Secured by Design

COMMERCIAL GUIDE 2023

Secured by Design

SBD

Official Police Security Initiative

Preface

The Commercial Guide for 2023 has been written by Police Crime Prevention Initiatives (Police CPI) in consultation with Designing Out Crime Officers (DOCOs) and industry partners.

For the first time, the Secured by Design Commercial Guide is divided into Gold, Silver and Bronze Award gradations. It is our intention to continually update this guide as a result of further consultations with partners, signalling new iterations of standards and improved styles of applying designing out crime methods.

The police service places great importance upon the need to build sustainable and inclusive communities and to raise awareness of the significant impact that low crime makes to the ongoing and long-term sustainability of good business and commerce.

Constructing well designed places, buildings and communities that promote both sustainable communities and health and wellbeing is an objective that the Secured by Design Initiative widely supports; however, it is imperative that they must also be safe, secure, and accessible. Mitigating the opportunities for crime is not only about reducing and preventing injury and crime, but it is also about building strong, cohesive, vibrant, and participatory communities.

Crime, the fear of crime and the unhappiness and disorder they create significantly damages communities. It is a reasonable expectation that all those with some responsibility for the built environment from local authorities and the police to architects, builders and developers, include crime prevention measures in their work; creating environments that reduce opportunities to commit crime with design led solutions is a cost effective, resource efficient and highly impactive means of improving the quality of life.

The way Secured by Design works is to deter criminal and anti-social behaviour through the design, layout and specification of buildings and the spaces around and between them, that serve to reduce easy opportunities for crime. It is argued that more crimes are committed where a criminal feels more comfortable committing them, for instance where a physical environment offers easy unrestricted or at least uncontrolled access, where clear messages of ownership are absent, where either natural and formal surveillance are absent or where wrong doers feel free to move within an area assured of their anonymity.

Design-led solutions to prevent crime will include ample opportunity for natural surveillance, high quality public lighting, clearly defined and well overlooked defensible spaces, the eradication of unnecessary foot routes and see these routes concentrated together with busier traffic routes, the sensible and sensitive positioning of play and leisure areas, the provision of clear and appropriate boundary treatments and the careful removal of any chances to hide unseen to create ambush points.

For example, an obvious advantage of creating spaces with clear sight lines across and around them that do not provide places where anyone can hide, is the fact that people can see for themselves that they’re safe moving through an area that reassures them.

Police CPI is aware that due consideration should be given to not creating additional barriers for disabled and/or older users. Taking an inclusive design approach which aims to remove barriers that create undue effort and separation will ensure that buildings, places and surrounding spaces can be easily and comfortably accessed and used by everyone.

This guide incorporates the latest security standards, developed to address emerging criminal methods of attack, and includes references to the Building Regulations and other statutory requirements across the United Kingdom.

The National Design Guide sets out the characteristics of well-designed places and demonstrates what good design means in practice. Detailed guidance is provided by the National Model Design Codes Parts 1 and 2. The purpose of the National Model Design Code is to provide detailed guidance on the production of design codes, guides and policies to promote successful design. It expands on the ten characteristics of good design set out in the National Design Guide, which reflects the government’s priorities and provides a common overarching framework for design.

The National Design Guide says that the long standing fundamental principles of good design are that where we live, work or take place in any other activities in our everyday lives should be subject to good design and fit for purpose; durable; and bring delight.

Accessible and inclusive design is not a mandatory SBD award requirement for all developments; it should be seen however as a material consideration specifically for occupation by disabled and/or older users so as to ensure that these members of our community are not subsequently made less secure. For example, if door locking systems are complex and difficult to operate, some people may leave their door insecure because of their inability to operate such a locking system.

Contents

1 Introduction

1.1 Secured by Design (SBD) is a crime prevention initiative operated by the Police Services of the United Kingdom. Secured by Design Commercial 2023 is one of several SBD Design Guides all of which aim to reduce crime and the fear of crime in the built environment. SBD continues to evaluate the effectiveness of its guidance and periodically amends the guides to take account of new research findings and standards. This guidance for commercial developments incorporates new security standards that have been developed to address new and emerging methods of criminal attack.

1.2 SBD Commercial provides a practical level of risk commensurate and sustainable security measures which are compatible and sympathetic to successful business. The majority of crimes committed on commercial premises are property related because modern business uses an array of desirable and easily transportable goods with a ready market such as plant, raw materials, laptops and many other valuable assets. Among other crime types to be considered when designing commercial properties are vandalism, graffiti, robbery, assaults on staff members and cyber crime, including the Internet of Things which is covered in the Silver section of this guide under the heading 'Cyber Crime and the Internet of Things.'

1.3 The Police Service places great importance on the need to build sustainable developments which use environmentally friendly materials and construction methods and promotes the concept that preventing crime is in itself a positive gain in sustainability. Academic research conducted on behalf of SBD estimated that crime committed in the UK is responsible for the release of at least 6,000,000 tonnes of environmentally damaging carbon dioxide into the atmosphere each year[1]. It therefore follows that the achievement of an SBD certificate for commercial premises not only indicates that the designer has made a significant effort to create a secure working environment but an environmentally friendly one too.

1.4 It is vital that the benefits of a new Secured by Design commercial development is complemented with a clear management and maintenance programme together with a business continuity and resilience plan which will further promote a safe working environment. More information about risk management in both new and existing commercial buildings can be obtained from the SBD partner initiative 'Secured Environments' at: www.securedenvironments.com

1. Carbon Costs of Crime 2009, Professor Ken Pease

2 The designing out crime process

2.1 This edition of the Commercial Guide is effective from 1st August 2023. It applies to all types of commercial premises from small storage units to multi-use business parks and since the crime risks associated with commercial premises can range from lower value crime in corner shops to higher value crime in shopping centres there can be no 'one size fits all' solution applicable to all development.

2.2 The advice given by the police Designing Out Crime Officer (DOCO),* Crime Prevention Design Advisor (CPDA) or Architectural Liaison Officer (ALO) will be provided directly from the content of this guide and will be dependent upon a crime risk analysis and an understanding of local crime occurrences. Where justified by the results of a crime risk analysis, some sections of this guide allow for the adoption of enhanced measures that are commensurate with an increased risk and will specified by the DOCO.

*In this guide, all references to the police SBD specialist will employ the term 'DOCO'.

2.3 If SBD approval is required for a development, applicants should follow the application process by familiarising themselves with the relevant parts of this guide and consulting the DOCO for site specific information at the earliest opportunity, ideally at the preplanning stage, and in any case prior to submitting for planning approval on a new development or commencing work to refurbish an existing one.

3 How to apply for an SBD award

3.1 To apply for an SBD award, please complete the checklist and application form which can be downloaded by visiting: www.securedbydesign.com Completed application forms should be sent to the relevant DOCO whose details can also be found on the contacts page of the SBD website.

3.2 The application form must be read in conjunction with the full SBD Commercial Guide to ensure that your application will comply. The development will be measured against the requirements of the SBD award scheme current at the time the application was made. Developments that have not started on site within 3 years of the original SBD application shall be subject to a new application – which includes developments where only a phase of building begins more than 3 years from the original application date.

3.3 Developers wishing to apply for Secured by Design approval should contact their local Designing Out Crime Officer at: www.securedbydesign.com/contact-us

4 Scope of SBD Commercial

4.1 SBD Commercial ranges from new schemes to refurbishments of existing buildings and encompasses both commercial developments where the public have no formal access as in a factory or an office building and those where public access is integral to the commercial use such as in retail premises, leisure centres and public service buildings. Such developments may range in size from a single unit with a defined use to a group of buildings with multiple uses.

4.2 Secured by Design provides design guidance and specification requirements for commercial premises so as to reduce the risks of crimes against the person or property such as burglary, theft, arson, vehicle crime and assault; there is often an accompanying reduction in the fear of crime and anti-social behaviour.

4.3 If the development is at risk of terrorist attack, counter terrorism design and specification issues will be vital and this matter should be brought to the attention of the DOCO at the earliest opportunity. If the police service identifies vulnerable buildings or commercial activities that require detailed counter terrorism advice, the applicant will be informed and a referral will be made to the Counter Terrorism Security Advisor.

4.4 The National Protective Security Authority (NPSA) in collaboration with the Royal Institute of British Architects (RIBA) and Police Crime Prevention Initiatives (Police CPI), have created the Security Overlay to the RIBA Plan of Work which is for everyone involved in the safe and secure design, construction, and operation of any building. This process will support better long-term security outcomes for everyone involved in the lifecycle of a building. The following link will provide access to the document: www.architecture.com/knowledge-and-resources/resources-landing-page/security-overlay-to-the-plan-of-work

5 Phased or speculative developments

5.1 Some commercial or mixed use (domestic and commercial) developments can be either phased – developed when the market allows – or speculative – a developer provides the infrastructure but with no immediately available specific building designs. SBD certification can be achieved in both these circumstances provided the relevant DOCO's approval is obtained.

5.2 Where a mixed use development has both commercial and residential elements, SBD certification can only be gained for the residential development once the commercial development has been secured in compliance with the SBD Commercial Guide. Further information about SBD residential developments is available at: www.securedbydesign.com/images/HOMES_GUIDE_2023_web.pdf

6 Explanation of graded security levels

6.1 SBD Commercial **BRONZE** Award

To achieve the Bronze Award, applicants must have complied with as many elements of the Silver Award as is possible and all the relevant recommendations detailed in the Bronze Award section.

6.2 SBD Commercial **SILVER** Award

To achieve the Silver Award, applicants must have complied with all the relevant recommendations detailed in the Silver Award section.

6.3 SBD Commercial **GOLD** Award

To achieve the approval of our highest award for security in development design, the Gold Award, applicants must have first complied with all the relevant recommendations detailed in both the Silver and Gold Award sections.

7 Construction phase security – advisory note

7.1 Unfortunately, there are many crimes which occur during the construction phase of a development; the most significant include theft of plant equipment, materials, tools and diesel fuel.

7.2 Secured by Design recommend that security should be considered throughout the life cycle of the development and be in place prior and during the construction phase. For example, this should include robust perimeter fencing of the site and (where appropriate) a monitored alarm system (by a company or individual who can provide a response) for site cabins and those structures facilitating the storage of materials and fuel.

7.3 The developer is advised that signage should be displayed across the development (i.e. on the perimeter fencing) and should contain the emergency contact details and point of contact. This will allow both the public and staff members to report suspicious behaviour and circumstances.

7.4 Mobile or part time CCTV systems can be used as an effective aid to the security of a site and can act as a deterrent to criminal activity.

7.5 The developer should consult the DOCO regarding the impact that any perimeter fencing or hoarding may have on public safety. Particular attention should be paid to the nature and surveillance of adjoining footpaths and/or roads bordering the site.

7.6 Further advice on construction site security can be obtained from the Secured by Design website: www.securedbydesign.com/images/CONSTRUCTION_SITE_SECURITY_GUIDE_A4_8pp.pdf

8 Planning Policy, Design Codes and Guidance

8.1 Policy and strategic guidance in support of Secured by Design reflects 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 DOCO.

8.2 Local planning conditions, crime risk assessment and other statutory provisions such as national and local planning policies that may influence the measures to be adopted should be appropriately considered. Further information is available as follows:

- The National Planning Policy Framework (NPPF) and accompanying National Planning Practice Guidance (NPPG) in England
- For Scotland, PAN 77 Designing Safer Places applies, available at: www.scotland.gov.uk
- In Wales TAN 12 Design applies, available at: www.wales.gov.uk
- In Northern Ireland, Secured by Design is referenced in the government guidance for new buildings

8.3 In England and Wales, the National Design Guide sets out the characteristics of well-designed places and demonstrates what good design means in practice. Detailed guidance is provided by the National Model Design Codes Parts 1 and 2. The purpose of the National Model Design Code is to provide detailed guidance on the production of design codes, guides and policies to promote successful design. It expands on the ten characteristics of good design set out in the National Design Guide, which reflects the government's priorities and provides a common overarching framework for design.

9 Design and Access Statements

9.1 Proposed commercial developments will all require a Design and Access Statement (DAS). Compliance with the Secured by Design award scheme criteria can be a major indication that a proposal has adequately addressed the crime prevention component required to be included in the DAS.

9.2 As 'crime' has a potentially adverse economic, social and environmental impact upon a development, and the National Planning Policy Framework requires that crime and the fear of crime should not undermine quality of life or community cohesion, 'crime' should be afforded due consideration within the DAS. Insufficient or inadequate crime prevention information within the DAS may hinder the application.

9.3 Advice given by a DOCO will be dependent upon the outcome of a crime risk analysis and an understanding of local crime context and other dynamics. As a consequence, there may be specifically targeted crime preventative design measures that are relevant to one site but not

another. Importantly, national SBD guidelines are minimum requirements and in areas of higher risk, greater crime resistance will be required to achieve an SBD award.

10 Levels of security standards

10.1 Physical security should be integral to the design and commensurate with the risk.

10.2 Where justified by the results of a crime risk analysis, some sections of this guide allow for commensurate enhanced measures to be specified by the DOCO, the details of which are contained within each relevant section.

11 Unknown occupiers and risk

11.1 This guide details the minimum level of police preferred security for commercial developments. If during the design process the intended end use changes, the DOCO must be advised of this fact to ensure that the security measures remain commensurate with the risk.

BRONZE
Award

BRONZE AWARD

12 Introduction

12.1 In order to gain SBD approval, new and refurbished commercial developments with standard doors and windows are expected to achieve the SBD Silver Award, as a minimum. However, bespoke developments which are subject to planning or specification restrictions owing to their listed building status, or their locality is within a designated conservation area or because they are determined to be of national importance, or of special architectural or historical interest, may not be able to achieve Silver compliance status; this said every effort should be made to achieve compliance with as many elements of the Silver Award as possible.

12.2 Where there is a requirement for Secured by Design accreditation, the SBD Bronze Award offers bespoke commercial developments a route to compliance with door and window components that have been tested to published security standards.

12.3 The term 'doorset' refers to a door, frame, locks, fittings and glazing as one combined unit.

12.4 Where there is a requirement for a doorset to be security, fire and/or smoke rated, it is the responsibility of the developer or the developer's agent to ensure compliance with all applicable Building Regulations.

13 Doorset and window materials

13.1 All bespoke window and doorsets constructed from common materials such as timber, PVCu, aluminium, steel and composite shall meet the minimum material specific requirements as follows:

Timber products

13.2 Doorsets and windows should be manufactured from solid or laminated timber with a minimum density of 600kg/m³.

13.3 **Dimensions (doorsets):**

- Door rails, stiles and muntins should be at least 44mm thick. After rebating, frame components should retain at least 32mm of timber
- Any panel within the doorset should be at least 15mm thick. The panel should be securely held in place. Beading should be mechanically fixed and glued in position
- The smaller dimension of each panel, which can be either the width or height of the panel, should be 230mm or less

13.4 **Dimensions (windows):**

- Casement window frame components (head, sill, jamb, transom & mullion) should be a minimum of 67mm deep and 56 mm wide, rebated and moulded to retain a minimum section of 25mm
- Casement and sash components (stiles and rails) should be a minimum of 56mm deep, rebated and moulded to retain a minimum section of 25mm

13.5 **Maximum length and height dimensions by window type:**

- Casement Windows – maximum mullion length 1350mm, maximum transom length 1200mm
- Side hung casement (hinged and fully reversible) open out – 700mm wide by 1350mm high
- Top hung casement (hinged and fully reversible) – 1200mm wide by 1200mm high
- Tilt and turn casement, open in – 900mm wide by 1350mm high
- Vertical sliding sash – maximum mullion length 1500mm, maximum transom length 900mm, maximum sash size 750mm high by 900mm wide

13.6 Further guidance for the construction of good quality timber windows and doorsets can be sought from BS 644:2012 ‘Timber windows and doorsets. Fully finished factory-assembled windows and doorsets of various types. Specification.’

Aluminium products

13.7 All windows and doorsets should be constructed from aluminium profile fabricated from designated alloys 6060 or 6063 in tempers T5 or T6 conforming to BS EN 12020-2:2016 or equivalent standard.

13.8 Aluminium profiles used in the construction of the frames excluding glazing beads, nibs, interlocks and similar features shall be not less than 1.2 mm thick.

13.9 Bespoke aluminium products e.g. those falling outside the scope of PAS 24:2022, would benefit from being constructed from a profile that has already been proven by test to meet the security requirements of PAS 24:2022 in other window styles within the profile manufacturers or fabricators range.

13.10 Further guidance for the construction of good quality bespoke aluminium windows and doorsets can be sought from BS 4873:2016 ‘Aluminium alloy windows and doorsets. Specification.’

Composite products

13.11 The Association of Composite Door Manufacturers has advised SBD that it is unwise to produce a specification for a ‘bespoke’ application. This is because of the myriad of differing materials used and indeed the numerous combinations of composite products found in doorset products in more recent times. Therefore, it is not possible to create a bespoke composite commercial doorset that complies with the SBD Bronze Award.

Steel products

13.12 Guidance for the construction of good quality bespoke steel windows and doorsets can be sought from BS 6510:2010 ‘Steel-framed windows and glazed doors. Specification.’

PVCu products

13.13 All windows and doorsets should be constructed from profile meeting the requirements of BS EN 12608-1:2016 Unplasticized polyvinylchloride (PVCu) profiles for the fabrication of windows and doors. Classification, requirements and test methods.

13.14 Bespoke PVCu products e.g. those falling outside the scope of PAS 24:2022, would benefit from being constructed from a profile that has already been proven by test to meet the

security requirements of PAS 24:2022 or PAS 24:2016 in other window styles within the profile manufacturers or fabricators range.

13.15 All window and door profiles should incorporate reinforcement to cater for the secure fixing of hardware and to provide additional strength to the profile.

13.16 Further guidance for the construction of good quality bespoke PVCu windows and doorsets can be sought from BS 7412:2007 'Specification for windows and doorsets made from unplasticized polyvinyl chloride (PVCu) extruded hollow profiles.'

14 Doorset hardware and locking systems

14.1 The primary entrance doorset should be fitted with a multi-point locking system that meets the requirements of:

- PAS 3621:2011 (key locking both sides), or
- PAS 8621:2011 (non-key locking on the internal face), or
- PAS 10621:2011 (non-key locking on the internal face – with an external locking override facility)

14.2 Alternative lock configuration for a primary doorsets (usually the front doorset) can be achieved by the installation of a mortice or surface mounted lock conforming to the below standards and fitted one third of the way up the lock stile:

- BS 3621:2017 (key locking both sides), or
- BS 8621:2017 (non-key locking on the internal face), or
- BS 10621:2017 (non-key locking on the internal door face, but with an external locking override facility)

14.3 The above mortice locks should be supplemented with a surface mounted rim lock conforming to the same standard, fitted one third of the way down the lock stile.

14.4 Non-primary doorsets (side or rear) may be fitted with a multi-point locking system conforming to the standards in paragraph 14.1 above. Alternatively, single-point locks conforming to the standards in paragraph 14.2 above are acceptable when supplemented with two mortised bolts with a minimum projection of 20mm (located a minimum of 100mm from the top and bottom corners of the door, avoiding any door construction joints).

14.5 All bespoke doorsets shall be installed with hinge bolts or specialist interlocking hinges. Hinges accessible from outside the building should not have removable pins.

14.6 Electronic locking systems that form part of the access control system and are controlled by card swipes and proximity read fobs, etc. should not prevent emergency egress.

14.7 See section 36 for advice on Internet of Things devices.

15 Glazing within doorsets and vision panels

15.1 All glazing in and adjacent (within 400mm) to doors must include one pane of attack resistant glass that is securely fixed in accordance with the manufacturer's instructions.

15.2 If glazed panels are installed adjacent to the doorset and are an integral part of the doorframe then they should be tested as part of the door. Alternatively, where they are manufactured separately from the doorframe, they shall be certificated to either:

- PAS 24:2022, or
- PAS 24:2016*, or
- STS 204, or
- LPS 1175 at a Security Rating to match the doorset,
- STS 202 at a Burglary Resistance to match the doorset

*PAS 24:2016 has been withdrawn by the British Standards Institute and replaced by PAS 24:2022, however PAS 24:2016 will continue to be an acceptable route to compliance until 31st December 2024.

15.3 These windows must be securely fixed to the door assembly in accordance with the manufacturer's instructions.

15.4 In some circumstances, such as in a remote building with no surveillance over an external, unglazed door, it is recommended that a door viewer is installed between 1200mm and 1500mm from floor level.

16 Vision panels

16.1 Where vision panels are required, they should form part of the doorset testing.

17 Security glazing

17.1 All ground floor and easily accessible glazing must incorporate one pane of laminated glass or glass tested to BS EN 356:2000 Glass in building. *Security glazing – resistance to manual attack* to category P1A unless it is protected by a roller shutter or grille.

17.2 Occasionally, when large laminated glazed panels are used on south facing elevations, there have been incidents of glazing failure, or cracking, due to thermal stress. Whilst the use of toughened glass would seem to be a simple solution to the problem of thermal stress, ordinary toughened glass offers no security resistance. It is therefore recommended that the inner pane of glass used in a double glazed unit is 'laminated toughened'. This combination of the two sheets of toughened glass and the interlayer offers both resistance to intrusion and thermal stress associated with large glazed areas. Specifiers are reminded that the minimum requirement for SBD is BS EN 356:2000 P1A.

18 Secondary glazing

18.1 Where existing windows cannot be replaced, owing to their listed building status, their locality within a designated conservation area or because they are determined to be of national importance, of special architectural or historical interest and there is a sufficient internal reveal, secondary glazing can be installed and will meet one of the following minimum standards:

- PAS 24:2022, or
- PAS 24:2016*, or
- STS 204 Issue 6:2016, or
- LPS 1175 Issue 7.2:2014 Security Rating 1, or
- LPS 1175 Issue 8:2018 Security Rating 1/A1, or
- STS 202 Issue 10:2021 Burglary Resistance 1, or
- LPS 2081 Issue 1.1:2016 Security Rating A, or
- STS 222 Issue 1:2021

*PAS 24:2016 has been withdrawn by the British Standards Institute and replaced by PAS 24:2022, however PAS 24:2016 will continue to be an acceptable route to compliance until 31st December 2024.

19 Traditional roofing systems

19.1 Where traditional roofing systems are used that cannot meet the above requirements, additional security measures, such as a monitored intruder alarm system to protect a vulnerable ceiling void, must be agreed with the DOCO to mitigate against criminal acts.

SILVER
Award

SILVER AWARD

20 Introduction

20.1 The Secured by Design Silver Commercial Award is available for new and refurbished developments that include the relevant security features contained in this section; to avoid repetition, throughout the Gold and Silver awards all components of windows and doorsets, without exception, must form part of the manufacturers certificated certified range.

21 Doorsets and windows and their fitness for purpose

21.1 BS 6375-2:2009 defines the resilience and operational characteristics of both doorsets and windows which, in simple terms, means to test a doorset or a window to ensure that it will withstand the demands of repeatedly being opened and closed over a significant period of time.

21.2 BS 6375 covers many performance criteria from snow loading to weather tightness but, from the Secured by Design perspective, the focus has not necessarily been on the security aspects of primary doorsets and windows but importantly, whether the specification calls for a PAS 24, LPS 1175 or an STS doorset or window to be fitted, the equipment must be able to survive many cycles of repeated use. This standard sets out the testing parameters in terms of repetitious use, from relatively low to higher volumes of cyclical events and DOCO's would expect the design team to specify the class of BS 6375 qualification that would be commensurate with the projected wear a doorset or window might endure.

21.3 For instance, Class 4 (moderate use) of BS 6375 means that a doorset has been through in excess of 50,000 cycles of closing and opening and been found not to have failed.

21.4 As an approximate guide, in many SBD applications the BS 6375 'moderate' level of qualification will suffice for approval. It should be borne in mind that communal doorsets can often have a high volume of use and this is especially true when they service primary entrances to for instance, large office blocks or shopping centres. It is important that SBD approved developments have the correct level of security specification for the doorsets and windows but just as important is the durability of these units as tested against the requirements of BS 6375.

21.5 Doorsets and windows shall be classified according to their intended use, for example, if an opening in a building is intended to be walked through, a doorset will be required. It follows that a doorset will have more use than a window and a door is therefore subject to 5 times more testing at the moderate classification level under BS 6375 than a window is.

21.6 The minimum requirement of the 'moderate' for classification under BS 6375 for both doorsets and windows are:

Doorsets – 50,000 cycles (Classification extracted from BS EN 12400)

Windows – 10,000 cycles (Classification extracted from BS EN 12400)

21.7 In consultation with the DOCO, the design team's specification can always flex between the classifications of 'normal' and 'frequent', dependent on projections for the volume of foot traffic through doors or how many times a window might be opened and closed. As an example, where the projected use for primary doorsets is going to be 'severe' for doors (in excess of 1 million cycles) or, 'heavy' for windows (in excess of 20,000 cycles) then it would be reasonable to expect that the specification in such circumstances be for a Class 8 door or, a Class 3 window. In all cases, the projected levels of use for doors and windows and their compliance to police preferred standards will require documented evidential proof.

21.8 To explain in more detail the SBD requirement for BS 6375 equipment and taking a primary doorset on an office development as an example, it can be reasonably assumed that each employee attending a commercial site will put the doorset through at least 2 cycles per day (upon their arrival and then their departure) with potentially 2 more cycles of use should they leave the building for a break during the working day. On this basis, an office block with 1000 employees could have a primary doorset being opened and closed in excess of 436,000[2] times per year whereas a business with only 100 employees could see these projective volumes reduce to 43,600 cycles per year.

2. The average UK employee works 218 days per year.

21.9 With regards to secondary doorsets, a level of site specificity will be employed with regards to their projected use and where significantly lower cycles of use are projected, a lower BS 6375 classification may be appropriate.

21.10 The design team, in consultation with the DOCO, should specify the class of BS 6375 – 2:2009 for doorsets and windows that is commensurate with the estimated number of cycles. Further information about the classification cycles is available at: www.bsigroup.com

22 External doorsets

22.1 External doorsets shall be certified to one of the following minimum police preferred standards:

- PAS 24:2022, or
- PAS 24:2016*, or
- STS 201 Issue 12:2020, or
- LPS 1175 Issue 7.2:2014 Security Rating 2+, or
- LPS 1175 Issue 8:2018 Security Rating B3+, or
- STS 202 Issue 10:2021 Burglary Resistance 2, or
- LPS 2081 Issue 1.1:2016 Security Rating B, or
- STS 222 Issue 1:2021

*PAS 24:2016 has been withdrawn by the British Standards Institute and replaced by PAS 24:2022, however PAS 24:2016 will continue to be an acceptable route to compliance until 31st December 2024.

22.2 It is possible that neither the DOCO nor the developer will know who the occupier of a commercial unit will be or the nature of their business. In such circumstances, the DOCO will require the minimum level of SBD police preferred doorset security, as above.

22.3 Due to the nature of some commercial building uses and locations there may be an expectation that the security exceeds these minimum standards when the building is unoccupied. A requirement for external doorsets to be certified to a higher standard of security will be supported by crime risk analysis provided by the DOCO or specific insurance requirements. Additional security may be gained by utilising protection such as a certified roller shutter or grille or a doorset certified to a higher security standard.

22.4 If the crime risk indicates that additional security measures are necessary for doorsets, these will be agreed with the DOCO.

22.5 Doorsets must be certificated by one of the following United Kingdom Accreditation Service (UKAS) accredited certification bodies:

Bluesky Certification	www.blueskycert.com
BM TRADA	www.bmtrada.com
BRE Global	www.redbooklive.com
British Board of Agrément (BBA)	www.bbacerts.co.uk
British Standards Institution (BSI)	www.bsigroup.co.uk
ER Certification	www.er-certification.com
Warringtonfire	www.warringtonfire.com
IFC Certification Ltd	www.ifcgroup.com
RISE Research Institutes of Sweden AB	www.ri.se
UL Solutions	www.ul.com

22.6 Certificated products undergo continuous assessment to ensure that product standards are maintained. Other routes to compliance are acceptable using only SBD member companies that have alternative compliance testing that can be verified by Police Crime Prevention Initiatives (Police CPI).

22.7 Alternatively, third party accreditation to the above standards via a Notified Certification Body that has signed the EA MLA (European cooperation for accreditation multi-lateral agreement) may be acceptable if this body is also specifically accredited to conduct such activities. The DOCO may refer such cases to Police CPI for verification.

22.8 Outward opening doorsets must specifically form part of the manufacturer's certificated product range.

22.9 Doorsets must also be fit for purpose and certificated to the relevant material standard:

- BS 6510:2010 (Steel)
- BS 7412:2007 (PVCu)
- BS 644:2009 (Timber)
- BS 8529:2010 (Composite)
- BS 4873:2009 (Aluminium)

22.10 The DOCO must be provided with proof of certification through one of the above bodies, including the scope of certification, prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design police preferred licensing scheme and the doorset can be identified on the SBD website.

22.11 Doorsets must be securely fixed and installed in accordance with the manufacturer's specifications or, in accordance with BS 8213-4:2016. The DOCO will require a copy of the manufacturer's installation specification.

23 Security, fire and/or smoke rated doorsets including those with adjacent glazing

23.1 It is important that doorsets are installed by a UKAS third party certificated installer. There is a requirement for manufacturers to demonstrate that their fire doors, and associated products such as fixings, side and over panels, etc. are able to resist the passage and spread of fire and smoke for a specified time, depending on the certification requirements. Doorsets that are not properly installed may fail to achieve their required performance characteristics under fire resistance certification. Appropriate doorsets, correctly installed, will assist building management and the requirements of: www.gov.uk/government/publications/fire-safety-england-regulations-2022

23.2 Where there is a requirement for a doorset to be security, fire and/or smoke rated and/or meet a building regulation requirement, the manufacturer or fabricator supplying the finished product to site is required to present independent third party certification from a single UKAS accredited certification body satisfying all the performance elements. This is in order to minimise the likelihood of a doorset being presented in varying configurations for separate fire, smoke and security tests and then later being misrepresented as one product meeting all requirements. It is recognised that there are occasions where a doorset may only be required to be fire and security rated (not smoke). Again, in such circumstances the manufacturer or fabricator supplying the finished product to site is required to present independent third party certification from a single UKAS accredited certification body satisfying both performance elements. All door styles and components will need to be adequately described within the scope of certification and accompanying Technical Schedule.

23.3 Any component part of the doorset that is changed for any reason must be assessed by the certification body to ensure compliance that the certified performance requirements are maintained.

23.4 Where a doorset incorporates a number of performance characteristics i.e. enhanced security, fire performance and smoke control, and its construction includes the addition of, but is not limited to, a vision panel, top light, side panel and or fan light, then these features must be fitted in accordance with the manufacturer's instructions and be referenced within the approved scope of the 3rd party certification of the doorset.

23.5 Alternatively, where such glazed panels are fitted adjacent to a doorset (within 400mm) but are not part of doorset construction they shall be certificated to one of the following minimum standards:

- PAS 24:2022, or
- PAS 24:2016*, or
- STS 204, or
- LPS 1175 at a Security Rating to match the doorset, or
- STS 202 at a Burglary Resistance to match the doorset, or
- LPS 2081, or
- STS 222

*PAS 24:2016 has been withdrawn by the British Standards Institute and replaced by PAS 24:2022, however PAS 24:2016 will continue to be an acceptable route to compliance until 31st December 2024.

23.6 The responsibility for the specification and location of security, fire and/or smoke rated doorsets lies with the developer or the developer's agent (or whoever is designated as a responsible person as defined by the The Regulatory Reform (Fire Safety) Order 2005).

23.7 The role of such a doorset should not be underestimated in the event of a fire. It is therefore imperative that fire and smoke resistance is professionally assessed/measured. It is recommended that the doorset is installed by a competent person who possesses the appropriate qualifications.

24 Avoiding door recesses

24.1 Recessed doorways should, where possible, be avoided as they provide venues where crimes such as graffiti, arson and burglary are committed. If recessed doorways are unavoidable, other mitigating measures will be required such as higher security rated doorsets, fire retardant surfaces or anti-graffiti treatments. In addition to the aforementioned measures, lighting and CCTV may also be added to make the recessed area safe.

25 Locking systems for doorsets and gates

25.1 Locking mechanisms incorporating cylinders (Euro or oval profile) must be certified to BS EN 1303:2015. The minimum requirements are:

- Key related security (Digit 7): Grade 5
- Attack resistance (Digit 8): Grade A (3/5 minute resistance against drilling)
- Durability (Digit 2): Grade 5 (50,000 cycles)

25.2 In addition to the above requirement, the cylinder certification scheme must include cylinder 'snapping' and 'anti-bump' assessments (DHF TS 007). The following cylinder certification schemes are available and the hardware combination must be tested to the certification scheme for the cylinder and must include an assessment against the 'General Vulnerability Assessment' contained within British Standard 3621:2007 Thief resistant lock assembly.

25.3 The following certification schemes for lock cylinders are currently recognised for use in SBD developments:

- British Standard Institute 'Kitemark'
- BM Trada 'Q' Mark
- Loss Prevention Certification Board LPS 1242: Issue 2
- A lock certificated to BS 3621:2007, BS 8621:2007 or BS 10621:2007
- Certisecure STS217
- Sold Secure – SS312 Diamond

25.4 These British Standard (BS) references have been developed from BS EN 12209, which is the European standard for single-point locking devices and BS EN 1303:2015, which is the European standard for lock cylinders and which incorporates an additional General Vulnerability Assessment, which is unique to the UK. These British Standards reflect the elements of BS EN 12209 and BS EN 1303:2015 and are considered to be the minimum level required for insurance cover with the UK.

25.5 The only difference between these British Standards 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 internally operated release mechanism (e.g thumb turn). This type of lock must only be specified for use within buildings that have an alternative means of escape

25.6 In addition to the above requirements, doorsets designated as 'emergency' or 'panic' exits must be fitted with the hardware appropriate to the specific use:

- BS EN 179:2008 *Emergency exit devices*
- BS EN 1125:2008 *Panic exit devices*

25.7 Doorsets must be supplied with a suitable (easily removed) label outlining the operational instructions for the locking system. The label shall be applied to the internal face of the door at the time of installation and remain in place until handover to the end user. A separate instruction leaflet for the locking system shall also be supplied to the occupier.

25.8 If a crime risk assessment justifies it, these emergency exit doors can be fitted with a localised alarm.

26 Glazed vision panels, top lights, side panels and fan lights

26.1 Where a doorset incorporates a number of performance characteristics i.e. enhanced security, fire performance and smoke control, and its construction includes the addition of, but is not limited to, a vision panel, top light, side panel and or fan light, then these features must be fitted in accordance with the manufacturer's instructions and be referenced within the approved scope of the 3rd party certification of the doorset.

26.2 Alternatively, where such glazed panels are fitted adjacent to a doorset (within 400mm) but are not part of doorset construction they shall be certificated to one of the following minimum standards:

- PAS 24:2022, or
- PAS 24:2016*, or
- STS 204, or
- LPS 1175 at a Security Rating to match the doorset, or
- STS 202 at a Burglary Resistance to match the doorset, or
- LPS 2081, or
- STS 222

*PAS 24:2016 has been withdrawn by the British Standards Institute and replaced by PAS 24:2022, however PAS 24:2016 will continue to be an acceptable route to compliance until 31st December 2024.

26.3 In some circumstances, such as in a remote building with no surveillance over an external, unglazed door, it is recommended that a door viewer is installed between 1200mm and 1500mm from floor level.

27 Security glazing

27.1 All ground floor and easily accessible glazing must incorporate one pane of laminated glass or glass tested to BS EN 356:2000 *Glass in building. Security glazing – resistance to manual attack* to category P1A unless it is protected by a roller shutter or grille.

27.2 Occasionally, when large laminated glazed panels are used on south facing elevations, there have been incidents of glazing failure (cracking) due to thermal stress. Whilst the use of toughened glass would seem to be a simple solution to the problem of thermal stress, ordinary toughened glass offers no security resistance. It is therefore recommended that the inner pane of glass used in a double glazed unit is 'laminated toughened'. This combination of the two sheets of toughened glass and the interlayer offers both resistance to intrusion and thermal stress associated with large glazed areas. Specifiers are reminded that the minimum requirement for SBD is BS EN 356:2000 P1A.

28 Windows

28.1 All easily accessible (*Note 28.1*) windows shall be certificated to one of the following minimum police preferred standards:

- PAS 24:2022, or
- PAS 24:2016*, or
- STS 204 Issue 6:2016, or
- LPS 1175 Issue 7.2:2014 Security Rating 1, or
- LPS 1175 Issue 8:2018 Security Rating 1/A1, or
- STS 202 Issue 10:2021 Burglary Resistance 1, or

- LPS 2081 Issue 1.1:2016 Security Rating A, or
- STS 222 Issue 1:2021

*PAS 24:2016 has been withdrawn by the British Standards Institute and replaced by PAS 24:2022, however PAS 24:2016 will continue to be an acceptable route to compliance until 31st December 2024.

Note 28.1: Easily accessible is defined as:

A window or doorset, any part of which is within 2 metres vertically of an accessible level surface such as a ground or basement level, or

An access balcony, or A window within 2 metres vertically of a flat roof or sloping roof (with a pitch of less than 30˚) that is within 3.5 metres of ground level.

28.2 For roof lights and roof windows see section 43.

28.3 It is possible that neither the DOCO nor the developer will know who the occupier of a commercial unit will be or the nature of their business. In such circumstances, the DOCO will require the minimum level of SBD police preferred window security, as above.

28.4 Due to the nature of some commercial building uses and locations there may be an expectation that the security exceeds these minimum standards when the building is unoccupied. A requirement for windows to be certified to a higher standard of security will be supported by crime risk analysis provided by the DOCO or specific insurance requirements. Additional security may be gained by utilising protection such as a certified roller shutter or grille or a window certified to a higher security standard.

28.5 Windows must be certified by one of the following UKAS accredited certification bodies:

Bluesky Certification	www.blueskycert.com
BM TRADA	www.bmtrada.com
BRE Global	www.redbooklive.com
British Board of Agrément (BBA)	www.bbacerts.co.uk
British Standards Institution (BSI)	www.bsigroup.co.uk
ER Certification	www.er-certification.com
Warringtonfire	www.warringtonfire.com
IFC Certification Ltd	www.ifcgroup.com
RISE Research Institutes of Sweden AB	www.ri.se
UL Solutions	www.ul.com

28.6 Certificated products undergo continuous assessment to ensure that product standards are maintained.

28.7 Alternatively, third party accreditation to the above standards via a Notified Certification Body that has signed the EA MLA (European cooperation for accreditation multi-lateral agreement) may be acceptable if this body is also accredited to conduct such activities. The DOCO may refer such cases to Police CPI for verification.

28.8 All glazing in windows that are easily accessible (*see Note 28.1*) must include one pane of attack resistant glass that is securely fixed in accordance with the manufacturer's instructions.

28.9 Windows must also be fit for purpose and certificated to the relevant material standard:

- BS 6510:2010 (Steel)
- BS 7412:2007 (PVCu)
- BS 644:2009 (Timber)

- BS 8529:2010 (Composite)
- BS 4873:2009 (Aluminium)

28.10 The DOCO must be provided with proof of certification through one of the above bodies, including the scope of certification, prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design police preferred licensing scheme and the window can be identified on the SBD website.

28.11 Windows must be securely fixed and installed in accordance with the manufacturer's specifications or, in accordance with BS 8213-4:2016. The DOCO may require a copy of the manufacturer's installation specification.

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

- Security glazing in windows below 800mm (from floor level) or 1500mm, if within 300mm of a doorframe
- Non-key locking hardware on designated emergency egress windows together with security glazing

Automatic opening window systems and vents

28.13 Many sustainable industrial and warehouse buildings being proposed require an automatic building management control system in order to ventilate the building and regulate the temperature, including at night to pre-cool the building during hot weather. This can cause security problems and the following issues may need to be addressed:

- Automatic opening window systems, vents and pressure relief panels that operate when the building is unoccupied should be positioned and specified in such a way so that they do not pose a security risk
- Care should be taken to ensure that any bars or grilles that are used to secure a building aperture associated with one of the mechanisms do not interfere with their operation
- The fitting of bars or grilles to protect the building apertures associated with one of the mechanisms may affect the airflow requirements and advice should be sought from the relevant air management experts
- It is recommended that an automatic opening window or vent system incorporates a fail-safe mechanism to notify building management that a window or vent has failed to close

29 Security bollards

29.1 Where there is a risk of motor vehicles being used to attack premises or an ATM etc, the following standards for secure bollards are:

- Fixed bollards should have been successfully tested to PAS 68-1:2010 *Performance specifications for vehicle security barriers – fixed bollards*
- Rising Bollards should have been successfully tested to PAS 68-2:2010 *Performance Specification for vehicle security barriers – rise and fall bollards*

29.2 PAS 69:2013 provides guidance on the appropriate selection, installation and use of such bollards and should be referenced in the first instance.

29.3 Other measures may be considered to address the use of vehicles to commit crimes in commercial settings, for example substantial planting boxes or raised kerbs.

29.4 Further information on impact rated vehicle security barriers (VSB) and current standards can be found on the National Protective Security Authority website at: www.npsa.gov.uk/blog/physical-security/hvm-impact-rated-barriers

30 Underground car parking

30.1 Every effort must be made to prevent unauthorised access into the underground car park. Therefore, an access control system is required for all pedestrian and vehicular entrances which can be operated by access codes or key fobs; these should be strictly managed so that codes and fobs can be added and deleted as necessary. The means by which access is gained to a car park – entering a code on a keypad or using a key fob – should also be used when egressing a car park.

30.2 Inward opening automatic gates, roller shutters or grilles should be located as close to the building line as possible to avoid the creation of a recess. Such products must be certificated to one of the following standards:

- LPS 1175 Security Rating 2
- STS 202 Burglary Resistance 2
- Sold Secure – SS101 Gold
- PAS 68:2013

30.3 Gates, shutters and grilles must be installed with safety detection systems to avoid personal injury or damage. These systems must afford access for disabled drivers and will satisfy the

requirements of the Highways Agency regarding obstructing footways and highways whilst the driver is unlocking a gate.

30.4 Automated gates supplied and installed must meet the relevant statutory safety standards and be either UKCA* or CE marked* accordingly. Specifiers must satisfy themselves that installers of powered gates are appropriately qualified, trained and follow recognised industry guidance. The following organisations provide guidance and training for installers:

- **Door Hardware Federation** – the DHF has a revised Code of Practice (DHF TS 011:2019) designed to raise standards of powered gate safety. Gates installed to the new Code of Practice will be inspected by the National Security Inspectorate
- **Gate Safe** – The Gate Safe organisation produces operational good practice guidance designed to raise standards in this industry sector

*The UKCA marking is the product marking used for products being placed on the market in Great Britain (England, Scotland and Wales) and the UKCA marking applies to most products for which the CE marking could be used.

*The letters CE appear on many products that are traded on the single market in the European Economic Area. The CE marking shows that manufacturers have checked that products meet EU safety, health or environmental requirements.

30.5 The lighting system can either be time activated by the driver or pedestrian as they enter or be activated by passive infra-red switches, or similar. Lamps with slow strike-up rates are not acceptable in circumstances where immediate illumination is required.

30.6 Using pale colours on walls and ceilings increases luminance and can therefore produce higher levels of illumination with fewer lamps.

30.7 It is important to consult with the Fire and Rescue Service at the design stage to ensure that their access requirements are incorporated into the overall specification.

31 Emergency egress doorsets from underground car parks

31.1 Doorsets providing access to and emergency egress from underground car parking areas must meet the relevant building regulations in relation to fire safety and the security requirements set out in this guide. In practice this provides a dilemma as both these requirements can be diametrically opposed to one another and problematic if not dealt with appropriately at the design stage. As a result of detailed discussions with the Fire and Rescue Service, Police CPI have agreed the following requirements as a possible alternative design solution for such a scenario.

31.2 Doorsets allowing emergency egress directly from the car park to the street, or any area that allows for the rapid dispersal of persons from the vicinity of the building, other than into common internal areas, are not required by the Building Regulations (England and Wales) to be secure doorsets. However, SBD requires all such doorsets shall meet the requirements within section 22.

31.3 Emergency egress from the car park should be facilitated via the use of a ‘break glass’ unit, as per the manufacturers’ and Fire and Rescue Service specification, and all such doors must be equipped with an audible warning which should also form part of a security alarm system.

31.4 Doorsets providing egress from underground car parking facilities (including emergency egress doorsets) into common or shared stairwells which rely on egress via communal areas of a development, are required to meet all relevant Building Regulations. Due to the fact that emergency egress doorsets from such facilities must also be provided with ‘break glass’ to exit hardware, there is potential for such doorsets to be detrimental to the security of the building and at odds with the performance requirements of Secured by Design. Therefore such doorsets shall be isolated from common or shared stairwells and preferably provide egress directly from the underground car parking area on to the street, or any area that allows for the rapid dispersal of persons from the vicinity of the building.

31.5 If this is not possible due to the design constraints of the building then emergency egress shall be afforded at the earliest possible opportunity and provision shall be made to restrict access to the common or shared stairwell beyond the ground floor, or first available floor level. Access must also be restricted to any other communal area of the building. All doorsets affording restricted access into the communal areas of the building, and all emergency egress doorsets exiting on to the street, shall meet the requirements within section 22.

31.6 It is vital that these recommendations are discussed in full and agreed with the Fire and Rescue Service at the design stage, including the question of whether or not a fail-safe open facility is required.

31.7 Access control systems on all doors allowing access to communal areas of the building shall meet the requirements within section 48.

32 Internal bicycle stores

32.1 Internal bicycle parking facilities will be accessed via a security, fire and/or smoke rated doorset compliant with section 23; (specifically addressing concerns over storage of e-bikes).

32.2 The bicycle parking facility should be well-lit and constructed of dividing walls that extend from floor to ceiling with no windows set in them.

32.3 Bicycle parking access doors should be fitted with thumb turns, or other emergency furniture, on the inside face to facilitate emergency egress and to avoid locking people inside the store.

32.4 In England and Wales, doorsets providing access from the bicycle parking facility into communal parts of the building (including emergency egress doorsets) are required to meet Part B and Part M of Building Regulations.

32.5 Bicycle parking facilities should be incorporated into any existing access control and monitoring systems.

32.6 Bicycle parking will comprise of bicycle stands, anchor points, single and two-tier rack systems and dedicated lockers, etc. The bicycle stands and rack systems, single or two tier, should be certified to one of the following minimum standards:

- Sold Secure – SS104 Bronze, or
- STS 501 Security Rating TR1, or
- STS 503 Security Rating TR1, or
- STS 205 Issue 6:2021 Security Rating BR1, or

- STS 225 Issue 1:2021 Security Rating BR1 (S), or
- LPS 1175 Issue 8:2018 Security Rating A (A1), or
- LPS 2081 Issue 1.1:2016 Security Rating A

N.B. Careful consideration must be given to cater for sections of the community who may find vertical bicycle racks difficult to use.

32.7 Bicycle parking facilities should be limited to the storing of no more than seventy bikes; if larger numbers need to be stored at the same location, the facilities should be separated into discreet units and be subject to extra mitigating security measures as agreed with the DOCO.

32.8 When recommending appropriate security measures in this regard, DOCOs will make use of the information contained within the Standards for Public Cycle Parking, which is available at: www.securedbydesign.com/images/05132-Cycle-Parking-and-Security-Standards-June-2021-REV-6.pdf

32.9 DOCOs may require extra security measures to be put in place at bicycle parking facilities should an analysis of local crime rates indicate that they are necessary to ensure that security remains commensurate with the risk.

32.10 The National Fire Chiefs' Council have produced guidance about electric bicycles and electric scooters, which is available at: www.nationalfirechiefs.org.uk/E-bikes-and-e-scooters-fire-safety-guidance

33 Telecommunications and utility access covers

33.1 Telecommunication cables should enter buildings below ground and be protected by secure access covers certificated to a minimum of LPS 1175 Security Rating 2 or STS 202 Burglary Resistance 2 and be positioned in highly visible locations. For high risk areas or vulnerable businesses, access to other utilities should also be secured to LPS 1175 Security Rating 3 or STS 202 Burglary Resistance 3 or above. This will help to delay or prevent the occurrence of burglaries where the perpetrators cut the CCTV or alarm signal prior to committing an offence.

34 Internal lighting

34.1 It is recommended that most internal office lighting is operated by detection devices which will automatically switch lights on and off due to movement or the absence of movement in each room. Apart from being a considerably more efficient method for reducing energy consumption (does not require a deliberate and remembered action by the user) such a system will identify the presence and progress of intruders in the building when it is closed. It therefore follows that the controlling mechanisms for the system should be contained securely.

34.2 In critical movement areas, such as corridors and staircases, the use of two stage lighting (a constant low-level lighting level supplemented by activity switched lighting mode) may be utilised.

35 Closed Circuit Television (CCTV)

35.1 Although CCTV is not a solution to all security problems it can help deter criminals and assist with the identification of offenders after a crime has been committed. If a CCTV system has a recording facility only, it can be a useful investigate tool whereas a monitored system allows a real-time reaction to criminal activity. CCTV is also often very useful in mitigating against risk where other forms of security are not feasible.

35.2 It is important that an operational requirement for CCTV is drawn up for commercial premises in accordance with their specific use and that the objectives for the CCTV system are clearly established before a tendering process is started.

35.3 The CCTV system must have a recording format that is acceptable to the police with images of evidential quality. Staff should be sufficiently trained to operate the system and be able to make recordings available to police on request and an operational requirement must take account of this fact.

35.4 Whilst the location of cameras is a site-specific matter it would be normal practice for the system to observe all vehicular and pedestrian entrances. Early discussions with an independent expert and potential installers can resolve a number of matters including:

- monitoring and recording requirements
- activation in association with the intruder alarm
- requirements for observation and facial recognition/identification
- areas to be monitored and field of view
- activities to be monitored
- the use of recorded images
- maintenance of equipment and the management of recording
- subsequent ongoing training of operatives

35.5 CCTV systems must be installed to BS EN 62676: *Video surveillance systems for use in security applications.*

35.6 The CCTV system should be compatible with the existing or planned lighting system and landscaping proposals.

35.7 In high crime areas CCTV installations should be protected with vandal-resistant housings.

35.8 CCTV systems should be registered with the Information Commissioner's Office (ICO) and be compliant with guidelines in respect to Data Protection and Human Rights legislation. Further information is available at this website: www.ico.org.uk

35.9 Specifiers are reminded that there will be a requirement for a data controller to ensure compliance with the GDPR. The data controller must ensure that all CCTV images that can be used to identify individuals are used, stored and disclosed in line with the GDPR principles.

35.10 For guidance on the use of CCTV images as legal evidence, see BS 7958:2015 *Closed circuit television (CCTV). Management and operation. Code of practice*. This document provides guidance and recommendations for the operation and management of CCTV within a controlled environment where data that may be offered as evidence is received, stored, reviewed or analysed. It assists owners of CCTV systems to follow best practice when gathering information of evidential quality. Remotely monitored detector activated CCTV systems must be installed in accordance with BS 8418:2021 *Design, Installation, Commissioning and Maintenance of Detection-Activated Video Surveillance Systems (VSS). Code of practice.*

35.11 The Biometrics and Surveillance Camera Commissioner has updated the Surveillance Camera Code of Practice which is available at: www.gov.uk/government/publications/update-to-surveillance-camera-code

35.12 In addition, the passport to compliance, which is aimed at large public-space surveillance camera systems such as town centre schemes operated by local authorities is available at: www.gov.uk/government/collections/surveillance-camera-guidance-tools-and-templates.

35.13 The recommended standards for the surveillance camera industry can be found at: www.gov.uk/guidance/recommended-standards-for-the-cctv-industry

36 Cyber crime and the Internet of Things

36.1 The Internet of Things (IoT) broadly refers to devices and equipment that are readable, recognisable, locatable, and/or controllable, via the internet. Examples include: video doorbells, light fixings, home appliances, voice activated devices, management systems, etc.

36.2 IoT and smart devices that enable data to be exchanged, combined and analysed shall have achieved SBD's 'Secure Connected Device' accreditation and demonstrate that they have achieved the appropriate and relevant level of IoT standards and certification conducted by an SBD recognised certification body. Further information is available at: www.securedbydesign.com/internet-of-things

37 Building shell

Lightweight wall construction

37.1 Where lightweight wall construction is being considered and a crime risk analysis identifies that such a construction may be vulnerable to an attack, the use of insulated sheet cladding and a reinforced lining such as welded steel mesh can enhance the security of the building fabric.

37.2 Lightweight wall systems should be installed by approved contractors, in compliance with the manufacturer's instructions and meet the following standards:

- LPS 1175 Issue 7.2:2014 Security Rating 1, or
- LPS 1175 Issue 8:2018 Security Rating 1/A1, or
- STS 202 Issue 7:2016 Burglary Resistance 1

38 Glazed curtain walling and window walls

38.1 Specifiers should be aware that due to their size and configuration, it is common for glazed curtain walling and window walls to fall outside the scope of traditional testing or certification procedures. Consequently, in some circumstances, an alternative method may be required to demonstrate that their security is commensurate with the risk.

38.2 SBD recognises four distinct types of glazed wall systems. These are:

i Large glazed units connected by a 'spider clamp' system

ii Glazed units directly retained within a framing system (usually aluminium)

iii Framed windows installed within a separate framing system

iv Framed windows connected to other framed windows to create a 'window wall'

38.3 Glazed curtain walling (i & ii above) must be installed using a secure glazing retention system. The method of retaining the glass must include one or more of the following:

- Security glazing tape
- Dedicated security sealant or gasket
- A secure mechanical fixing system (Evidence will be required to prove the system is secure. This may be achieved by utilising the specific glazing retention test within PAS 24:2022 or PAS 24:2016 or by an indicative test on the retention system to LPS 1175 Security Rating 1 or STS 202 Burglary Resistance 1)

38.4 Attack resistant glazing is required where the glazing is easily accessible.

38.5 For information only, the following British Standard 'Codes of Practice' are relevant:

- BS 5516-1:2004 *Patent glazing and sloping glazing for buildings. Code of practice for design and installation of sloping and vertical patent glazing*
- BS 5516-2:2004 *Patent glazing and sloping glazing for buildings. Code of practice for sloping glazing*

39 Roller shutters and grilles

39.1 Grilles and shutters can provide additional protection to both internal and external doors and windows. The minimum standard for such products is certification to:

- LPS 1175 Issue 7 Security Rating 1, or
- LPS 1175 Issue 8 Security Rating A1, or
- STS 202 Burglary Resistance 1

39.2 For roller shutters, the above minimum security ratings are generally sufficient where:

- a shutter is required to prevent minor criminal damage and glass breakage
- the shutter is alarmed and the building is located within a secure development with access control and security patrols
- the shutter or grille is intended to prevent access into a recess
- the door or window to be protected is of a high security standard in it's own right

39.3 Security ratings higher than the minimum may be required and will be dictated by one or more of the following security considerations:

- Type of crime risk
- Level of crime risk
- Location of the building
- Security level of the door or window being protected

39.4 Such a requirement will be justified and communicated to the applicant by the DOCO in writing.

39.5 In new build developments roller shutters should be integrated into the fabric of the building.

40 Roller shutter doors providing vehicular access

40.1 Roller shutter doors providing access for deliveries and other entrances where no other door is present must be certificated to a minimum of:

- LPS 1175 Security Rating 2, or
- STS 202 Burglary Resistance 2, or
- Sold Secure – SS101 Gold

40.2 Should a higher level of security in this regard be required by the DOCO because of crime risks, this will be agreed between the applicant and the DOCO at the earliest opportunity.

40.3 In new build developments roller shutter doors should be integrated into the fabric of the building.

40.4 If the minimum free air movement as calculated by designers in respect of smoke, etc. is not compatible with minimum security requirements in respect of gates or railings, etc. the applicants must seek to achieve the required free air movement by alternative means, such as forced ventilation and other open apertures.

41 Roof design and access and aids to climbing

41.1 Quickly gained, unauthorised access to roofs can make crimes from burglary to arson easier to commit. Some buildings have a common roof covering that extends across different rooms, areas or even occupying businesses; therefore from a single breach point all of these spaces are potentially at risk from intruders.

41.2 External rainwater pipes can be used for climbing and should be specified as square or rectangular in section, be fitted flush against walls or within wall cavities or covered recesses. Pipes should be made of fire-resistant material with bends and horizontal runs kept to a minimum; existing roofs can be fitted with an appropriate obstructive barrier to prevent access.

41.3 Flat roofs, particularly those at a low level, can be easily accessed and depending on materials may be more vulnerable to intrusion either by cutting through the deck or forcing open roof lights and other openings.

41.4 Attention is drawn to relevant legislation (including the Occupiers' Liability Act) concerning the responsibilities and liabilities of building owners / occupiers for the safe use of roof areas and relevant signage.

41.5 Designers should take care not to inadvertently create climbing aids to upper windows and flat roofs via structures such as boundary walls, other adjacent buildings, handrails or external staircases. It is advised that care is taken to design means of access in normal times or escape in an emergency that will avoid the deployment of external staircases.

42 Roof construction

42.1 Roofs are potentially vulnerable to criminal intrusion and damage through vandalism, if criminals gain access to them and therefore careful consideration must be given to their construction.

42.2 Lightweight roofing systems must be certified to a minimum of:

- LPS 1175 Issue 7 Security Rating 1, or
- LPS 1175 Issue 8 Security Rating A1, or
- STS 202 Burglary Resistance 1, or
- STS 222 Issue 2, or
- LPS 2081 Issue 1

42.3 Lightweight roofing systems must be installed using the manufacturers approved fixing system that they were tested with.

42.4 Where traditional roofing systems are used that cannot meet the above requirements, additional security measures, such as a monitored intruder alarm system to protect a vulnerable ceiling void, must be agreed with the DOCO to mitigate against criminal acts. For further information about intruder alarm systems see section 54.

43 Roof lights and roof windows

43.1 The security requirements for easily accessible roof lights and roof windows differ depending on the crime risk:

- Low crime risks require the roof light and roof window apertures to be protected by roof lights certificated to LPS 1175 Security Rating 1, STS 202 Burglary Resistance 1, STS 222 Burglary Resistance 1 (S) or LPS 2081 Security Rating A.
- High crime risks require the roof light and roof window apertures to be protected by roof lights certificated to LPS 1175 Security Rating 2 or 3, STS 202 Burglary Resistance 2 or 3, STS 222 Burglary Resistance 2 (S) or LPS 2081 Security Rating B.

43.2 Alternatively, an easily accessible roof light or roof window that does not meet the above requirements must be protected with an internal grille certificated to LPS 1175 Security Rating 1 or 2, STS 202 Burglary Resistance 1 or 2, STS 222 Burglary Resistance 1 or 2 or LPS 2081 Security Rating A or Security Rating B.

43.3 The DOCO must be supplied with proof of certification 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.

43.4 Roof lights and roof windows must be fitted in accordance with the manufacturer's specifications or, in accordance with BS 8213-4:2016.

44 Sun tubes/tunnels

44.1 To prevent a sun tube being used as an access point into a commercial building, the maximum diameter recommended is 350mm. Where larger diameters of sun tube are required, the specification of alternative means of protection should be agreed with the DOCO.

45 Internal layout

Entrances into the building – main public/visitor entrance

45.1 Unless a commercial development is intended to allow large numbers of the public to gather inside, it would be better that public access is restricted to one main visitor entrance. For high risk commercial premises this entrance should be electronically access controlled from a

reception desk or security office. Audio-visual links to the reception will be determined by local crime risks but in any event, the external and internal areas adjacent to the entrance should be efficiently illuminated during the hours of darkness.

45.2 Reception staff should be afforded a clear view of the approaches to the entrance.

45.3 At night, the external and internal lighting regimen must be appropriately balanced to avoid the staff only being able to see a reflection of themselves when trying to look outside the building from within.

45.4 Where a separate automatically opening door is required for disabled access, the door opening system should have a suitably located vandal resistant proximity reader.

45.5 In some circumstances – where the crime risk is high and such arrangements are commensurate with that risk, for instance a high-value jewellers, an air-lock door system may be advisable which can be manually controlled from the reception area or security point. This can be combined with a draft lobby/unheated transition space for energy conservation.

46 Staff or additional entrances

46.1 There may be circumstances where multiple entrance doors are required for staff convenience or building functionality and all such doorsets must be SBD compliant. Criminal opportunities are reduced by controlling these doorsets in a variety of ways including card swipes and proximity read fobs, etc.

46.2 An integrated access control system of this type will maintain a record of attendance whilst being capable of selectively preventing any unwanted access, such as by current staff members to restricted areas or by ex-staff members to the entire building.

46.3 Biometric and voice recognition systems are also available, which can be used in conjunction with traditional means to support the management of access to especially sensitive areas of the building.

46.4 None of these arrangements should be allowed to prevent emergency egress.

46.5 See section 36 for advice on Internet of Things devices.

47 Reception area and visitor control

47.1 Where a business manages large visitor numbers, the reception should be staffed at all times. Access beyond the reception area shall be controlled by staff preferably on a raised dais using automatic locking doors or barriers and/or by the use of proximity reader technology. All doors or barriers must allow emergency egress and be integrated into the fire/smoke alarm system for fail safe opening during the hours of occupation. When the building is not occupied, doors and barriers should be secured in accordance with the relevant fire authority's advice.

47.2 As a result of the business sector's recent experience during global pandemic lockdowns, the physical shape of a reception area is best thought of in terms of adapting it to social distancing recommendations and separating out from each other the routes in and out of the space.

47.3 Reception areas should be designed so as to provide staff with a clear view of the entrance doors, the approaches to the entrances and the public waiting area within. Reception desks should be constructed so that they are of sufficient height and depth to afford protection for the receptionist against attack.

47.4 The needs of staff or visitors using wheelchairs must be considered during the design process.

47.5 An escape route to a place of safety, such as a lockable office behind the reception area, should be provided where there is an increased risk of assaults on staff. This place of safety room must have a 'slam to lock' door with a facility to view the public area from within.

47.6 In addition, where the risks of assault are higher, an audible personal attack alarm should be located at the reception desk so that the receptionist can use it to summon assistance from trained staff if confronted by an aggressive visitor. Consideration should be given to an additional alarm sounder located in nearby offices where other members of staff can be alerted. In some cases, an automated means of summoning a police response may be required such as a public address system.

47.7 Staff training in the use of this deliberately operated device will be required. False activations may result in limited provision or complete withdrawal of police response.

48 Access control systems

Electronic access control

48.1 Electronic access control is likely to be required at the main entrance to commercial developments and may also be required on some internal doorsets, such as those that lead from an entrance lobby or reception into offices and production and warehouse floors. The requirement for electronic access control will be influenced by some of the following factors:

- The need to protect a lone worker or vulnerable persons working in a reception area
- To prevent access into parts of the building beyond the reception to prevent crime and maintain health and safety
- To prevent trespass onto the production or warehouse floors, especially where the offices and the reception are located on an upper floor
- Type of business or business practices
- Local crime risk factors
- Where two or more businesses are served by a common entrance

48.2 In all such cases the doors must incorporate an electronic access control system, with an electronic lock release and (for the main entrance) an audio link to the individual businesses, offices or receptions. In some cases visual verification by CCTV camera incorporated into the call panel or separately located may be required. Specifiers are reminded that changing the lock specification of a certificated security doorset will require further testing. It is therefore important to discuss such changes with the manufacturer and the DOCO.

48.3 Access control systems should have a data logging facility.

49 Electronic access control standards

49.1 Specifiers are advised to make reference to guidance published by the British Security Industry Association (BSIA) 'A specifiers guide to the security classification of access control systems': www.bsia.co.uk/zappfiles/bsia-front/pdfs/132-specifiers-guide-access-control-systems[1].pdf

49.2 All systems shall comply with UL293 and where applicable the Internet Protocol security shall meet the requirements and become accredited with the SBD 'Secure Connected Device' accreditation scheme by being tested and certificated with an SBD approved certification body: www.securedbydesign.com/internet-of-things

50 Access control and security staff

50.1 Where security officers are to be employed at the entrance electronic access control will still be required.

51 Secure internal doorsets

51.1 Specifiers should contact the DOCO if there are any internal doorsets that may require additional security e.g. computer server room. The security standards applicable will vary dependent upon the risk but the minimum police preferred standards are as follows:

- PAS 24:2022, or
- PAS 24:2016*, or
- STS 201, or
- LPS 2081, or
- STS 222

*PAS 24:2016 has been withdrawn by the British Standards Institute and replaced by PAS 24:2022, however PAS 24:2016 will continue to be an acceptable route to compliance until 31st December 2024.

51.2 High risk doorsets should be certificated to the following standards:

- LPS 1175 Issue 7 Security Rating 2 or above, or
- STS 202 Burglary Resistance 2 or above

51.3 It is not possible for SBD Guides or the DOCO to specify the specific security requirements for internal doorsets unless the risks and future users are known. In situations where the risks and end users are not known at the point of application, the DOCO will only be able to issue a Secured by Design award for the building shell.

51.4 Should future risks and users be subsequently established and a higher specification be required to achieve an award, this can only be achieved by fresh dialogue with the DOCO, who subject to the requirements of this scheme being met, may then be able to issue a Silver or Gold Award.

52 Lift security

52.1 BS EN 81 is a multi-part document detailing safety rules for the construction and installation of passenger lifts and passenger goods lifts.

52.2 BS EN 81-71:2022 refers to the vandal resistance qualities of passenger lifts and passenger goods lifts.

52.3 The three categories below set out the testing parameters in terms of vandal resistance. Each lift car fixture, part and supply must remain functional after typical acts of vandalism.

52.4 As an approximate guide, in many SBD applications Category 1 qualification will suffice for approval. However, in high crime areas the DOCO may require Category 2 qualification.

- **Category 0** – To meet 'Cat 0', fixtures need to comply with the requirements of EN81-20:2014 and will cover strength requirements for both landing and car doors, as well as car walls. The strength requirement of the car walls is such that they must be capable of withstanding forces that are equivalent to a person pushing against them
- **Car and shaft lighting** – In-car lighting must now provide an illumination intensity of 100 lux instead of 50 lux, and emergency in-car lighting 5 lux for one hour instead of 1W for one hour
- **Category 1** – In addition to the requirements of Cat 0, all car fixtures must be secured with tamperproof fixings
- Fixtures must be able to withstand three impacts from a 1kg impactor, from a height of 0.2m at the weakest point of the lift component (as defined by the manufacturer)
- Fixtures must be able to withstand a flame being applied to the area most likely to be affected by flame for 60 seconds
- **Category 2** – In addition to the requirements of Cat 0 all car fixtures must be secured with fixings which are not visible to lift users
- Fixtures must be able to withstand **three** impacts from a 1kg impactor from a height of 1.0m at the weakest point of the lift component (as defined by the manufacturer)
- Fixtures must be able to withstand a flame being applied to the area most likely to be affected by flame for 120 seconds
- In order to pass the impact and flame tests, the elevator lift parts must also remain safe to use after vandal tampering (i.e. no sharp edges after a vandal's attempt to break or pry something open) and functional
- In addition to enduring flame-exposure, the material of the lift component or fixture shall self-extinguish, and any resulting discolouration cannot obliterate any of the lift part's written instructions or symbols

53 Mail delivery

53.1 For the majority of commercial buildings, it is expected that mail delivery will take place during business hours and that the mail will be handed in at reception.

53.2 Where parcel drop and dedicated mail rooms are employed, CCTV coverage should be considered to ensure visitor and staff integrity.

53.3 Communal mail and parcel delivery facilities should incorporate the following:

- External delivery facilities should be positioned adjacent to the entrance area
- Internal delivery facilities should be positioned within an entrance area with access control
- Access control to this area should have a data logging facility
- An air-lock entrance arrangement as part of the access control strategy would meet the Secured by Design criteria
- Both internal and external delivery areas should be comprehensively covered by CCTV
- Mail and parcel delivery boxes should be equipped with high security cylinders that are not subject to master key access
- Mail and parcel delivery boxes should be of robust construction, should incorporate an anti-fishing design and be fire resistant Individual letter boxes shall have a maximum aperture size of 260mm x 40mm
- All delivery boxes must be installed in accordance with the manufacturer's specification
- A secure system of depositing parcels, such as the smart parcel boxes used by the major internet shopping companies, should be considered where appropriate

53.4 Letter plates and letter boxes must meet one of the following requirements:

- 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
- 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

53.5 Letter plates for the above must comply with BS EN 13724:2002 and must have a maximum aperture size of 260mm x 40mm (DHF TS 008).

53.6 Letter boxes certificated to Door & Hardware Federation Technical Specification 009 (TS 009) offer reassurance that all of the above attributes have been met. In high crime areas TS 009 provides the safest means by which mail can be delivered whilst eliminating the risks associated with mail delivery i.e. arson, 'phishing' for personal mail.

54 Intruder alarms systems

54.1 A suitably designed, fit for purpose, monitored intruder alarm system must be installed. For police response, the system must comply with the requirements of the NPCC Security Systems policy, which can be found at the following link: www.policesecuritysystems.com/national-police-chiefs-council-security-systems-policy

54.2 System designers may wish to specify component products certificated to the following standards:

- LPS 1602 Issue 1.0:2005 Requirements for LPCB Approval and Listing of Intruder Alarm Movement Detectors
- LPS 1603 Issue 1.0:2005 Requirements for LPCB Approval and Listing of Alarm Control Indicating Equipment

55 Security fogging devices

55.1 Security fogging devices can be incorporated within the intruder alarm system to disorientate the intruder when the alarm system is activated. They must conform to BS EN 50131-8:2019 Security device fog systems.

56 Public address systems

56.1 In large commercial buildings a public address system is recommended to provide instant, effective communication to all staff members particularly in emergency situations where a prearranged and rehearsed response to particular situations can be initiated.

57 Physical security standards for computers and server rooms

57.1 Consideration must be given to the structure of the internal walls, floors and ceilings of computer server rooms to provide appropriate security and to prevent damage by fire, smoke or from fire fighting (water) from other parts of the building. Due to varying construction methods and materials it is not possible to be prescriptive, however combinations of different materials, such as high impact gypsum boards, expanded metal sheets, plywood, and masonry have proved to be effective.

57.2 Where it is impractical to secure a room housing a computer server, there are two alternative solutions i.e. secure cabinets for individual computers, or small server units, and security caging for large or multiple servers. In both cases the SBD requirement is for full product certification. The following standards apply:

- LPS 1214 Category 1: Issue 2 2014 (small server units)
- LPS 1175 Issue 7 Security Rating 2 (for large or multiple servers)
- LPS 1175 Issue 7 Security Rating 3 (for high risk or value servers)
- STS 202 Burglary Resistance 3
- LPS 2083

58 Safes and strongrooms

58.1 SBD recommends commercial safes and strongrooms are certificated to:

- LPS 1183 Part 1. Issue 4.3, or
- BS EN 1143-1:2005+A1:2009

58.2 The required resistance grade for a safe is determined by the value of the contents of the safe. The ratings in the table below should only be used as a guide as insurers will define their own ratings depending on the performance of the safes and the situation in which the safes and strongrooms are to be used. It is therefore very important that specifiers talk to insurers prior to selecting a safe or strongroom.

58.3 There are reported variations in some safes certificated to BS EN 1143-1:2005+A1:2009, however testing quality and consistency by VDS (Germany), SBSC (Sweden), CNPP (France) and LPCB (UK) is generally recognised by the UK insurance industry.

Standard	Resistance grade	Typical overnight cash rating (£k)	Typical overnight jewellery rating (£k)
LPS 1183 & BS EN1143-1	0	6	60
	I	10	100
	II	17.5	175
	III	35	350
	IV	60	600
	V	100	1000
	VI	150	1500
	VII – XIII	–	–

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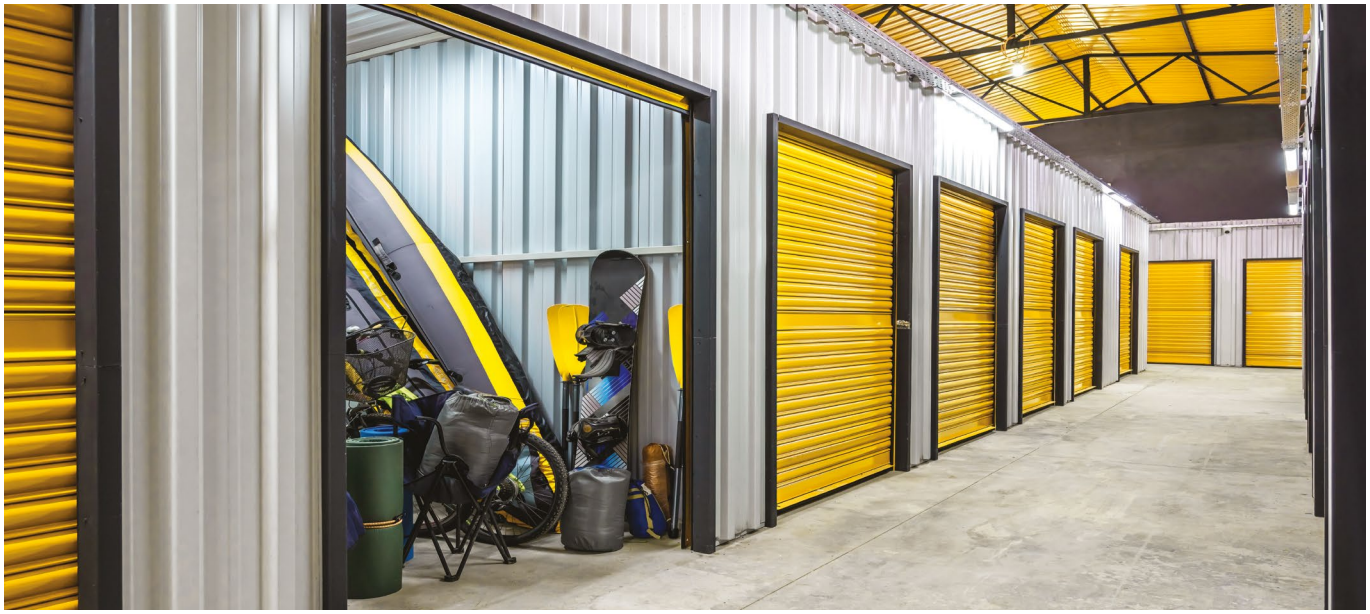

Self-storage centres

58.4 Self-storage centres should comply with the relevant security measures in this guide, as is expected of any other commercial development applying for SBD certification. However, the one significant difference is that self-storage centres contain individual secured storage units.

58.5 Individual storage units shall be connected to a monitored intruder alarm system and will either be secured with an integral lock or padlock.

58.6 An integral lock should be certified to one of the following minimum security standards:

- PAS 8621:2011 (non-key locking on the internal face), or
- BS EN 1303:2015 (locking mechanisms incorporating cylinders – Euro or oval profile.

The minimum requirements for these are:

- Key related security (Digit 7): Grade 5
- Attack resistance (Digit 8): Grade A (3/5 minute resistance against drilling)
- Durability (Digit 2): Grade 5 (50,000 cycles)

58.7 In addition to the above requirement, the cylinder certification scheme must include cylinder 'snapping' and 'anti-bump' assessments (DHF TS 007).

58.8 A padlock should be certified to one of the following minimum security standards:

- BS EN 12320:2021 Grade 4, or
- Sold Secure – SS101 Gold
- LPS 1654 Issue 1.1:2014 Security Rating 2

58.9 A metal shroud will also prevent the padlock from being easily tampered with.

59 Security guards and guard houses

59.1 The provision of security guards may require additional design features to be built into the buildings and grounds at the outset in order to reduce overall costs.

59.2 An electronic control monitoring system will ensure a consistent and comprehensive patroling regime is maintained.

59.3 BS 7499:2007 *Static site guarding and mobile patrol services. Code of practice* offers guidance for the operation of a security control room.

59.4 A security control room (or guard house) acting as a key holding facility and first response to an activated alarm system consideration, should comply with BS 7984:2008 *Key holding and response services. Code of practice.*

59.5 Doors, windows and glazing in permanent guard houses must comply with the police preferred standards as shown in the above relevant paragraphs.

59.6 It is recommended that purpose built modular build guard houses or other prefabricated buildings used for the purpose are certificated to LPS 1175 Security Rating 1 or STS 202 Burglary Resistance 1 or higher depending on local risks.

60 Arson and fire protection

60.1 If arson is identified as a crime risk factor in an area, the commercial developments must be designed with arson prevention in mind. Architects should consult with a Fire Risk Assessment Consultant Service to ensure that appropriate fire suppression measures are in place.

60.2 Conformation of such a consultation and compliance with any recommendations are matters that fall outside of the scope of this guide and process.

61 Buildings with Undercrofts

61.1 Depending upon the nature of the building, its location and use, undercroft car parking can assist in the commission of a terrorist attack and therefore it is important to recall advice given in the section entitled ‘Scope of the development’ as follows:

‘If the development is at risk of terrorist attack, counter terrorism design and specification issues will be vital and this matter should be brought to the attention of the DOCO at the earliest opportunity. If the police service identifies vulnerable buildings or commercial activities that require detailed counter terrorism advice, the applicant will be informed and a referral will be made to the Counter Terrorism Security Advisor.’

GOLD
Award

GOLD AWARD

62 Introduction

62.1 The Secured by Design Gold Commercial Award is available for new and refurbished developments that include the relevant security features contained in this component together with the relevant attributes of the Silver section of this guide.

63 Urban Design and Planning Policy

Creating a sense of place

63.1 Creating an easily legible sense of place is a key element of SBD developments. A sense of place describes a relationship between people and the physical spaces around them. Crime and the fear of crime are reduced where spaces are clearly defined, obviously owned and easily overlooked.

The Planning System and Crime Prevention

63.2 National Planning Policy Framework 2021

The National Planning Policy Framework (NPPF) states that “Planning policies and decisions should aim to ensure that developments create:

- Safe and accessible environments where crime and disorder, and the fear of crime, do not undermine quality of life or community cohesion
- Safe and accessible developments, containing clear and legible pedestrian routes, and high quality public space, which encourage the active and continual use of public areas”

63.3 Creating a sense of place where businesses and their users are able to go about their daily routine without fear of crime or insecurity is a key element of the Secured by Design initiative. Crime and anti-social behaviour are much less likely to occur if the following seven attributes of sustainable communities taken from ‘Safer Places – The Planning System and Crime Prevention’ (Home Office 2004) are incorporated:

1. **Access and movement:** places with well-defined and well used routes with spaces and entrances that provide for convenient movement without compromising security.
2. **Structure:** places that are structured so that different uses do not cause conflict.
3. **Surveillance:** places where all publicly accessible spaces are overlooked.
4. **Ownership:** places that promote a sense of ownership, respect, territorial responsibility and community.
5. **Physical protection:** places that include necessary, well-designed security features.
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.
7. **Management and maintenance:** places that are designed with management and maintenance in mind, to discourage crime in the present and the future, encouraging businesses and legitimate business users to feel a sense of ownership and responsibility for their surroundings can make an important contribution to community safety and crime prevention. Clarity in defining the use of space can help to achieve a feeling of wellbeing and limit opportunities for crime.

63.4 The police service of the United Kingdom continues to support these key attributes and it is essential that when applying for SBD certification, developers demonstrate that these attributes have been carefully integrated into the overall scheme wherever the development is located.

64 Location and adjoining land use

64.1 A major factor influencing the security of a development is the nature of the surrounding land use and its location, whether in a city centre, urban, suburban, semi-rural or rural setting. Some other factors to consider are the crime risk, business type, business hours, size of business, number of employees, visitor numbers and transport links, etc.

64.2 A good example of where the security of a commercial development is adversely affected by the general surroundings is where there is little or no natural surveillance or there are woods or open grounds adjacent to the commercial development, making it easier for criminals to gain access without being seen. Conversely, domestic developments, whether of individual housing or blocks of apartments, often facilitate higher levels of natural surveillance which can deter criminals by making them feel more vulnerable to detection.

65 Building and site layout

65.1 A prudent site layout, including the location and design of buildings, car parks and footpaths will maximise natural surveillance and deter criminals. However, outside normal business hours, with fewer users of the site present, a development will suffer from lower levels of natural surveillance. In these circumstances, more formal methods of security and surveillance, such as onsite security guards, locked gates or remote CCTV monitoring will be appropriate. Any constraining site conditions that adversely affect natural surveillance must be discussed with the DOCO so that other security solutions can be agreed.

66 External amenity spaces

66.1 External amenity spaces should be carefully planned so that they benefit from natural surveillance but they may require additional security measures such as fencing which can be agreed in consultation with the DOCO.

66.2 It is also important to acknowledge that well-designed amenity spaces promote sustainable communities, health and well-being which in turn build strong, cohesive, vibrant and participatory communities.

67 Roads and footpaths

Vehicular and pedestrian routes

67.1 Poorly designed vehicle and pedestrian routes can provide criminals with the opportunity to anonymously tour an area when searching for a target, to access it when one is identified and to make their escape from the area after a crime is committed. To combat these issues, such routes must take the most direct passage from their origin to their destination, should not undermine the defensible space of commercial units and remain open to natural surveillance. To define defensible space and create the impression that an area is private, even for legitimate users, design features such as narrowed carriageways, rumble strips, road surface colour and texture changes and the positioning of pillars at the edge of a thoroughfare can be used.

67.2 A secure emergency vehicle access point must be provided on larger sites, which may require a service road layout that includes turning points and space between buildings for large vehicles to operate. As this will necessary include access for large emergency vehicles operated by the Fire and Rescue Service, it is important that they are consulted at the design stage and the practical requirements folded into the overall site specification.

68 Through-roads and cul-de-sacs

68.1 Road layouts that frustrate the searching patterns of criminals will deny them reasonable excuses for their presence whilst limiting any potential access and escape routes to and from their intended targets. Where a through route must be incorporated into a development, care must be taken to avoid excessive permeability around a site to deny criminals excuses to trespass.

68.2 It is generally accepted that to facilitate natural surveillance by responsible guardians, routes for pedestrians, cyclists and vehicles should run alongside one another rather than be segregated. Movement frameworks based upon 'primary routes' and shared spaces remove the need for little used alleyways, shortcuts, footpaths and large numbers of minor access points that may become ambush points and are often environmental factors in promoting the fear of crime.

69 Footpath design

69.1 Routes for pedestrians, cyclists and vehicles should run alongside one another and not be segregated. All planned routes should have a rational purpose, follow natural desire lines, be subject to natural surveillance and have a functional requirement. In this way, criminal opportunities will not be created through unrestricted movement along quiet alleyways, informal shortcuts or through unnecessary access points.

69.2 Preferably, public footpaths should run at the front of commercial properties to allow for higher values of natural surveillance. However, where this is not possible and footpaths are poorly positioned, the DOCO may require mitigation through a variety of strategic choices from improved lighting and CCTV coverage to physical cycle restrictors, etc.

69.3 Private footpaths that are gated but also serve as emergency exit routes must be the subject of detailed consultation between the designer, the DOCO and the appropriate fire authority.

69.4 Segregated footpaths, including subways, footbridges and underpasses, can facilitate crime and it is therefore important to include the following design aspects in these types of foot routes:

- The routes should be as straight and as short as possible with a minimum width of 3m to avoid potential physical conflict points as pedestrians pass each other
- Where possible, there should be a 2m verge either side of the footpath with low maturing, prickly defensive planting. This will avoid the crime generating canyon effect created when high boundaries are positioned at the very edge of a path

- When planting at the sides of footpaths, taller shrubs should be to the rear of the beds with no plants located close to the edges of the path as these could create places of concealment, reduce visibility and increase maintenance costs
- Good lighting will facilitate natural surveillance and enable people to identify a specific risk but for the most part and in a very reassuring way it also serves to enable people to see that they are safe
- Subway, footbridge and underpass access points should have chamfered edges to reduce the potential for offenders to conceal themselves there

70 Planting next to footpaths

70.1 Ideally, low maturing shrubs should be planted at the edges of a footpath with taller plants positioned towards the rear as this avoids overgrown vegetation creating pinch points and areas of concealment. Where possible, public footpaths should be routed away from building facades but, where unavoidable, a buffer zone should be created using defensive planting to keep pedestrians away from windows and to protect walls from graffiti.

70.2 These landscaped buffer zones will distance potential offenders away from vulnerable areas of a building and reduce the opportunities for crime, damage and anti-social behaviour. Correctly specifying shrubs in these circumstances will reduce opportunities for crime and create planting regimes that require lower levels of maintenance.

71 Lighting of roads and footpaths

71.1 All roads and footpaths within Secured by Design developments must comply with BS 5489-1:2020. However, if this requirement conflicts with local conditions such as in a conservation area or where there is a dark sky policy, the implications should be discussed with the DOCO and the local lighting authority. A variable lighting system, which increases and decreases lighting levels in accordance with local circumstances, is preferred to any total switch off policy employed to reduce CO2 emissions. The Institution of Lighting Professionals does not encourage switch off unless a full risk assessment has been carried out and, in any case, it should never be implemented purely on the grounds of cost savings.

71.2 Bollard lighting is purely for wayfinding and can be easily obscured as it does not project sufficient light at an appropriate height which makes it difficult to recognise facial features and can increase the fear of crime.

71.3 Landscaping and lighting designs must be complementary and priority given to the lighting regime over new or existing tree planting positioning.

71.4 To demonstrate compliance with this section the DOCO shall be provided with a declaration of conformity to BS 5489-1:2020 by a ‘competent’ designer. Competency shall be demonstrated by achievement to at least ILP competency level 3 or 4, i.e. the designer will be a Member of the ILP (MILP) and either IEng or CEng qualified to be deemed competent to be able to design under Construction, Design and Management (CDM) regulations. Additionally, a risk and environmental assessment (EMS) for the CDM designer compliance requirements must be included. Manufacturer designed schemes without risk or environmental assessments should not be accepted as they do not cover the CDM designer risk elements that are required.

72 Phased developments and footpaths

72.1 Where the completion of a footpath is to be delayed because of the phased introduction of elements within a development or other long-term planning policy considerations, it is recommended that footpaths are not constructed until its interaction with the local environment can be properly understood. This avoids creating underused footpaths that lead to undesirable areas, even if only in the short to medium-term.

73 Perimeter security and site access

Enclosed commercial developments – industrial and office use

73.1 Secured by Design supports single and multiple unit commercial developments that are contained within secure perimeters with access controlled entrances.

73.2 SBD recommends the use of one main entrance into an enclosed commercial development serving both vehicles and pedestrians. If vehicle and pedestrian entrances must be separated, these access points should be adjacent to each other so as to promote mutual supervision. There should be clear demarcation between the roadway and the footway with a safety barrier positioned to protect pedestrians from vehicles. Where additional entrances are required to provide emergency access and egress, these can be controlled by electronic access and CCTV systems.

73.3 For extensive sites and where there are identifiably high-risk security considerations, a staffed gatehouse with powered vehicle and pedestrian gates may be required at the entrance. A crime risk analysis will be decisive in ensuring that security arrangements are commensurate with the risks and the DOCO should be consulted as soon as possible to ensure that this process can be undertaken at an early stage of the design process.

74 Open commercial developments – office and industrial use

74.1 Ideally, public footpaths, roads and other public areas should be kept at a distance from commercial buildings which will prevent, among other things, vehicles being used to ram and breach the ground floor of a building or, drawing a vehicle close up to a building in order to use it is as a climbing platform to access windows and flat roofs that are higher up but potentially less secure.

74.2 In open plan developments, where there is no choice but to have public space adjacent to public footpaths or roads, an area of defensible space should be created. Designated staff parking, low walls, raised curbs, anti-ram bollards, trees, moats and steps are all examples of design elements which, whilst remaining aesthetically valuable, will also serve to keep vehicles away from buildings. Where entry for pedestrians and vehicles is controlled by fencing and gates at the rear or along the sides of buildings, consideration must be given to emergency access and means of escape.

74.3 Soft landscaping to the front of commercial units is good design practice provided that it is set away from footpaths and is not allowed to become overgrown to the extent where doors, windows and other access points become obscured. An area of hard paving in front of a unit can reduce the likelihood of overgrown plants providing cover for criminal behaviour.

74.4 Casual and unwanted approaches to windows which can be troubling for occupants and provide criminals with information about the premises can also be deterred by the use underfoot of uneven hard surfaces such as cobbles or angled brick sets. Care must be taken to avoid inadvertently providing projectiles should gravel or other hard landscaping aggregates be specified.

75 Perimeter and external areas

Boundary types

75.1 Boundaries fall into three main categories:

- **Secured:** These could be a wall, hedge or other boundary treatment which is intended to physically prevent climbing and/or access to restricted parts of a site. A good secure boundary around the entire site and, in the case of an open plan development, to the rear and/or side of a building, will frustrate an intruder intent on breaking in and will also serve to limit the size and quantity of goods that can be easily removed.

- **Controlled:** These can often be a low fence, wall, hedge or other boundary treatment that is intended to help staff manage a site by physically restricting casual intrusion onto or around a site whilst directing visitors to a formal entrance point in the perimeter or reception area. These types of control boundaries are generally not high enough or sufficiently resistant to intrusion to be classified as secure boundaries.
- **Psychological:** These boundary types can be created with for instance, surface rumble strips, differing coloured road surfaces and textures, the placement of portals or other landscaping measures. All of these tactics suggest that an area past a given point, is private and is not to be entered by those without lawful authority or reasonable excuse.

75.2 When boundaries are protected by fences, gates or barriers they should be certified to one of the following minimum standards:

- LPS 1175 Issue 7.2:2014 Security Rating 2+, or
- LPS 1175 Issue 8:2018 Security Rating B3+, or
- LPS 2081 Issue 1.1:2016 Security Rating B

76 Security fencing

76.1 Security fencing is effective at delaying or deterring intrusion because of the need to climb over or penetrate through the fence. It is therefore important that there are no structures close to or protruding over the fence that will act as climbing aids e.g. trees, lamp columns or the edges of other structures.

76.2 A variety of materials can be used to fabricate security fencing from welded mesh and expanded metals to hybrid specifications of metal and timber and all of these are available in any number of colours and treatments. Railings of various designs can also be used to good effect and each fencing type available can be fitted with toppings to deter climbing. Whilst SBD recommends that security fencing should be effective without creating a ‘fortress’ impression, it is accepted that certain business locations or business operations may actively seek to promote the security of their premises by using a boundary treatment that sends a strong visually deterring signal.

76.3 It should be borne in mind when thinking of what type of boundary to create that potential offenders would always prefer to remain anonymous and to be able to access and later escape from the property as quickly as possible and also to do all this in as noiseless and as physically safe way as possible.

76.4 Surveillance of and over the site from any surrounding streets, footways and occupied buildings can help to deter potential offenders who may fear that their presence on the site will be reported to the police. It is therefore recommended that, where appropriate, security fencing systems are

visually permeable to facilitate observation from outside the site and efforts are made by the occupiers to develop good relationships with their neighbours. The use of dark coloured coatings on metal fencing systems reduces light reflection thereby making it easier for passers-by to observe activity through the fencing.

76.5 Although aesthetic considerations are a matter for the developers, there are many attractive security boundary products available but certification will depend on whether a boundary treatment is commensurate with the local crime risk.

76.6 There may be circumstances where consideration could be given to installing a secure inner fence line within a less secure outer perimeter.

76.7 Public footpaths that lie just outside and adjacent to the boundaries of commercial developments can have a detrimental effect on security and, if it is not possible to have them re-routed away from the site, measures such as defensive planting, CCTV and/or secondary fence lines may need to be considered. However, none of these measures should be allowed to obstruct any natural surveillance that the footpath affords so long as this is thought to be an advantage in the specific circumstances of the site.

76.8 The condition and specification of a boundary that is shared with another property should not be allowed to compromise security. To maintain protection levels for the SBD application site, it is sometimes advisable to erect a separate security fence inside the original party boundary. It is important to consider the amenity of others in the choice of this secondary structure so as not to alienate neighbours as they will need to be relied upon to act as vigilant guardians invested in the best interests of surrounding properties.

77 Gates

77.1 The height and length of gates should be consistent with the dimensions of the boundary fence into which they are set and to close any gap beneath them to ground level.

77.2 Whatever the physical appointment of the boundary and whenever the site is occupied by employees, either fully or partially, or the site is entirely unoccupied, the perimeter gates should only be operable by using the appropriate means of secure access control.

77.3 See section 30.4 for automated gates.

78 Defensive hedging

78.1 In some locations it may be a planning requirement to use or retain a defensive hedge, such as hawthorn, as a means of protecting the site perimeter or to further bolster the security of an existing or proposed fence. As it can often take a considerable length of time for a newly planted hedge to mature and become an effective barrier, a fence that meets the minimum security requirements in section 75.2, would be required to ensure that security integrity is in place from the commissioning of the site onwards.

79 Signage and unit identification

79.1 The commercial building's reception area and car park should be clearly signposted from the entrances and further on into the site. People found wandering around the forecourts of industrial buildings will often use the excuse that they could not find their way to the reception and the presence of clear signs will go some way to dismiss this excuse and help security staff and the police establish the legitimacy of the claim. Likewise, signs that identify areas that are not open to public access can act as a reminder that unauthorised persons should be challenged.

79.2 Site maps for industrial estates that identify road names and unit numbers should be correctly orientated for the visitor and be protected from graffiti using a replaceable or cleanable transparent cover if the risk is present. Alternatively, they can be located at a height that

reduces the risk of damage or treated with an anti-graffiti coating to allow easy removal. Such maps should be located adjacent to a lay-by to reduce the impact on industrial estate traffic. Keep site maps up-to-date as redundancy effects their usefulness.

79.3 Clear numbering of individual units, which can be seen from the estate roads (too often absent in existing industrial estates), is essential to assist users, customers, postal workers and the attendance of emergency services.

80 Parking and Access

80.1 The routes from the site entrance to the reception and to the car parks and delivery points should be clearly defined and benefit from as much natural surveillance from the reception area and other occupied offices as possible.

80.2 A new industrial estate road system will be designed to allow the functional operation of emergency vehicles and may include turning points and or spaces between buildings to allow large vehicles to operate. These arrangements may need to be matched with security measures to reduce criminal opportunities.

80.3 Identifiable parking for staff should be provided in view of occupied offices and, where possible, identified visitor parking should be similarly located. In areas of high crime or where there are special security considerations or there is the potential for anti-social behaviour, it may be prudent to secure the parking facility with appropriate fencing (see section 75.2 for secure fencing) and an automatic access-controlled gate (see section 30.4 for automated gates).

80.4 It is good practice to ensure that commercial buildings are designed to allow secure deliveries and collections of material and goods. This will dictate the height of the bay delivery floor and its overall dimensions/design. Depending on risk, monitoring by CCTV may be necessary together with other security measures such as the provision of a secure delivery compound. It is recommended that this matter is further discussed with the DOCO.

81 Vehicle parking and access

81.1 Local infrastructure will often determine the location of vehicular and pedestrian routes and entrances. This must therefore be taken onto consideration when designing site layout, in order to ensure that the security of the site can be easily and effectively controlled.

81.2 The main site entrance is the first line of defence against trespass and should be the focus for directing and controlling all access. Other entrances onto the site should be kept to a minimum, and all should be controlled.

81.3 A secure emergency vehicle access point must be provided on larger sites, which may require a service road layout that includes turning points and space between buildings for large vehicles to operate. As this will necessary include access for large emergency vehicles operated by the Fire and Rescue Service, it is important that they are consulted at the design stage and the practical requirements folded into the overall site specification.

81.4 Likewise, such roadways may also be required for delivery vehicles. These can be blocked by retractable bollards or gated to stop unlawful access as long as the Fire and Rescue Service has a key (there are specific locally agreed key types for such use).

82 Vehicle parking and deliveries

82.1 The area forming the route from the public site entrance to the reception and to the visitor car parks and delivery points should be as short as possible, open to view from the reception area and secured from the rest of the site. This will help to deter trespass into other parts of the grounds and channel all visitors through reception.

82.2 Separate parking for staff should be provided in view of occupied offices. In areas of higher crime, it may be prudent to secure this facility with appropriate fencing (see section 75.2 for

secure fencing) and an automatic access-controlled gate (see section 30.4 for automated gates).

82.3 There should be parking provision for emergency vehicles, such as ambulances.

82.4 The design of the site should incorporate appropriate means to allow for secure deliveries, without interfering with the day-to-day running of business. This may include a secure external compound or easy access to delivery doors.

82.5 Vehicle parking facilities should comply with the 'Park Mark' criteria for safer car parks. Whilst full registration to 'Park Mark' is not a requirement of SBD Commercial Guide, the design criteria of the scheme should be adopted wherever appropriate. The DOCO will be able to offer additional advice. Further information can be found at: www.saferparking.com

83 Electric vehicle charging in secure commercial parking areas for employees only

83.1 To avoid the potential for conflict, electric vehicle charging points (EVCPs), provided for employee use only, should be located in parking bays that are subject to natural surveillance. A management process should ensure that charging bays are only used for their intended purpose and that steps are taken to prevent vehicles overstaying after a charge has been completed.

83.2 Security could be compromised in circumstances where non-employees are allowed to use pay-as-you-go EVCPs within secured car parks and is therefore not advised.

84 Electric vehicle charging in covered car parks

84.1 It is important that when considering the location of EVCPs, the provisions of any relevant Building Regulations are complied with and that consultation is undertaken with the relevant Fire Strategy Authority, be this a local authority appointment or a Fire and Rescue Service officer, to ensure that appropriate advice is incorporated into designs and specifications; this is particularly the case when locating EVCPs in 'covered car parks'.

84.2 Conformation of such a consultation and compliance with any recommendations are matters that fall outside of the scope of this guide and process.

85 External bicycle parking for employees and visitors in public areas

85.1 External bicycle parking facilities will be designed for secure storage using bicycle lockers, hangers or dedicated storage devices and be certified to one of the following minimum standards:

- Sold Secure – SS104 Silver, or
- STS 501 Security Rating TR2, or
- STS 503 Security Rating TR2, or
- STS 205 Issue 6:2021 Security Rating BR2, or
- STS 225 Issue 1:2021 Security Rating BR2 (S), or
- LPS 1175 Issue 8:2018 Security Rating B (B3), or
- LPS 2081 Issue 1.1:2016 Security Rating B

85.2 External bicycle parking facilities will be located as close to the primary entrance as possible, and in any case within 50m of it and be subject to natural surveillance by building occupants where feasible. Current video surveillance systems should be extended to ensure that the bicycle parking facility is within view of the cameras.

85.3 During the hours of darkness the facilities should be well-lit, using energy efficient lamps.

85.4 DOCOs may require extra security measures to be put in place at bicycle parking facilities should an analysis of local crime rates indicate that they are necessary to ensure that security remains commensurate with the risk.

86 Motorcycle, scooter and moped parking

86.1 The theft of motorcycles, scooters and mopeds (the term motorcycle will refer to all powered two wheelers) is a major problem in many parts of the country, especially in urban areas. When stolen, the vehicles are either broken up for the value of their parts or alternatively are used in further crimes, such as snatch theft of personal property or robbery. This secondary use is causing a rise in crime.

86.2 Parking for motorcycles is often provided in small on street bays, delineated by a simple painted line. These bays often attract high rates of theft owing to the opportunities they offer criminals. Ground anchors and/or metal support stands provide a primary point for securing motorcycles, around which other secondary measures can be added by the rider, such as disc locks, grip locks, bike covers to one of the following security standards:

- Sold Secure – SS101 Gold, or
- STS 501

86.3 Motorcycle parking bays can be made more secure by the installation of ground anchors, or robust metal support stands running at the side of adjacent paving. They provide a firm and immovable object to fix the rear wheel of a motorcycle to. Ground anchors should be installed at the rear of motorcycle parking bays near to the kerb line and flush with the road surface to prevent them being a trip hazard and meet one of the following security standards:

- Sold Secure – SS101 Gold, or
- STS 503

86.4 If metal support stands are provided, these should consist of galvanised steel bars (minimum thickness 3mm), filled with concrete to resist battery operated hand-held cutters, with minimum foundation depths of 300mm with welded anchor bars.

86.5 Signage should be used to alert riders and advise them to use the ground anchors or support stands provided along with their own security hardware. All of the above issues could also be considered at dedicated parking facilities if a motorcycle bay is installed into an existing site.

86.6 External parking stores for motorcycles, mopeds and scooters should be covered and located close to and in view of the main building and be provided with secure anchor points certified to Sold Secure Silver Standard. Secure containers for crash helmets and waterproof clothing are recommended.

86.7 Secure anchor points certificated to Sold Secure Silver Standard must be provided. Secure containers for crash helmets and waterproof clothing are recommended.

86.8 The design criteria for car parks should follow the principles laid down in the police owned 'Park Mark' initiative. Full registration to 'Park Mark' is not a requirement of this guide. The DOCO will be able to offer additional advice. Further information can be found at: www.parkmark.co.uk

86.9 The purpose of 'Park Mark' is to:

- Reduce crime and the fear of crime in parking facilities
- Provide guidance to owners/operators and developers of parking facilities, both new and existing, on how to establish and maintain a safe and secure environment through the introduction of proven management processes, physical measures and site security systems, having considered the crime risk in the immediate vicinity
- Raise awareness with staff and visitors when parking their car, bicycle, motorcycle, etc. that the owner/ operator has considered, and where appropriate, has taken action to reduce crime and the fear of crime within the parking facility they have chosen to use
- Provide a design framework for architects and developers of new parking facilities

87 External security issues

Landscaping

87.1 The planting of trees and shrubs in new developments to create attractive environments for commercial sites is encouraged and entirely supported by Secured by Design provided that the following simple matters are addressed:

- Landscaping layouts must allow sufficient space to accommodate the planting choice
- Future maintenance requirements should be considered at the design stage
- Landscaping must be maintained to ensure it does not blind CCTV or obscure lighting
- Planting designs must mitigate against crime rather than contribute towards opportunities to commit it

88 External furniture and litterbins

88.1 External furniture such as benches and planters should be of a robust vandal and graffiti resistant design. Benches should be divided along their length to create individual seating to prevent street sleeping. Planters should be designed to ensure there is no space underneath for the storage of drugs or weapons. Furniture should be fixed into the ground in order to prevent its theft and reduce the possibility of it being used as either a climbing aid or as a tool to break through the shell of a building. External furniture should not be located at or close to a building line or a boundary if there is a possibility of it being used as a climbing aid.

88.2 Litterbins can sometimes be used to assist climbing and/or the contents used to start fires. It is preferable that these bins are of a type that can be locked onto a fixed base some distance from the buildings. Under no circumstances must litterbins be wall mounted beneath windows or on walls that are themselves covered in combustible material.

89 Natural surveillance and recessed doorways

89.1 Wherever possible, it is important to avoid the creation of areas or building features (such as recessed doorways) that cannot be overlooked from occupied parts of a development. Recessed doorways will obstruct natural surveillance whilst collecting wind-blown litter that can be used to start fires. It is best to avoid designing unobservable areas rather than having to provide expensive CCTV coverage in an attempt to compensate for the problem.

89.2 Where the recessing of a doorway is unavoidable, an emergency exit opening onto a footpath for instance, it would be prudent to use a secure doorset with emergency exit hardware and an integral secure vision panel.

90 Temporary buildings

90.1 Temporary buildings, such as portable buildings, are notoriously difficult to secure due to their construction and the fact that they are outside the secure envelope of the permanent building structures. For the purposes of assessing SBD compliance, buildings are to be classified as temporary up to 6 months occupation or use and after this point will be considered in terms of security requirements as permanent. Temporary buildings being used as classrooms long past their originally intended lifespan is a good example of these circumstances and the intention here is to ensure appropriate security for such units from the outset.

90.2 Wherever possible temporary buildings should be located together and physically linked together forming a larger continuous structure and thus avoiding the creation of unused and unseen areas between the buildings where criminal opportunities could exist. It is expected that the use of non-security rated temporary buildings will be discontinued on any site as soon as possible after the main development work is complete.

90.3 Temporary buildings should not be used for the storage of high value equipment such as computers or cash unless the building is security rated and constructed of non-combustable materials. Any voids beneath them should be secured to prevent the collection of litter which can be used as kindling in the case of arson.

90.4 Most importantly, structures that are intended as limited lifespan buildings, together with those that ultimately have longer periods of utility, must be included in the intruder and fire alarm regimen of the main buildings.

90.5 SBD is currently working with interested parties to develop temporary SBD buildings certificated to the Loss Prevention Certification Board's standard LPS 1175 Security Rating 2. Once such buildings become available they will be referenced within this guide.

90.6 The location of temporary buildings must be discussed with the local fire authority to ensure that the spread of fire to other buildings is minimised and that the Fire and Rescue Service's access is not hampered.

91 Wind turbines and photovoltaic installations

91.1 Consideration must be given to protecting wind turbines, photovoltaic installations (PVs) and biomass boilers from vandalism or theft through the use of access control, appropriate fencing and the removal of any climbing facility that may aid access.

91.2 PVs should be located on roofs that are difficult to access, other than by legitimate means, and should be secured onto the roof with theft resistant fastenings. Landscape design should never include the use of loose pebbles in case they be used as missiles to damage the panels.

92 Storage facilities

Equipment storage

92.1 Heavy plant and building equipment should be protected from theft and criminal damage by using secure storage areas on site, within the main building where possible but, failing this, within a compound with high security value fencing. CCTV coverage may also be required if the value or nature of the stored items suggests a heightened crime risk.

93 External waste storage

93.1 Waste and rubbish containers, particularly wheelie bins, can be re-positioned and used to aid climbing to vulnerable parts of buildings whilst their contents can be used as fuel for arson attacks. To combat these two risks the bins should be retained in a lockable roofed store set apart from the main buildings and the containers themselves fitted with lockable lids. Advice in respect of a safe stand-off distance, fire and smoke detection devices and fire sprinkler systems should be sought from the appropriate fire authority.

93.2 In general, combustible materials should not be stored within 10 metres of the building.

93.3 Adequate secure provision (as above) for temporary storage of all recyclable materials awaiting collection or other processing should be provided.

93.4 Bin stores for kitchen waste in large catering and other business operations should be located away from the building, as above, although it is accepted that for practical and operational reasons it may be necessary during business hours to have bins temporarily located closer to the kitchen areas.

94 Fuel storage

94.1 Fuel, such as central heating oil, but including such things as petrol stores for maintenance and plant machinery, should be kept in a secured building located a good distance away from the main buildings. These measures will help prevent theft of the fuel or its use in arson attacks. However, where site constraints lead to fuel being stored inside the main buildings, advice must be obtained from the appropriate fire authority. It may also be desirable to store biomass fuel close to the boiler plant in which case again the appropriate fire authority should be consulted.

95 Cleaning equipment storage

95.1 A secure store, or stores, inside the building must be provided for the safe storage of cleaning equipment and cleaning fluids as many of these materials are flammable and toxic. Advice should be sought from the appropriate fire authority.

96 Utility services

Telecommunications access covers, ducting and utility meters

96.1 Utility access covers, protecting access to drains, sewers, telephone cables, electricity cables and other services, must be secured to prevent access and damage by unauthorised persons.

96.2 It is important to remember that often business continuity may rely on the intruder and fire alarm's ability to signal an alarm receiving centre via a secure telephone line. Therefore, it is vitally important that sufficient secure ducting is supplied to the site with an appropriate number of secure access covers to cater for both the current requirements and any future site expansion.

96.3 Smart utility meters are now ubiquitous and are a safe and secure way of accounting for energy consumption by customers. Where individual utility meters are still to be used, they should be located in a secure building such as a plant room and allow for meter reading without having to enter the main building. Alternatively, instructions should be given to utility providers to carry out their readings during business hours or by special appointment so as to reduce any security risk. Smart meters that automatically send readings along a data line and read remotely are the much preferred option.

97 Building shell

Windowless building elevations

97.1 A common feature of many industrial units and warehouses are long runs of elevations, often found to the rear and side, that have no windows for potential observation over the site. These same elevations will usually have at least one windowless emergency exit doorway (often recessed) which can present opportunities for crimes such as graffiti, burglary, arson, together with inappropriate loitering.

97.2 When considering the wisdom of introducing fenestration into an otherwise blank elevation it is firstly advisable to calculate whether there is the potential to create natural surveillance over an area of activity or interest. If there is no activity to be observed or no security interest served and, as windows and doors are often targeted by criminals, it may be that a wall should be left blank with no openings.

97.3 It is clearly sensible to keep trespassers away from buildings in the interests of preventing unauthorised entry, graffiti, arson or other criminal damage. The best way to achieve this will alter from one site to another and will depend on factors such as the number and size of individual

units and their orientation to each other. Common problems and potential solutions are discussed below:

- Where there are pathways between buildings that are intended to service emergency exits it is important to place gates at the leading edge of the building line. During times when the building is occupied it must be possible to exit through these gates without the use of a key.
- Where a commercial unit's blank elevation adjoins a public footpath or road, the creation of a separating verge is recommended. Such a verge should be at least 1m wide and have a 1.8m high fence on it preferably of a welded mesh or expanded metal construction so as to facilitate natural surveillance. It may also be possible to use a 'defensive' hedge like hawthorn in such circumstances but, unless mature plants are used from the outset, a fence will be required to perform the function of the defensive barrier until the hedge has matured.
- Where there is insufficient space for a verge or a defensive barrier as described above then the application of anti-graffiti coatings and the provision of CCTV systems should be discussed with the DOCO.
- Professional or community led artwork can not only look more attractive, but it is less likely to suffer from graffiti/reduce the fear of crime and could also be used as a wayfinding point e.g. arrow and design directing people to important locations.

98 Walls – facades, apertures, recesses and graffiti

98.1 Facades of buildings should be designed so that the opportunity to hide along them or climb up them is minimised; the latter is most important when access to vulnerable widows or flat roofs is possible. Clean straight building lines free of unnecessary accessible ledges, parapets, recesses or overhanging structures will reduce opportunities for burglary.

98.2 It is important to consider the potential for unauthorised entry to goods lifts, fuel delivery points or ventilation ducts. Wherever possible these facilities should not be made readily accessible to unauthorised persons.

98.3 Grilles, air ventilation apertures and shutters should be fitted so that they cannot be removed to permit access. Reinforced mounting and fixing points for internal and external grilles, shutters and their roller boxes should be designed-in as part of the fabric of the structure.

98.4 Graffiti tends to attract more graffiti and therefore the police always advise that it is removed as soon as possible. Designers should consider wall finishes that make this task easier to perform, particularly in areas where graffiti has proven to be a problem before. Surfaces should be coated with either an anti-graffiti glaze or sacrificial coating, or, alternatively, be designed for ease of repair by re-painting following an attack. Other means of deterring graffiti attacks can also be considered such as growing climbing plants along vulnerable facades.

99 External lighting

99.1 The need for lighting will be determined by local circumstances. For example, in an inner city environment the lighting of a footpath is generally only effective in reducing crime levels if it is matched with a high degree of natural surveillance from surrounding buildings, where reaction to an identified incident can be expected. The lighting of an isolated and little used footpath may give the user a false sense of security and should be avoided. 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, consideration should be given to closing the path at night rather than lighting it. It is accepted that this would only be an option in exceptional circumstances.

99.2 In terms of security, the objective of lighting commercial units after dark is to deter or detect an intruder.

99.3 Lighting design should be co-ordinated with a CCTV installation (when specified) and the landscape designed to avoid any conflicts and to ensure that the lighting is sufficient to support a CCTV system. Light fittings should be protected where vulnerable to vandalism.

99.4 A lighting scheme should provide uniformed lighting levels with good colour rendition and be sufficient to cater for lawful after dark activity around the industrial or warehouse unit and site. It should not cause glare or light pollution and should support both formal and informal surveillance of the site.

99.5 External illumination when the building is unoccupied is recommended for entrance gates and routes to the main entrance and doors, car parks (if occupied by vehicles) and observable building elevations.

99.6 Bollard lighting is purely for wayfinding and can be easily obscured as it does not project sufficient light at an appropriate height which makes it difficult to recognise facial features and can increase the fear of crime.

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We trust that by the application of the design principles and security standards described within this guide, that communities will be protected from crime for years to come.

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