



SECURED BY DESIGN HOMES 2019

Version 2, March 2019

Secured by Design



Official Police Security Initiative

The changes to the English Planning and Building Control regulations following in-depth reviews by the Ministry for Housing, Communities and Local Government (MHCLG) have underlined the importance of the police advice delivered over the past 30 years; specifically in the form of the Secured by Design (SBD) initiative. The references within the National Planning Policy Framework (NPPF) and the accompanying National Planning Practice Guidance (NPPG) along with those in Scotland (Scottish Planning Policy – PAN 77) and Wales (Planning Policy Wales – TAN 12) have sought to reinforce the need and importance for a safe and secure external environment and to this end there are specific references to police service advice and the Police.uk website in particular.

Indeed, the government's Chief Planning Officer Steve Quartermain, wrote to all planning authorities reminding them of the important role the planning system plays in ensuring appropriate measures are in place in relation to crime prevention and security. Further information is available via www.securedbydesign.com

The MHCLG has also followed Scotland's lead and introduced physical security standards for new homes within Building Regulations for the first time. The Welsh Government has also decided to include a new Building Regulation to address the security of new homes.

This edition of the SBD guidance for domestic properties has been designed to cater for the security of all new and refurbished homes including those for disabled and older people. It 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.

SBD officers have become increasingly aware of the need to consider adapted, accessible and inclusive housing and neighbourhoods in their advice, so as not to create additional barriers for disabled and older residents. Such inclusive design aims to remove barriers that create undue effort and separation. It is defined as a process that ensures all buildings, places, and surrounding spaces can be easily and comfortably accessed and used by everyone.

The requirements and recommendations within this guide are based upon sound research findings that have proven SBD to deliver significant crime reductions and cost efficiency savings for a wide range of stakeholders including local authorities, housing associations, landlords, residents and the police service. The police service continually re-evaluates the effectiveness of Secured by Design and responds to emerging crime trends and independent research findings, in conjunction with industry partners, as and when it is considered necessary and to protect the public from crime.

The standards contained within this document are based upon those developed by SBD with various standards owners and trade associations.

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 a development.

Should you wish to contribute to this or any of the SBD guides please contact Secured by Design by email at sbdconsultations@police-cpi.co.uk.

Secured by Design Homes 2019 is applicable to all new SBD applications made after 1st April 2019.

Contents

1	Introduction	5
2	Scope	5
3	SBD Homes explained	5
	Who should read this document?	5
	SBD format in detail	6
	SBD graded security levels	7
	SBD Gold	7
	SBD Silver	7
	SBD Bronze	7
	Secured by Design 2019 Award process Flowchart	8
4	Secured by Design National Building Approval	9
5	How to apply for the SBD Award	9
6	Construction phase security – advisory note	9
7	UK Planning and strategic policies in support of Secured by Design	10
	England (NPPF and NPPG)	10
	Wales (PPW & TAN12)	11
	Development Quality Requirements (DQR) for social housing	11
	Welsh Housing Quality Standards (WHQS)	11
	Scotland (SPP & PAN77)	11
	Northern Ireland (DOE, PPS 7 & QD1)	12

SECTION 1 14

8	Layout of roads and footpaths	14
	Through-roads and cul-de-sacs	14
	Footpath design	15
	Planting next to a footpath	16
	Seating next to a footpath	16
	Lighting of footpaths	16
	Footpaths on phased developments	17
9	Communal areas and play space	17
10	Dwelling Boundaries	18
	Front boundaries	18
	Access gates to rear gardens	19
	Side and rear boundaries	19
	Fencing in high crime/vulnerable areas	20
	Sub-divisional boundaries	21
11	Layout and orientation of dwellings	21
12	Gable end walls	21
13	Rear access footpaths	21
14	Dwelling identification	22
15	Climbing aids	22
16	Vehicle parking	22
	Motorcycle, scooter and moped parking	23
	Dedicated motorcycle parking facilities	24
	British Parking Association – Park Mark Award	24
	Underground car parking	24
17	Planting in new developments	24
18	Street lighting	25

SECTION 2 27

19	Introduction	28
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SECTION 2a 29

20	Introduction	29
	Houses, bungalows and flats, apartments or maisonettes accessed via a private dedicated entrance doorset	29
21	Dwelling entrance doorsets	29
	Fire rated doorsets including those with adjacent glazing	31
	Garage doorsets, vehicular and pedestrian	32
	Further requirements for all pedestrian doorsets	32
	Locking systems	33
	Glazing in and adjacent to doorsets	33
	Outward opening doorsets	34
	Door limitation and caller identification	34
	Doorset Installation	34
	Secure Mail Delivery to houses, bungalows and flats, apartments or maisonettes accessed via a private dedicated entrance doorset	34
	Letter plate apertures in doors	35
	External surface mounted letter boxes	35
	Through-the-wall delivery	36
22	Windows, roof windows and roof lights	36
	Windows, roof windows and roof lights in buildings containing multiple dwellings or bedrooms	38
	Fire rated windows	38
23	Conservatories and sun rooms	39
24	Lightweight framed walls in houses and buildings containing multiple dwellings or bedrooms	39
25	External lighting for dwellings	40
	Lighting in communal areas within flats/apartments	40
26	Utility meters	40
27	Access control and additional security requirements for buildings containing multiple dwellings or bedrooms	41
	Visitor door entry system	41
	Access control system	41
	Communal and shared entrance doorset – physical security standards	42
	Physical security requirements for communal entrance doorsets with no electronic visitor door entry system – 4 dwellings or less	42
	Physical security requirements for communal entrance doorsets with an electronic visitor door entry system – 5 dwellings or more but less than 10	42
	Physical security requirements for communal entrance doorsets with an electronic visitor door entry system serving 10 dwellings or more, but less than 25	42

Door entry and access control systems	43	Glazing in windows	59
Small developments (up to 25 flats/apartments, bedsits or bedrooms)	43	Window installation	59
Developments with more than 25 flats, apartments, bedsits or bedrooms	44	40 Security of existing (refurbished) windows	60
Security compartmentation of developments incorporating 25 or more flats, apartments, bedsits or bedrooms	45	41 Conservatories and sun rooms	60
Emergency door release devices	47	42 External lighting for dwellings	60
28 Telephone and Internet Protocol (IP) based visitor door entry systems with or without remote unlocking	47	Lighting in communal areas within flats/apartments	60
29 CCTV and Recording	47	43 Utility meters	61
30 CCTV management and maintenance protocols	48	44 Additional or alternative requirements for new bespoke buildings containing multiple dwellings or bedrooms	61
31 Doorsets providing alternative access to communal areas (other than the primary shared or communal access doorset) including emergency egress doorsets	49	Communal and shared doorset standards	61
Emergency egress doorsets from underground car parks	49	45 Mail delivery in bespoke buildings containing multiple dwellings or bedrooms	62
Glazing in communal entrance doorsets	50	46 Bespoke doorsets providing alternative access to communal areas (other than the primary shared or communal access doorset) including emergency egress doorsets	62
32 Mail delivery in buildings containing multiple dwellings or bedrooms	50	47 New windows, roof windows and roof lights in bespoke buildings containing multiple dwellings or bedrooms	62
Communal mail delivery	50	48 Lightweight framed walls in bespoke dwellings	62
33 Lighting for buildings containing multiple dwellings	51	49 Lighting for buildings containing multiple bespoke dwellings	63
External lighting	51	External lighting	63
Internal lighting	51	Internal lighting	63
34 Loft hatches in communal areas	51	50 Loft hatches in communal areas	63
SECTION 2b		SECTION 3	
52		64	
35 Introduction	52	51 Additional features for the SBD Gold Award or for a SBD Silver Award for a bespoke development	65
36 New 'bespoke' houses, bungalows, flats, apartments or maisonettes accessed via a private dedicated entrance doorset	52	52 Doorsets providing access/egress from communal areas, houses and buildings containing multiple dwellings or bedrooms	65
Door and window materials	53	53 Additional window requirements for the SBD Gold Award	65
Timber products	53	54 External garage doorsets	66
PVCu products	54	55 Car parking	66
Aluminium products	54	Communal car parking areas	66
Composite products	54	Underground car parking	67
Steel products	54	56 Secure external storage facilities and bicycle security	68
Doorset hardware and locking systems	55	External communal bicycle storage	68
Glazing in and adjacent to doorsets	56	57 Integral communal bin, mobility vehicles and bicycle stores	69
Door limitation and caller identification	56	58 Internal communal drying rooms	69
Doorset Installation	56	59 Private external lighting and dwelling lighting	69
37 Security of existing (refurbished) doorsets	56	Private external lighting to common areas	69
38 Secure Mail Delivery to bespoke houses, bungalows, flats, apartments or maisonettes accessed via a private dedicated entrance doorset	58	Dwelling lighting	70
External surface mounted letter boxes	58	60 Intruder alarms	70
Through-the-wall delivery	59	Acknowledgements	71
39 New 'bespoke' windows, roof windows and roof lights	59	Photo credits	71
Window hardware	59		

1 Introduction

1.1 Secured by Design is a police initiative to guide and encourage those engaged within the specification, design and build of new homes, and those undertaking major or minor property refurbishment, to adopt crime prevention measures. The advice given in this guide has been proven to reduce the opportunity for crime and the fear of crime, creating safer, more secure and sustainable environments. Secured by Design is owned by the UK Police Service and is supported by the Home Office. Building Control Departments in England (Part Q Security – Dwellings), Scotland (Building Standard 4.13) and Wales (Part Q Security – Dwellings) all reference SBD. For simplicity, from this point onwards, the SBD Homes Guide will refer to the English, Scottish and Welsh building regulations collectively as UK Building Regulations.

NB. At this time, Northern Ireland does not have a Building Regulation for the physical security of dwellings.

1.2 The advice given by the police Crime Prevention Design Advisor (CPDA), Architectural Liaison Officer (ALO) or Designing Out Crime Officer (DOCO) 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 commensurate enhanced measures to be specified by the DOCO, the details of which are contained within each relevant section.

NB. For the purposes of this document all contact with the police specialist will refer to the generic term 'DOCO'.

1.3 Research conservatively estimates the carbon cost of crime within the UK to be in the region of 6,000,000 tonnes of CO₂ per annum. This is roughly equivalent to the total CO₂ output of 6 million UK homes.

1.4 The environmental benefits of SBD are supported by independent academic research consistently proving that SBD housing developments experience up to 87% less burglary, 25% less vehicle crime and 25% less criminal damage (*Note 1.4*). It also has a significant impact on anti-social behaviour. Therefore there are substantial carbon cost savings associated with building new homes and refurbishing existing homes to the SBD standard i.e. less replacement of poor quality doors, windows and the stolen property from within the home as a result of criminal acts. This has been achieved through adherence to well researched and effective design solutions, innovative and creative product design coupled with robust manufacturing standards.

Note 1.4: Research documentation can be found on the SBD website.

1.5 If you would like to apply for the Secured by Design award, please use the 'SBD Homes' application form found on our website www.securedbydesign.com

2 Scope

2.1 This edition of 'SBD Homes' addresses the community safety and security requirements for all types of dwellings including individual houses, housing estates, low and high rise apartment blocks (including assisted living and student accommodation).

2.2 The design, layout and physical security sections of this edition can be applied to both new and refurbished homes.

3 SBD Homes explained

Who should read this document?

3.1 Secured by Design Homes can now fulfil the requirements of:

- Planning Authorities – Section 1 of this document provides guidance on

proven crime reduction methodologies for the external environment. Following the withdrawal of the 'Safer Places' document, there is now additional information available to all UK planning officers at www.police.uk

- Building Control – Section 2 provides detailed information that may be utilised to measure and discharge developments against the security requirements of the relevant UK Building Regulations (see paragraph 1.1).
- Developers – Major and regional developers, small bespoke developers or individuals pursuing a self-build project can utilise SBD as a route to compliance with the security requirements of the relevant UK Building Regulations (see paragraph 1.1).
- Social Housing providers – Compliance with SBD Homes will continue to provide a 'police preferred specification' for all new developments (proving compliance with the security requirements of the UK Building Regulations – see paragraph 1.1) or refurbished developments. Reductions in dwelling maintenance, increased tenant retention and satisfaction, reduced vacancy levels and sustainable low crime environments being some of the proven benefits.
- Private rented sector – This document may be used by the private rented sector to provide a safe and secure environment, increase tenant satisfaction and occupancy, reduce maintenance and crime. The requirements within Section 2 provide guidance for landlords who wish to improve the level of security within new developments (proving compliance with the security requirements of the relevant UK Building Regulations – see paragraph 1.1) and the refurbishment or upgrading of existing properties.

- Home owners or occupiers – Section 1 of this document provides guidance on the external environment around the dwelling, whilst Section 2 provides detailed information regarding the physical requirements which may be applied to existing homes that will radically improve the security of the home.

SBD format in detail

3.2 This document is presented in three sections:

Section 1: Development layout and design. This section provides guidance on all aspects of design and layout that impact on the creation of a safe and secure environments, including road layout, footpath design, communal areas, dwelling boundaries, car parking and lighting.

Section 2: Physical security of the home. This section provides the 'Police Preferred Specification' for all physical security requirements for new or refurbished homes. It is separated into two sections; Section 2a reflects the requirements of the UK Building Regulations and Section 2b addresses bespoke new homes and existing homes.

Section 3: Additional features for the SBD Gold award. The essential security dwelling detail requirements in Section 2 are further enhanced by the requirements set out in this section. Section 3 addresses the requirements for a range of additional or optional residential features, such as enhanced glazing, bicycle storage, drying rooms, external bin stores, etc. If a development contains any of the features within Section 3, the physical security requirements within this section should be adhered to in order to achieve full SBD Gold compliance.

3.3 Compliance with any of the following SBD Awards satisfies the UK Building Regulations (see paragraph 1.1).

SBD graded security levels

- 3.4 Secured by Design has three differing levels of security award, starting at the highest level (SBD Gold) which incorporates the security of the external environment together with the physical security specification of the home. SBD Silver offers those involved in new developments, major refurbishment and the individual the opportunity to gain an award for the level of physical security provided. In addition, SBD Bronze offers a route to achieve a reasonable level of physical security for bespoke or refurbished properties where a traditional enhanced security product is not available, or cannot be utilised due to the listed building or other conservation status.

SBD Gold

- 3.5 The SBD Gold Award is awarded to new developments or refurbishment schemes that have achieved compliance with all the required security features particular to the development, contained within Section 1, Section 2a and Section 3 of this document.

SBD Silver

- 3.6 There are two routes to obtaining the SBD Silver Award:
- i. SBD Silver can be awarded to new developments or refurbishment schemes that meet the required security features particular to the development contained within Section 2a.

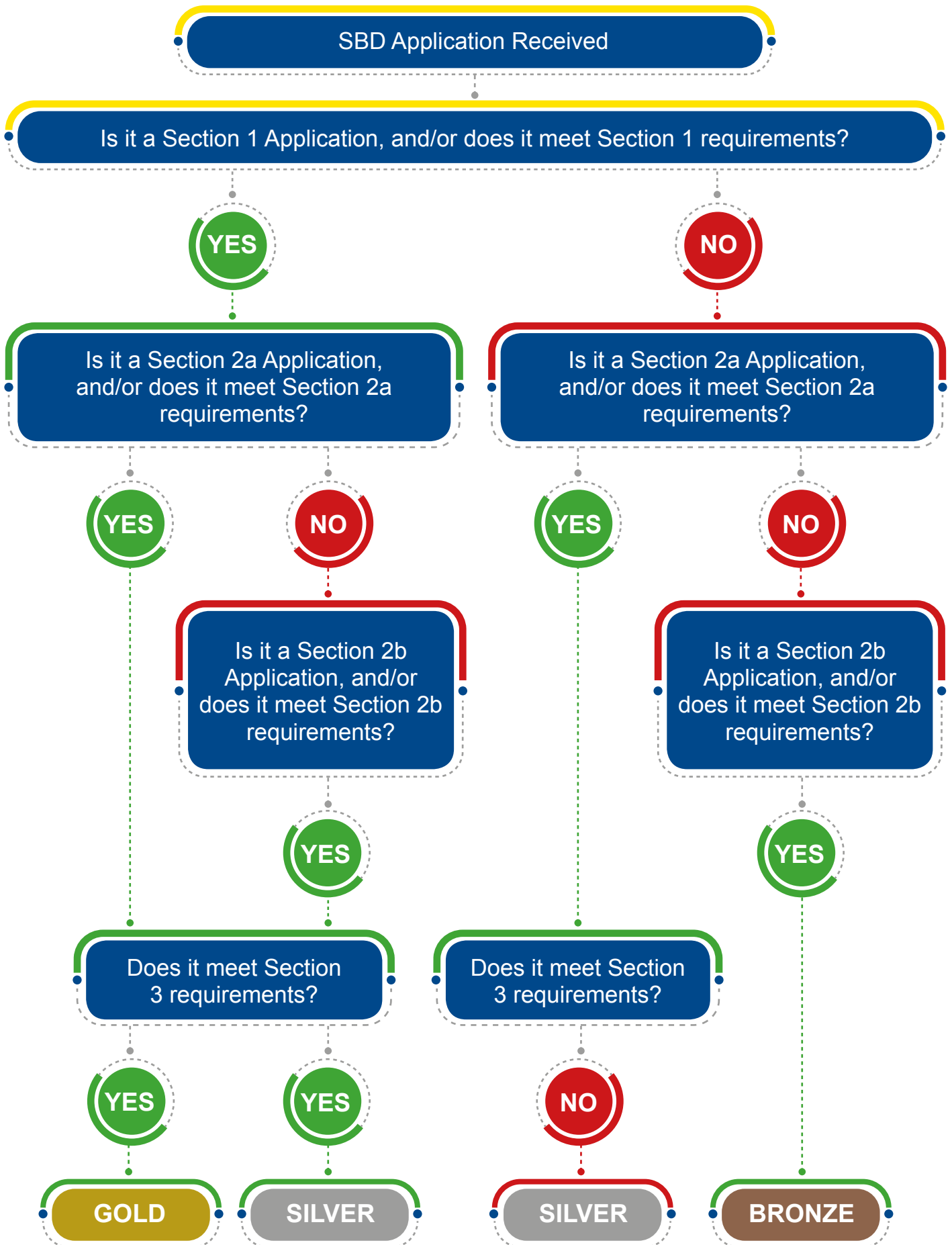
The above is the minimum qualifying criteria for Secured by Design National Building Approval see paragraph 4.
 - ii. SBD Silver can also be awarded to new bespoke developments or refurbishment schemes that meet the required security features particular to the development contained within Section 1, Section 2b and Section 3.

SBD Bronze

- 3.7 SBD Bronze can be awarded to new bespoke developments or refurbished properties that meet the required security features particular to the development contained within Section 2b.
- 3.8 Fig.1 overleaf depicts a flowchart of the new award structure.



2019 Award Flowchart



Notes:

1. No award for Section 1 or 3 only. 2. No other award combinations are available.

4 Secured by Design National Building Approval

- 4.1 Secured by Design has developed the *Secured by Design National Building Approval (SBD NBA)* which provides a structured approach to discharging the UK Building Regulations (see paragraph 1.1).
- 4.2 SBD NBA ensures that all suppliers of door, window and roof light products consistently meet the requirements of the regulations, this minimises the possibility of delays to the build process due to non-compliance issues. Secured by Design will conduct all relevant due diligence checks on behalf of the developer throughout the lifetime of the partnership and issue a certificate of conformity with the UK Building Regulations (see paragraph 1.1) and the Secured by Design Silver award. This police approval can be used for any future development built in accordance with the SBD NBA agreement to discharge the UK Building Regulations (see paragraph 1.1) and is acceptable to Building Control Officers and Approved Inspectors.
- 4.3 Housing Associations, social housing suppliers and client based specifiers can be confident that developers with SBD NBA membership are approved for the design of their homes and the level of physical security provided is robust and consistent.
- 4.4 The advantages for the developer are clear; increased Pre Qualification Questionnaire (PQQ) scoring, reduced bureaucracy and a reduction in the financial burden associated with standards compliance, faster discharge of Building Regulation/Standards obligations through the use of a UK police certificate of compliance. For more information about SBD NBA please contact us at sbdnba@police-cpi.co.uk

5 How to apply for the SBD Award

- 5.1 Applicants should make themselves familiar with the relevant sections of the Secured by Design guidance contained within this document and are strongly advised to consult the Designing Out Crime Officer (DOCO) for site specific information at the earliest opportunity and follow the application process.
- 5.2 The application form must be read in conjunction with the full SBD Homes document to ensure that your application will comply.
- 5.3 If you are applying for Secured by Design Section 2 (SBD Silver or SBD Bronze Award) to demonstrate compliance with the UK Building regulations (see paragraph 1.1), please go to Section 2 of the application form.
- 5.4 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 (to the current SBD standards).
- 5.5 Developers wishing to apply for Secured by Design National Building Approval should contact SBD directly at: sbdnba@police-cpi.co.uk

6 Construction phase security – advisory note

- 6.1 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.
- 6.2 Secured by Design recommend that security should be in place prior and during the construction phase. This should include robust perimeter fencing of the site and 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.

- 6.3 The developer is advised that the name of the contractor and signage with an emergency contact telephone no. should be displayed at several places on the perimeter fencing. This would allow the public to report suspicious circumstances.
- 6.4 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.
- 6.5 Further advice can be obtained from your local Police DOCO and/or from the BSIA Construction Site Security Guide Document at: www.bsia.co.uk
- 6.6 The developer should consult the DOCO regarding the impact that any perimeter fencing or hording 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 UK Planning and strategic policies in support of Secured by Design

- 7.1 It is important to note that crime is a material planning consideration and is a determining factor in gaining planning consent.
- 7.2 The police service has worked in partnership with the governments, assemblies and Local Authorities throughout the United Kingdom to incorporate designing out crime principles within strategic policy and planning guidance documents. The following sections describe the strategic guidance in support of Secured by Design in England, Wales, Scotland and Northern Ireland.

England (NPPF and NPPG)

- 7.3 The Government has recently

published the National Planning Policy Framework (NPPF) which defines three fundamental objectives to achieving a sustainable development: economic, social and environmental (NPPF, page 5, paragraph 8). Crime has a direct impact on all three objectives. This has been reinforced throughout the NPPF where the government makes clear its view of what sustainable development, in England, means in practice for the planning system. Specifically, Section 8 'Promoting healthy and safe communities', paragraph 91, states that 'planning policies and decisions should aim to achieve healthy, inclusive and safe places which... are safe and accessible so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion.'

- 7.4 Furthermore, Section 8, paragraph 95 states 'Planning policies and decisions should promote public safety and take into account wider security and defence requirements by:

- a) anticipating and addressing possible malicious threats and natural hazards, especially in locations where large numbers of people are expected to congregate. Policies for relevant areas (such as town centre and regeneration frameworks), and the layout and design of developments, should be informed by the most up-to-date information available from the police and other agencies about the nature of potential threats and their implications. This includes appropriate and proportionate steps that can be taken to reduce vulnerability, increase resilience and ensure public safety and security; and
- b) recognising and supporting development required for operational defence and security purposes, and ensuring that operational sites are not affected adversely by the impact of other development proposed in the area.'

7.5 With the publication of the accompanying National Planning Practice Guidance (NPPG) (*Note 7.5*) the government has reiterated that designing out crime and designing in community safety should be central to the planning and delivery of new development.

Specifically the Planning Practice Guidance on Design reminds practitioners that local authorities are duty bound to adhere to Section 17 of the Crime and Disorder Act 1998 and exercise their functions with due regard to their likely effect on crime and disorder, and do all that they reasonably can to prevent crime and disorder. Furthermore, practitioners are also reminded that the prevention of crime and the enhancement of community safety are matters that a local authority should consider when exercising its planning functions under the Town and Country Planning legislation.

Note 7.5: The reference to Design within the NPPG can be found at: <https://www.gov.uk/guidance/design#the-importance-of-good-design>

Wales (PPW & TAN12)

7.6 Planning Policy Wales (PPW) sets out the Welsh Government's national planning policy on promoting sustainability through good design. It categorises five key aspects (Access, Character, Community Safety, Environmental Sustainability and Movement) and provides guidance on how to respond to them following an appraisal of the context.

7.7 In relation to designing out crime, PPW states that crime and prevention and fear of crime are social considerations to which regard must be given by local planning authorities in the preparation of development plans. They should be reflected in any supplementary planning guidance, and may be material considerations in the determination of planning applications. The aim should be to produce safe environments through good design.

7.8 Technical Advice Note (TAN) 12: Design, provides advice for all those involved in the design of development on how good sustainable design can be facilitated through the planning system. TAN 12 reminds practitioners that local authorities (including National Park Authorities) are required to have due regard to crime and disorder prevention in the exercise of their functions under Section 17 of the Crime and Disorder Act 1998. TAN 12 recognises the Secured by Design initiative as a standard that has been shown to reduce crime (particularly residential burglary) and the impact of crime upon neighbourhoods.

Development Quality Requirements (DQR) for social housing

7.9 The Welsh Government has determined that all new social housing must be built to Secured by Design (Gold) standards.

Welsh Housing Quality Standards (WHQS)

7.10 All existing social housing stock must meet the requirements of the WHQS by 2020. Within the 'Safe and Secure' section of the WHQS there is a requirement for the physical security of dwellings to meet those within the Secured by Design scheme.

Scotland (SPP & PAN77)

7.11 Scottish Planning Policy's (SPP) Planning Policy Note 77 (PAN 77) highlights the positive role that planning can play in helping to create attractive well-managed environments which discourage antisocial and criminal behaviour. It comments that new development should be located and designed in such a way as to deter such behaviour and acknowledges that poorly designed surroundings can create feelings of hostility, anonymity and alienation which can have significant social, economic and environmental costs leading to environments that are desolate.

- 7.12 It identifies planning as an important mechanism to the creation of safer places that can make a significant contribution to reducing the fear and incidence of crime. It calls for a co-ordinated approach between local authorities, the police, the community, and any other relevant stakeholders, as being a vital factor in the successful delivery of safer places.

Northern Ireland (DOE, PPS 7 & QD1)

- 7.13 Planning Policy Statement 7 (PPS 7) from the Department of the Environment – Planning Service (DOE) makes it clear that the quality of a residential environment is crucial to the long-term sustainability of the development by helping it to reduce crime and anti-social behaviour.
- 7.14 It further comments that incorporating sensible security measures during the extension or refurbishment of buildings has been shown to reduce levels of crime and the fear of crime. By bringing the crime prevention experience of the police more fully into the planning and design process, a balance can be achieved between safety and security.
- 7.15 Policy QD1: Security from Crime, seeks to provide a feeling of security and a sense of vitality in all parts of the development. In particular it comments on the need to create private space to the rear of dwellings and the importance of natural surveillance of open spaces and pedestrian routes. It adopts a firm stand against any proposals that would introduce potentially unfrequented or unsupervised routes for pedestrians or cyclists.
- 7.16 It states that developers and their professional advisers should take account of the principles offered by SBD when preparing schemes.

A modern three-story brick townhome with solar panels on the roof and a street sign in the foreground. The building features light-colored brickwork, multiple windows, and a balcony. The street sign in the foreground reads "CHARGER ROAD".

SECTION 1

CHARGER ROAD

8 Layout of roads and footpaths

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

8.2 Defensible space has the simple aim of designing the physical environment in a way which enables the resident to control the areas around their home. This is achieved by organising all space in such a way that residents may exercise a degree of control over the activities that take place there.

Through-roads and cul-de-sacs

8.3 There are advantages in some road layout patterns over others especially where the pattern frustrates the searching behaviour of the criminal and their need to escape. Whilst it is accepted that through routes will be included within development layouts, the designer must ensure that the security of the development is not compromised by excessive permeability, for instance by allowing the criminal legitimate access to the rear or side boundaries of dwellings, or by providing too many or unnecessary segregated footpaths (*Note 8.3*). Developments that promote intuitive wayfinding and enhance the passive surveillance of the street by residents within their homes and high levels of street activity are desirable as they have both been proven to deter criminal

behaviour, but they are no guarantee of lower crime, which evidence proves is achieved primarily through the control and limitation of permeability.

Note 8.3: The Design Council's/ CABE's Case Study 6 of 2012 states that: "Permeability can be achieved in a scheme without creating separate movement paths" and notes that "paths and pavements run as part of the street to the front of dwellings reinforces movement in the right places to keep streets animated and does not open up rear access to properties."

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

8.5 Cul-de-sacs that are short in length and not linked by footpaths can be very safe environments in which residents benefit from lower crime.

8.6 However, research shows that the benefit of a cul-de-sac can be compromised if one or more of the following undesirable features exists:

- backing onto open land, railway lines, canal towpaths etc.;
- are very deep (long);



- linked to one another by footpaths (leaky cul-de-sacs);
- poorly lit

8.7 Cul-de-sacs that connect by footpaths to other parts of a development, often referred to as 'leaky cul-de-sacs', experience the highest levels of crime when compared to crime levels within a true cul-de-sac. Crime in this kind of design can be 110% higher than crime in a true cul-de-sac and therefore should be avoided.

Footpath design

8.8 Routes for pedestrians, cyclists and vehicles should be integrated and assist easy, intuitive wayfinding through the application of inclusive design by increasing activity and therefore natural surveillance, a proven deterrent to crime and anti-social behaviour.

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

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

- as straight as possible;

- wide;
- well lit (see paragraphs 8.19 to 8.21);
- devoid of potential hiding places;
- overlooked by surrounding buildings and activities;
- well maintained so as to enable natural surveillance along the path and its borders.

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

8.12 Where isolated footpaths are unavoidable, and where space permits, they should be at least 3 metres wide (to allow people to pass without infringing personal space and to accommodate passing wheelchairs, cycles and mobility vehicles). If footpaths are designated as an emergency access route they must be wide enough to allow the passage of emergency and service vehicles and have lockable barriers.

8.13 The creation of new pedestrian subways should be avoided. However, if the subway is already in existence and it is necessary to retain it, it should be well-lit with vandal resistant lighting

(see paragraph 8.19), be as wide and as short as possible, with a clear line of sight to the exit. Chamfering the access points can help reduce areas of concealment. Radius (convex) entrance/exit walls can reduce the length of the subway and the opportunity for inappropriate loitering. The designer should consider wall finishes that enable easy removal of graffiti.

Planting next to a footpath

- 8.14 In general, planting next to a footpath should be arranged with the lowest-growing specimens adjacent to the path, and larger shrubs and trees planted towards the rear. Planting immediately abutting the path should be avoided as shrubs and trees may grow over the path, creating pinch points, places of concealment and unnecessary maintenance.
- 8.15 Think carefully when selecting tree species to be used adjacent to a footpath or verge, and consider their whole-life growth characteristics. Many trees will grow tall, dense canopies as they reach maturity. If unmaintained, this broad canopy will spread many metres from the trunk of the tree, and overhang paths and may create difficulties in maintaining a clear, accessible route, in addition to creating a sense of enclosure for path users. Routes with overhanging branches can also be a particular issue for people with sight loss. A large canopy may also block natural light and restrict the effectiveness of street lighting.
- 8.16 Trees with slender or fastigate forms naturally grow a narrow, tall canopy, and are less likely to over-hang paths regardless of their maturity. Similarly, pleached trees have been trained to produce a narrow canopy above a very straight, clear stem. A variety of species are available with similar growth forms, which provide height and structure without the issue associated with large canopies.
- 8.17 Where footpaths run next to buildings or roads, the path should be open to

view. This does not prevent planting, but will influence the choice of species and the density of planting. Public footpaths should not run immediately next to doors and windows, therefore defensive space should be created to separate a path from a building elevation. This is particularly important in areas with a known graffiti or anti-social behaviour problem.

Seating next to a footpath

- 8.18 Seating can be a valuable amenity or a focus for anti-social behaviour. The following specific points should be considered:
 - 8.18.1 How long and wide is the footpath? Who is most likely to be using the footpath? For example, is it likely to be used by disabled and/or older people who may require resting places? Can it be made more/less attractive and inclusive to certain groups of users by the way it is designed?
 - 8.18.2 Is the footpath required simply as a means for travelling from one place to another without stopping?
 - 8.18.3 Is it the intention to encourage stopping and social interaction at particular points along the footpath, e.g. to encourage people with limited mobility who need to rest more frequently or to promote health and wellbeing through exercise and exposure to natural daylight?
 - 8.18.4 Would seating encourage or attract inappropriate loiterers such as drinkers or drug users?
 - 8.18.5 Is vandal resistant seating necessary?
 - 8.18.6 Should seating be placed right next to the path or set at the back of the verge (care should be taken to avoid creating a climbing aid)?
 - 8.18.7 Consider the use of single seats or stools set several metres apart to deter loitering.

Lighting of footpaths

- 8.19 If a footpath is to be used 24 hours a day it should have all the required attributes



as listed at paragraph 8.10 and be lit in accordance with BS 5489-1:2013. If the footpath does not have these attributes then its use should be deterred during the hours of darkness by not installing lighting.

- 8.20 It is important that the landscape architect and lighting designers co-ordinate their plans to avoid conflict between lighting and tree canopies. It is advisable that trees are planted at least 5 metres away from any light source. Please also see paragraph 18 regarding the technical requirements for public lighting, 'dark sky' policies and light pollution.
- 8.21 Secured by Design encourages, wherever possible, the use of the most environmentally friendly light sources. Moreover the Institute of Lighting Professionals (ILP) currently favours the use of good quality LED lighting and other energy effective light sources and advises against the use of fluorescent lighting which is environmentally unsustainable for a variety of reasons (*Note 59.5*). Further information is available at: www.securedbydesign.com

Footpaths on phased developments

- 8.22 Where the completion of a footpath will be delayed because of phased development or long term planning

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

9 Communal areas and play space

- 9.1 Communal areas, such as playgrounds, toddler play areas, seating facilities have the potential to generate crime, the fear of crime and anti-social behaviour. These may often be referred to as:
- Local Areas of Play (LAP) – primarily for the under 6 year olds;
 - Local Equipped Area for Play (LEAP) – primarily for children who are starting to play independently;
 - Neighbourhood Equipped Area of Play (NEAP) – primarily for older children;
 - Multi-Use Games Areas (MUGA) – primarily for older children.
- 9.2 They should be designed to allow natural surveillance from nearby dwellings with safe and accessible routes for users to come and go. Boundaries between public and private

space should be clearly defined and open spaces must have features which prevent unauthorised vehicular access. Communal spaces as described above should not immediately abut residential buildings.

- 9.3 The provision of inclusively designed public open amenity space, as an integral part of residential developments, should make a valuable contribution towards the quality of the development and the character of the neighbourhood. In order to do this it must be carefully located to suit its intended purpose – mere residual space unwanted by the developer is very unlikely to be acceptable.
 - 9.3.1 The open space must be inclusively designed with due regard for wayfinding and natural surveillance, and;
 - 9.3.2 Adequate mechanisms and resources must be put in place to ensure its satisfactory future management and maintenance, and;
 - 9.3.3 Care should be taken to ensure that a lone dwelling will not be adversely affected by the location of the amenity space, and;
 - 9.3.4 It should be noted that positioning amenity/play space to the rear of dwellings can increase the potential for crime and complaints arising from increased noise and nuisance.
- 9.4 Play areas should ideally be designed so that they can be secured at night. This is to reduce the amount of damage and graffiti that occurs after dark. The type of fencing and security measures will need to vary to suit the particular area. However, consideration should be given to a single dedicated entry and exit point to enable parental/guardian control and supervision. Fencing at a minimum height of 1200mm can often discourage casual entry, provide a safe clean play area and reduce damage to the equipment. The specific requirements such as child safeguarding, preventing dogs entering, etc. should be discussed with the DOCO.

- 9.5 Consideration should be given to the provision of informal association spaces for members of the community, particularly young people. These must be subject to surveillance but sited so that local residents will not suffer from possible noise pollution. In addition, they should be sited in such a way that those using adjacent foot and cycle paths will not be subject to harassment or otherwise be put in fear.
- 9.6 External communal drying spaces should be enclosed and have secured access via a locked gate so that they are only accessible to residents. The DOCO will provide advice in respect to fencing, gate construction and locking.

10 Dwelling Boundaries

Front boundaries

- 10.1 It is important that the boundary between public and private areas is clearly indicated. For the majority of housing developments, it will be desirable for dwelling frontages to be open to view, so walls, fences and hedges will need to be kept low or alternatively feature a combination of wall (maximum height 1 metre) and railings or timber picket fence if a more substantial front boundary is required by the DOCO.
- 10.2 Front garden planting of feature shrubs and suitable trees (e.g. open branched or light foliage or columnar fastigiate habit, etc.) will also be acceptable provided they are set back from paths and placed to avoid obstructing visibility of doors, windows and access gates to the rear of the property. Similarly, planting which allows a clear line of sight to the pavement and road is preferable.
- 10.3 Plant specimens may be used to discourage access to specific areas of the house frontage. For example, a specimen with thorns may be used to deter access to the base of a window.



Access gates to rear gardens

- 10.4 Gates to the side of the dwelling that provide access to rear gardens or yards must be robustly constructed, be the same height as the fence (minimum height 1.8m) and be capable of being locked (operable by key from both sides of the gate). Such gates must be located on or as near to the front of the building line as possible (also see paragraph 26.1).

Side and rear boundaries

- 10.5 Vulnerable areas, such as exposed side and rear gardens, need more robust defensive barriers by using walls or fencing to a minimum height of 1.8m. There may be circumstances where more open fencing is required to allow for greater surveillance. Trellis topped fencing can be useful in such circumstances.
- Additional deterrent features such as increasing the height of fencing or planting thorny shrubs may be considered as an alternative. A wide range of specimens can be planted along the boundary of a property, which offer attractive planting characteristics of colour and form, whilst containing sharp thorns to dissuade intruders. Many species are available which may be trained to any shape, size or height.

From within a garden, specimens such as Hawthorn may be trained to provide an additional physical barrier above the height of the fence with minimal impact on the garden below. Alternatively, ornamental specimens such as rose may be attached to a fence to deter climbing.

- 10.6 It is expected that developers will install fencing to a high standard to ensure the security and longevity of the boundary. A high quality fence that lasts for a long time will provide security and reduce overall maintenance costs for residents or landlords. A fence that has a long predicted life is also more sustainable. For this reason SBD suggests that fencing should be constructed as follows:
- 10.6.1 The method of fixing between panel/ rails and posts should create a secure mechanical bond so that panels/slats cannot be easily removed.
- 10.6.2 The fixings employed in the panel/pale to rail construction should be of galvanized steel or stainless steel with a design life to match the timber components.
- 10.6.3 Posts should be of a non-brittle material.
- 10.6.4 Where the fence panel is of a slatted design, they should be oriented vertically to avoid step-up points for climbing and be flush across the attack face to resist being pried off and should be no less than 15mm thick and securely affixed to the frame/rails.

- 10.6.5 Fencing panels or railings mounted on a wall should be located as close to the outer (external) face of the wall as possible to eliminate climbing opportunities or use as informal seating.
- 10.6.6 Fence heights should be of a minimum 1.8m overall and be capable of raking/stepping to maintain height over different terrain.
- 10.6.7 Pedestrian gates should be of a framed design and employ galvanised adjustable hinges and fixings mounted behind the attack face. On outward opening gates, where the hinges/brace is mounted on the attack face, fixings should be of a galvanised coach bolt design. Hinge systems must not allow the gate to be 'lifted off' and therefore should employ a method to restrict the removal of the gate from the fence post or wall. Gates must be capable of being locked (operable by key from both sides of the gate). The gate construction should have the same design and construction attributes as the fence.
- 10.6.8 Where entrance/driveway gates are required they should ideally be inward opening, of substantial framed construction and employ galvanised adjustable hinges and fixings mounted behind the attack face. Hinge systems must not allow the gate to be 'lifted off' and therefore should employ a method to restrict the removal of the gate from the adjoining fence post or wall. Gates should be fitted with a galvanised drop bolts and facility for dedicated gate locking systems, padlocking (manual gates) or electro-mechanical locking (automated gates) and employ mechanical/electro-mechanical devices as applicable to hold gate leaves in the open position.
- 10.6.9 The gate construction should have the same design and construction attributes as the fence.
- 10.6.10 Automated gates supplied and installed must meet the relevant statutory safety standards and be CE marked accordingly. Specifiers may wish to satisfy themselves that installers of powered gates are appropriately qualified, trained and follow recognised industry guidance that also allows for accessibility and ease of operation. The following organisations provide guidance and training for installers:
- Door Hardware Federation – the DHF has a revised Code of Practice (DHF TS 011) designed to raise standards of powered gate safety. Gates installed to the new Code of Practice will be inspected by the NSI;
 - Gate Safe – The Gate Safe organisation produces operational good practice guidance designed to raise standards in this industry sector.
- 10.6.11 The tops of fences should finish flush with their posts and a securely fixed capping rail run across the fence and posts to affect a continuous chain. The tops/top rail/capping of fencing and gates should be of a design able to accommodate a security topping to deter attempts to scale over the perimeter.
- 10.6.12 All timber employed in the manufacture of the fencing should be fit for purpose, from FSC certified sustainable sources and be treated to provide protection against all types of rot and insect infestation for a minimum of 25 years.
- ### Fencing in high crime/vulnerable areas
- 10.7 Where a development is to be located in an area of extremely high crime and the gardens abut open land, footpaths or other vulnerable areas, for example railway property, tow paths etc., an area of defensible planting to protect boundary fencing may be required. The specifier should give due consideration to the time taken for such areas to become established and therefore additional temporary protection may be required. Alternatively fencing certified to LPS 1175 Security Rating 1 (A1) may be specified.
- 10.8 Following consultation with the DOCO and local planning authority these requirements may be changed with agreed alternative measures.

Sub-divisional boundaries

- 10.9 Sub-divisional fencing design should be agreed with the DOCO and the local planning authority and is dependent upon location and crime risks. All fencing should provide clear demarcation.
- If a crime risk assessment indicates a high level of domestic burglary, a more secure sub-divisional fence may be required. A suitable means of achieving security, demarcation and privacy might include the following design features
- 10.9.1 A privacy screen: a section of solid fencing (1.8m minimum) starting from the building and projecting along the fence line for approximately 2m to provide a private amenity area adjacent to the home;
- 10.9.2 Sub divisional fencing from the privacy screen to the end of the garden: provision of a minimum 1.8m high fence, which can consist of a minimum 1.5m solid fence with 300mm of trellis topping;
- 10.9.3 Trellis: the addition of a trellis topping can help to deter climbing. This is of particular use on exposed rear boundaries. Close liaison with the DOCO from the outset will enable the developer to understand the need for this additional requirement if there is an increased security risk due to location or crime levels;
- 10.9.4 Defensive planting: fencing security can be enhanced by using it as a framework to support deterrent planting (e.g. thorny shrubs), which if required, can be planted by the developer or the occupier.

11 Layout and orientation of dwellings

- 11.1 Dwellings should be positioned facing each other to allow neighbours to easily view their surroundings and thus making the potential offender feel vulnerable to detection.
- 11.2 Larger schemes should incorporate a mix of dwellings, enabling greater potential for homes to be occupied throughout the

day. This gives increased opportunity for natural surveillance, community interaction, engagement and participation and environmental control.

12 Gable end walls

- 12.1 It is important to avoid the creation of windowless elevations and blank walls immediately adjacent to public spaces; this type of elevation, commonly at the end of a terrace, tends to attract graffiti, inappropriate loitering and ball games. The provision of at least one window above ground floor level, where possible, will offer additional surveillance over the public area.
- 12.2 Where blank gable walls are unavoidable, one of the following methods should be used to protect them;
- 12.2.1 Provide a 1m buffer zone using either a 1.2 – 1.4m railing (with an access gate) or a 1m mature height hedge with high thorn content. Hedging will have to be protected with a fence until it becomes established. The hedge shall be contained within the boundary of the adjacent building to increase the likelihood that it will be maintained.
- 12.2.2 Where there is insufficient room to create defensible space between public and private space, an appropriate (non-destructive) climbing plant should be planted adjacent to the wall, or a finish applied to the wall that will allow easy removal of graffiti.

13 Rear access footpaths

- 13.1 Research studying the distribution of burglary in terraced housing with open rear access footpaths has shown that up to 85% of entries occurred at the back of the house.
- 13.2 It is preferable that footpaths are not placed to the back of properties. If they are essential to give access to the rear of properties they must be gated. The gates

must be placed at the entrance to the footpath, as near to the front building line as possible, so that attempts to climb them will be in full view of the street. Where possible the street lighting scheme should be designed to ensure that the gates are well illuminated. Gates must be capable of being locked (operable by key from both sides of the gate). The gates must not be easy to climb or remove from their hinges and serve the minimum number of homes, usually four or less.

- 13.3 Gates will generally be constructed of timber when allowing access to the rear of a small number of dwellings. However in larger developments where the rear footpath provides access to a large number of properties then a gate constructed of steel may be required by the DOCO. Substantial purpose made gates meeting LPS 1175 Security Rating 1 (A1) or Sold Secure Silver (minimum) standard are available and may be required by the DOCO. Any gate providing access to the rear of dwellings must be designed to resist climbing, forced entry and allow a high degree of surveillance of the footpath from the street.

14 Dwelling identification

- 14.1 Clear signage (naming and/or numbering) of properties is essential to assist residents, postal workers and the attendance of emergency services. Such signage should be present before an award is granted.

15 Climbing aids

- 15.1 Boundary walls, bins and fuel stores, street furniture, trees, low flat roofs, car ports or balconies should be designed to remove climbing aids to gain access into the property.

16 Vehicle parking

- 16.1 Vehicles should either be parked in

locked garages or on a hard standing within the dwelling boundary. In high crime areas the DOCO may require the addition of a gate or bollard to protect the hard standing parking area, however caution should be taken to ensure that this is not the fire service emergency access route.

- 16.2 Where communal parking areas are necessary, bays should be sited in small groups, close and adjacent to homes, be within view of active rooms (*Note 16.2*), and allocated to individual properties.

Note 16.2: The word 'active' in this sense means rooms in building elevations from which there is direct and regular visual connection between the room and the street or parking court. Such visual connection can be expected from rooms such as kitchens and living rooms, but not from more private rooms, such as bedrooms and bathrooms.

- 16.3 Rear parking courtyards are discouraged for the following reasons:

- They introduce access to the vulnerable rear elevations of dwellings where the majority of burglary is perpetrated;
- In private developments such areas are often left unlit and therefore increase the fear of crime;
- Un-gated courtyards provide areas of concealment which can encourage anti-social behaviour.

- 16.4 Where rear parking courtyards are considered absolutely necessary, they must be protected by a gate, the design of which shall be discussed with the DOCO at the earliest possible opportunity. Where gardens abut the parking area an appropriate boundary treatment (e.g. a 1.5m fence supplemented by trellis to a height of 1.8m) must be discussed and agreed by the DOCO (also see paragraph 10.5, 10.6 & 10.7 for further information).

- 16.5 Where dedicated garages are provided within the curtilage of the dwelling the entrance should be easily observed from the street and neighbouring dwellings. Locating garages forward of the building



line can obscure views to and from the dwelling. The security standards for vehicular garage doors can be found in Section 2, paragraph 21.3.

- 16.6 Where parking is designed to be adjacent to or between units, a gable end window should be considered to allow residents an unrestricted view over their vehicles.
- 16.7 Communal parking facilities must be lit to the relevant levels as recommended by BS 5489-1:2013 and a certificate of compliance provided. See paragraph 18 for adopted parking areas and paragraph 59 for private external communal lighting requirements.
- 16.8 Parking bays should ideally benefit from good 'natural surveillance'; for example being overlooked by the clear windows of public buildings and private dwellings. A location with good footfall is also desirable, to ensure there are sufficient people nearby who may notice suspicious activity and contact police. A bay in a secluded area or even one situated on its own within a traffic island site can be targeted heavily as there are no passing pedestrians who may notice a theft taking place. Surrounding buildings with opaque or transfer covered windows will also provide little benefit.
- 16.9 Lighting is required to meet the details contained within paragraphs 18 to 18.6 of this document. Luminaires should be vandal resistant and not mounted below 2.5 metres from the ground and out of reach for those wishing to cause interference.
- 16.10 A parking bay surrounded by vegetation or other obstructions (such as utility boxes) may provide cover for suspects to interfere with vehicles. An encroaching or uncontrolled undergrowth can hinder natural surveillance, restrict access for the car user, impact on the fall of light from nearby columns and can also hinder any CCTV coverage. Shrubs should be selected to have a mature growth height no higher than 1 metre; trees should have no foliage, shoots or lower branches below 2 metres, thereby allowing a 1 metre clear field of vision.
- 16.11 If the bay is covered by CCTV, an identifiable facial image is a basic necessity. CCTV systems and signage should be General Data Protection Compliant (GDPR) compliant. Further advice can be obtained at: www.ico.org.uk
- Motorcycle, scooter and moped parking**
- 16.12 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.

Dedicated motorcycle parking facilities

- 16.13 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 Gold;
 - STS 501
- 16.14 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 affix the rear wheel of a motorcycle. Ground anchors should be installed at the rear of motorcycle parking bays near to the kerb line and relatively flush to the road surface to prevent them being a trip hazard and meet one of the following security standards:
- Sold Secure Gold;
 - STS 503
- 16.15 If metal support stands are provided, these should consist of galvanised steel bars (minimum thickness 3mm), filled with concrete, with minimum foundation depths of 300mm with welded anchor bars.
- 16.16 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.

British Parking Association – Park Mark Award

- 16.17 The British Parking Association operates the Safer Parking Scheme, working in partnership with public and private sector parking facility managers and DOCOs to reduce the opportunity for crime. A site that successfully meets the required standards can apply to join, and if successful, receive a Park Mark award. This will be reassessed over time to ensure standards are maintained after consideration of crime rates. Membership of the scheme is not a requirement but should be considered for larger parking facilities. For more information contact: <http://www.britishparking.co.uk/>

Underground car parking

- 16.18 Many blocks of flats are now being developed with underground (basement or undercroft) car parking. Early consultation with the DOCO is essential to ensure that criminal opportunity is minimised and that the day to day access and emergency egress do not undermine the security of the residential building above. The standards required for underground car parks can be found in Section 2, paragraphs 31.2 to 31.8 (inclusive) and Section 3, paragraph 55.3.

17 Planting in new developments

- 17.1 The planting of trees and shrubs in new developments to create attractive residential environments will be supported provided that:
- 17.1.1 The layout provides sufficient space to accommodate specimens once they have reached maturity, clear of access routes and required circulation areas;
- 17.1.2 Future maintenance requirements and budgets are considered at the planting design stage and management programmes are put in place to ensure the landscape fulfils the aims of the original design;

- 17.1.3 The planting design takes full account of all other opportunities for crime.
- 17.2 The correct uses of certain species of plants such as spiny or thorny shrubs can help prevent graffiti and loitering and create or enhance perimeter security. Defensive planting is not just about prickly shrubs, it is about selecting the right type of plant for the right aspect and environment, for example, open branched and columnar fastigiated trees can be used in a landscape scheme where natural and formal surveillance is required. Climbing plants can be used to cover walls to deter graffiti. Carefully selected trees and shrubs can be used to 'green up' the most hostile of environments providing both horizontal and vertical interest without adding to crime risks.
- 17.3 Planting should not impede the opportunity for natural surveillance and wayfinding, and must avoid the creation of potential hiding places. As a general recommendation, where good visibility is needed, shrubs should be selected to have a mature growth height no higher than 1 metre, and trees should have no foliage, epicormic growth or lower branches below 2 metres, thereby allowing a 1 metre clear field of vision. Trees on appropriate root stock can provide a more reliable means of reducing the likelihood of impeding natural surveillance. As a general rule, building frontages should be open to view except, for example, houses standing in their own private grounds. Attention should be given to the location of walls and hedges so that they do not obscure doors or windows, and the position of trees that may become climbing aids into property or obscure lights or CCTV cameras.

comply with BS 5489-1:2013. Where conflict with other statutory provisions occurs, such as developments within conservation areas, requirements should be discussed with the DOCO and the local authority lighting designers.

- 18.2 It is recognised that some local authorities have 'dark sky' policies and deliberately light some of their rural, low crime areas to very low levels of illumination. Some are currently experimenting with switching off street lamps in low crime areas between certain hours of the night in order to save energy costs and reduce CO2 emissions. If such policies exist then these must be brought to the attention of the DOCO at the time of application. Secured by Design supports the Institution of Lighting Professionals (ILP) in discouraging 'switch off' unless a full risk assessment has been carried out, and the ILP also recommends that 'switch off' never be implemented purely for cost saving. A variable controlled lighting level is always the preferred option in addition to one which does not disadvantage disabled and older people who may have a sensory impairment and require well-lit routes to enable easy wayfinding and to make other users more easily visible. Attention to position and location of lighting to improve illuminance at ground level can avoid user casting shadows onto the surface whilst minimising light pollution.
- 18.3 Bollard lighting is purely for wayfinding and can be easily obscured. It does not project sufficient light at the right height making it difficult to recognise facial features and as a result causes an increase in the fear of crime. It should be avoided.
- 18.4 Trees may restrict the performance of street lighting by blocking light or causing damage through collision with branches and should not be located within 5 metres of a lighting source. Account must be taken of the effects of seasonal variations on planting when designing such schemes.

18 Street lighting

- 18.1 All street lighting for adopted highways and footpaths, private estate roads and footpaths and car parks must

- 18.5 To demonstrate compliance with this section the DOCO shall be provided with a declaration of conformity to BS 5489-1:2013 by a competent independent 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 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.
- 18.6 Secured by Design encourages, wherever possible, the use of the most environmentally friendly light sources. Moreover the Institute of Lighting Professionals (ILP) currently favours the use of good quality LED lighting and other energy effective light sources and advises against the use of fluorescent lighting which is environmentally unsustainable for a variety of reasons (*Note 59.5*). Further information is available at: www.securedbydesign.com



SECTION 2

19 Introduction

- 19.1 The recent recognition that security forms part of a sustainable and vibrant development has been demonstrated by the inclusion of a Building Regulation in England and Wales. Part Q of Schedule 1 to the Building Regulations in both countries specifically states that ‘Reasonable provision must be made to resist unauthorised access...’ The importance of security within new housing developments has also been recognised by the Scottish Government since 2010 within the Scottish Building Standard 4.13 – Security, which at clauses 4.13.1 and 4.13.2 outline the requirement for door and window security. This section of SBD Homes should therefore be read in conjunction with the above documents.
- 19.2 The physical security standards outlined within this section of Secured by Design, together with those of Sections 1 and 3 of this document, also indicate the requirements needed in order for a development to achieve the SBD Gold Award.
- 19.3 The experience gained by the UK police service over the past 30 years in this specific subject area has led to the provision of a physical security requirement considered to be more consistent than that set out within UK Building Regulations; specifically the recognition of products that have been tested to the relevant security standards but crucially are also fully certificated by an independent third party, accredited by a United Kingdom Accreditation Service (UKAS) Notified Body. This provides assurance that products have been produced under a controlled manufacturing environment in accordance with the specifier’s aims and minimises misrepresentation of the products by unscrupulous manufacturers/suppliers and leads to the delivery, on site, of a more secure product.
- 19.4 All standards quoted within Section 2 of this document are assumed to be the latest version, revision or amendment. Earlier standards/versions will not be valid or acceptable 12 months from the publication date of the succeeding amendment, revision or standard unless otherwise stated within this document.
- 19.5 At several points within this document a requirement is made for products to be ‘Certificated’ to relevant standards. It is advisable that specifiers confirm with the DOCO that their preferred product(s) meets the required SBD standards before purchasing. It should be understood that any documentation submitted for SBD accreditation should clearly show the certification body name, scope of certification and the manufacturer/fabricator of the product to be installed within the development. Documentation that is provided bearing the name of a component or system manufacturer will only be acceptable within Section 2b of this guidance document.
- 19.6 Section 2 is divided into two parts (Section 2a and Section 2b). Section 2a provides the ‘Police Preferred Specification’ for new build homes and major refurbishments and Section 2b provides a specification for new bespoke homes and the upgrading of existing homes.

SECTION 2a

20 Introduction

- 20.1 This section provides technical guidance on the 'Police Preferred Specification' for new dwellings including those dwellings formed by a material change of use and extensions to existing homes. If adhered to, this will ensure compliance with the UK Building Regulations (see paragraph 1.1). Please note: the Building Regulations (England and Wales) do not address the security of extensions to existing buildings or replacement doors or windows, however the standards contained within this document can be utilised by builders or individuals who wish to ensure that good security is incorporated within the home.
- 20.2 Compliance with the Scottish Building Standard 4.13 is applicable to all dwellings and includes extensions to existing dwellings and can be demonstrated through the application of the standards contained within this section.
- 20.3 Whilst this guidance document primarily concentrates on security (UK Building Regulations – see paragraph 1.1), it should be noted that the design and specification may impact on other Building Regulations. It is imperative that products utilised within a Secured by Design development comply with all relevant Building Regulations in full. It should be noted that the Building Regulations in all four UK nations are considered equal to one another, i.e. no one Building Regulation takes precedence over another, for example fire rated doorsets (Part B) in England must also meet all other relevant Building Regulations e.g. Parts E, L, M and Q in one product.
- 20.4 Whilst Designing Out Crime Officers will not require evidence that a product

meets all of the specified Building Regulations, specifiers are reminded that they have an obligation to ensure compliance.

- 20.5 Where there is a client led requirement for SBD accreditation, compliance with this section alone will result in a Secured by Design Silver Award, however when combined with compliance to Section 1, and where applicable the relevant parts of Section 3, a Secured by Design Gold Award can be achieved.
- 20.6 This section may also be used by organisations or individuals that are undertaking both major and minor refurbishment of one or more dwellings.
- 20.7 Section 2a of this guidance document is further separated into two areas:
- Houses, bungalows and flats or maisonettes accessed via a private dedicated entrance doorset;
 - Buildings containing multiple dwellings or bedrooms accessed from a semi-private area and served by a shared or communal entrance doorset.

[Houses, bungalows and flats, apartments or maisonettes accessed via a private dedicated entrance doorset](#)

21 Dwelling entrance doorsets

- 21.1 The term “doorset” refers to a door, frame, locks, fittings and glazing as one combined unit.
- 21.2 Door frames must be securely fixed to the building fabric in accordance with the manufacturer’s instructions and specifications. These should be made available to the DOCO upon request if the need for visual confirmation is felt necessary.



21.3 All doorsets allowing direct access into to the home, e.g. front and rear doors, interconnecting garage doorsets, French doors, bi-fold or sliding patio doorsets, dedicated private flat or apartment entrance doorsets, easily accessible balcony doorsets (*Note 21.3a*), etc., shall be certificated to one of the following standards:

- PAS 24:2016 (*Note 21.3b*); or
- STS 201 Issue 7:2015 (*Note 21.3c*); or
- LPS 1175 Issue 7.2:2014 Security Rating 2+ (*Note 21.3d*); or
- LPS 1175 Issue 8:2018 Security Rating A3+; or
- STS 202 Issue 6:2015 Burglary Rating 2 (*Note 21.3d*); or
- LPS 2081 Issue 1.1:2016 Security Rating B (*Notes 21.3d and 21.3e*)

Note 21.3a: Easily accessible is defined within Approved Document Q Appendix A:

- 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.

Note 21.3b: PAS 24:2016 embodies two routes to compliance:

- The traditional UK PAS 24 test methodology; or
- Via BS EN 1627:2011 Resistance Class 3 (which references BS EN 1628, 1629 & 1630), with additional test criteria to address known criminal methods of entry within the UK (which are not sufficiently catered for within the European Standards).

NB: If manufacturers wish to use the European Standards as a route to compliance to PAS 24:2016, then all testing must be conducted in accordance with the latest published version of the 'UK Police Service Secured by Design (SBD) Interpretation Document for BS EN 1627:2011, BS EN 1628:2011, BS EN 1629:2011 and BS EN 1630:2011.' This document can be found on the Secured by Design website within the SBD Standards Explained section.

Note 21.3c: STS 201 is the unique reference number for Element's published standard replicating the requirements of PAS 24:2016.

Note 21.3d: LPS 1175, LPS 2081 and STS 202 are unique to the respective certification bodies and incorporate a physical attack on the glazed areas within doors and windows. Specifiers should satisfy themselves that the



glazing incorporated within products certified to these standards meets the required thermal performance and durability requirements for the specified application.

Note 21.3e: LPS 2081 is a standard that utilises a similar methodology to that used in LPS 1175, but the attacks are designed to use stealth (low noise levels). It may therefore be more applicable to residential applications.

- 21.4 The benefits of third party certification are recognised within the UK Building Regulations (see paragraph 1.1). Any test evidence used to confirm the security of a construction should be carefully checked to ensure that it demonstrates compliance that is adequate and that applies to the intended use. Evidence passed from one organisation to another can become unreliable if important details are lost. Small differences in construction can significantly affect the performance of a doorset or window.

Fire rated doorsets including those with adjacent glazing

- 21.5 Where there is a requirement for a doorset to be both fire and security rated, e.g. flat or apartment entrance doorsets, interconnecting garage doorsets and some doorsets aiding security compartmentation, the manufacturer or

fabricator supplying the finished product to site is required to present independent third party dual certification from a single UKAS accredited certification body for both elements. This is in order to minimise the likelihood of a doorset being presented in two differing configurations for separate fire and security tests and then later being misrepresented as one product meeting both requirements. All door styles and components, will need to be adequately described within the scope of certification and accompanying Technical Schedule. (*Note 21.5*).

Note 21.5: Any component part of the doorset that is changed for any reason must be assessed by the certification body to ensure compliance with both fire and security.

- 21.6 Any adjacent side panel (glazed or non-glazed) to a fire rated doorset must be included within the dual scope of certification for that doorset.
- 21.7 The responsibility for the specification and location of fire rated security doorsets lies with the developer or the developer's agent.
- 21.8 The role of the flat or apartment entrance doorset (the final doorset providing access to the dwelling) should not be underestimated in the event of a fire. It is therefore imperative that fire resistance

is professionally assessed/measured. Part B of the current Building Regulations and the associated guidance in Approved Document B state such doorsets should achieve at least 30 minutes fire resistance. Additional requirements are also listed for smoke leakage.

Garage doorsets, vehicular and pedestrian

- 21.9 Approved Document Q, Section 1 (General), clause 1.1, states that where access to the dwelling can be gained via an interconnecting doorset from the garage, then either the garage doorset/s (vehicular and pedestrian) or the interconnecting doorset can be designated as the secure doorset. Pedestrian doorsets (interconnecting or garage access doorsets) shall meet the requirements in paragraph 21.
- 21.10 Where a vehicular access doorset provides the primary security in this area of the building it should be certificated to:
- LPS 1175 Issue 7.2:2014 Security Rating 1+ (or above); or
 - LPS 1175 Issue 8:2018 Security Rating 1+/A1+ (or above); or
 - STS 202, Burglary Rating 1+ (or above); or
 - LPS 2081 Issue 1 (2015) Security Rating A.
- 21.11 It is recommended that if the primary security is provided by the vehicular doorset, together with any external pedestrian doorsets, that the interconnecting doorset is fitted with a Kitemarked or alternatively certificated lock to BS 3621/BS 8621 (single point locking), or PAS 3621/PAS 8621 (multipoint locking).

Further requirements for all pedestrian doorsets

- 21.12 Doorsets shall also be certificated to the following relevant material specific standards:
- BS 7412:2007 (PVC-U)
 - BS 4873: 2016 (Aluminium)

- BS 6510: 2010 (Steel)
- BS 644: 2012 (Timber)
- BS 8529: 2017 (Composite)

21.13 There have been numerous examples of doorsets failing in use due to poor general performance leading to properties becoming insecure therefore doorsets should also be certificated to BS 6375 Part 1, 2 and the relevant sections of Part 3. Specifiers are reminded that there are numerous classifications within BS 6375 and therefore it is not possible for this document to be prescriptive. It is therefore important that the correct duty, weather and performance levels are selected to address the intended use and location of the doorset (*with particular attention to features that can create barriers, including thresholds and opening forces*).

21.14 Suitably qualified and recognised third party Certification Authorities (*Note 21.14a*) for all the standards in this guidance document can be found within the SBD website:

www.securedbydesign.com

Alternative compliance may be possible in certain circumstances (*Note 21.14b*).

Note 21.14a: Certificated products undergo continuous assessment, including factory production controls and audits and regular audit testing, to ensure product standards and product consistencies are maintained.

Note 21.14b: Alternative compliance can either be demonstrated by SBD Licence holders that have reached an advanced stage of the certification process with one or more of the bodies listed within the Secured by Design website. All such cases must be verified by Secured by Design staff. Alternatively, third party accreditation via a suitably qualified and accredited certification body that has signed the EA MLA (European co-operation for Accreditation Multi-lateral Agreement) may be acceptable. The DOCO may refer such cases to SBD management for verification.

21.15 Unless the developer has been awarded Secured by Design National Building Approval (SBD NBA) the DOCO shall be supplied with proof of certification by the developer or the developer's agent, this must also include the 'Scope of Certification' (a technical schedule listing all of component parts of the certificated doorset range), unless the supplier is a member of the Secured by Design Licensing Scheme and the doorset can be identified on the SBD website. Specifiers are reminded that this information must be supplied to the DOCO prior to the SBD certificate being awarded and must be in the name of the manufacturer or fabricator supplying the finished product to site.

21.16 Specifiers are reminded that products tested to PAS 24:2016 (Clause 5) and subsequently claiming compliance with this standard shall be permanently marked in a position that is visible and readily accessible when the product is open and not visible when the product is closed, with the following information:

- Number and date of the standard;
- The date of manufacture of the product (at least the year and quarter);
- The name or trademark of the manufacturer or other means of identifying the manufacturer;
- The classification of the doorset e.g. D or W.

Important: If a doorset claiming to meet these standards is not marked in accordance with PAS 24 (Clause 5), it does not meet the standard.

21.17 Secured by Design recommends doorsets are marked on the head (top) of the door to avoid any identifying labels/data being removed during the final site cleaning process. Please note that this is a requirement within PAS 24 (Clause 5) and STS 201 and is an additional requirement to CE marking.

Locking systems

21.18 To ensure that the end user of the door

understands how to operate the locking system, clear operating instructions must be attached to the inner face of the door (*Note 21.18*). The instructions should be easily removable by the end user.

Note 21.18: The purpose of providing the end user with operating instructions is to reduce the number of burglaries through otherwise secure doorsets, because the full locking system has not been engaged. This is particularly problematic with split spindle multi-point locking systems, where, for example, the occupier goes to bed at night without engaging the locks in the mistaken belief that leaving the door closed only on the latch (live bolt) is sufficient. The instructions should point out that the doorset is not totally secure unless the locking system is fully engaged. The method of attachment of these operating instructions and the medium used to carry them is for the door manufacturer to decide but are not intended to be permanent.

Glazing in and adjacent to doorsets

21.19 Any glazing within PAS 24:2016 or STS 201 Issue 4: 2012 certificated doorsets, including glazed panels/side lights adjacent to doors installed within an integral door frame and windows adjacent to doorsets (within 400mm), must incorporate one pane of laminated glass meeting, or exceeding, the requirements of BS EN 356:2000 class P1A (*Note 21.19*). NB. This is a specific requirement within PAS 24:2016, which is referenced within the UK Building Regulations (see paragraph 1.1).

Note 21.19: There is no specific requirement to install laminated glazing on the inner or outer face of a double glazed unit. However specifiers may wish to take into consideration the fact that toughened glass is usually more resistant to accidental damage by blunt objects such as a football and therefore may be best placed on the external face of the double glazed unit. It is

recognised however that there are many other factors that may also need to be considered such as thermal efficiency, aesthetics and the requirement for privacy or obscured glazing, which will influence the specifier's decision.

- 21.20 The above requirement is not necessary for doorsets certificated to LPS 2081, LPS 1175 or STS 202 as glazing security requirements are significantly more stringent within these standards, even at the lowest levels. However if there is an adjacent window then the glazing must meet the requirements of BS EN 356:2000 class P1A.
- 21.21 If glazed panels/windows adjacent to doors are installed as an integral part of the door frame then they must be shown to be part of the manufacturer's certificated range of doorsets and be specifically referenced within the Scope of Certification. Alternatively, where they are manufactured separately from the door frame, they must meet the requirements of a 'window' see paragraph 22. In such cases the window shall be securely fixed to the doorset (in accordance with the manufacturer's specifications).

Outward opening doorsets

- 21.22 Outward opening doorsets installed within SBD developments must specifically form part of the certificated product range.

Door limitation and caller identification

- 21.23 A door chain or opening limiter meeting the requirements of the Door and Hardware Federation Technical Specification 003 (TS 003) must be installed on the doorset to which a caller can be expected, normally the front door (see Approved Document Q, Section 1: Doors, paragraph 1.4). All such devices should be suitable for the door material to which they are fitted and be installed in accordance with the manufacturer's recommendations.

- 21.24 A door viewer meeting the requirements with the Door & Hardware Federation Technical Specification 002 (TS 002) standard must be fitted between 1200mm and 1500mm (in addition to 1050mm for wheelchair accessible dwellings) from the bottom of the door, this is not required if the doorset is installed with clear glazing or if there is a side panel with clear glazing (see Approved Document Q, Section 1: Doors, paragraph 1.4).

Doorset Installation

- 21.25 Door frames must be securely fixed to the building fabric in accordance with the manufacturer's instructions and specifications. These should be made available to the DOCO upon request if the need for a visual confirmation is felt necessary.
- 21.26 Doorsets that are hidden from public view, typically side or back doors, should not be recessed more than 600mm. This requirement is not applicable to doorsets located in wide recesses that are located within public view (*Note 21.26*). However, no doorset should be recessed by more than 1000mm.

Note 21.26: For the purposes of this guidance document a doorset is considered to be within 'public view' when it can be seen from the street.

Secure Mail Delivery to houses, bungalows and flats, apartments or maisonettes accessed via a private dedicated entrance doorset

- 21.27 There are increasing crime problems associated with letter plate apertures, such as identity theft, arson, hate crime, lock manipulation and 'fishing' for personal items (which may include post, vehicle and house keys, credit cards, etc). In order to address such problems SBD strongly recommends, where possible, mail delivery via a secure external letter box meeting the requirements of the Door and Hardware Federation standard Technical Standard 009 (TS 009) or delivery 'through the



wall' into a secure area of the dwelling. These should be easily accessible i.e. at a suitable height for a range of users.

Letter plate apertures in doors

- 21.28 Where a letter plate aperture is required to be installed within a doorset it must form part of the certificated doorset range.
- 21.29 Specifiers and doorset manufacturers are advised that if a letter plate was not present in the doorset when it was tested to any of the standards in paragraph 21.3, or has not been independently assessed by a certification authority and included within the Scope of Certification of the doorset, then the subsequent installation of a letter plate will invalidate the certificated doorset.
- 21.30 Doorsets certificated to LPS 2081, LPS 1175 and STS 202, with a letter plate tested to the requirements of the Door Hardware Federation's Technical Standard 008 (TS 008) will be acceptable when included within the Scope of Certification for the doorset.
- 21.31 Where there is a concern for arson attacks, or repeat arson attacks, SBD recommends either the omission of a letter plate within a door, which is then replaced by an external letter box mounted on a wall or similar, or the installation of an 'anti-arson' container.

It is important that such products are installed strictly in accordance with the manufacturer's instructions.

- 21.32 Specifiers attention is drawn to the Door Hardware Federation's Technical Standard 008 (TS 008) which is also referenced within Approved Document Q (Section 1, paragraph 1.3). Additionally, BS EN 13724 which is referenced within TS 008 provides details regarding the test methods and requirements for private letter boxes and letter plates. One of its stipulated criteria is that the lowest mailbox aperture should be no lower 700mm from delivery floor level and the height of the highest mailbox aperture should be no higher than 1700mm from delivery floor level.

External surface mounted letter boxes

- 21.33 Where a surface mounted letter box is to be used it must be robust in construction. TS 009 letter boxes 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 letter plate apertures. The letter box must be securely fixed to the face of the building in accordance with the manufacturers specifications and be located in a position that benefits from natural surveillance.

Through-the-wall delivery

- 21.34 Where there are design constraints that prevent a letter plate with a security cowl being installed within a door e.g. narrow hallway, or where it is undesirable to install a surface mounted secure mail box e.g. in a corridor, it may be preferable to provide 'through-the-wall' mail delivery into a secure internal letter box. Such a box must incorporate the same design features as described above for a surface mounted box. Anti-arson design features may also be advised if such crime risks are present.
- 21.35 Products meeting the requirements of the Door & Hardware Federation Technical Specification 008 (TS 008) provide reassurance that 'through the wall' letter boxes offer similar security attributes as secure letter plates and many of the attributes that an external letter box conforming with TS 009 would provide (also see paragraph 21.32).

22 Windows, roof windows and roof lights

- 22.1 Window frames must be securely fixed to the building fabric in accordance with the manufacturer's instructions and specifications. These should be made available to the DOCO upon request if the need for a visual confirmation is felt necessary.
- 22.2 All easily accessible (*Note 22.2a*) windows (including easily accessible roof lights and roof windows) shall be certificated to one of the following standards:
- PAS 24:2016 (*Note 22.2b*); or
 - STS 204 Issue 6:2016 (*Note 22.2c*); or
 - LPS 1175 Issue 7.2:2014 Security Rating 1 (*Note 22.2d*); or
 - LPS 1175 Issue 8:2018 Security Rating 1/A1; or
 - STS 202 Issue 7:2016 Burglary Rating 1; or

- LPS 2081 Issue 1.1:2016 Security Rating A.

Note 22.2a: Easily accessible is defined within Approved Document Q Appendix A 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.

Note 22.2b: PAS 24:2016 embodies two routes to compliance:

- The traditional UK PAS 24 test methodology; or
- Via BS EN 1627:2011 Resistance Class 2N (which references BS EN 1628, 1629 & 1630), with additional test criteria to address known criminal methods of entry within the UK (which are not sufficiently catered for within the European Standards). Please note: whilst the UK have selected Class 2N (and hence there is no performance requirements required under the European standard), there is still a requirement for all emergency egress windows without locking hardware to be installed with laminated glass conforming to BS EN 356 Class P1A (min).

Note 22.2c: STS 204 is the unique reference number for Element's published standard replicating the requirements of PAS 24:2016.

Note 22.2d: Specifiers and DOCOs are reminded that a requirement for windows to meet LPS 1175 or STS 202 in a residential situation will be exceptionally rare and can only be justified by a detailed crime risk analysis indicating that the resident is at extreme risk. Please also note that some products may be acceptable when tested to an earlier version of the standard.



- 22.3 All easily accessible windows should incorporate key lockable hardware unless designated as emergency egress routes within the Building Regulations.
- 22.4 Windows that form part of a designated fire escape route, as determined by the Fire Safety Officer, may require non-key locking hardware. In these circumstances laminated glass to BS EN 356:2000 class P1A will be required.
- 22.5 If however the Fire Safety Officer accepts locking hardware as part of the designated fire escape route, then fire resistant glass may be required.
- 22.6 Windows that are not easily accessible will require either lockable hardware or an opening restrictor in the interests of child safety.
- 22.7 Windows must also be fit for purpose and shall be certificated to the relevant material standard i.e.:
- BS 7412:2007 (PVC-U)
 - BS 4873: 2016 (Aluminium)
 - BS 6510: 2010 (Steel)
 - BS 644: 2012 (Timber)
 - BS 8529: 2017 (Composite)
- 22.8 The following performance requirements are also required:
- BS 6375 parts 1 & 2 (Note 22.8)
- Note 22.8: Specifiers are reminded that there are numerous classifications*

within BS EN 6375 and therefore it is not possible for this document to be prescriptive. It is therefore important that the correct duty, weather and performance levels are selected to address the need/location of the window.

- 22.9 Suitably qualified and recognised third party Certification Authorities (Note 22.9a) for all the standards in this guidance document can be found within the Secured by Design website; www.securedbydesign.com

Note: 22.9a: Certified products undergo continuous assessment, including factory production controls and audits and regular audit testing, to ensure product standards and production consistencies are maintained.

Note: 22.9b: Alternative compliance can either be demonstrated by SBD licence holders that have reached an advanced stage of the certification process with one of the above bodies. All such cases must be verified with PCPI. Alternatively third party accreditation via a Notified Certification Body that has signed the EA MLA (European co-operation for Accreditation Multilateral Agreement) may be acceptable if such a body is also accredited to conduct such activities. The DOCO may refer such cases to PCPI for verification.

- 22.10 Unless the developer has been awarded Secured by Design National Building Approval (SBD NBA), the DOCO shall be supplied with proof of certification by the developer or the developer's agent (from one of the bodies listed within the Secured by Design website, www.securedbydesign.com), this must also include the 'Scope of Certification' (a technical schedule listing all of component parts of the certificated window range), unless the supplier is a member of the Secured by Design Licensing Scheme and the window can be identified on the SBD website. Specifiers are reminded that this information must be supplied to the DOCO prior to the SBD certificate being awarded.
- 22.11 Windows falling outside the scope of the British Standard or STS Standard must be assessed by a UKAS accredited organisation accredited to perform such an assessment against the principles of PAS 24:2016 or STS 204 Issue 6:2016. Any such assessment shall include the appropriate fitness for purpose standard (paragraph 22.7). The DOCO shall be supplied with proof of certification by one of the UKAS Accredited Certification Bodies, including the technical schedule, prior to the SBD certificate being awarded; unless the supplier is a member of the Secured by Design Licensing Scheme and the window can be identified on the SBD website.
- 22.12 Laminated glass meeting the requirements of BS EN 356:2000 class P1A is required in the following areas:
- any window located within 400mm of a doorset (to ensure the integrity of the locking system);
 - easily accessible emergency egress windows with non-lockable hardware (a requirement of PAS 24:2016);
 - easily accessible roof lights with non-lockable hardware.
- Alternatively, if the window is tested and accredited to LPS 1175, then laminated glass meeting the requirements of LPS 1270 Issue 1.1 Security Rating 001 (minimum) may be used.
- 22.13 Where automatic opening window and venting systems controlled by sensors and computers are used, for example in some eco homes or flat developments, such opening windows or vents should be independently certificated to one of the aforementioned security standards but in situations where they are not, then additional security measures are required such as grilles meeting one of the security standards below, to prevent the security of the building being compromised in the event of a system failure. In these circumstances, a Smoke Control Contractor or Fire Safety Professional should be consulted to ensure that any additional security measures do not compromise the smoke ventilation requirements expected under Approved Document B.
- LPS 1175 Issue 7.2:2014 Security Rating 1 (Note 22.2d); or
 - LPS 1175 Issue 8:2018 Security Rating 1/A1; or
 - STS 202 Issue 7:2016 Burglary Rating 1; or
 - LPS 2081 Issue 1.1:2016 Security Rating A.
- [Windows, roof windows and roof lights in buildings containing multiple dwellings or bedrooms](#)
-
- 22.14 All easily accessible windows, roof windows and roof lights in building containing multiple dwellings or bedrooms shall meet the requirements of paragraphs 22.1 to 22.16 (inclusive).
- [Fire rated windows](#)
-
- 22.15 Where there is a requirement for a window to be both fire and security rated, the manufacturer or fabricator supplying the finished product to site is required to present independent third party dual certification from a single UKAS accredited certification body for both elements. This is in order to minimise the likelihood of a window being presented in two differing configurations for separate fire and security tests and then later



being misrepresented as one product meeting both requirements. All window styles and components, will need to be adequately described within the scope of certification and accompanying Technical Schedule. (Note 22.15)

Note 22.15: Any component part of the window that is changed for any reason must be assessed by the certification body to ensure compliance with both fire and security.

- 22.16 The responsibility for the specification and location of fire rated security windows lies with the developer or the developer's agent.

23 Conservatories and sun rooms

- 23.1 Where a conservatory or sun room is installed then the doors and windows must meet the same physical security standards as paragraphs 21.1 to 21.17, and 21.19 to 21.22 (doors), and paragraphs 22.1 to 22.16 (windows). If a conservatory is installed with polycarbonate glazing system then a doorset shall be installed separating the conservatory from the rest of the dwelling, unless the roofing system has been certificated to one of the standards referenced within paragraph 22.3. The doorset shall comply with the

requirements within paragraph 21.1 to 21.17 and 21.19 to 21.22.

24 Lightweight framed walls in houses and buildings containing multiple dwellings or bedrooms

- 24.1 The security of a development can be severely compromised if lightweight framed walls do not offer sufficient resilience to withstand a criminal attack; this is recognised within Approved Document Q (Note 24.1). The SBD requirements are primarily based upon products that have been tested and proven to provide additional security.

Note: 24.1: See – The Building Regulations 2010, Security-Dwellings, Q1: Unauthorised access, Section 1: Doors, paragraph 1.6.

- 24.2 Lightweight framed walls installed either side of a secure doorset (600mm for the full height of the doorset to restrict access to door hardware) or walls providing a partition between two dwellings, or a dwelling and shared communal space, shall meet the requirements below:
- 24.2.1 Wall systems proven to meet the requirements of the following standards are preferred:

- 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 Rating 1.

Specifiers and DOCOs are advised that the correct installation of lightweight framed walling systems is crucial to the level of security ultimately provided, it is therefore recommended that they are installed by approved installers who have received appropriate training.

24.2.2 As an alternative, although not originally intended to enhance security, the following 'Robust Details' have shown to offer some resistance to intrusion:

- E-WT-2 (timber wall construction);
- E-WS-3 (light steel construction);
- E-WM-20 (masonry wall construction).

24.2.3 A further alternative to the either one of the requirements above is the installation of 9mm (min) timber sheathing or expanded metal in the areas concerned.

25 External lighting for dwellings

25.1 Lighting is required to each dwelling elevation that contains a doorset (*Note 25.1*) and can also assist in identifying the door and operating locking mechanisms.

Note 25.1: Secured by Design has not specified PIR activated security lighting for a number of years following advice from the ILP and police concern regarding the increase in the fear of crime (particularly amongst older people) due to repeated PIR lamp activations. Research has proven that a constant level of illumination is more effective at controlling the night environment.

25.2 The use of LED light sources is recommended with a colour temperature of no more than 4000 Kelvin and ideally below. This reduces blue light content and therefore the effects on human and ecology receptors.

Lighting in communal areas within flats/apartments

25.3 24 hour lighting (switched using a photoelectric cell) to communal parts of blocks of flats will be required. It is acceptable if this is dimmed during hours of low occupation to save energy. This will normally include the communal entrance hall, lobbies, landings, corridors and stairwells and underground garaging facilities and all entrance/exit points. Other areas requiring lighting will be indicated by the DOCO in writing. To reduce energy consumption this may be provided by a dimming system which leaves luminaires on at a lower level during quieter periods.

25.4 Secured by Design encourages, wherever possible, the use of the most environmentally friendly light sources. Moreover the Institute of Lighting Professionals (ILP) currently favours the use of good quality LED lighting and other energy effective light sources and advises against the use of fluorescent lighting which is environmentally unsustainable for a variety of reasons (*Note 59.5*). Further information is available at: www.securedbydesign.com

26 Utility meters

26.1 There is no requirement for the location of the utility meters if 'smart meters' are utilised (remote signalling). Otherwise utility meters should be located outside the dwelling at the front or as close to the front of the building line as possible (to ensure they are visible in order to deter vandalism). If located to the side of the dwelling they must be as near to the front of the building line as possible and to the front on any fencing or gates (care should be taken not to provide a climbing aid). When installed in a building containing a number of residencies such as flats, apartments or maisonettes, the meters should be installed in a location that access does not introduce security risks to residential areas.



27 Access control and additional security requirements for buildings containing multiple dwellings or bedrooms

Definition

- 27.1 A building containing multiple dwellings, for the purposes of this document, may include flats, apartments, bedsits or individual bedrooms accessed from a semi-private area and served by a shared or communal entrance doorset including Houses in Multiple Occupation (HMO) and student accommodation.

Visitor door entry system

Definition

- 27.2 A door entry system is a visitor system that is able to call a dwelling, whether individual or served from a communal entrance. It shall allow a visitor to ring any selected dwelling within the particular system and/or building, and hold a two-way simultaneous conversation between the visitor and occupant of the dwelling. It will allow the occupant to see and identify the visitor and their location, and will enable the occupant of the dwelling to remotely operate the electric locking device from their room terminal, thereby unlocking the communal entrance door(s) associated with the action and allowing

the visitor access. This should be repeated at any subsequent communal entrance and landing if compartmentation of the building is required.

- 27.3 Visitor door entry systems shall be easy to operate and understand and have the ability to display the image of the caller before the call is answered, so the resident can choose whether to answer the call or not.

Access control system

Definition

- 27.4 A proximity access control system provides electronic access through communal entrance doorsets. This is generally by use of a card or key fob issued to an occupant or person such as staff member, contractor or postal delivery service. It grants access to required areas via locked doors when the valid card or key fob is presented to a proximity reader fitted to the communal entrance doorset. Authorised access can be restricted to certain times of the day for some users.

The access control system will have the facility to record and identify the location, user, type, time and date of every system event. Sufficient memory storage must be available for a period of not less than 30 days. The system will be fully programmable, with access restricted to

the nominated system controller(s) who will be able to manage the system via remote access in order to expeditiously delete lost or stolen proximity cards or key fobs and any enrolled radio transmitters. Radio transmitters must have individual codes, such as those used by access cards or key fobs. Common code radio transmitters shall not be acceptable as they cannot be managed.

- 27.5 Electronic keys must be security encrypted to protect against unauthorised copying, and be sufficiently robust to avoid constant replacement during everyday use by the residents.

Communal and shared entrance doorset – physical security standards

Definition

- 27.6 A communal or shared entrance doorset, including integral adjacent panels and side screens, can be defined as an external doorset leading from the street or otherwise public area to an internal semi-private communal area providing access to segregated flats, bedsit or individual bedrooms. They can be further categorized by use as follows:

Physical security requirements for communal entrance doorsets with no electronic visitor door entry system – 4 dwellings or less

- 27.7 Communal entrance doorsets in blocks serving 4 dwellings or less, over no more than two floors, are not required to be connected to a visitor door entry system and access control system, and can be controlled by non-electronic keys only i.e. requiring residents to meet and greet visitors at the communal door. Doorsets shall comply with the physical security requirements of paragraph 21.1 to 21.17 and 21.19 to 21.22.
- 27.8 Communal entrance doorsets in blocks serving 4 dwellings or less, over more than two floors, are required to have a visitor door entry system and access control system (regardless of the

number of flats/apartments, bedsits or bedrooms) and therefore specifiers are again referred to the content of paragraph 21.1 to 21.17 and 21.19 to 21.22. for the requisite physical security standards.

- 27.9 Tradesperson or timed release mechanisms are not permitted as they have been proven to be the cause of anti-social behaviour and unlawful access to communal developments.

Physical security requirements for communal entrance doorsets with an electronic visitor door entry system – 5 dwellings or more but less than 10

- 27.10 Communal entrance doorsets serving 5 dwellings or more, but less than 10 falling within this category shall meet the following (in accordance with Section 2A paragraph 21):

- PAS 24:2016;
- STS 201;
- LPS 2081 Security Rating B+.

- 27.11 Where a communal entrance doorset serves 5 dwellings or more, but less than 10, it is required to have a visitor door entry system and access control system to enable management oversight of the security of the building.

- 27.12 Tradesperson or timed release mechanisms are not permitted as they have been proven to be the cause of anti-social behaviour and unlawful access to communal developments.

- 27.13 Developments with more than two floors are required to have a visitor door entry system and access control system (regardless of the number of flats/apartments, bedsits or bedrooms) and therefore specifiers are again referred to the content of paragraph 21.1 to 21.17 and 21.19 to 21.22.

Physical security requirements for communal entrance doorsets with an electronic visitor door entry system serving 10 dwellings or more

27.14 Communal entrance doorsets serving 10 dwellings or more, controlled by visitor door entry systems, can enable residents to gain access without the use of a key and grant entry to visitors by means of an electronic door release system. An increased number of dwellings results in doorsets being used more frequently. Likewise the proximity of the development to a high crime area can subject doorsets to more abuse. Therefore specifiers should satisfy the DOCO that the doorset is fit for its intended purpose and environment. Certification to PAS 24:2016 or STS 201 may be acceptable for some developments, but full third party certification to one of the following standards can demonstrate the doorset is of a more robust construction and is able to withstand the day to day use in a communal application:

- STS 202 Issue 6:2015 Burglary Rating 2; or
- LPS 1175 Issue 7.2:2014 Security Rating 2+; or
- LPS 1175 Issue 8:2018 Security Rating A3+; or
- LPS 2081 Issue 1.1:2016 Security Rating B; or
- PAS 24:2016, paragraph 4.4.3 i.e. tested to BS EN 1627 Resistance Class 3 (*Note 27.14*).

Note 27.14: Specifiers are reminded that doorsets utilising non-mechanical magnetic locks fall within the scope of PAS 24:2016 but outside the scope of EN 1627. All testing to this standard utilising a mechanical lock shall be conducted in accordance with the 'UK Police Service (Secured by Design) Interpretation document for BS EN 1627, BS EN 1628, BS EN 1629 & BS EN 1630'. This is a requirement within the UK national forward of BS EN 1627.

27.15 There have been numerous examples of sub-standard doorsets failing, due to poor general performance, leading to insecure properties. In some cases,

particularly heavy communal entrance/exit doors have become detached from the frame, which could have resulted in serious injury or worse. Certification to BS 6375 (Parts 1, 2 and 3) provides reassurance that the doorset is fit for purpose and safe in use. Specifiers should be satisfied that the following attributes are addressed:

- Duty level – this is the number of door operations (opening and closing actions) that it has been tested to. In simple terms the more dwellings that are served the higher the duty level should be (BS 6375 Part 2 provides further guidance);
- Weather performance - which may be influenced by the geographical location, temperature and climate (BS 6375 Part 1 provides further guidance);
- Wind resistance – also influenced by the location of the building (BS 6375 Part 1 provides further guidance);
- And relevant sections of BS 6375 Part 3 (applicable to the installation).

Door entry and access control systems

27.16 All communal dwellings (see paragraph 27) with 10 flats, apartments, bedsits or individual bedrooms, or more should have a visitor door entry system and access control system to enable management oversight of the security of the building i.e. to control access to the building via the management of a recognised electronic key system.

27.17 Visitor door entry systems that utilise CCTV must comply with the requirements of paragraph 29.

Small developments (up to 25 flats/apartments, bedsits or bedrooms)

27.18 Visitor door entry systems and access control systems are not normally required for communal developments with 4 or less flats, apartments, bedsits or bedrooms or less spread over no more

than two floors, or where the accommodation is not intended for use by the older or disabled people.

It should be noted however, that regardless of the size of any development where dwellings are inclusively designed to provide accessible housing, consideration should be given to disabled and older residents who may require additional access features such as full automation via remote key fob to enable independent entry through all doors required to gain access e.g. from the building entrance/exit/car park, through any additional communal or lift doors required to gain access to their dwelling entrance. This may be required due to an inability to operate heavy doors and/or reach and operate controls or wall mounted fobs.

27.19 Developments containing up to and including 9 flats, apartments, bedsits or bedrooms spread over more than two floors (three floors or more including basement level accommodation) shall comply with the requirements of paragraph 27.8.

27.20 Smaller developments containing up to and including 25 flats, apartments, bedsits or bedrooms shall have a visitor door entry system and access control system. The technology by which the visitor door entry system operates is a matter of consumer choice, however it should provide the following attributes:

- Access to the building via the use of a security encrypted electronic key (e.g. fob, card, mobile device, key, etc.);
- Vandal resistant external door entry panel with a linked camera;
- Ability to release the primary entrance doorset from the dwelling or bedroom (in the case of student accommodation or House in Multiple Occupation);
- Live audio and visual communication between the occupant and the visitor;
- Ability to recover from power failure instantaneously;

- Unrestricted egress from the building in the event of an emergency or power failure;
- Control equipment to be located in a secure area within the premises covered by the CCTV system and contained in a lockable steel cabinet to LPS 1175 Security Rating 1 or STS 202 Burglary Rating 1.

27.21 Developers and installers of visitor door entry systems and access control systems should be aware that UL 293 provides reassurance that a system has been assessed against a prescribed security test regime.

27.22 Tradesperson release mechanisms are not permitted as they have been proven to be the cause of anti-social behaviour and unlawful access to communal developments.

27.23 Specifiers are reminded that the installed electronic release hardware must form part of the certificated doorset range.

Developments with more than 25 flats, apartments, bedsits or bedrooms

27.24 Larger developments containing more than 25 flats, apartments, bedsits or bedrooms shall have a visitor door entry system and access control system. The technology by which the access control system operates is outlined within UL 293, however it must provide the following attributes:

- Access to the building via the use of a security encrypted electronic key (e.g. fob, card, mobile device, key etc.);
- Vandal resistant external door entry panel with a linked camera;
- Ability to release the primary entrance doorset from the dwelling or bedroom (in the case of student accommodation or House in Multiple Occupation);
- Live audio/visual communication between the occupant and the visitor;
- Ability to recover from power failure instantaneously;



- Unrestricted egress from the building in the event of an emergency or power failure;
- Capture (record) images in colour of people using the door entry panel and store for those for at least 30 days. If the visitor door entry system is not capable of capturing images, then it should be linked to a CCTV system or a dedicated CCTV camera should be installed for this purpose. This information should be made available to police within 3 days upon request;
- All visitor and resident activity on the visitor door entry system should be recorded and stored for at least 30 days. This information should be made available to police within 3 days upon request.
- Systems must comply with General Data Protection Regulations (GDPR).

27.25 SBD recommends the use of colour monitors to enable the occupier of the dwelling or bedroom with the identification of visitors or to assist the occupier to accurately describe the colour of clothing to the police of the perpetrators of antisocial behaviour or those otherwise misusing the system.

27.26 Specifiers are reminded that the installed electronic release hardware must form part of the certificated doorset range.

27.27 In the event of a power failure door locks shall revert to a safe (unlocked) mode unless there is a fire evacuation policy in place that requires doors to remain locked, such as that operated within some care homes.

27.28 Tradesperson release mechanisms are not permitted as they have been proven to be the cause of anti-social behaviour and unlawful access to communal developments.

Security compartmentation of developments incorporating 25 or more flats, apartments, bedsits or bedrooms

27.29 Developments of over 25 flats, apartments, bedsits or bedrooms can suffer adversely from anti-social behaviour due to unrestricted access to all areas and floors of the building. SBD therefore seeks to prevent unlawful free movement throughout the building through the use of an access control system. How this is achieved is a matter for the specifier, the following two methods are acceptable:

1. Lift and stairwell access controlled separately:
 - To prevent the lift and stairwell providing unrestricted access onto a residential landing, each resident should be assigned access to their

floor only via the use of a security encrypted electronic key (e.g. fob, card, mobile device, key etc.) both on the stairwell/landing door and lift;

- Access to stairwells from the communal lobby should be restricted to residents to reduce the risk of anti-social behaviour or criminal activities;
- Unrestricted egress from a landing into the stairwell and from the stairwell to the communal lobby/emergency fire exit should be provided at all times.

2. Lift and stairwell access jointly controlled via an additional secure doorset:

- An additional secure doorset prevents access to each landing from both the lift and stairwell. Each resident should be assigned access to their floor only via the use of a security encrypted electronic key (e.g. fob, card, mobile device, key etc.) for this doorset;
- Access to stairwells from the communal lobby should be restricted to residents to reduce the risk of anti-social behaviour or criminal activities;
- Unrestricted egress from a landing into the stairwell and from the stairwell to the communal lobby/emergency fire exit should be provided at all times.

27.30 In the event that a lift opens directly into an apartment a security protocol must be agreed between the occupiers and the lift maintenance company to ensure access cannot be gained without the proper authority.

27.31 Alternative methods of creating compartmentation within the building may be discussed with the DOCO.

27.32 Whether access at these locations is provided to legitimate visitors as well as residents via additional call points, is a matter for the overall access control strategy. It is not the intention of Secured by Design to restrict legitimate free flow of residents through the building, this will be at the discretion of the management company concerned.

27.33 It is imperative that the fire service should have unrestricted access to all floors in the event of an emergency so the internal access control system utilised should incorporate the following features:

27.33.1 Where unlawful free internal movement is restricted via the lift then the fire service must be afforded access via a 'firefighter's mode' or an evacuation lift in 'evacuation mode'.

27.33.2 If unlawful free internal movement has been restricted via an access control system acting on dedicated external doorsets and any additional doorsets providing access to individual floors/landings then an electronic release must be incorporated within the system to allow the fire service free access to all of the communal areas of the building. The electronic release system must be weatherproof, easily identifiable and located close to the entrance that Fire and Rescue Teams would use in the event of an emergency. It has been agreed between the police and fire and rescue services that the most practical means of achieving this aim is to install a switch within an Access Control Box (ACB). The key system for the ACB should be of a restricted type acceptable to the local fire and rescue service. An ACB must be secure for obvious reasons and therefore shall be tested and certificated to one of the following standards:

- LPS 1175 Issue 7.2:2014 Security Rating 2; or
- LPS 1175 Issue 8:2018 Security Rating A3+; or
- STS 202 Issue 6:2015 Burglary Rating 2.

27.33.3 The use of an ACB is in addition to the installation of a Premises Information Box (PIB), which are recommended by the fire and rescue service and are referenced within clauses of BS 9991:2015. The ACB should be clearly marked with a photo-luminescent identification sign in the same way as the PIB. The exact location of an ACB should be specified following

consultation with the local Fire and Rescue Service.

Emergency door release devices

- 27.34 Break glass emergency door exit release devices (often green in colour) on communal external doors that provide an important aid to egress in the event of an emergency have proven to be abused rendering some buildings insecure for long periods of time. SBD recommends vandal resistant stainless steel self-resetting emergency exit systems are installed as an alternative. The installation and system type must be in full compliance with the Building Regulations and achieve final 'sign-off' by local Building Control or Approved Inspector.
- 27.35 If the break glass emergency door release device provides access to residential areas as part of the emergency egress route, additional security must be provided to restrict access to the fire egress route only to maintain the security of the building line. This is also a requirement of Part Q of the Building Regulations (England and Wales).

28 Telephone and Internet Protocol (IP) based visitor door entry systems with or without remote unlocking

- 28.1 To ensure that the viewed image is of appropriate quality, systems of this kind shall be demonstrated to the DOCO on equipment similar to that used by residents (e.g. TV smart phone or tablet), prior to receiving Secured by Design accreditation.
- 28.2 All systems shall comply with UL293 and the Internet Protocol security shall be tested and certificated to British Standard's Institute Kitemark for the Internet of Things (IoT) Devices, by 1st October 2019.
- 28.3 The system must be capable of catering for a minimum of 2 and a maximum of 6 devices being activated as controllers per dwelling.

- 28.4 Only the management body shall be permitted to add a device to the system, however the principal resident(s) shall be permitted to remove a device from the system.
- 28.3 Remote unlocking (e.g. when operated from outside the boundary of the residence utilising mobile equipment such as smart phones and tablets) should only be permitted when there is both a live audio and visual feed. Systems should not permit users to remotely release the door lock where there is audio only communication, e.g. poor signal area, loss of signal, etc.
- 28.4 If the facility of remote unlocking is abused by a resident, the system shall be capable of restricting their ability to unlock a door by way of a land-line in the residence linked to a visual monitor only.
- 28.5 If residents do not possess the required equipment to use the system, a dedicated device should be installed inside the dwelling to give audio and visual communication.
- 28.6 Specifiers are reminded that if telephone and/or IP based visitor door entry systems are utilised there should be no usage charge incurred by the resident as a result of a system activation.
- 28.7 Specifiers are reminded that if telephone and/or IP based visitor door entry systems are utilised, they shall also comply with the requirements of paragraph 27.

29 CCTV and Recording

- 29.1 CCTV is not a universal solution to security problems, it forms part of an overall security plan. It can help deter crime and criminal behaviour, assist with the identification of offenders, promote personal safety and provide reassurance for residents and visitors. Even the smallest development will benefit from the installation of a good quality CCTV system, which does not need to be expensive.

- 29.2 Images of people are covered by the General Data Protection Regulation (GDPR), and so is information about people which is derived from images – for example, vehicle registration numbers. Most uses of CCTV will be covered by the Act, regardless of the number of cameras or how sophisticated the equipment is.
- 29.3 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.
- 29.4 It is important that signs are displayed explaining that CCTV is in operation.
- 29.5 A CCTV system should:
- have CCTV cameras contained in vandal resistant housings with the facility for ceiling or wall mounting;
 - record images in colour HD quality;
 - not be affected by concentrated white light sources directed at the camera, such as car head lights and street lighting;
 - ‘on-site’ recording equipment or other hard drive unit will be contained in a lockable steel cabinet to LPS 1175 Security Rating 1 (A1) or STS 202 Burglary Rating 1;
 - identify each camera’s location and record this information along with time and date stamping;
 - provide suitable methods of export and incorporate the required software to view the exported footage.
- 29.6 CCTV cameras associated with visitor door entry systems covering communal entrances and internal lobby areas should be installed and be capable of providing images of persons that are clearly identifiable on smaller devices such as smart phones.
- 29.7 Ideally, CCTV systems should be monitored live 24/7 giving the ability to react to a situation as it occurs. However, this is not a requirement of Secured by Design for residential developments. Most CCTV systems are designed for recording images and for the post event investigation only, in which case nobody is required to monitor the activities live. Police recommend that images are stored for a minimum of 31 days.
- 29.8 Early discussions with an independent CCTV 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, facial recognition/identification and automatic number plate recognition (ANPR);
 - 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 on-going training of operatives.
- 29.9 Further advice, including the ICO CCTV Code of Practice is available at: www.ico.org.uk
- 29.10 The system will be fully operational and demonstrated to the DOCO upon final inspection, prior to receiving Secured by Design accreditation.

30 CCTV management and maintenance protocols

- 30.1 The data controller must facilitate the availability of images at all times to the police upon reasonable request. Contact details for the data controller must be clearly displayed in accordance with the requirements of the GDPR.
- 30.2 An ‘As Installed’ system specification and schematic, site specific drawing and logbook will be provided to the system controller(s) and available to be viewed at all times.
- 30.3 It is recommended that the system receives a minimum of two maintenance

inspections per year. Each camera will be cleaned and a test recording completed and compared with the previous recording, to ascertain any deterioration in quality and performance. The contractor should issue a certificate of operational safety and security.

- 30.4 The contractor will provide system-operating manuals to the system controller(s), which will include the method of reviewing and archiving recorded images and will be available for use at all times.
- 30.5 The contractor will issue a certificate to confirm that the CCTV installation is compliant with BS 7958: 2015 Closed circuit television (CCTV. Management and operation. Code of practice), and the requirements of the GDPR.
- 30.6 The contractor will issue an NSI or SSAIB (or equivalent) certificate of compliance for the CCTV system.
- 30.7 The contractor will issue a certificate to confirm that the systems and installations are in compliance with SBD guidelines.

31 Doorsets providing alternative access to communal areas (other than the primary shared or communal access doorset) including emergency egress doorsets

- 31.1 Alternative access doorsets, emergency egress and fire doorsets that may be used by residents to access communal parts of the building are also required to be 'secure doorsets', see Approved Document Q, Section 1, paragraph 1.1. Doorsets shall meet the requirements within paragraphs 21.1 to 21.17, and 21.19 to 21.22.

Emergency egress doorsets from underground car parks

- 31.2 Doorsets providing access to and

emergency egress from underground car parking areas must meet the requirements of both Part B and Part Q of the Building Regulations (England). In practice this provides a dilemma as the performance requirements for the two Building Regulations 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 service we have agreed the following requirements (see paragraphs 31.3 to 31.8) as an alternative design solution for just such a scenario.

- 31.3 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 2a, paragraphs 21.1 to 21.17, and 21.19 to 21.22.
- 31.4 Emergency egress from the car park should be facilitated via the use of a 'break glass' unit and all such doors should be equipped with an audible warning which should also form part of a security alarm system.
- 31.5 Doorsets providing exit 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 with Part Q of the Building Regulations in England and Wales (Performance requirement 'b'). 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.

- 31.6 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 paragraphs 21.1 to 21.17, and 21.19 to 21.22.
- 31.7 Where there is an underground car parking facility and emergency egress afforded via a route which utilises a common or shared stairwell or other communal areas it is required that an access control box (ACB) is installed. This is in addition to a premises information box (PIB) in accordance with BS 9991:2015 to provide the fire service the appropriate information about the building.
- 31.8 Access control systems on all doors allowing access to communal areas of the building shall meet the requirements within paragraph 27 – 28.7 (inclusive).

Glazing in communal entrance doorsets

- 31.9 Where a glazed vision panel is installed it must form part of the manufacturers certificated doorset range.
- 31.10 Specifiers should note that Part Q of the Building Regulations (England and Wales) and Building Standards 4.13 (Scotland) both reference PAS 24:2012. Therefore the minimum specification for any glazing within shared or communal entrance doorsets is BS EN 356:2000 Class P1A (minimum). It should be noted that PAS 24:2016 makes exactly the same requirement. NB This is a security performance criteria rather than a glazing thickness specification, so

glazing thicknesses may vary between manufacturers/suppliers.

32 Mail delivery in buildings containing multiple dwellings or bedrooms

- 32.1 There are increasing crime problems associated with the delivery of post to buildings containing multiple dwellings or bedrooms. Therefore mail delivery that compromises the security of residential areas of a multi-occupied building in order to deliver individually to each residence is not permitted. Facilities should be provided that enable mail to be delivered to safe and secure areas such as described below.

Communal mail delivery

- 32.2 Communal mail delivery facilities within building entrances serving multiple flats or rooms (such as student accommodation) should be designed to incorporate the following:
- Located at the primary entrance/exit point of the building within view, within an internal area covered by CCTV or located within a secure access controlled entrance hall, or externally at the front of the building within view of those using the building;
 - Be of robust construction;
 - The individual letter boxes shall have a maximum aperture size of 260mm x 40mm;
 - Have anti-fishing properties;
 - Have fire resistance where considered necessary;
 - Installed in accordance with the manufacturers specification.
- 32.3 Internal communal mail delivery facilities serving multiple flats or rooms (such as student accommodation) should be designed to incorporate the following:
- Located in view, within a secure area at the primary building entrance point/ exit point;

- Be of robust construction;
- The individual letter boxes shall have a maximum aperture size of 260mm x 40mm;
- Have anti-fishing properties;
- Have fire resistance where considered necessary;
- Installed in accordance with the manufacturers specification.
- Building access strategy to account for residents who will rely on others to collect their mail.

32.4 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 letter mail delivery i.e. arson, 'fishing' for personal mail.

33 Lighting for buildings containing multiple dwellings

External lighting

33.1 Lighting is required to each elevation that contains a doorset where the public, visitors or occupants of the building are expected to use (*Note 33.1*).

Note 33.1: Secured by Design has not specified PIR activated security lighting for a number of years following advice from the ILP and police concern regarding the increase in the fear of crime (particularly amongst the elderly) due to repeated PIR lamp activations. Research has proven that a constant level of illumination is more effective at controlling the night environment.

Internal lighting

33.2 24 hour lighting (switched using a photoelectric cell) to communal parts of blocks of flats will be required. It is

acceptable if this is dimmed during hours of low occupation to save energy. This will normally include the communal entrance hall, lobbies, landings, corridors and stairwells and underground garaging facilities and all entrance/exit points. To reduce energy consumption, lighting systems that reduce light levels during quieter periods may be utilised. Further information is available at www.securedbydesign.com

34 Loft hatches in communal areas

34.1 Loft hatches located in communal areas, such as over landings in blocks of flats, must be locked to prevent access into a dwelling via the loft space. This may still be required even where the loft space has been compartmented to prevent the spread of fire and smoke (products meeting the requirements of published fire safety standards are available). There are currently no 'hinged' or 'lift out' loft hatches being manufactured to recognised security standards, but where padlocks, hasps and staples are used to secure the hatch the products must be certificated to BS EN 12320:2012, Sold Secure 'Silver' or LPS 1654 Issue 1.1:2014 Security Rating 1 and fitted in accordance with the manufacturer's instructions.

34.2 The responsibility for the specification and location of fire rated security products lies with the developer or the developer's agent.

SECTION 2b

35 Introduction

35.1 This section provides technical guidance for bespoke new homes and the refurbishment of existing homes. It is expected, in order to gain SBD approval, that new homes and existing homes with standard door and window products will follow the requirements within Section 2a, where possible. However, Approved Document Q (English and Wales Building Regulations) and Scottish Building Regulation 4.13 both allow an alternative route to compliance, which utilises a door or window specification incorporating components that have been tested to published security standards and therefore SBD has responded by providing additional guidance in these areas.

35.2 Approved Document Q, Appendix B, does not provide a definition of what is a 'bespoke' doorset or window. For the purposes of Secured by Design it is considered beneficial for all parties, and in the interests of clarity, to provide a definition. Secured by Design therefore has defined a bespoke doorset or window to be:

A single or small number of doorsets or windows installed within a development (normally no more than 4 homes) of unique design with non-standard features which preclude the use of conventional enhanced security door and window products. Doorsets or windows installed within buildings of specific architectural value, constrained by listed building or other conservation status may also be considered to be bespoke.

35.3 Where there is a client led requirement for Secured by Design accreditation, compliance with this section alone will lead to the issue of a Secured by Design Bronze Award, however when combined

with compliance to Section 1, and where applicable the relevant parts of Section 3, a Secured by Design Silver Award may also be achieved.

35.4 Major refurbishment schemes should meet the requirements within Section 2a.

35.5 Section 2b of this guidance document is further separated into two areas:

35.5.1 Houses, bungalows, flats, apartments or maisonettes accessed via a private dedicated entrance doorset;

35.5.2 Buildings containing multiple dwellings or bedrooms accessed from a semi-private area and served by a shared or communal entrance doorset.

36 New 'bespoke' houses, bungalows, flats, apartments or maisonettes accessed via a private dedicated entrance doorset

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

36.2 All new bespoke doorsets allowing direct access into to the home e.g. front and rear doors, interconnecting garage doorsets, French doors, Bi-fold or sliding patio doorsets, dedicated private flat or apartment entrance doorsets, easily accessible balcony doorsets (Note 36.2) etc., are required to be secure doorsets within the UK Building Regulations (see paragraph 1.1).

Note 36.2: Easily accessible is defined within Approved Document Q Appendix A 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.*

36.3 Where there is a requirement for a doorset to be both fire and security rated, e.g. flat or apartment entrance doorsets, interconnecting garage doorsets and some doorsets aiding security compartmentation, it is the responsibility of the developer or the developer's agent to ensure compliance with all applicable Building Regulations.

Door and window materials

36.4 All bespoke window and doorsets constructed from materials commonly utilised for such purposes such as timber, PVCu, aluminium, steel and composite shall meet the minimum material specific requirements as follows:

Timber products

36.5 Approved Document Q of the Building Regulations sets out specific requirements for the material (Appendix B, clause B.2) and dimensions (Appendix B, clause B.3, B.4 & B.5) for bespoke timber doorsets. Secured by Design supports these requirements for both doors and windows, for clarity these are:

36.5.1 Material – doorsets and windows should be manufactured from solid or laminated timber with a minimum density of 600kg/m³.

36.5.2 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.

36.5.3 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.

36.5.4 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.

36.6 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.'*

PVCu products

- 36.7 All windows and doorsets should be constructed from profile meeting the requirements of BS EN 12608-1:2016 *Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors. Classification, requirements and test methods.*
- 36.8 Bespoke PVCu products e.g. those falling outside the scope of PAS 24:2016, would benefit from being constructed from a profile that has already been proven by test to meet the security requirements of PAS 24:2016 in other window styles within the profile manufacturers or fabricators range.
- 36.9 All window and door profiles should incorporate reinforcement to cater for the secure fixing of hardware and to provide additional strength to the profile.
- 36.10 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 (PVC-U) extruded hollow profiles.'*

Aluminium products

- 36.11 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.
- 36.12 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.
- 36.13 Bespoke aluminium products e.g. those falling outside the scope of PAS 24:2016, would benefit from being constructed from a profile that has already been proven by test to meet the security requirements of PAS 24:2016 in other window styles within the profile manufacturers or fabricators range.
- 36.14 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

- 36.15 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 doorset that complies with Section 2b of this guide.
- 36.16 Although the material standard, BS 8529:2017 *'Composite doorsets. Domestic external doorsets. Specification'* was developed for composite doorset products, it may be used to provide further guidance for the construction of good quality bespoke composite window that could therefore be acceptable within Section 2b of this guide.

Steel products

- 36.17 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'

Doorset hardware and locking systems

36.18 The primary entrance doorset should be fitted with a multipoint 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).

36.19 Alternative lock configuration for a primary dwelling 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).

36.20 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.

36.21 Non-primary doorsets (back or garage interconnecting doorsets) may be fitted with a multi-point locking system conforming to the standards in paragraph 36.18 above, alternatively single point locks conforming to the standards in paragraph 36.19 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).

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

36.23 To ensure that the end user of the door understands how to operate the locking system, clear operating instructions must be attached to the inner face of the door (*Note 36.23*). The instructions should be easily removable by the end user.

Note 36.23: The purpose of providing the end user with operating instructions is to reduce the number of burglaries through otherwise secure doorsets, because the full locking system has

not been engaged. This is particularly problematic with split spindle multi-point locking systems, where, for example, the occupier goes to bed at night without engaging the locks in the mistaken belief that leaving the door closed only on the latch (live bolt) is sufficient. The instructions should point out that the doorset is not totally secure unless the locking system is fully engaged. The method of attachment of these operating instructions and the medium used to carry them is for the door manufacturer to decide but are not intended to be permanent.

Glazing in and adjacent to doorsets

- 36.24 Any glazing within bespoke doorsets, including glazed panels/side lights adjacent to doors installed within an integral door frame and windows adjacent to doorsets (within 400mm), must incorporate one pane of laminated glass meeting, or exceeding, the requirements of BS EN 356:2000 class P1A (*Note 36.24*). Specifiers are reminded that this is also a requirement within ADQ, Annex B, paragraph B.11.

Note 36.24: There is no specific requirement to install laminated glazing on the inner or outer face of a double glazed unit. However specifiers may wish to take into consideration the fact that toughened glass is usually more resistant to accidental damage by blunt objects such as a football and therefore may be best placed on the external face of the double glazed unit. It is recognised however that there are many other factors that may also need to be considered such as thermal efficiency, aesthetics and the requirement for privacy or obscured glazing, which will influence the specifier's decision.

Door limitation and caller identification

- 36.25 A door chain or opening limiter meeting the requirements of the Door and Hardware Federation Technical Specification 003 (DHF TS 003) must be

installed on the doorset to which a caller can be expected, normally the front door (see Approved Document Q, Section 1: Doors, paragraph 1.4). All such devices should be suitable for the door material to which they are fitted and be installed in accordance with the manufacturer's recommendations.

- 36.26 A door viewer meeting the requirements with the Door & Hardware Federation Technical Specification 002 (DHF TS 002) standard must be fitted between 1200mm and 1500mm from the bottom of the door, this is not required if the doorset is installed with clear glazing or if there is a side panel with clear glazing (see Approved Document Q, Section 1: Doors, paragraph 1.4).

Doorset Installation

- 36.27 Door frames must be securely fixed to the building fabric in accordance with the manufacturer's specifications.
- 36.28 Due to the dynamic forces experienced when doorsets are opened and closed, frame installation packers should be used. This will limit outer frame distortion during installation and use, ensuring that the frame remains centralised, level and square and allows for thermal movement of the frame.
- 36.29 Doorsets that are hidden from public view, typically side or back doors, should not be recessed more than 600mm. This requirement is not applicable to doorsets that are located within public view (*Note 36.29*). However, no doorset should be recessed by more than 1000mm.

Note 36.29: For the purposes of this guidance document a doorset is considered to be within 'public view' when it can be seen from the street.

37 Security of existing (refurbished) doorsets

- 37.1 The term "doorset" refers to a door, frame, locks, fittings and glazing as one combined unit.



37.2 It is difficult to provide a definitive requirement for each doorset type and material, therefore if the existing doorsets are to be retained during a refurbishment scheme the DOCO should be consulted before embarking on any improvements. However some areas for improvement may include:

- The existing doorset should be thoroughly inspected to ensure that it is in a good state of repair, free from rot and damage. The material and dimensional requirements within paragraph 36 to 36.17 (inclusive) should be observed as a guide to the suitability of the existing doorset;
- Locking systems can be replaced with those referenced within paragraphs 36.18 to 36.23;
- Europrofile cylinders should be replaced with products certificated to Door Hardware Federation Technical Standard 007 (DHF TS 007) - 3-Star rating, or a DHF TS 007 1-star cylinder may be utilised if accompanied by DHF TS 007 2-star external hardware (handle set or secure escutcheon) or cylinder protection, or Sold Secure SS312 (Diamond) standard cylinders;
- Sliding patio doorsets should have a minimum of three locking points, which can be achieved by fitting additional surface mounted patio locks. Anti-lift hardware should also be used to prevent the doorset being lifted off its track;
- The 'slave' door leaf of French or double doorsets should be securely fixed during the normal operation of the primary opening leaf, this can be achieved through the use of surface mounted or mortised bolts with a minimum engagement of 20mm into the head and sill of the door frame;
- Timber doorsets can be enhanced if necessary by the installation of a deadlock guard, or an anti-thrust plate, and the installation of a London and/or Birmingham bar to provide additional strength to the frame;
- Doorsets should be installed with hinge bolts or specialist interlocking hinges. Hinges accessible from outside the building should not have removable pins;
- Doorsets incorporating 'panels' typically timber or PVCu should be reinforced. Any panel installed within a timber doorset should be at least 15mm thick, securely held in place with beading that is mechanically fixed and glued into position. PVCu panels can be replaced with new panels that have been shown by test to meet the security requirements of PAS 24:2016 (as a component part of a full test);

- Glazing in existing doorsets should be upgraded to meet the requirements in paragraph 21.19. Glazing in aluminium and PVCu doorsets can be secured through the use of glazing security clips or glazing security tape to reduce the likelihood of glazing beads being removed to gain entry.

38 Secure Mail Delivery to bespoke houses, bungalows, flats, apartments or maisonettes accessed via a private dedicated entrance doorset

38.1 A letterplate tested to the requirements of the Door and Hardware Federation's Technical Standard 008 (DHF TS 008) will provide reassurance that the likelihood of the letter plate aperture being used to gain access to the home will be substantially reduced. Specifier's attention is drawn to the fact that DHF TS 008 is referenced within Approved Document Q as a proven method of protecting the dwelling from attacks known to be committed via the letter plate. Additionally, BS EN 13724 which is referenced within TS 008 provides details regarding the test methods and requirements for private letter boxes and letter plates. One of its stipulated criteria is that the lowest mailbox aperture should be no lower 700mm from delivery floor level and the height of the highest mailbox aperture should be no higher than 1700mm from delivery floor level.

38.2 Alternative compliance can be demonstrated by utilising letter plates meeting the following requirements (*Note 38.2a*):

- Maximum aperture size of 260mm x 40mm;
- The fixing shall not be removable from the exterior side of the doorset;
- Letter plates must achieve the requirements of the removal test from

BS EN 13724:2002 (conducted during the PAS 24 or STS 201 test);

- Doorsets installed with non-key lockable internal hardware (*Note 38.2b*) shall either be installed with a suitable internal security deflector plate to restrict access to the hardware or the letter plate must be installed no less than 400mm from the internal locking point (measured in plane from the centre point of thumb turn to the nearest edge or corner of the letter plate aperture).

Note 38.2a: This specification is the minimum requirement within PAS 24:2016 and STS 201.

Note 38.2b: Specifiers should be aware that the National House-Building Council (NHBC) currently requires a thumb turn release mechanism to be installed on the doorset designated as the primary fire exit route.

External surface mounted letter boxes

38.3 There are increasing crime problems associated with letter plate apertures, such as identity theft, arson, hate crime, lock manipulation and 'fishing' for personal items (which may include post, vehicle and house keys, credit cards, etc.). In order to address such problems SBD strongly recommends, where possible, mail delivery via a secure external letter box meeting the requirements of the Door and Hardware Federation's Technical Standard 009 (DHF TS 009) or delivery 'through the wall' into a secure area of the dwelling. DHF TS 009 letter boxes offer reassurance that all of the above attributes have been met. In high crime areas DHF TS 009 provides the safest means by which mail can be delivered whilst eliminating the risks associated with letter plate apertures. The letter box must be securely fixed to the face of the building in accordance with the manufacturers specifications and be located in a position that benefits from natural surveillance.

Through-the-wall delivery

- 38.4 Where there are design constraints that prevent a letter plate with a security cowl being installed within a door e.g. narrow hallway, or where it is undesirable to install a surface mounted secure mail box e.g. in a corridor, it may be preferable to provide 'through-the-wall' mail delivery into a secure internal letter box. Such a box must incorporate the same design features as described above for a surface mounted box. Anti-arson design features may also be advised if such crime risks are present.
- 38.5 Products meeting the requirements of the Door and Hardware Federation's Technical Specification 008 (DHF TS 008) provide reassurance that 'through the wall' letter boxes offer similar security attributes as secure letter plates and many of the attributes that an external letter box conforming with DHF TS 009 would provide (also see paragraph 38.1).

39 New 'bespoke' windows, roof windows and roof lights

- 39.1 All new bespoke windows should comply with the applicable material and dimensions requirements within paragraph at 36.4 to 36.17 above.

Window hardware

- 39.2 Windows should be installed with multipoint espagnolette locking systems that have been shown by test to meet the security requirements of PAS 24:2016 as a component part of a window of the same material. There should be locking points within 100mm from the corner of the casement.
- 39.3 Where a multipoint espagnolette locking system is not compatible or desirable e.g. listed building application, then there should be a minimum of two locking points per opening light.
- 39.4 All hinges and pivots installed within bespoke windows should incorporate an interlocking detail and be shown by test

to meet the security requirements of PAS 24:2016 as a component part of a window of the same material.

- 39.5 Heritage hinges (untested as a component part of PAS 24) should be supplemented with hinge bolts.
- 39.6 Tilting window pivots and top retaining bolts should be enhanced to resist increased loads.
- 39.7 Sash fasteners (fitch catches) should also be enhanced to resist increased loads.

Glazing in windows

- 39.8 All glazing in bespoke windows installed within 400mm of an adjacent doorset shall incorporate one pane of laminated glass meeting, or exceeding, the requirements of BS EN 356:2000 class P1A (*Note 39.8*). NB This is a specific requirement within PAS 24:2016, which is referenced within the Building Regulations (England and Wales) and the Scottish Building Standards.

Note 39.8: There is no specific requirement to install laminated glazing on the inner or outer face of a double glazed unit. However specifiers may wish to take into consideration the fact that toughened glass is usually more resistant to accidental damage by blunt objects such as a football and therefore may be best placed on the external face of the double glazed unit. It is recognised however that there are many other factors that may also need to be considered such as thermal efficiency, aesthetics and the requirement for privacy or obscured glazing, which will influence the specifier's decision.

- 39.9 SBD requires all easily accessible emergency egress windows without locking hardware to incorporate at least one pane of laminated glass meeting the requirements of BS EN 356:2000 class P1A.

Window installation

- 39.10 Windows must be securely fixed to the building fabric in accordance with the manufacturer's specifications.

- 39.11 Due to the dynamic forces experienced when windows are opened and closed, frame installation packers should be used. This will limit outer frame distortion during installation and use, ensure that the frame remains centralised, level and square and allow for thermal movement of the frame.
- 39.12 Vertical Sliding sash windows should be securely retained in the frame by the face lining, parting bead and staff bead.

40 Security of existing (refurbished) windows

- 40.1 It is difficult to provide a definitive requirement for each window type and material, therefore if the existing windows are to be retained during a refurbishment scheme the DOCO should be consulted before embarking on any improvements. However some areas for improvement may include:
- Unless the window is a designated emergency egress route, it should have three points of locking consisting of a key operated locking handle and two surface mounted locks, one fitted to the end of each opener to prevent leverage;
 - The security of existing PVCu and aluminium windows can be improved through the use of hardware that has been shown by test to meet the security requirements of PAS 24:2016 as a component part of a window of the same material;
 - Glazing in existing windows should be upgraded to meet the requirements in paragraph 22.12. Glazing in aluminium windows can be secured through the use of glazing security clips or glazing security tape.

41 Conservatories and sun rooms

- 41.1 Where a conservatory or sun room is installed in a bespoke home and it is not possible to utilise PAS 24:2016 doorsets and windows for the reasons previously mentioned, then the doors and

windows must meet the same material, dimensional (where applicable), and physical security standards within Section 2b.

- 41.2 If a conservatory is installed with an untested roofing system e.g. polycarbonate glazing system, then where possible a doorset shall be installed separating the conservatory from the rest of the home. The doorset should either meet the requirements of Section 2a or comply with the relevant material, dimensional and physical requirements within Section 2b.

42 External lighting for dwellings

- 42.1 Lighting is required to each dwelling elevation that contains a doorset (*Note 42.1*).

Note 42.1: Secured by Design has not specified PIR activated security lighting for a number of years following advice from the ILP and police concern regarding the increase in the fear of crime (particularly amongst the elderly) due to repeated PIR lamp activations. Research has proven that a constant level of illumination is more effective at controlling the night environment.

Lighting in communal areas within flats/apartments

- 42.2 24 hour lighting (switched using a photoelectric cell) to communal parts of blocks of flats will be required. It is acceptable if this is dimmed during hours of low occupation to save energy. This will normally include the communal entrance hall, lobbies, landings, corridors and stairwells and underground garaging facilities and all entrance/exit points. Other areas requiring lighting will be indicated by the DOCO in writing. To reduce energy consumption this may be provided by a dimming system which leaves luminaires on at a lower level during quieter period. Further information is available at: www.securedbydesign.com

43 Utility meters

- 43.1 There is no requirement for the location of the utility meters if 'smart meters' are utilised (remote signalling). Otherwise utility meters should, wherever possible noting the possible planning constraints on listed buildings and dwellings in conservation areas, be located outside the dwelling at the front or as close to the front of the building line as possible (to ensure they are visible). If located to the side of the dwelling they must be as near to the front of the building line as possible and to the front on any fencing or gates (care should be taken not to provide a climbing aid). When installed in a building containing a number of residencies such as flats, apartments or maisonettes, the metres should be installed in a location that access does not introduce security risks to residential areas.

44 Additional or alternative requirements for new bespoke buildings containing multiple dwellings or bedrooms

- 44.1 A building containing multiple dwellings for the purposes of this document may include flats, bedsits or individual bedrooms accessed from a semi-private area and served by a shared or communal entrance doorset (including HMO's and student accommodation).
- 44.2 In these circumstances there may be a requirement for a doorset to be both fire and security rated. It is the responsibility of the developer or the developer's agent to ensure compliance with all applicable Building Regulations.

Communal and shared doorset standards

- 44.3 Please refer to Section 2a, paragraph 27.6 for the SBD definition of a communal and shared doorset.

- 44.4 Specifiers should, where possible, specify a shared or communal doorset that has been tested and certificated to a recognised security standard (see paragraph 21) and has also been tested and certificated to BS 6375 to ensure that it is fit for purpose (see paragraph 27.15).
- 44.5 New bespoke shared or communal entrance doorsets that are constructed for a development of specific architectural value, constrained by listed building or other conservation status should be designed to be a secure. In such cases the DOCO should be contacted at the earliest possible opportunity to discuss the technical specification of the doorset, however general security features may include:
- Glazing within bespoke shared or communal doorsets, including glazed panels/side lights adjacent to doors installed within an integral door frame and windows adjacent to doorsets (within 400mm), must incorporate one pane of laminated glass meeting, or exceeding, the requirements of BS EN 356:2000 class P1A (*Note 44.5*). Specifiers are reminded that this is also a requirement within ADQ, Annex B, paragraph B.11.

Note 44.5: There is no specific requirement to install laminated glazing on the inner or outer face of a double glazed unit. However specifiers may wish to take into consideration the fact that toughened glass is usually more resistant to accidental damage by blunt objects such as a football and therefore may be best placed on the external face of the double glazed unit. It is recognised however that there are many other factors that may also need to be considered such as thermal efficiency, aesthetics and the requirement for privacy or obscured glazing, which will influence the specifier's decision.

- Mechanical locking systems used should meet the physical security requirements within paragraphs 36.18 or 36.19. Magnetic doorset locking systems should be shown by test to meet the security requirements of PAS

24:2016, or equivalent standard, as a component part of a doorset of the same material.

- All bespoke doorsets shall be installed with hinge bolts or specialist interlocking hinges. Hinges accessible from outside the building should not have removable pins. Specifiers are reminded that hinges should also be correctly rated to support the weight of the doorset.
- Timber doorsets can be enhanced if necessary by the installation of a deadlock guard or an anti-thrust plate, and the installation of a London and/or Birmingham bar to provide additional strength to the frame.
- Door entry and access control systems should comply with the same standards within Section 2a, paragraphs 27.1 to 27.13.

45 Mail delivery in bespoke buildings containing multiple dwellings or bedrooms

- 45.1 There are increasing crime problems associated with the delivery of post to buildings containing multiple dwellings or bedrooms. Communal mail delivery should therefore adhere to the requirements within Section 2a, paragraph 32.

46 Bespoke doorsets providing alternative access to communal areas (other than the primary shared or communal access doorset) including emergency egress doorsets

- 46.1 Alternative access doorsets, emergency egress and fire doorsets that may be used by residents to access communal parts of the building are also required to be 'secure doorsets', see Building Regulations (England and Wales) Section

1, paragraph 1.1. Bespoke doorsets shall meet the requirements within paragraphs 36 to 36.17.

- 46.2 In these circumstances where there is a requirement for a doorset to be both fire and security rated, it is the responsibility of the developer or the developer's agent to ensure compliance with all applicable UK Building Regulations.

47 New windows, roof windows and roof lights in bespoke buildings containing multiple dwellings or bedrooms

- 47.1 All easily accessible bespoke windows, roof windows and roof lights in buildings containing multiple dwellings or bedrooms shall, where possible, meet the material and dimensional requirements within paragraphs 39 to 39.12.

48 Lightweight framed walls in bespoke dwellings

- 48.1 The security of a development can be severely compromised if lightweight framed walls do not offer sufficient resilience to withstand a criminal attack; this is recognised within Approved Document Q (*Note 48.1*). The SBD requirements are primarily based upon products that have been tested and proven to provide additional security and are outlined in Paragraph 24 of this document.

Note 48.1: See – The Building Regulations 2010, Security-Dwellings, Q1: Unauthorised access, Section 1: Doors, paragraph 1.6 (England) and paragraph 1.5 (Wales).

49 Lighting for buildings containing multiple bespoke dwellings

External lighting

- 49.1 Lighting is required to each elevation that contains a doorset where the public, visitors or occupants of the building are expected to use (*Note 49.1*).

Note 49.1: Secured by Design has not specified PIR activated security lighting for a number of years following advice from the ILP and police concern regarding the increase in the fear of crime (particularly amongst the elderly) due to repeated PIR lamp activations. Research has proven that a constant level of illumination is more effective at controlling the night environment.

Internal lighting

- 49.2 24 hour lighting (switched using a photoelectric cell) to communal parts of blocks of flats will be required. It is acceptable if this is dimmed during hours of low occupation to save energy. This will normally include the communal entrance hall, lobbies, landings, corridors and stairwells and underground garaging facilities and all entrance/exit points. To reduce energy consumption, lighting systems that reduce light levels during quieter periods may be utilised. Further information is available at: www.securedbydesign.com

50 Loft hatches in communal areas

- 50.1 Loft hatches located in communal areas, such as over landings in blocks of flats, must be locked to prevent access into a dwelling via the loft space. This may still be required even where the loft space has been compartmented to prevent the spread of fire and smoke. There are currently no 'hinged' or 'lift out' loft hatches being manufactured

to recognised security standards, but where padlocks, hasps and staples are used to secure the hatch the products must be certificated to BS EN 12320:2012, Sold Secure 'Silver' or LPS 1654 Issue 1.1:2014 Security Rating 1 and fitted in accordance with the manufacturer's instructions.



SECTION 3

ROSEMARY
COURT
← 124 APARTMENTS

51 Additional features for the SBD Gold Award or for a SBD Silver Award for a bespoke development

- 51.1 This section of Secured by Design is intended to be used by those seeking to achieve the full SBD Gold Award or a SBD Silver Award for a bespoke development. The SBD Gold Award is awarded to new developments or refurbishment schemes that have achieved compliance with the external security features within Section 1 of this document, together with the physical security requirements in Section 2a (applicable to the majority of developments), supplemented by any discretionary or ancillary requirements within Section 3 where applicable. Ancillary requirements are not compulsory features e.g. bicycle stores, underground car parking, etc., but where installed they should meet the requirements within this section to ensure that the full award is achieved. Bespoke developments cannot achieve a full SBD Gold Award due to the fact that either/or both doors and windows have not been proven to resist an attack, however this section of SBD Homes may be used to ensure that the security of the supplementary or ancillary requirements are also catered for.
- 51.2 This section also addresses an additional glazing requirement that the DOCO may invoke for SBD Gold applications if the area crime profile indicates an increased level of risk.
- 51.3 This section may also be utilised when seeking to increase security in an existing development.
- 51.4 Developers wishing to apply for the SBD Gold Award shall adhere to Sections 1 and 2 in full together with the relevant features contained within this section.

52 Doorsets providing access/egress from communal areas, houses and buildings containing multiple dwellings or bedrooms

- 52.1 All doorsets providing access to communal areas of a building containing multiple dwellings (e.g. flats) or bedrooms (e.g. student accommodation), together with communal facility areas such as bicycle stores, bin stores (with external access), underground car parks (including fire egress doorsets) shall meet the security requirements of Section 2a, paragraph 21.

53 Additional window requirements for the SBD Gold Award

- 53.1 In certain high crime locations only, to ensure that security is commensurate with the risk, the DOCO may require laminated glass meeting the requirements of BS EN 356:2000 class 1A (*Note 53.1a*) to be installed on all ground floor and basement windows and those easily accessible above ground floor (*Note 53.1b*). Such a requirement will be justified and evidenced by the DOCO and will be communicated to the developer, or the developer's agent, in writing prior to commencement of building construction. Developers are advised that a late SBD Gold application for a development in a high crime area may require glazing to be replaced if it does not meet the standard required.

Note 53.1a: There is no specific requirement to install laminated glazing on the inner or outer face of a double glazed unit. However specifiers may wish to take into consideration the fact that toughened glass is usually more resistant to accidental damage by blunt objects such as a football and therefore may be best placed on the external

face of the double glazed unit. It is recognised however that there are many other factors that may also need to be considered such as thermal efficiency, aesthetics and the requirement for privacy or obscured glazing, which will influence the specifier's decision.

Note 53.1b: Easily accessible is defined within Approved Document Q Appendix A 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.

54 External garage doorsets

- 54.1 If a development incorporates garages and the developer wishes to gain the full SBD Gold Award then the security of both the dwelling and the garage must be considered. If a garage is not secured as part of the security of the dwelling, or it is detached from the dwelling, then external pedestrian access doors must meet the same physical, locking and fixing specification, as 'Dwelling entrance doorsets' (Section 2a paragraphs 21.1 to 21.21).
- 54.2 Vehicle access doorsets shall be certificated to one of the following standards (*Note 54.2*):
- LPS 1175: Issue 7.2:2014 Security Rating 1+ (or above); or
 - LPS 1175 Issue 8:2018 A1 Security Rating 1+/A1+ (or above); or
 - STS 202, Issue 7:2016 Burglary Rating 1+ (or above); or
 - LPS 2081 Issue 1:2015 Security Rating A.

Note 54.2: Where a manufacturer has demonstrated, to the satisfaction of SBD,

that compliance with a similar alternative standard from another supplier or country has been achieved this may be accepted as an alternative to the above standards.

- 54.3 Specifiers are reminded of the requirements within the English Building Regulations (Part Q), see Section 2a, paragraph 20.1.
- 54.4 The DOCO must be supplied with proof of certification including the technical schedule (sometimes referred to as 'Scope of Certification') prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design Licensing Scheme and the doorset can be identified on the SBD website.
- 54.5 Alternatively a vehicle access door that is not certificated to one of the above standards, and not subject to the requirements within the English and Welsh Building Regulations (Part Q), may be deemed satisfactory if an external 'garage door defender' type security product is also fitted. Such products must be certificated to Sold Secure Bronze level or above.

55 Car parking

Communal car parking areas

- 55.1 Where communal car parking areas are necessary they should be in small groups, close and adjacent to homes and must be within view of the active rooms within these homes (*Note 55.1*). It may be necessary to provide additional windows to facilitate overlooking of the parking facility.

Note 55.1: The word 'active' in this sense means rooms in building elevations from which there is direct and regular visual connection between the room and the street or parking court. Such visual connection can be expected from rooms such as kitchens and living rooms, but not from more private rooms, such as bedrooms and bathrooms.

55.2 Lighting must be at the levels recommended by BS 5489-1:2013. The DOCO shall be provided with a declaration of conformity to BS 5489-1:2013 by a 'competent' independent 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 Maintenance (CDM) Regulations. Further information is available at: www.securedbydesign.com

Underground car parking

55.3 Where a development incorporates an underground car parking facility the following security enhancement is required (please also note the requirements for emergency egress within Section 2a, paragraphs 32.2 to 31.8):

55.3.1 An access control system must be applied to all vehicular and pedestrian entrances to prevent unauthorised access into the car park;

55.3.2 Inward opening automatic gates or roller grilles must be located at the building line or at the top of ramps to avoid the creation of a recess. They must be capable of being operated remotely by the driver whilst sitting in the vehicle, the operation speed of the gates or shutters shall be as quick as possible to avoid tailgating by other vehicles. This will allow easy access by a disabled driver, and should satisfy the requirements of the Highways Department who under normal circumstances do not permit vehicles to obstruct the pedestrian footway whilst the driver is unlocking a gate. Automatic roller shutters must be certificated to one of the following minimum security 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 Rating 1; or
- LPS 2081 Issue 1.1:2016 Security Rating A.

55.3.3 Automated gates supplied and installed must meet the relevant statutory safety standards and be CE marked accordingly. Specifiers may wish to 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) designed to raise standards of powered gate safety. Gates installed to the new Code of Practice will be inspected by the NSI;
- Gate Safe – The Gate Safe organisation produces operational good practice guidance designed to raise standards in this industry sector.

55.3.4 Lighting must be at the levels recommended by BS 5489-1:2013. The DOCO shall be provided with a declaration of conformity to BS 5489-1:2013 by a 'competent' independent 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 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 which are required.

55.3.5 Walls and ceilings must have light colour finishes to maximise the effectiveness of the lighting as this will reduce the luminaires required to achieve an acceptable light level (*Note 55.3.5*).

Note 55.3.5: Reflective paint can reduce the number of luminaires needed to achieve the desired lighting level and reduce long term running costs.

55.3.6 Any internal door that gives access to the residential floors must have an access control system.

55.3.7 In developments where closed circuit television (CCTV) is required by the client or by the DOCO, such systems shall comply with the requirements of BS EN 62676: 2014 *Video surveillance systems for use in security applications* and where applicable BS 7958:2015 *CCTV management and operation Code of Practice*, and the requirements of the *Data Protection Act*. Developers are reminded that if images of public space are visible and recorded then there may be a legal responsibility to register the system with the Information Commissioner's Office - www.ico.org.uk. Such a system would only be practical if there is a planned management service for the development.

56 Secure external storage facilities and bicycle security

56.1 External containers specifically designed for the secure storage of bicycles and other property must be certificated to one of the following minimum security standards:

- LPS 1175 Issue 7.2:2014 Security Rating 1 (or above); or
- LPS 1175 Issue 8:2018 Security Rating 1/A1 (or above); or
- STS 202 Issue 7:2016 Burglary Rating 1 (or above); or
- LPS 2081 Issue 1.1:2016 Security Rating A; or
- Sold Secure (Bronze, Silver or Gold).

56.2 Where bicycle storage is provided in a robust shed, the minimum requirements for the shed construction and security are as follows:

- 38x50mm (min) planed timber frame;
- Floor and roof constructed from 11mm boards (minimum);
- 11x125mm (min) Tongue & Grooved board walls and door;
- No window to be present;
- Door hinges should be coach-bolted through the shed structure or secured with security or non-return screws;
- Two hasp and staples that meet 'Sold Secure' Silver should be used. One positioned 200mm - 300mm down from the top of the door, and one positioned 200mm - 300mm up from the bottom of the door. Additionally, hasp and staples should be coach-bolted through the shed structure or secured with either security or non-return screws;
- Both padlocks should meet 'Sold Secure' Silver or LPS 1654 Issue 1.1:2014 Security Rating 1 standard padlocks to be used;
- Shall be securely fixed to a suitable substrate foundation;
- If mopeds, scooters, motorcycles or bicycles are to be stored within the shed then a security anchor shall also be certificated to 'Sold Secure' Silver Standard LPS 1175 Issue 7.2:2014 Security Rating 1 or LPS 1175 Issue 8:2019 Security Rating A1 and securely fixed to suitable foundations in accordance with the manufacturer's specifications. This also includes wall-mounted anchoring systems.

External communal bicycle storage

56.3 External, open communal bicycle stores with individual stands or multiple storage racks for securing bicycles will be as close to the building as possible, but in any event within 50 metres of the primary entrance to a block of flats and located in view of active rooms (*Note 56.3*) of dwellings. The store must be lit at night using vandal resistant, light fittings and energy efficient LED lights.

NB Vertical cycle racks can be difficult for some sections of the community to use.

Note 56.3: The word 'active' in this sense means rooms in building elevations from which there is direct and regular visual connection between the room and the street or parking court. Such visual connection can be expected from rooms such as kitchens and living rooms, but not from more private rooms, such as bedrooms and bathrooms.

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

- Galvanised steel bar construction (minimum thickness 3mm), filled with concrete;
- Minimum foundation depth of 300mm with welded 'anchor bar'.

Compliance can be demonstrated by products certificated to one of the following minimum security standards:

- LPS 1175 Issue 7.2:2014 Security Rating 1; or
- LPS 1175 Issue 8:2018 Security Rating 1 (A1); or
- Sold Secure (Bronze, Silver or Gold); or
- STS 502.

57 Integral communal bin, mobility vehicles and bicycle stores

57.1 Integral communal bin, mobility vehicles and bicycle stores within blocks of flats should be easily accessible, with floor to ceiling dividing walls, no windows and be fitted with a secure doorset that meets the same physical specification

as 'front door' and specifically Section 2a, paragraphs 21.1 to 21.21. This will ensure that such stores are only accessible to residents. The locking system must be easily operable from the inner face by use of a thumb turn to ensure that residents are not accidentally locked in by another person. A bicycle store must also be provided with stands with secure anchor points or secure cycle stands (see paragraph 56).

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

57.3 Any doorset that provides access to the communal areas shall also be controlled via an access control system.

58 Internal communal drying rooms

58.1 Where dedicated communal internal drying rooms are located in blocks of flats, they must be fitted with doorsets that meet the same physical specification as 'front door' and specifically Section 2a, paragraphs 21.1 to 21.21. This is to ensure that they are only accessible to the residents. The locking system must be operable from the inner face by use of a thumb turn to ensure that residents are not accidentally locked in by another person.

59 Private external lighting and dwelling lighting

Private external lighting to common areas

59.1 Where possible the lighting requirements within BS 5489-1:2013 should be applied (see paragraph 18) (*Note 59.1*).

Note 59.1: Developers are advised that there is further guidance available from the Chartered Institute of Building

Services Engineers (CIBSE) and the Society of Light and Lighting (SLL).

- 59.2 SBD requires that only luminaires with suitable photometry serving to reduce light spill and light pollution may be used. Reducing light spill from inefficient luminaires into areas where lighting is not required is extremely important (Note 59.2).

Note 59.2: Developers are reminded that intrusive lighting from the private lighting schemes into public areas may constitute a statutory nuisance and is wasteful and costly.

- 59.3 External public lighting must be switched using a photo electric cell (dusk to dawn) with a manual override or via a Central Management System (CMS) for large scale developments. If LED light sources are used then shorter burning hours can be programmed as no warm up time is required for the lamp.

Dwelling lighting

- 59.4 Lighting is required to illuminate all elevations containing a doorset, car parking and garage areas and footpaths leading to dwellings and blocks of flats. Bollard lighting is not appropriate as it does not project sufficient light at the right height making it difficult to recognise facial features and as a result causes an increase in the fear of crime.

- 59.5 Secured by Design encourages, wherever possible, the use of the most environmentally friendly light sources. Moreover the Institute of Lighting Professionals (ILP) currently favours the use of good quality LED lighting and other energy effective light sources and advises against the use of fluorescent lighting which is environmentally unsustainable for a variety of reasons (Note 59.5). Further information is available at: www.securedbydesign.com

Note 59.5: Secured by Design has not specified PIR activated security lighting for a number of years following advice from the ILP and police concern regarding the increase in the fear of crime

(particularly amongst the elderly) due to repeated PIR lamp activations. Research has proven that a constant level of illumination is more effective at controlling the night environment.

60 Intruder alarms

- 60.1 Where an intruder alarm system is installed then it shall meet the requirements of BS EN 50131 (wired and wire free systems). All installations shall be in accordance with the current electrical regulations. If an immediate police response is required then installers must meet the requirements of the National Police Chiefs' Council (NPCC) policy document – *Guidelines on Police Requirements & Response to Security Systems* which can be obtained from www.securedbydesign.com

Revisions to text

Paragraph 5 of the Preface	27.13
10.6.7	27.14
10.7	27.20
13.2	27.28
13.3	27.31
16.15	27.33.2
21.3 + Notes 21.3a - 21.3e	29.5
21.5	34.1
21.10	36.3
22.2 + Note 22.2d	50.1
22.12	54.2
22.13	55.3.2
24.2.1	56.1
	56.2
	56.4

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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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