

17

16.4

Where rear car parking courtyards are considered absolutely necessary they must be protected by a gate, the design of which shall be discussed with the CPDA at the earliest possible opportunity. Where gardens abut the parking area an appropriate boundary treatment must be discussed and agreed by the CPDA.

16.5

Where dedicated garages are provided within the curtilage of the dwelling then the entrance should be easily observed from the street and neighbouring dwellings. Locating garages forward of the building line can obscure views of both the entrance to the garage and the dwellings. The security standards for garage doors can be found in Section 2 Clause 27.

16.6

Where parking is designed to be adjacent to or between units, a gable end window should be considered to allow residents an unrestricted view over their vehicles.

16.7

Communal parking facilities must be lit to the relevant levels as recommended by BS 5489-1:2003 and a certificate of compliance provided. Wall mounted spotlights shining over car parks can cause glare and light pollution and will not normally be accepted as part of a lighting scheme. In exceptional circumstances where a crime risk profile indicates a low level of criminal activity, as can be the case with rural parking areas, a reduced level of lighting may be acceptable. However, this must be agreed with the CPDA at the earliest possible design/planning stage.



UNDERGROUND CAR PARKING

17.1

Many blocks of flats are now being developed with underground car parking. Early consultation with the CPDA is essential to ensure that criminal opportunity is minimised. The standards required for underground car parks can be found in Section 2, clause 27.4 (sub heading Underground car parking standards).

PLANTING

18.1

The planting of trees and shrubs in new developments to create attractive residential environments will be supported provided that:

18.1.1

The layout allows sufficient space to accommodate the planting.

18.1.2

Future maintenance requirements are adequately considered at the design stage and management programmes are put in place to ensure that the maintenance will be properly carried out.

18.1.3

The planting design takes full account of all other opportunities for crime.

18.2

The correct use of certain species of plants such as spiny or thorny shrubs can help prevent graffiti and loitering and create or enhance perimeter security. Defensive planting is not just about prickly shrubs. It is about selecting the right type of plant for the right aspect and environment.

18.3

For example, open branched and columnar trees can be used in a landscape scheme where natural and formal surveillance is required. Climbing plants can be used to cover walls that may be used as canvases for graffiti. Carefully selected trees and shrubs can be used to "green up" the most hostile of environments providing both horizontal and vertical interest without adding to crime risks.

18.4

Planting should not impede the opportunity for natural surveillance and must avoid the creation of potential hiding places. As a general recommendation, where good visibility is needed, shrubs should be selected to have a mature growth height no higher than 1 metre, and trees should have no foliage below 2 metres, thereby allowing a 1 metre clear field of vision. Trees on appropriate root stock can provide a more reliable means of reducing the likelihood of impeding natural surveillance. As a general rule, building frontages should be open to view excepting, for example, houses standing in their own private grounds. Attention should be given to the location of walls and hedges so that they do not obscure doors or windows, and the position of trees that may become climbing aids into property or obscure lights or CCTV cameras.



19

STREET LIGHTING

19.1

All street lighting for both adopted highways and footpaths, private estate roads and footpaths and car parks must comply with BS 5489-1:2003. Where conflict with other statutory provisions occurs, such as developments within conservation areas, requirements should be discussed with the CPDA and the local authority lighting engineer (*Note 19.1*).

Note 19.1: It is recognised that some local authorities have 'dark sky' policies and deliberately light some of their rural, low crime areas to very low levels of illumination and that others are currently experimenting with switching off street lamps in low crime areas between certain hours of the night in order to save energy costs and reduce CO2 emissions. If such policies exist then these must be brought to the attention of the CPDA at the time of application.

19.2

Landscaping, tree planting and lighting schemes shall not be in conflict with each other

19.3

The Overall Uniformity of light for an SBD development is expected to achieve a rating of 0.4U_o and should never fall below 0.25U_o (*Note 19.3*).

Note 19.3: The evenness of light distribution is almost always more important than the levels of illumination being achieved by the system (the levels are determined by BS 5489) The British Standards Institute have issued an advisory note stating that they recommend that U_o be at least 0.25 or 25%. A 0.4 U_o value is the ideal standard for an SBD lighting system, but where technical reasons prevent this we will still require the very best levels possible and under no circumstances may the rating fall below 0.25U_o.



19.4

The Colour Rendering qualities of lamps used in an SBD development should achieve a minimum of at least 60Ra (60%) on the Colour Rendering Index (Note 19.4).

Note 19.4: The Colour Rendering Index, scaled from 0 to 100 indicates the colour rendering qualities of lamps. 0 is a non-existent ability to render colour under illumination, such as low pressure sodium lamps, and 100 is the colour rendering qualities of daylight. The 'whiter' the light the better the colour rendition qualities. Properly controlled white light will illuminate an area to higher satisfaction levels for people whilst actually delivering less light than would be required for similar levels of satisfaction if non-white light sources were used.

19.5

The CPDA may request to be provided with a 'Lux Plan' in order that the lighting system can be assessed (Note 19.5).

Note 19.5: The details on the plan must include the maximum, minimum and average lux levels proposed. The plan must also show the Uo and Ra values for the scheme.

19.6

Light Pollution must be minimised (Note 19.6)

Note 19.6: All living things adjust their behaviour according to natural light. The application of artificial light has done much to improve our experience of the night-time environment, but if this light is not properly controlled both physiological and ecological problems may occur. Minimising light emitted in directions where it is neither necessary nor desirable is extremely important. Obtrusive lighting is a statutory nuisance and illuminating areas unintentionally is wasteful. SBD requires that only luminaires with suitable photometry serving to reduce light spill and direct light only to where it is required may be used.

In terms of sustainability consideration must be given to the consequences of turning off street lights. Such a measure may be counter productive in terms of CO2 emissions and lead to the greater use of motor vehicles because residents are too afraid to use unlit streets. Crime levels, and in particular fear of crime levels, must also be carefully monitored to see what impact such an action has made to the community. There are other possible technical alternatives to simply 'switching off' including the use of street lights that are sensitive to levels of moonlight, those that are switched on through the detection of pedestrians or vehicles and emerging LED technology which is 80% more efficient than contemporary street lighting.



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INTRODUCTION

20.1

It is important that an effective and realistic level of physical security, commensurate with the risk, is incorporated into building construction. The physical security standards outlined within this section of Secured by Design, together with those of Section 1 of this document, indicate the minimum requirements needed in order for a development to be awarded a SBD certificate. It should be noted however, that in higher risk locations, additional or alternative measures may be required. Developers should note the content of clauses under the sub-title 'Code for Sustainable Homes' (see page 14 of the SBD New Homes Application Form 2010)

20.2

The standards quoted hereafter were relevant within the United Kingdom on the date of publication of this document and are suitable for most insurance risks. It is acknowledged that alternative products may exist which do not possess the BSI Kitemark, or other specifically mentioned approval schemes, that may be suitable for a specific use. However, the use of such alternative products/standards should be agreed with the police CPDA prior to them being incorporated within the development. A departure from the recognised standards, as outlined below, will only be acceptable in exceptional circumstances.

20.3

All standards quoted within Section 2 of this document are assumed to be the latest version, revision or amendment. Earlier amendments will not be valid or acceptable 12 months from the publication date of the succeeding amendment or revision.



FRONT DOOR

FRONT DOORSET STANDARDS

21.1

Front entrance doorsets shall be certificated to one of the following standards:

- PAS 24:2007 (*Note 21.1.1*) or
- WCL 1 (*Note 21.1.2*)

Note 21.1.1: PAS 24 was last revised on 30th November 2007 and replaces PAS 24-1:1999. All doorsets must be certificated to the new standard for all development submitted for SBD approval from 1st January 2009 onwards.

Note 21.1.2: WCL 1 is the individual reference number for PAS 23/24 published by Warrington Certification Laboratories.

21.2

Doorsets must also be certificated to PAS 23-1:1999 'General performance requirements for door assemblies', including the relevant material annex (*Note 21.2.1*).

Note 21.2.1: PAS 23 will shortly be replaced by BS 6375 Performance of windows and doors (parts 1, 2 & 3). Products certificated to PAS 23 will remain acceptable for SBD purposes for a period not exceeding 12 months after publication of BS 6375. WCL 1 includes PAS 23 within the requirements.

21.3

Suitably qualified and recognised third party Certification Authorities (*Note 21.3.1*) for the above standards are as follows:

For PAS 23/24:

British Standards Institute (BSI)
BM TRADA Certification
British Board of Agrément (BBA)
Loss Prevention Certification Board (*Note the LPCB is part of the Building Research Establishment (BRE)*)

For WCL 1

Warrington Certification Laboratories

Alternative compliance may be possible in certain circumstances (*Note 21.3.2*):

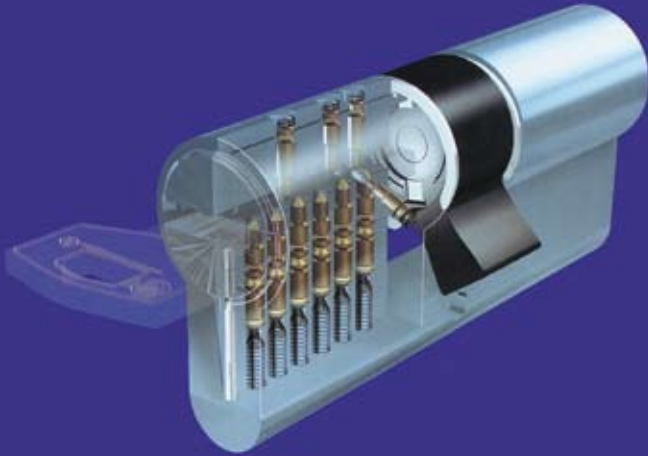
Note 21.3.1: Certificated products undergo continuous assessment to ensure product standards and production consistencies are maintained.

Note 21.3.2: Alternative compliance can either be demonstrated by SBD licence holders that have reached an advanced stage of the certification process with one of the above bodies. All such cases must be verified by ACPO SBD. Alternatively third party accreditation via a Notified Certification Body that has signed the EA MLA (European co-operation for Accreditation Multi-lateral Agreement) may be acceptable if such a body is also accredited to conduct such activities. The CPDA may refer such cases to ACPO SBD for verification.

21.4

The CPDA must be supplied with proof of certification (by one of the above bodies) including the technical schedule (sometimes referred to as 'Scope of Certification') prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design Licensing Scheme and the doorset can be identified on the SBD website.





LOCKING SYSTEMS

21.5

With effect from 30th November 2008 doorsets certificated to the standards in 21.1 must now include locks or locking mechanisms with one or both of the following attributes:

21.5.1

A cylinder certificated to BS EN 1303 grade 5 key security and grade 0 attack resistance (minimum requirement), including resistance to attack by drill to grade 2. In addition the certification scheme must include an assessment against the General Vulnerability Assessment contained within BS 3621. The following two certification schemes for lock cylinders are currently recognised for use within SBD developments:

- BSI Kitemark
- BM Trada Q Mark

21.5.2

A lock certificated to BS 3621:2007, BS 8621:2007 or BS 10621: 2007 (Note 21.5.2)

Note 21.5.2: BS 3621, BS 8621 and BS 10621 have been developed from BS EN 12209 which is the European standard for single point locking devices and BS EN 1303 which is the European standard for lock cylinders and incorporates an additional General Vulnerability Assessment which is unique to the UK. The British Standards reflect the elements of BS EN 12209 and BS EN 1303 that are considered to be the minimum level required for insurance cover within the UK. The only difference between BS 3621, BS 8621 and BS 10621 is the level of security offered from the internal face of the door:

- *BS 3621 offers the same level of security to the internal and external face of the lock*
- *BS 8621 allows the use of a non-key operated release mechanism (e.g. thumb turn).*
- *BS 10621 offers the same functionality as BS 8621 but has an external override facility which disables the internal non-key operated release mechanism (e.g. thumb turn). This type of lock must only be specified for use within buildings that have alternative means of escape.*
- *If the above lock types are fitted with euro or oval profile cylinders they must comply with the requirements of clause 21.5.1 above.*

21.6

Doorsets installed with a thumb turn release mechanism must specifically form part of the certified product range, as the pass criteria in the standards in 21.1 for such doorsets is more stringent. Hence a doorset tested with a key/key operation cannot claim compliance when a thumb turn release is installed.

21.7

In some locations the local CPDA will require the front or main access doorset to incorporate a facility that will only enable access to be gained by latch withdrawal by use of a key, not by a lever/handle (Note 21.7). This shall be communicated to the developer (or the developer's agent) in writing at the design stage, and is a requirement designed to ensure that security is commensurate with the risk.

Note 21.7: Locking systems that require the use of a key to gain access to the dwelling when not in the fully secure function (as tested to PAS 24) are NOT acceptable if the front door is the only means of escape e.g. flat entrance doorsets. Occupants MUST be afforded the opportunity to unlock the door from the inner face without the use of a key, investigate the cause of a fire or other emergency and return to raise the alarm without any use of a key – the only function that a key may have is to lock and unlock the door from the fully secure position from the outer face of the door when leaving an empty dwelling or returning to a secure dwelling (occupied or unoccupied). This is a requirement of the National House Building Council (NHBC) Warranty Scheme, who warrant approximately 80% of new homes, and the joint police and fire service agreement for 'Means of Escape'.

ACPO SBD and the NHBC have entered into an agreement that flat entrance doorsets located on the ground floor may, with prior local agreement with the NHBC, have the same locking functionalities as a house front entrance door i.e. internal key locking/unlocking. The agreement is dependent upon the ground floor flat having appropriate alternative emergency egress routes such as windows installed with emergency egress hardware.

21.8

To ensure that the end user of the door understands how to operate the locking system, clear operating instructions must be attached to the inner face of the door (*Note 21.8*). The instructions should be easily removable by the end user. In addition to this, all PAS 24 doorsets must be suitably marked as such in accordance with the requirements of the BSI standard.

Note 21.8: The purpose of providing the end user with operating instructions is to reduce the number of burglaries through otherwise secure doorsets, because the full locking system has not been engaged. This is particularly problematic with split spindle multi-point locking systems, where, for example, the occupier goes to bed at night without engaging the locks in the mistaken belief that leaving the door closed only on the latch (live bolt) is sufficient. The instructions should point out that the doorset is not totally secure unless the locking system is fully engaged. The method of attachment of these operating instructions and the medium used to carry them is for the door manufacturer to decide.

DOORSET INSTALLATION

21.9

Door frames must be securely fixed to the building fabric in accordance with the manufacturer's specifications. The CPDA may require a copy of the manufacturer's specifications.

21.10

Doors in recesses more than 600mm deep shall be avoided

GLAZING IN DOORSETS

21.11

All glazing in and adjacent to doors must include one pane of laminated glass (*Note 21.11*) to a minimum thickness of 6.4mm and securely fixed in accordance with the manufacturer's specifications. In higher risk locations the CPDA may specify laminated glass to a minimum thickness of 6.8mm. This shall be communicated to the developer (or the developer's agent) in writing at the design stage. With effect from January 1st 2011 all laminated glass must be certificated to BS EN 356 2000 rating P2A.

Note 21.11: There is no specific requirement to install laminated glazing on the inner or outer face of a double glazed unit. However specifiers may wish to take into consideration the fact that toughened glass is usually more resistant to accidental damage by blunt objects such as a football and therefore may be best placed on the external face of the double glazed unit. It is recognised however that there are many other factors that may also need to be considered such as thermal efficiency, aesthetics and the requirement for privacy or obscured glazing, which will influence the specifier's decision.

21.12

If glazed panels/windows adjacent to doors are installed as an integral part of the door frame then they must be tested as part of the manufacturer's certificated range of doorsets. Alternatively, where they are manufactured separately from the door frame, they must be certificated to BS 7950: 1997 (see section 28 Windows). In such cases the window shall be securely fixed (in accordance with the manufacturer's specifications) to the doorset. All glazed panels/windows adjacent to doors shall be laminated (see clause 21.11).

OUTWARD OPENING DOORSETS

21.13

Outward opening doorsets must specifically form part of the certificated product range e.g. BSI Kitemark or similar.

DOOR CHAINS, LIMITERS, VISION PANELS & DOOR VIEWERS

21.14

A door chain or opening limiter must be installed on the doorset to which a caller can be expected. It must be noted however that such products are not locking mechanisms and only exist to offer some control over an otherwise open door. All such devices should meet the Door and Hardware Federation Technical Specification 003 and be installed in accordance with the manufacturers recommendations.

21.15

A door viewer must be fitted between 1200mm and 1500mm from the bottom of the door (not required if the doorset is installed with clear glazing) (*Note 21.15.1*). As an alternative to a door viewer a glazed secure vision panel may be used. This is of particular benefit to persons who, for whatever reason, may have difficulty using a door viewer e.g. a household where one or more of the occupants utilises a wheel chair (*Note 21.15.2*). All such products must be installed in accordance with the manufacturer's specifications.

Note 21.15.1: Specifiers may wish to consider the use of doors viewers that meet the Door and Hardware Federation Technical Specification 002.

Note 21.15.2: Glazed secure vision panels must have been independently assessed by the SBD Product Assessment Panel or have been tested as a component part of a doorset certificated to the standards in 21.1.



21.16

If there are no means by which a visitor's identification card can be passed to the occupier for inspection then an alternative method of enabling such should be considered (*Note 21.16*).

Note 21.16: SBD recognises specific identification aid products that have been tested as a component part of a doorset certificated to the standards in 21.1.

MAIL DELIVERY

21.17

There are three distinct crime risks associated with letter plates, the first two of which are very common problems:

- i. 'Fishing', whereby arm/hand and tool are pushed through the letter plate aperture to steal items such as house and vehicle keys from a hall table with the intention of either entering the house or stealing the vehicle or both
- ii. Lock manipulation, whereby arm/hand and or tool are used through the letter plate aperture to turn the thumb turn on the back of the lock (if one is fitted) to open the door (*Note 21.17*).
- iii. Arson, whereby the arsonist pours accelerant or pushes a firework through the letter plate aperture. The large majority of domestic arson involves the use of the letter plate aperture.

Note 21.17 SBD recognises that some multipoint locks are operated through the lifting of an internal, split spindle, door handle and are often left insecure by the occupiers, which means that the handle can be easily manipulated through the letter plate aperture to open the door. Likewise, SBD recognises the fact that occupiers also leave keys in the lock.

As the security of the building must ultimately rest with the occupier, SBD's requirements for letter plate deflectors as required in paragraph 21.18.1 assumes that keys have not been left in door locks and that multipoint locks have been engaged and locked into position. Applicants should also note that 'fishing' and lock manipulation are often carried out by young children who have been brought to the scene of the crime by an adult for this specific purpose.

LETTER PLATE APERTURES

21.18

The Secured by Design requirements for letterplate apertures, dependent upon the above risks, are as follows:

21.18.1

*If crime risk (i) above is present, which could be indicated by there being sufficient space behind the entrance door to accommodate a hall table on which house and car keys can be left, an internal letter plate deflector must be fixed onto the back of the door. The deflector must cover the entire letter plate and must prevent access for fishing via the letter plate aperture. The letter plate aperture must be no larger than 260mm x 40mm (*Note 21.18.1*).*

21.18.2

If crime risk (ii) above is present, which will be indicated by the presence of a thumb turn operated lock, an internal letter plate deflector must be fixed onto the back of the door. The deflector must cover the entire letter plate and must prevent access to the thumb turn via the letter plate aperture. The letter plate aperture must be no larger than 260mm x 40mm.

21.18.3

If crime risk (iii) above is present, which would normally be indicated by recent arson attacks on the building or nearby building and would therefore not normally apply to new build developments, SBD recommends the installation of an 'anti-arson' container to be fitted onto the back of the door. The container, which may be constructed from steel or other combustion retardant material, must be sealed around the letter plate and prevent accelerant fuel or firework from passing through the letter plate aperture onto the floor.

*Any fire that is set through the letter plate aperture must be controlled within the container; some anti arson containers contain fire extinguishers. It is likely that an anti-arson container may also reduce the chances of 'fishing' and lock manipulation. The letter plate aperture must be no larger than 260mm x 40mm (*Note 21.18.2*).*

Note 21.18.1 The police service is currently exploring the creation of a new attack test standard/guide for letter plates and letter boxes with partner organisations with similar interests. The SBD requirement will be updated upon completion of a standard/guide. Internal deflectors may be problematic if the doorset is being installed within a property with a narrow entrance or hallway, as the deflector may reduce the opening width of the door if it is opening onto a wall.

Note 21.18.2 Please note that the installation of an 'anti- arson' container to the back of the door, especially those of metal box construction, may reduce the opening width of the door where the door opens into a narrow hallway. Containers manufactured from a flexible combustion resistant material (cloth) may be more suitable in such situations.

LETTER BOXES

21.19

As an alternative to the requirements and recommendations in 21.18.1 to 21.18.3, a surface mounted or 'through-the-wall' letter box may be used (*Note 21.18.1*). The use of such a product greatly reduces the crime risk problems associated with letter plates and also reduces heat loss through the door.

SURFACE MOUNTED

21.19.1

Where a single surface mounted letter box is to be used for each dwelling they must be robust in construction and securely fixed to the external face of the building in accordance with the manufacturer's specifications. They must be located in a position that benefits from natural surveillance. The letter box must incorporate a design feature that prevents the removal of mail through the delivery slot and the access door for mail collection must be lockable.

21.19.2

Where multiple boxes are to be used within the entrance hall of a block of flats, the boxes must incorporate the same design features as single boxes and be installed in accordance with the manufacturer's specifications. Depending on crime risk it may be necessary for such letter boxes to be located within an 'airlock' access controlled entrance hall, whereby access can be gained by the postal worker through the outer door only. If this additional requirement is necessary the CPDA will advise the applicant in writing at the time of application.

THROUGH -THE-WALL

21.19.3

Where the design dimensions of an entry hall in a block of flats are sufficient it may be preferable to provide 'through-the-wall' mail delivery into a secure internal letter box, thereby negating the need for the postal worker to enter the building. Such a box must incorporate the same design features as described above for a surface mounted box. Anti-arson design features may also be advised if such crime risks are present.

SIDE AND BACK DOORSETS

22.1

All external doorsets not designated as the main access/egress route must meet the same physical standard as 'Front door', sections 21.1 to 21.15 inclusive.



SLIDING PATIO DOORSETS

23.1

Sliding patio doorsets currently fall outside the scope of PAS 24:2007. To cater for this, ACPO SBD currently recognises a draft amendment to PAS 24:2007 produced by the SBD Test House Studies Group for sliding patio doorsets. All sliding patio doorsets must be successfully tested and certified to this draft amendment in order to meet the SBD requirements. Upon publication of a revised PAS 24 including sliding patio doorsets manufacturers will be expected to Certicate their products to the new standard (*Note 23.1*)

Note 23.1: SBD will allow a grace period of up to 12 months after publication of the revised PAS to enable manufacturers to meet the new requirements.

23.2

The lock requirements must comply with sections 21.6 to 21.8

23.3

Glazed panels, in and adjacent to doors shall meet the requirements of 21.11

23.4

Door frames shall be securely fixed in accordance with the manufacturer's specifications. The CPDA may require a copy of the manufacturer's specifications.

23.5

Doors in recesses more than 600mm deep should be avoided.



COMMUNAL DWELLINGS

COMMUNAL DOORSET STANDARDS

24.1

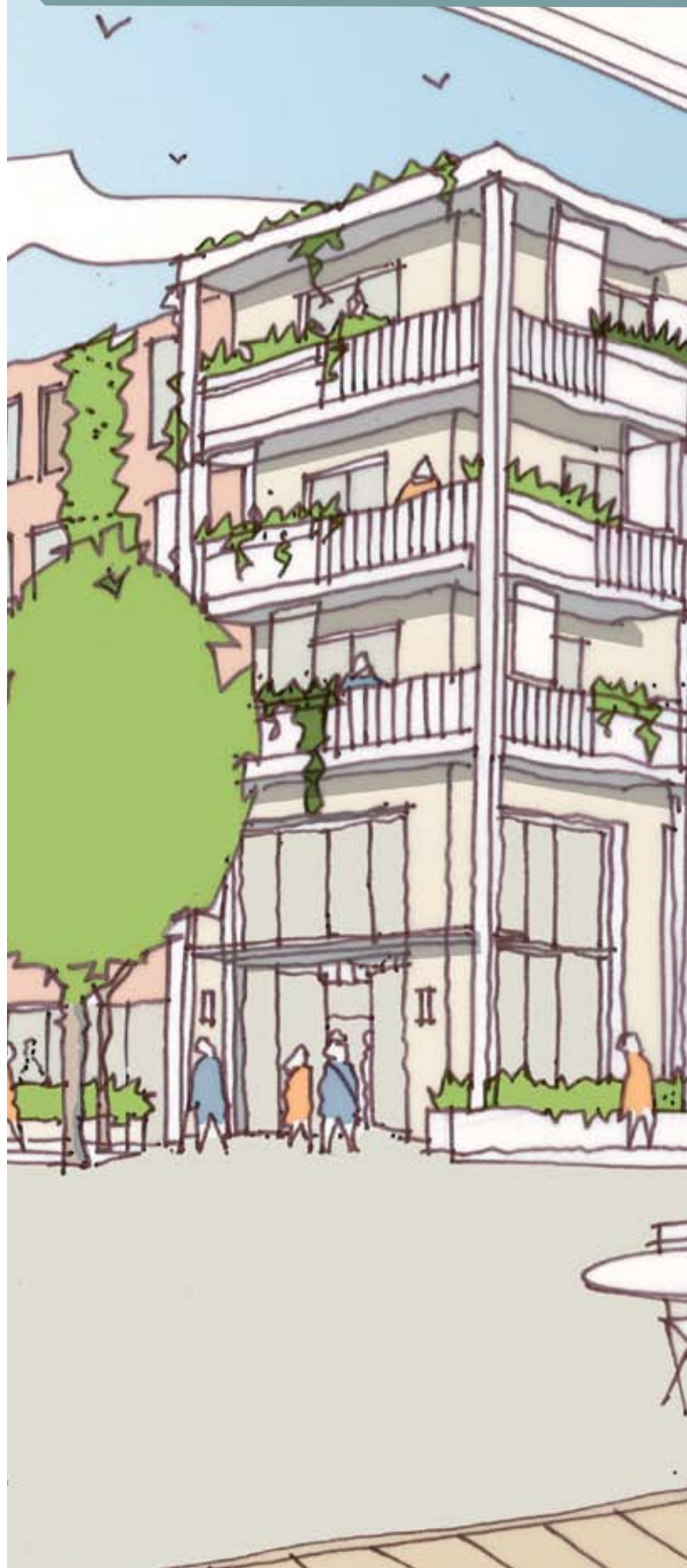
Communal Entrance doorsets specified under this section are considered acceptable for low rise developments. The SBD specifications for doorsets offering access to high rise developments are contained within the SBD Multi-Storey Dwellings standard.

24.2

Doors must be the same physical specification as 'front door', sections 21.1 to 21.15 (*Note 24.2.1*), with automatic closing and fitted with an automatic deadlocking lock, with an internal thumb turn, knob, or handle. Alternatively a doorset certificated to LPS 1175 security rating 2 (or above) or WCL 2 Burglary Resistance 2 (or above) (*Note 24.2.2*) may be specified. Such doorsets must also be certificated to PAS 23-1:1999. External entry shall be restricted to those utilising the correct key, key code, or other access control media such as key fob, proximity reader or any combination thereof (clauses 24.7 to 24.9). Attention to design detail is needed to prevent unauthorised release of the lock from the outside.

Note 24.2.1: Due to the nature of certain component parts of some doorsets designed specifically for use within communal entrances, it is not always possible to achieve full product certification with some certification bodies as the doorset may fall outside the scope of PAS 23-1:1999 and/or PAS 24-1:1999. Some examples include doorsets incorporating pivot hinges or magnetic locks. This does not however prevent the manufacturer from 'testing' the product to the relevant standards. The CPDA shall therefore be supplied with a copy of the test evidence. Communal Doorset manufacturers, whose products have been successfully tested (and in some cases certificated), can be found on the SBD website.

Note 24.2.2: WCL 2 is the reference number for a standard published by Warrington Certification Laboratories. This standard is similar to LPS 1175.



LOCKING SYSTEMS

24.3

With effect from 30th November 2008 doorsets certificated to the standards in 21.1 must now include locks or locking mechanisms with one or both of the following attributes:

24.3.1

A cylinder certificated to BS EN 1303 grade 5 key security and grade 0 attack resistance (minimum requirement), including resistance to attack by drill to grade 2. In addition the certification scheme must include an assessment against the General Vulnerability Assessment contained within BS 3621. The following two certification schemes for lock cylinders are currently recognised for use within SBD developments:

- BSI Kitemark
- BM Trada Q Mark

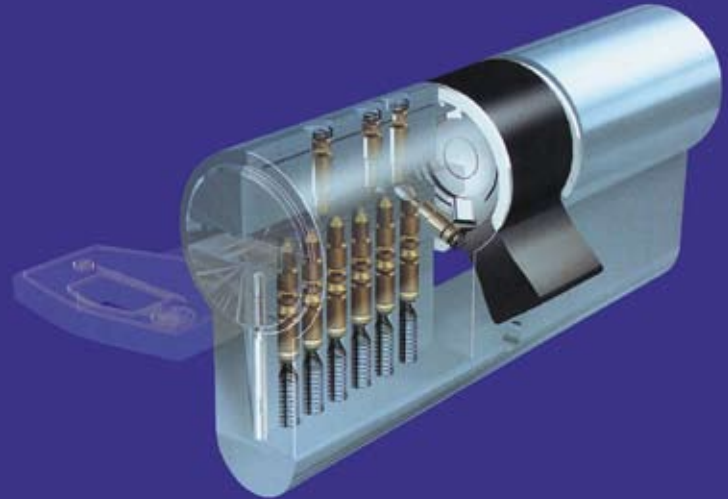
24.3.2

A lock certificated to BS 8621:2007 (Note 24.3.2).

Note 24.3.2: BS 8621 have been developed from BS EN 12209 which is the European standard for single point locking devices and BS EN 1303 which is the European standard for lock cylinders and incorporates an additional General Vulnerability Assessment which is unique to the UK. The British Standards reflect the elements of BS EN 12209 and BS EN 1303 that are considered to be the minimum level required for insurance cover within the UK. BS 8621 locks fitted with euro or oval profile cylinders they must comply with the requirements of clause 24.3.1 above.

24.3.3

Magnetic or solenoid locks, controlled via a proximity reader. The reader must be contained within a vandal resistant housing. All such systems shall include a battery back up in the event of a power failure to operate the system for a minimum period of 24 hours. In the event of an initial power failure the locks shall remain in the secure mode, however once the battery back up ceases to operate the system must revert to a safe (unlocked) mode.



VISION PANELS & DOOR VIEWERS

24.4

Where a glazed vision panel is not required to meet the Disability Discrimination Act, a door viewer may be utilised (*Note 24.4.1*). If required, the viewer should be fitted between 1200mm and 1500mm from the bottom of the door. As an alternative to a door viewer a glazed secure viewing panel may be used. This is of particular benefit to persons who, for whatever reason, may have difficulty using a door viewer e.g. a household where one or more of the occupants utilises a wheel chair (*Note 24.4.2*). All such products must be installed in accordance with the manufacturer's specifications.

Note 24.4.1: Specifiers may wish to consider the use of doors viewers that meet the Door and Hardware Federation Technical Specification 002.

Note 24.4.2: Glazed secure vision panels shall have been independently assessed by the SBD Product Assessment Panel or have been tested as a component part of a doorset Certified to PAS 23/24.

MAIL DELIVERY FOR COMMUNAL DWELLINGS (FLATS)

24.5

Letter plates/boxes installed in developments of up to two dwellings must meet the requirements of 21.18.

24.6

Letter plates/boxes installed within developments comprising of more than two dwellings must meet one of the following requirements:

24.6.1

*A robust external letter box securely fixed to the external face of the building in accordance with the manufacturer's specifications with fire retardation and anti-fishing attributes (*Note: 24.6.1*).*

24.6.2

A letter plate located within the wall, providing 'through the wall' delivery via a sloping chute into a secure internal letter box with fire retardation and anti-fishing attributes for each household.



24.6.3

Letter plates for the above must comply with BS EN 13724: 2002 and must have a maximum aperture size of 250mm x 40mm

24.6.4

An internal letter box to serve all households certificated to LPS 1175 Security Rating 1 or WCL 5 BR1, located within a secure lobby area. This will require an air lock access control system to be incorporated i.e. a further internal secure access doorset would be required to stop unauthorised access beyond the entrance lobby.

Note 24.6.1: The police service is currently exploring, with partner organisations with similar interests, the creation of a new attack test standard/guide for letter boxes and letter plates. The likely acceptable standards will be based upon LPS 1175 or WCL 5 (WCL 5 is the reference number for a standard published by Warrington Certification Laboratories. This standard is similar to LPS 1175). The SBD requirement will be updated upon completion of a standard/guide.

ACCESS CONTROL SYSTEMS

24.7

Where four or more flats are served by a common entrance the doors must incorporate an access control system, with an electronic lock release and entry phone linked to the flats (*Note 24.7*). Refer to the CPDA for consideration of the use of a tradesman release. Access control is not normally required where there are less than four households, unless there is a flat with a floor level higher than 4.5 metres or the accommodation is intended for the elderly and/or persons with disabilities.

Note 24.7: CPDAs and specifiers are reminded that the locking system must form part of the certificated doorset range. Locks that are supplied with the door which have not been tested as part of the particular doorset range are unacceptable.

24.8

Where there are more than ten households using a common entrance one of the following shall be incorporated within the development:

- a. an access control system with audio visual verification
- b. concierge system

24.9

CPDAs and specifiers are advised that at present there are no specific dedicated UK security standards for access control systems i.e. the interface between the user and the lock control mechanism. However standards do exist that offer basic security assessments that are adequate for most domestic applications such as UL 294 (a standard from the USA published by Underwriters Laboratories). There are also a small number of access control systems that are currently licensed by ACPO SBD following a more stringent Government evaluation. Whilst it is not a direct requirement at present to meet UL 294, ACPO SBD is exploring this and other emerging standards for future implementation within SBD guides.

FLAT ENTRANCE DOORSETS SERVED OFF A SHARED CORRIDOR OR STAIRWAY

FLAT ENTRANCE DOORSET STANDARDS

25.1

All ground floor flat entrance doorsets shall meet the same physical specification as 'front door' (clauses 21.1 to 21.6, 21.8 to 21.10 and 21.13 to 21.16). ACPO SBD and the NHBC have entered into an agreement that flat entrance doorsets located on the ground floor may, with prior local agreement with the NHBC, have the same locking functionalities as a house front entrance door i.e. internal key locking/unlocking. The agreement is dependent upon the ground floor flat having appropriate alternative emergency egress routes such as windows installed with emergency egress hardware. If any of the designated emergency egress windows exit above ground floor level the doorset and locking system shall comply with the requirements of 25.3

25.2

Flat entrance doorsets above the ground floor must meet the same physical specification as 'front door' (clauses 21.1 to 21.6, 21.8 to 21.10 and 21.13 to 21.16) but shall have lock hardware that is operable from both sides of an unlocked door without the use of a key (utilising a roller latch or latch operable from both sides of the doorset by a handle) (Note 25.2).

Note 25.2: Locking systems that require the use of a key to gain access to the dwelling when not in the fully secure function (as tested to PAS 24) are NOT acceptable if the front door is the only means of escape e.g. flat entrance doorsets. Occupants MUST be afforded the opportunity to unlock the door from the inner face without the use of a key, investigate the cause of a fire or other emergency and return to raise the alarm without any use of a key – the only function that a key may have is to lock and unlock the door from the fully secure position from the outer face of the door when leaving an empty dwelling or returning to a secure dwelling (occupied or unoccupied). This is a requirement of the National House Building Council (NHBC) Warranty Scheme, who warrant approximately 80% of new homes, and the joint police and fire service agreement for 'Means of Escape', which references BS 5588 Part 1:1990 'Fire precautions in the design and construction and use of buildings'.

LOCKING SYSTEMS

25.3

With effect from 30th November 2008 doorsets certificated to the standards in 21.1 must now include locks or locking mechanisms with one or both of the following attributes:

25.3.1

A cylinder certificated to BS EN 1303 grade 5 key security and grade 0 attack resistance (minimum requirement), including resistance to attack by drill to grade 2. In addition the certification scheme must include an assessment against the General Vulnerability Assessment contained within BS 3621. The following two certification schemes for lock cylinders are currently recognised for use within SBD developments:

- BSI Kitemark
- BM Trada Q Mark

25.3.2

A lock certificated to BS 3621:2007, BS 8621:2007 or BS 10621: 2007 (Note 25.3.2)

Note 25.3.2: BS 3621, BS 8621 and BS 10621 have been developed from BS EN 12209 which is the European standard for single point locking devices and BS EN 1303 which is the European standard for lock cylinders and incorporates an additional General Vulnerability Assessment which is unique to the UK. The British Standards reflect the elements of BS EN 12209 and BS EN 1303 that are considered to be the minimum level required for insurance cover within the UK. The only difference between BS 3621, BS 8621 and BS 10621 is the level of security offered from the internal face of the door:

- *BS 3621 offers the same level of security to the internal and external face of the lock. **Ground floor with local agreement with the NHBC only.***
- *BS 8621 allows the use of a non-key operated release mechanism (e.g. thumb turn).*
- *BS 10621 offers the same functionality as BS 8621 but has an external override facility which disables the internal non-key operated release mechanism (e.g. thumb turn). This type of lock must only be specified for use within buildings that have alternative means of escape. **Ground floor with local agreement with the NHBC only.***

If the above lock types are fitted with euro or oval profile cylinders they must comply with the requirements of clause 25.3.1 above.

25.4

Doorsets installed with a thumb turn release mechanism must specifically form part of the certified product range, as the pass criteria in the standards in 21.1 for such doorsets is more stringent. Hence a doorset tested with a key/key operation cannot claim compliance when a thumb turn release is installed.

25.5

To ensure that the end user of the door understands how to operate the locking system, clear operating instructions must be attached to the inner face of the door (*Note 25.5*). The instructions should be easily removable by the end user. In addition to this, all PAS 24 doorsets must be suitably marked as such in accordance with the requirements of the BSI standard.

Note 25.5: The purpose of providing the end user with operating instructions is to reduce the number of burglaries through otherwise secure doorsets, because the full locking system has not been engaged. The instructions must point out that the doorset is not totally secure unless the locking system is fully engaged. The method of attachment of these operating instructions and the medium used to carry them is for the door manufacturer to decide.

VISION PANELS, DOOR VIEWERS & GLAZING

25.6

A door viewer shall be fitted between 1200mm and 1500mm (not required if the doorset is installed with clear glazing) (*Note 25.6.1*). As an alternative to a door viewer a glazed secure vision panel may be used. This is of particular benefit to persons who, for whatever reason, may have difficulty using a door viewer e.g. a household where one or more of the occupants utilises a wheel chair (*Note 25.6.2*). All such products must be installed in accordance with the manufacturer's specifications.

Note 25.6.1: Specifiers may wish to consider the use of doors viewers that meet the Door and Hardware Federation Technical Specification 002.

Note 25.6.2: Glazed secure vision panels must have been independently assessed by the SBD Product Assessment Panel or have been tested as a component part of a doorset Certificated to the standards in clause 21.1 and the appropriate fire rating required by the fire authorities.

25.7

All glazing in and adjacent to doors shall be installed with a fire rated laminated glass securely fixed in accordance with the manufacturer's specifications.



FRENCH WINDOWS & EXTERNAL GLAZED DOUBLE DOORSETS

26.1

SBD categorises French windows and external glazed double doorsets (both sometimes referred to as 'French doors') as subtly different products i.e.:

- French windows are a pair of casement windows extending to the floor and serving as a portal from a room to an outside porch, terrace/garden or balcony. There is no external furniture and no dedicated sill detail (the sill or threshold detail being the same specification as the frame), the meeting edge of the two opening casements may be rebated or incorporate a fixed or floating mullion. Such products must meet the SBD requirements in clause 28.
- External double doorsets are a pair of doors serving as an entrance or exit. External furniture operating the full locking mechanism will be present and there will be a dedicated sill/threshold detail. In common with French Windows the meeting edge of the two opening doors may be rebated or incorporate a floating mullion detail. Doorsets described as 'double doors' but incorporating a fixed mullion detail will be classified as two separate doors. Double doorsets must meet the following requirements;

26.2

All external doorsets not designated as the main access/egress route shall meet the same physical standard as 'front door', sections 21.2 to 21.12 inclusive (Note 26.2).

Note 26.2: The scope of PAS 24:2007 and WCL 1 was extended in 2005 to include double doorsets. However the scope of PAS 23 was not extended at the same time. As a result full certification is only available via Certification Bodies who have written internal verification documentation to make allowance of the short term deficiency in PAS 23 (until new European Standards are published in mid 2009), therefore double doorsets may now be fully certified.

26.3

All glazing in and adjacent to doors must include one pane of laminated glass (Note 26.3) to a minimum thickness of 6.4mm and securely fixed in accordance with the manufacturer's specifications. In higher risk locations the CPDA may specify laminated glass to a minimum thickness of 6.8mm. This shall be communicated to the developer (or the developer's agent) in writing at the design stage. With effect from January 1st 2011 all laminated glass must be certificated to BS EN 356 2000 rating P2A.

Note 26.3: There is no specific requirement to install laminated glazing on the inner or outer face of a double glazed unit. However specifiers may wish to take into consideration the fact that toughened glass is usually more resistant to accidental damage by blunt objects such as a football and therefore may be best placed on the external face of the double glazed unit. It is recognised however that there are many other factors that may also need to be considered such as thermal efficiency, aesthetics and the requirement for privacy or obscured glazing, which will influence the specifier's decision.



GARAGES

27.1

External pedestrian access doors must meet the same physical, locking and fixing specification, as 'Front Door', clauses 21.1 to 21.6 and 21.8 to 21.13.

27.2

The vehicle access doorsets must be certificated to one of the following standards (*Note 27.2.1*):

- Loss Prevention Certification Board standard – LPS 1175 security rating 1
- WCL 2 BR 1 (*Note 27.2.2*)

The CPDA must be supplied with proof of certification (by one of the above bodies) including the technical schedule (sometimes referred to as 'Scope of Certification') prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design Licensing Scheme and the doorset can be identified on the SBD website.

Note 27.2.1: Alternative compliance can either be demonstrated by SBD licence holders that have reached an advanced stage of the certification process with either the Loss Prevention Certification Board (LPCB) or Warrington Certification Laboratories (WCL). All such cases must be verified with ACPO SBD. Alternatively third party accreditation via a Notified Certification Body that has signed the EA MLA (European co-operation for Accreditation Multi-lateral Agreement) may be acceptable if such a body is also accredited to conduct such activities. The CPDA may refer such cases to ACPO SBD for verification.

Note 27.2.2: WCL 2 is the reference number for a standard published by Warrington Certification Laboratories. This standard is similar to LPS 1175.

27.3

Internal doors connecting the garage to the dwelling must meet the same physical, locking and fixing specification as 'Front Door', sections 21.1 to 21.6 and 21.8 to 21.13. Minimum Building Regulations requirements will call for these doors to comply with BS 476 part 22 (½ Hour Fire Resistance with automatic closing).

UNDERGROUND CAR PARKING STANDARDS

27.4

The following requirements are necessary:

27.4.1

Every effort must be made to prevent unauthorised access into the car park. Therefore an access control system must be applied to all pedestrian and vehicular entrances.

27.4.2

Inward opening automatic gates or roller grilles must be located at the building line or at the top of ramps to avoid the creation of a recess. They must be capable of being operated remotely by the driver whilst sitting in the vehicle, the operation speed of the gates or shutters shall be as quick as possible to avoid tailgating by other vehicles (The security standards for garage doors can be found in Section 2 Clause 27). This will allow easy access by a disabled driver, and will normally satisfy the requirements of the Highways Department who under normal circumstances do not permit vehicles to obstruct the pedestrian footway whilst the driver is unlocking a gate. Automatic roller shutters must be certificated to LPS 1175 SR 2 or WCL 2 BR2.

27.4.3

Lighting must be at the levels recommended by BS 5489-1:2003 and a certificate of compliance provided.

27.4.4

Walls and ceilings must have light colour finishes to maximise the effectiveness of the lighting as this will reduce the luminaires required to achieve an acceptable light level.

27.4.5

Any internal door that gives access to the residential floors must have an access control system and meet the physical requirements in Section 2 Clause 24. However, this will be subject to requirements for means of escape.

27.4.6

In larger developments closed circuit television may be required. The residents must be able to monitor the car park from individual dwelling units if no formal monitoring agreement is planned. Developers are reminded that if images of public space are visible and recorded then there may be a legal responsibility to register the system with the Information Commissioner. Such a system would only be practical if there is a planned management service for the development.





WINDOWS

28.1

The SBD standards for ground floor, basement and easily accessible windows (*Note 28.1.1*) are as follows:

- BS 7950: 1997 or
- WCL 4 (*Note 28.1.2*)

All windows must incorporate key lockable hardware unless designated as emergency egress routes, see 28.6.2.

Note 28.1.1: It is difficult to give a comprehensive description of the term 'easily accessible'. However, common sense dictates that easily accessible windows or doorsets are those that can be accessed via a flat roof, balcony or other similar structure e.g. external supporting or decorative balcony detail. 'Easily Accessible', in this context also means that access can be gained by two persons (one climbing, one assisting) without the use of a climbing aid, such as a ladder.

Note 28.1.2: WCL 4 is the reference number for BS 7950 and is published by Warrington Certification Laboratories.

28.2

Windows must also be fit for purpose and shall be certificated to the relevant material standard i.e.:

- BS 4873: 2004 (Aluminium)
- BS 7412: 2007 (PVC-U)
- BS 644: 2003 (Timber)
- BS 6510: 2005 (Steel)

Windows installed within SBD developments must be certificated by one of the following UKAS accredited certification (*Note 28.3.1*) bodies or can demonstrate alternative compliance (*Note 28.3.2*):

British Standards Institute (BSI)
BM TRADA Certification
British Board of Agrément (BBA)
Loss Prevention Certification Board (part of the Building Research Establishment (BRE))
Warrington Certification Laboratories
Steel Window Association (SWA)

The CPDA must be supplied with proof of certification (by one of the above bodies) including the technical schedule, prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design Licensing Scheme and the doorset can be identified on the SBD website.

Windows installed within SBD developments must be certificated by one of the following UKAS accredited certification (*Note 28.3.1*) bodies or can demonstrate alternative compliance (*Note 28.3.2*):

British Standards Institute (BSI)
BM TRADA Certification
British Board of Agrément (BBA)
Loss Prevention Certification Board (part of the Building Research Establishment (BRE))
Warrington Certification Laboratories
Steel Window Association (SWA)

The CPDA must be supplied with proof of certification (by one of the above bodies) including the technical schedule, prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design Licensing Scheme and the doorset can be identified on the SBD website.

Note 28.3.1: Certified products undergo continuous assessment to ensure product standards and production consistencies are maintained.

Note 28.3.2: Alternative compliance can either be demonstrated by SBD licence holders that have reached an advanced stage of the certification process with one of the above bodies. All such cases must be verified with ACPO CPI. Alternatively third party accreditation via a Notified Certification Body that has signed the EA MLA (European co-operation for Accreditation Multi-lateral Agreement) may be acceptable if such a body is also accredited to conduct such activities. The CPDA may refer such cases to ACPO CPI for verification.

28.4

Windows falling outside the scope of the British Standard e.g. horizontal sliding windows, must be assessed by a UKAS accredited organisation accredited to perform such an assessment (British Board of Agrément or Building Research Establishment) against BS 7950. Any such assessment shall include the appropriate fitness for purpose standard (clause 28.2). *The CPDA shall be supplied with proof of certification (by one of the above bodies) including the technical schedule, prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design Licensing Scheme and the window can be identified on the SBD website.*

28.5

Windows must be securely fixed in accordance with the manufacturer's specifications. The CPDA shall be provided with a copy of the manufacturer's specifications.

28.6

Windows must meet the requirements of the local Building Regulations with regard to safety glazing and emergency egress. The following additional specific SBD requirements shall be complied with:

28.6.1

Laminated safety glazing (6.4mm minimum) in windows below 800mm (from floor level) or 1500mm if within 300mm of a doorframe. With effect from January 1st 2011 all laminated glass must be certificated to BS EN 356 2000 rating P2A.

28.6.2

Non-key locking hardware on designated accessible emergency egress windows together with laminated glazing conforming with the requirements in 28.6.1.

28.7

Where automatic opening window and venting systems controlled by sensors and computers are used, for example in some eco homes or flat developments, they shall include a 'fail safe' system to ensure maintenance of security in the event of failure.

28.8

In certain areas, to ensure that security is commensurate with the risk, the CPDA may require laminated glass, minimum thickness 6.4mm (*Note 28.8*), to be installed on all ground floor and basement windows and those easily accessible above ground floor (*Note 28.1.1*). Such a requirement will be communicated to the developer, or the developer's agent, in writing prior to commencement of building construction. Developers are advised that a late application for SBD approval may require glazing to be replaced if it does not meet the standard required.

Note 28.8: There is no specific requirement to install laminated glazing on the inner or outer face of a double glazed unit. However specifiers may wish to take into consideration the fact that toughened glass is usually more resistant to accidental damage by blunt objects such as a football and therefore may be best placed on the external face of the double glazed unit. It is recognised however that there are many other factors that may also need to be considered such as thermal efficiency, aesthetics and the requirement for privacy or obscured glazing, which will influence the specifier's decision. With effect from January 1st 2011 all laminated glass must be certificated to BS EN 356 2000 rating P2A.

ROOF LIGHTS

29.1

Easily accessible (*Note 29.1.1*) roof light apertures shall be protected by roof lights certified to BS 7950: 1997 or WCL 4 (*Note 29.1.2*). All glazing shall be laminated (min. thickness 6.4 mm), with effect from January 1st 2011 all laminated glass must be certificated to BS EN 356 2000 rating P2A (minimum).

Roof light products certified to LPS 1175 (minimum Security Rating 1) are acceptable as an alternative to the above standards. The glazing requirements mentioned above do not apply to products meeting this standard as the glazing is subject to assessment during the test.

Note 29.1.1: It is difficult to give a comprehensive description of the term 'easily accessible'. However, common sense dictates that easily accessible windows or doorsets are those that can be accessed via a flat roof, balcony or other similar structure e.g. external supporting or decorative balcony detail. 'Easily Accessible', in this context also means that access can be gained by two persons (one climbing, one assisting) without the use of a climbing aid, such as a ladder.

Note 29.1.2: WCL 4 is the reference number for BS 7950 and is published by Warrington Certification Laboratories.

29.2

See clauses 28.2 to 28.4 with regard to fitness for purpose standards and certification requirements.

29.3

The CPDA must be supplied with proof of certification (by one of the above bodies) including the technical schedule, prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design Licensing Scheme and the roof light can be identified on the SBD website.

29.4

Roof lights must be securely fixed in accordance with the manufacturer's specifications. The CPDA must be provided with a copy of the manufacturer's specifications.



DWELLING SECURITY LIGHTING

EXTERNAL

30.1

Lighting is required to illuminate all external doors, car parking and garage areas and some footpaths leading to dwellings and blocks of flats (*Note 30.1*).

Note 30.1: This is also a requirement of the 'Code for Sustainable Homes (Hea 4 - Lifetime Homes)

30.2

The use of low energy consumption lamps with an efficacy of greater than 40 Lumens per circuit watt is required (*Note 30.2*)

Note 30.2: The Code for Sustainable Homes requires security lighting to be switched by PIR and for the lamp not to exceed 150w. Secured by Design has not specified this type of security lighting for a number of years following advice from the Institute of Lighting Engineers and police concern regarding the increase in the fear in crime (particularly amongst the elderly) due to repeated PIR lamp activations. Research has proven that a constant level of illumination is more effective at controlling the night environment. However it should be pointed out that the Code for Sustainable Homes does not penalize specifiers that follow the SBD guidance (constant level of illumination by utilizing low energy luminaires) and allows credits to be awarded for 'default cases' (Code for Sustainable Homes Ene 6 – external lighting).

30.3

SBD requires that only luminaires with suitable photometry serving to reduce light spill and direct light only to where it is required may be used (*Note 31.3*).

Note 31.3: All living things adjust their behaviour according to natural light. The application of artificial light has done much to improve our experience of the night-time environment, but if this light is not properly controlled both physiological and ecological problems may occur. Minimising light emitted in directions where it is neither necessary nor desirable is extremely important. Obtrusive lighting is a statutory nuisance and illuminating areas unintentionally is wasteful.

30.4

External lighting must be switched using a photo electric cell (dusk to dawn) with a manual override.

30.5

24 hour lighting to communal parts of blocks of flats will be required. This will normally include the communal entrance hall, lobbies, landings, corridors and stairwells and underground garaging facilities and all entrance/exit points. Other areas requiring lighting will be indicated by the CPDA in writing. To reduce energy consumption this may be provided by a two stage lighting system whereby a lower level of illumination is supplemented with additional lighting when triggered. All communal light fittings must be dedicated for the use of energy efficient lamps.

INTERNAL

30.6

Apparent occupation of a dwelling can be a deterrent to crime. Due to the fact that many people leave lights on when going out at night, and to ensure that the energy used is minimised, SBD requires that at least 75% of the fixed internal light fittings are dedicated for the use of energy efficient lamps.

31

CONSERVATORIES

31.1

Where a conservatory is installed there must be a door separating it from the main dwelling. The door must meet the same physical standard as 'Front Door' (sections 21.2 to 21.12), or if it is a French window, double doorset or a sliding patio door it must meet the requirements outlined within the relevant sections of this document.





INTRUDER ALARMS

32.1

A 13amp non switched fused spur, suitable for an alarm system, must be installed. If the full alarm system is installed it shall comply with one of the following standards:

- BS EN 50131 & PD6662 (wired system)
- BS 6799 (wire free system)

All installations should be in accordance with the current regulations for electrical installations.

32.2

If complete systems are installed, and a police response is required, reference shall be made to the ACPO Security Systems Policy a copy of which can be obtained from the SBD website – www.securedbydesign.com

UTILITIES

33.1

In order to reduce the opportunities for theft by 'bogus officials' the utility meters should, where possible, be located to the outside and front of the dwelling where they can be overlooked. This will negate the need for an official to enter the building in order to read a meter, which will in turn reduce the opportunity for distraction burglary. Where possible utility meters in multi occupancy developments should be located on the ground floor between access controlled doors (air lock system) so that access can be restricted to the meters *(Note 33.1)*

33.2

Although considered to be extremely undesirable in security terms, it is accepted that utility meters and control equipment that provide a supply by the use of some form of pre-paid token or key may be located within the dwelling.

Intelligent meters with automatic signalling is an acceptable alternative to 33.1.

(Note 33.1) Where a utility provider refuses to provide external meters, and there is an obvious (historic) risk of distraction burglary within the location, the developer should consider an alternative supplier.

33.3

Intelligent utility meters with automatic signalling may be an acceptable alternative to 33.1.

INTERNAL COMMUNAL DRYING ROOMS

34.1

Where dedicated communal internal drying rooms are located in blocks of flats, they must be fitted with doorsets that meet the same physical specification as 'front door' and specifically clauses 21.1 to 21.6 and 21.8 to 21.13. This is to ensure that they are only accessible to the residents. The locking system must be operable from the inner face by use of a thumb turn to ensure that residents are not accidentally locked in by another person.



BICYCLE PARKING

35.1

The Code for Sustainable Homes awards up to 2 credits for the provision of adequate and secure cycle storage facilities. Secured by Design supports this aim and provides some additional security requirements below:

EXTERNAL

35.2

External containers specifically designed for the secure storage of bicycles must be certified to LPS 1175 SR 1.

35.3

Where cycle storage is provided in a shed, the shed must be securely fixed to a concrete foundation and the shed door fitted with a certificated 'Sold Secure' Silver Standard padlock, hasp and staple (coach bolted through the shed structure). Providing the shed door is at least 44mm thick the shed door can be locked into the doorframe using either a mortice deadlock or mortice sash lock certificated to BS 3621: 2007. The bicycle security ground anchor must also be certificated to 'Sold Secure' Silver Standard.

35.4

Where cycle storage is provided in a garage, adequate space must be provided to store both the bicycle(s) and the car(s) at the same time. A certificated 'Sold Secure' ground anchor shall be installed.

35.5

For space requirements for bicycle parking see Code for Sustainable Homes (Ene 8 Page 88).



35.6

External, communal bicycle stores with individual stands for securing bicycles will be within 100 metres of the main entrance to a block of flats and located in view of habitable rooms of the dwellings. The store must be lit at night using vandal resistant, dedicated energy efficient light fittings and energy efficient lamps, such as Compact Fluorescent Lamps.

35.7

Recent research by the 'Design against Crime' Centre suggests that cyclists should be encouraged to lock both wheels and the crossbar to a stand rather than just the crossbar and therefore a design of cycle stand that enables this method of locking to be used is recommended. Minimum requirements for such equipment:

- Galvanised steel bar construction (minimum thickness 3mm)
- Minimum foundation depth of 300mm with welded 'anchor bar'
- Further information about secure cycle parking can be found at the following resource section of the 'Bikeoff' website www.bikeoff.org/design_resource

INTERNAL

35.8

Internal communal bicycle stores within blocks of flats must have no windows and be fitted with a secure doorset that meets the same physical specification as 'front door' and specifically clauses 21.1 to 21.6 and 21.8 to 21.13 in order that these places are only accessible to the residents. The locking system must be operable from the inner face by use of a thumb turn to ensure that residents are not accidentally locked in by another person. The store must also be provided with stands with secure anchor points (see 35.4) or secure cycle stands (see 35.7).



HOME OFFICE (WORKING FROM HOME)

36.1

'Ene 9' of the 'Code for Sustainable Homes' awards 1 credit for the provision of space and services that enable a room to be used effectively as a home office. Although the provision of a home office is not a specific SBD requirement, should a developer wish to apply for the relevant credit within a SBD development the following requirements must be adhered to:

- windows must comply with clause 28 and be glazed with laminated glass, unless the office is located in an inaccessible area of the building i.e. first floor and above with no external means of accessing the window unaided.
- the internal entrance door to the home office should be of robust construction e.g. FD30 fire rated door, and installed with a lock certificated to BS 3621 or BS 8621.
- If access to the home office can be gained via an external doorset (including double doorsets & French windows) then the relevant default SBD requirements for such must be met.



HOME COMPOSTING FACILITIES

37.1

External composting containers supplied to meet 'Code for Sustainable Homes' 'Was 3' should be sited in such a way that they cannot be used to climb over fences or otherwise used as a climbing aid to commit crime.

PARTY WALL CONSTRUCTION & SOUND INSULATION

38.1

There have been incidents reported to the police where a burglar has bypassed a satisfactorily installed enhanced secure doorset, by breaking through the wall. Therefore, standard timber stud partition walls used to separate dwellings from each other or separate a flat from a common corridor are not acceptable. This type of wall must resist unlawful intrusion and the specifier must incorporate additional construction components into the wall, this may be achieved by:

- Introducing additional components that will enhance the security of the wall such as expanded metal, vandal resistant gypsum-based board (plasterboard), timber sheathing (minimum thickness 9mm), or;
- Compliance with robustdetails specification E-WT-2

38.2

The police recommend the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours, which in turn will reduce resource implications for both the police and the local authorities. The 'Code for Sustainable Homes', under 'Hea 2' awards up to 4 credits for sound installation.

38.3

By following the above requirements the specifier must take account of the various UK Building Regulations.

38.4

Loft hatches located in communal areas, such as over landings in blocks of flats, must be locked into place to prevent access into a dwelling via the loft space. This may still be required even where the loft space has been compartmentalized to prevent the spread of fire and smoke. There are currently no 'hinged' or 'lift out' loft hatches being manufactured to recognised security standards, but where padlocks, hasps and staples are used to secure the hatch the products must be certificated to Sold Secure 'Silver' and fitted in accordance with the manufacturer's instructions.

HOME USER GUIDE

39.1

If a Home user guide is being produced for this development under the Code for Sustainable Homes (Man 1 refers) it will be necessary to include instructions for the operation of all door and window locking systems.

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