

Secured by Design



Official Police Security Initiative



Secured by Design HOMES 2016

Version 1; February 2016

Contents

1	Introduction	5	SECTION 2	26
2	Scope	5	19 Introduction	27
3	Homes 2016 explained	5	SECTION 2A	28
	Who should read this document?	5	20 Police Preferred Specification	28
	SBD format in detail	6	21 External dwelling doorsets	28
	SBD graded security levels	6	Houses, bungalows and flats, apartments	
	SBD Gold	7	or maisonettes accessed via a private	
	SBD Silver	7	dedicated entrance doorset	28
	SBD Bronze	7	Garage doorsets, vehicular and pedestrian	30
	Secured by Design Homes 2016 Compliance		Further requirements for all pedestrian doorsets	31
	Process Flowchart	8	Locking systems	32
4	Secured by Design National Building Approval	9	Glazing in and adjacent to doorsets	33
5	How to apply for the SBD Award	9	Outward opening doorsets	33
6	Construction Phase Security - Advisory Note	10	Door limitation and caller identification	34
7	UK Planning and strategic policies in	10	Doorset Installation	34
	support of Secured by Design		Letter plate apertures in doors	34
	England (NPPF and NPPG)	10	External surface mounted letter boxes	35
	Wales (PPW & TAN12)	11	Through –the-wall delivery	35
	Development Quality Requirements (DQR)	11	22 Windows, roof windows and roof lights	36
	for social housing	11	23 Conservatories and sun rooms	38
	Welsh Housing Quality Standards (WHQS)	11	24 Lightweight framed walls in houses	
	Scotland (SPP & PAN77)	12	and buildings containing multiple	
	Northern Ireland (DOE, PPS 7 & QD1)	12	dwellings or bedrooms	39
			25 External lighting for dwellings	39
			Lighting in communal areas within	
			flats/apartments	39
			26 Utility meters	40
			27 Additional or alternative requirements	
			for buildings containing multiple dwellings	
			or bedrooms	40
			Communal and shared entrance doorset	
			standards	40
			Communal Doorsets with a separate adjacent	
			access control panel	41
			Door entry and access control systems	41
			Small developments (up to 25 dwellings or	
			bedrooms)	42
			Developments with more than 25 dwellings or	
			bedrooms	42
			Compartmentalisation of developments	
			incorporating multiple flats, bedsits or bedrooms	43
			Fire service access	43
			Emergency door release devices	44
			28 Doorsets providing alternative access	
			to communal areas other than the primary	
			shared or communal access doorset	
			(including emergency egress doorsets)	44
SECTION 1	13			
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	17		
	Footpaths on phased developments	17		
9	Communal areas	17		
10	Dwelling Boundaries	18		
	Front boundaries	18		
	Access gates to rear gardens	18		
	Side and rear boundaries	18		
	Fencing in high crime/vulnerable areas	20		
	Sub-divisional boundaries	20		
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	Car parking	22		
	Underground and car parking	23		
17	Planting in new developments	23		
18	Street lighting	24		

Contents

Emergency egress doorsets from underground car parks	44	41 Additional or alternative requirements for new bespoke buildings containing multiple dwellings or bedrooms	57
Glazing in communal entrance doorsets	45	Communal and shared doorset standards	57
29 Mail delivery in buildings containing multiple dwellings or bedrooms	46	42 Mail delivery in bespoke buildings containing multiple dwellings or bedrooms	58
Communal mail delivery	46	43 Bespoke Doorsets providing alternative access to communal areas other than the primary shared or communal access doorset (including emergency egress doorsets)	58
Individual mail delivery to flats	46	44 New windows, roof windows and roof lights in bespoke buildings containing multiple dwellings or bedrooms	58
Windows, roof windows and roof lights in buildings containing multiple dwellings or bedrooms	46	45 Lightweight framed walls in bespoke dwellings	58
30 Lighting for buildings containing multiple dwellings	46	46 Lighting for buildings containing multiple bespoke dwellings	59
External lighting	46	External lighting	59
Internal lighting	47	Internal lighting	59
31 Loft hatches in Communal areas	47	47 Loft hatches in Communal areas	59
SECTION 2B	48	SECTION 3	60
32 Technical guidance for new bespoke homes	48	48 Additional features for the SBD Gold award or for a SBD Silver award for a bespoke development	61
33 New 'bespoke' houses, bungalows and flats, apartments or maisonettes accessed via a private dedicated entrance doorset	48	49 Doorsets providing access/egress from communal areas houses and buildings containing multiple dwellings or bedrooms	61
Door and window materials	49	50 Additional window requirements for SBD Gold	61
Timber products	49	51 External garage doorsets	62
PVC-U products	50	52 Car parking	62
Aluminium products	50	Communal car parking areas	62
Composite products	51	Underground car parking	63
Steel products	51	53 Secure external storage facilities and bicycle security	64
Doorset hardware and locking systems	51	External communal bicycle storage	64
Glazing in and adjacent to doorsets	52	54 Integral communal bin, mobility vehicles and bicycle stores	65
Door limitation and caller identification	52	55 Internal communal drying rooms	65
Doorset Installation	52	56 Private external lighting and dwelling lighting	65
34 Security of existing (refurbished) doorsets	53	Private external lighting to common areas	65
35 Secure Mail Delivery to bespoke houses, bungalows and flats, apartments or maisonettes accessed via a private dedicated entrance doorset	53	Dwelling lighting	66
External surface mounted letter boxes	54	57 Intruder Alarms	66
Through-the-wall delivery	55	ANNEX A	67
36 New 'bespoke' windows, roof windows and roof lights	55	Additional or alternative requirements for student or key worker accommodation and other 'single room' accommodation with shared communal facilities	67
Window hardware	55	Compartmentalisation of 'dwelling' areas	67
Glazing in windows	55	Party walls	67
Window installation	56	Flat/dwelling entrance doorset	67
37 Security of existing (refurbished) windows	56	Accommodation room (bedroom) doorsets	67
38 Conservatories and sun rooms	56		
39 External lighting for dwellings	56		
Lighting in communal areas within flats/apartments	57		
40 Utility meters	57		

The recent changes to the English Planning and Building Control Regulations, following in-depth reviews by the Department for Communities and Local Government (DCLG), have underlined the importance of the Police advice delivered over the past 25 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 of 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. The DCLG has also followed Scotland's lead and introduced physical security standards for new homes within Building Regulations for the first time. The Welsh Government is also considering the inclusion of a new Building Regulation to address the security of new homes.

The 2016 edition of the Secured by Design guidance for domestic properties has been designed to cater for the security of all homes, not just new homes as previously published. 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. The guidance also serves the legacy needs of the outgoing Code for Sustainable Homes.

The requirements and recommendations within this guide are based upon sound research findings that have proven that SBD delivers a significant reduction in crime 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 Secured by Design with various standards owners and trade associations.

The Police service places great importance on the need to build sustainable communities and to raise awareness of the significant impact that low crime makes to the long term sustainability of a development.

Should you wish to contribute to this or any of the Secured by Design guides please contact Secured by Design by email at SBDConsultations@acpo-sbd.co.uk.

Secured by Design Homes 2016 is applicable to all new SBD applications made after 1 June 2016.

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 Police service and is supported by the Home Office and referenced by the Department for Communities and Local Government in Approved Document Q.
- 1.2 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.
- 1.3 The environmental benefits of Secured by Design are supported by independent academic research consistently proving that SBD housing developments experience up to 75% less burglary, 25% less vehicle crime and 25% less criminal damage (*Note 1.3*). Therefore there are significant carbon cost savings associated with building new homes and refurbishing existing homes to the Secured by Design 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 1.3: Research documentation can be found on the SBD website.*
- 1.4 If you would like to apply for the Secured by Design award,

please use the '2016 SBD Homes' application form found on our website www.securedbydesign.com.

2 Scope

- 2.1 The 2016 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 Homes 2016 explained

Who should read this document?

- 3.1 Secured by Design 'Homes 2016' can now fulfil the requirements of:
- Planning Authorities – Section 1 of this document provides guidance on proven crime reduction methodologies for the external environment. There is additional support documentation to inform planning officers in England following the withdrawal of 'Safer Places' at www.police.uk. The advice contained on the Police.uk website is also applicable in Scotland, Wales and Northern Ireland.
 - Building Control – Section 2 provides detailed information that may be utilised to measure and discharge developments against the requirements of Part Q, Requirement Q1: Unauthorised access, of the Building Regulations (England) and Building Standard 4.13 (Scotland).
 - Developers – Major and regional developers, small bespoke developers or individuals pursuing a self-build project can utilise SBD as a route to compliance

with either a planning requirement or compliance with Part Q, Requirement Q1: Unauthorised access, of the Building Regulations (England) and Building Standard 4.13 (Scotland).

- Social Housing providers – Compliance with SBD Homes 2016 will continue to provide a ‘police preferred specification’ for all new developments (proving compliance with Part Q of the Building Regulations (England) and the Scottish Building Standard 4.13) 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 Part Q of the Building Regulations (England) and the Scottish Building Standard 4.13) 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 environment, 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 English Building Regulation Q1 and the Scottish Building Regulation 4.13, 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 The publication of SBD Homes 2016 coincides with the decision to introduce a new tiered approach to the security of homes, namely SBD Gold, SBD Silver and SBD Bronze.

- 3.4 Compliance with any of the following SBD Awards satisfies the requirement of Building Regulation Q1: Unauthorised Access and the Scottish Building Regulation 4.13.

SBD graded security levels

- 3.5 This latest version of Secured by Design now incorporates several differing levels of security, 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. Finally 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

- 3.6 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, but where installed they should meet the requirements within Section 3 to ensure that the full award is achieved).

SBD Silver

- 3.7 There are two routes to obtaining the SBD Silver Award:

- i. SBD Silver can be awarded to new developments or refurbished schemes that do not meet the requirements of Section 1, but do meet the physical security requirements of Section 2a.

The above is the minimum qualifying criteria for Secured by Design National Building Approval see paragraph 4.

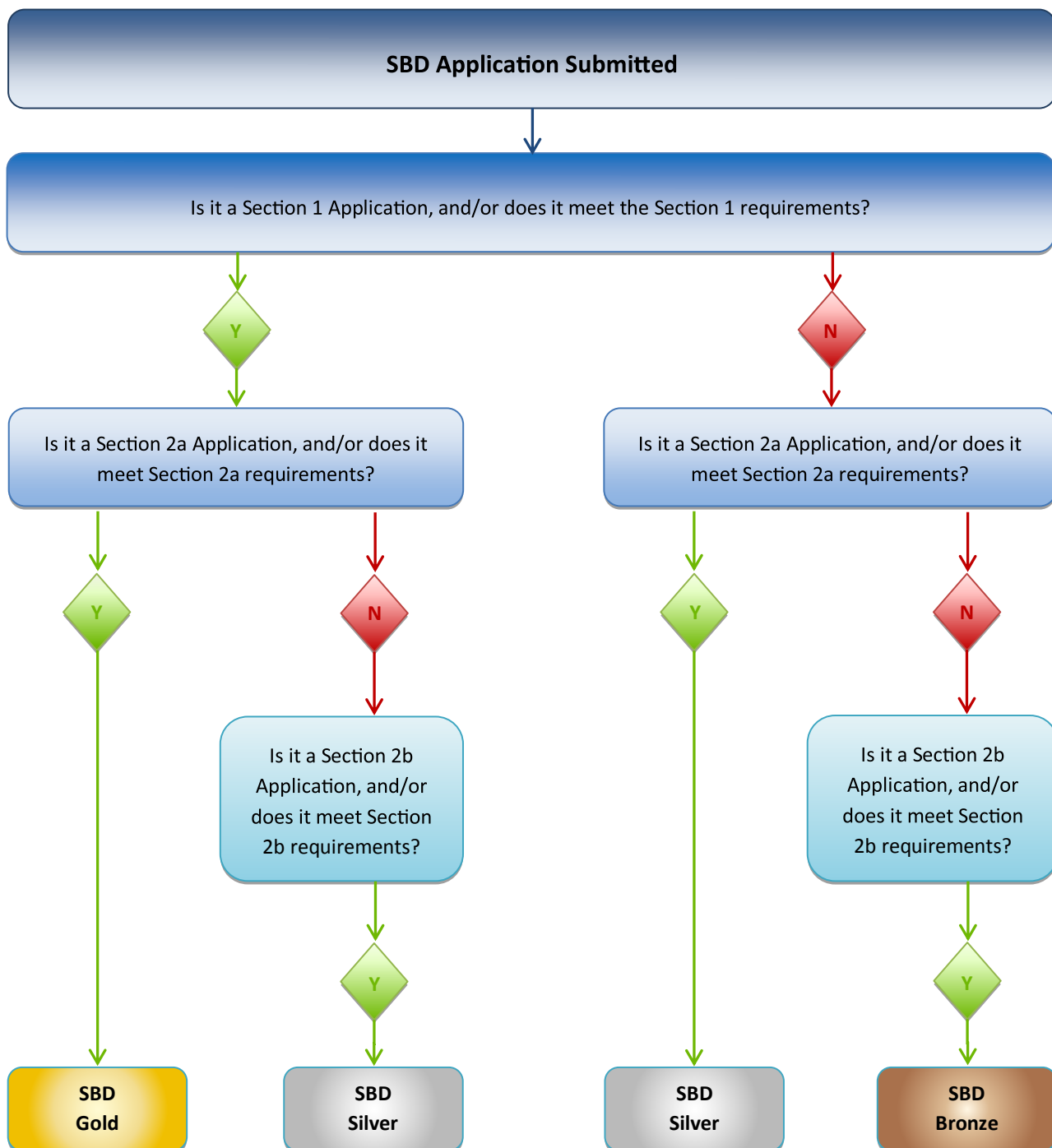
- ii. SBD Silver can also be awarded to new bespoke developments or refurbishment schemes that have achieved compliance with the external security features within Section 1 of this document together with the physical security requirements in Section 2b and the relevant parts of Section 3.

SBD Bronze

- 3.8 SBD Bronze can be awarded to new bespoke developments or refurbished properties that do not meet the requirements of Section 1, but do meet the physical security requirements of Section 2b.
- 3.9 Fig.1 overleaf depicts a flowchart of the new award structure.



Secured by Design Homes 2016 Compliance Process Flowchart



All awards made assuming that any relevant Section 3 component has been met in full

Section 2a

Police Preferred Specification

- New build homes
- Dwellings formed by a material change of use
- Major and minor refurbishments
- Using certified products only

Section 2b

Police Preferred Specification for bespoke new homes

- Bespoke new homes
- Upgrading of existing homes
- A specification led approach as certified products are not

4 Secured by Design National Building Approval

- 4.1 Secured by Design has developed a new initiative to provide developers with a route to compliance with Part Q of Schedule 1 to the Building Regulations 2010. *Secured by Design National Building Approval (SBD NBA)* provides a structured approach to discharge the aforementioned English Building Regulation and the Scottish Building Standard 4.13 – Security.
- 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 Approved Document Q, or the Scottish Building Standard 4.13, 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 Building Regulations (England) and the Building Standards (Scotland) 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 are police 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@acpo-sbd.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 consult their local police Crime Prevention Design Adviser (CPDA), Architectural Liaison Officer (ALO) or Designing Out Crime Officer (DOCO) for site specific information and follow the application process.

NB. For the purposes of this document all contact with the police specialist will refer to the generic term 'CPDA'.
- 5.2 If you are applying for the Secured by Design Gold Award (or the SBD Silver Award for bespoke homes) you are strongly advised to contact the local CPDA to discuss the development before completing the Secured by Design Award application, submitting a planning application or producing a Design and Access Statement.
- 5.3 The application form must be read in conjunction with the full SBD Homes 2016 document to ensure that your application will comply.
- 5.4 If you are applying for Secured by Design Section 2 (SBD Silver or SBD Bronze Award) to demonstrate compliance with the English Building Regulation for domestic security (Requirement Q1: Unauthorised access) or the Scottish Building Standard 4.13 please go to Section 2 of the application form.
- 5.5 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 5

years of the original SBD application shall be subject to a new application (to the current SBD standards).

- 5.6 Developers wishing to apply for Secured by Design National Building Approval should contact SBD directly at: sbdnba@acpo-sbd.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.
- 6.4 Further advice can be obtained from your local Police CPDA and or from the BSIA Construction Site Security Guide Document at: www.bsia.co.uk

7 UK Planning and strategic policies in support of Secured by Design

- 7.1 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)

- 7.2 In March 2012 the Government published the National Planning Policy Framework (NPPF) which makes a clear statement that sustainable development is at the heart of its planning policy.
- 7.3 In order to achieve a sustainable development the government has defined three fundamental dimensions: economic, social and environmental (NPPF, paragraph 7, page2). Crime has a direct impact on all three dimensions. This has been reinforced throughout the NPPF and in particular at paragraph 6, page 2, where the government clearly states that the policies within paragraphs 18 to 219 constitutes its view of what sustainable development, in England, means in practice for the planning system. Specifically Section 7, paragraph 58 which requires local authorities to produce 'Local and Neighbourhood plans' with a specific aim to "create safe and accessible environments where crime and disorder, and the fear of crime, do not undermine quality of life or community cohesion". Furthermore in Section 8, paragraph 69 the government has repeated this statement and supplemented it by adding that planning policies and decisions should ensure "safe and accessible developments, containing clear and legible pedestrian routes, and high quality public space, which encourage the active and continual use of public areas".

7.4 It is important to note that crime is a material planning consideration and is a determining factor in gaining planning consent.

7.5 With the publication of the accompanying National Planning Practice Guidance (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 specific reference within the National Planning Practice Guidance for Design can be found at: planningguidance.planningportal.gov.uk/blog/guidance/design/what-planning-objectives-can-good-design-help-achieve/#paragraph_010.

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 Police 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 Secured by Design when preparing schemes.



SECTION 1

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 (*Note 8.1*) 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.

Note 8.1: 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

- 8.2 There are advantages in some road layout patterns over others especially where the pattern frustrates the searching behaviour of the criminal and his 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 8.2*). Developments that 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 influence the behaviour of the criminal, but they are no guarantee of lower crime, which evidence proves is achieved primarily through the control and limitation of permeability.

Note 8.2: 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".

- 8.3 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.
- 8.4 Cul-de-sacs that are short in length and not linked by footpaths can be very safe environments in which residents benefit from lower crime. Research shows that features that



generate crime within cul-de-sacs invariably incorporate one or more of the following undesirable features:

- backing onto open land, railway lines, canal towpaths etc.
- are very deep (long)
- linked to one another by footpaths.

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

Footpath Design

- 8.6 Routes for pedestrians, cyclists and vehicles should be integrated to provide a network of supervised areas to reduce crime and anti-social behaviour.
- 8.7 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.
- 8.8 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 8.17 & 8.18)
- 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.

- 8.9 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.

- 8.10 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.

- 8.11 If a pedestrian subway is necessary and there are no other alternative routes it should be as wide and as short as possible, well lit, with a clear line of sight to the exit. Chamfering the access points can help reduce areas of concealment. Radius (convex) entrance/exit walls

can reduce the length of the subway and the opportunity for inappropriate loitering. The designer should consider wall finishes that enable easy removal of graffiti.

Planting next to a footpath

- 8.12 In general, planting next to a footpath should begin at the outer edge of the verge, starting with low growing plants with taller shrubs and trees to the rear. Planting immediately abutting the path should generally be avoided as shrubs and trees have a tendency to grow over the path creating pinch points, places of concealment and unnecessary maintenance.
- 8.13 Where footpaths run next to buildings or roads the path should be open to view. This does not prevent planting, but will influence the choice of species and the density of planting. Public footpaths should not run immediately next to doors and windows, therefore buffer zones should be created to separate a path from a building elevation. This is particularly important in areas with a known graffiti or anti-social behaviour problem where the use of defensive planting may be appropriate.
- 8.14 Careful selection of plant species is critical in order not to impede natural surveillance and to avoid an unnecessarily high maintenance requirement. Some hedging plants, for example, will require trimming twice a year, whereas other species might only need one visit every two years. Trees on appropriate root stocks can provide a more reliable means of reducing the likelihood of impeding natural surveillance. The potential cost savings of a reduced maintenance requirement could be substantial.

Seating next to a footpath

- 8.15 Before placing any seating (or structure capable of being used for seating) next to a footpath, always

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

- 8.15.1 Who is most likely to be using the footpath? For example, is it likely to be used by elderly people? Can it be made more/less attractive to certain groups of users by the way it is designed?
- 8.15.2 Is the footpath required simply as a means for travelling from one place to another without stopping?
- 8.15.3 Is it the intention to encourage stopping and social interaction at particular points along the footpath?
- 8.15.4 Would seating encourage or attract inappropriate loiterers such as drinkers or drug users?
- 8.15.5 Is vandal resistant seating necessary?
- 8.15.6 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)?
- 8.16 Where seating is necessary and inappropriate loitering is a problem consider the use of single seats or stools set several metres apart to deter congregation. In some locations the use of leaning bars might be more appropriate than seats. Creating space between pedestrians and inappropriate loiterers can help reduce the fear associated with having to walk past and thus promote legitimate use of the route.



Lighting of footpaths

- 8.17 The need for lighting will be determined by local circumstances. In an inner city environment the lighting of a footpath is generally only effective in reducing crime levels (or preventing them from rising) if it is matched with a high degree of natural surveillance from surrounding buildings where reaction to an identified incident can be expected i.e. a witness calls the police, or the footpath is well used. The lighting of an underused footpath may give the user a false sense of security. If there is a history of crime along an existing footpath, or where the additional connectivity due to the development could attract criminal or anti-social behaviour, it might make more sense to close the path at night rather than light it. It is accepted that this would only be an option in exceptional circumstances.
- 8.18 Footpaths that are to include lighting should be lit to the relevant levels as defined in BS 5489:2013. It is important that the landscape architect and lighting engineer co-ordinate their plans to avoid conflict between lighting and tree canopies. Please also see paragraph 18 regarding the technical requirements for public lighting, 'dark sky' policies and light pollution.

Footpaths on phased developments

- 8.19 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

- 9.1 Communal areas, such as playgrounds and seating areas have the potential to generate crime, the fear of crime and anti-social behaviour. They should be designed to allow supervision from nearby dwellings with safe routes for users to come and go. Boundaries between public and private space should be clearly defined and open spaces must have features which prevent unauthorised vehicular access. Communal spaces as described above should not immediately abut residential buildings.
- 9.2 The provision of public open amenity space, as an integral part of residential developments, should make a valuable contribution towards the quality of the development and

the character of the neighbourhood. In order to do this it must be carefully located and designed to suit its intended purpose – mere residual space unwanted by the developer is very unlikely to be acceptable. In particular:

- 9.2.1 The open space must be designed with due regard for natural surveillance, and;
- 9.2.2 Adequate mechanisms and resources must be put in place to ensure its satisfactory future management, and;
- 9.2.3 Care should be taken to ensure that a lone dwelling will not be adversely affected by the location of the amenity space.
- 9.2.4 It should be noted that positioning amenity/play space to the rear of dwellings can increase the potential for crime and complaints arising from increased noise and nuisance.
- 9.3 Toddler play areas should ideally be designed so that they can be secured at night. This is to reduce the amount of damage and graffiti that occurs after dark. The type of fencing and security measures will need to vary to suit the particular area. Fencing at a minimum height of 1200mm can often discourage casual entry, provide a safe clean play area and reduce damage to the equipment. The specific requirements must be discussed with the CPDA.
- 9.4 Consideration should be given to the provision of informal association spaces for members of the community, particularly young people. These must be subject to surveillance but sited so that local residents will not suffer from possible noise pollution. In addition, they should be sited in such a way that those using adjacent foot and cycle paths will not be subject to harassment or otherwise be put in fear.

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

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 CPDA.
- 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.

Access gates to rear gardens

- 10.3 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 (see section 26.1).

Side and rear boundaries

- 10.4 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.

10.5 It is expected that developers will install fencing to a high standard to ensure the security and longevity of the boundary. A high quality fence that lasts for a long time will provide security and reduce overall maintenance costs for residents or landlords. A fence that has a long predicted life is also more sustainable. For this reason the SBD suggests that fencing should be constructed as follows:

- 10.5.1 The method of fixing between panel/rails and posts should create a secure mechanical bond so that panels/slats cannot be easily removed.
- 10.5.2 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.
- 10.5.3 Posts should be of a non-brittle material.
- 10.5.4 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.

- 10.5.5 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.
- 10.5.6 Fence heights should be of a minimum 1.8m overall and be capable of raking/stepping to maintain height over different terrain.
- 10.5.7 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 should 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.
- 10.5.8 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.

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

10.5.10 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. The following organisations provide guidance and training for installers:

- Door Hardware Federation – the DHF has released a new 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.

10.5.11 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.

10.5.12 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

10.6 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 may be specified.

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

Sub-divisional boundaries

10.8 Sub-divisional fencing design should be agreed with the CPDA 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

10.8.1 A privacy screen: a section of higher fencing (1.8m) starting from the building and projecting along the fence line for approximately 2m to provide a private amenity area adjacent to the home.

10.8.2 Sub divisional fencing from the privacy screen to the end of the garden: provision of a minimum of 1.2m high fence, with the option to raise to 1.5m or 1.8m (either by increasing the height of the fence or alternatively by adding trellis to the top of the existing fence) where crime risks dictate.

10.8.3 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 CPDA 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.

10.8.4 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 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 for a buffer zone 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. The gates must have a key operated lock. 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 CPDA. Substantial purpose made gate products meeting LPS 1175 security rating 1 or Sold Secure Silver (minimum) standard are available and may be required by the CPDA. Any gate providing access to the rear of dwellings must be designed to resist climbing, forced entry and allow a high degree of surveillance of the footpath from the street.

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

14 Dwelling identification

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

15 Climbing aids

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

16 Car parking

- 16.1 Cars should either be parked in locked garages or on a hard standing within the dwelling boundary. In high crime areas the CPDA may require the addition of a gate or bollard to protect the hard standing parking area.
- 16.2 Where communal car parking areas are necessary they should be in

small groups, close and adjacent to homes and must be within view of active rooms (*Note 16.2*) within these homes.

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 car parking courtyards are discouraged for the following reasons:
- They introduce access to the vulnerable rear elevations of dwellings where the majority of burglary is perpetrated
 - In private developments such areas are often left unlit and therefore increase the fear of crime
 - Un-gated courtyards provide areas of concealment which can encourage anti-social behaviour
- 16.4 Where rear car parking courtyards are considered absolutely necessary they must be protected by a gate, the design of which shall be discussed with the CPDA at the earliest possible opportunity. Where gardens abut the parking area an appropriate boundary treatment (e.g. a 1.5m fence supplemented by trellis to a height of 1.8m) must be discussed and agreed by the CPDA (see paragraph 10.5.7 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 5489:2013 and a certificate of compliance provided. See paragraph 18 for adopted car parking areas and paragraph 51 for private external communal lighting requirements.

Underground and car parking

16.8 Many blocks of flats are now being developed with underground car parking. Early consultation with the CPDA is essential to ensure that criminal opportunity is minimised. The standards required for underground car parks can be found in Section 2, paragraphs 28.2-28.8 (inclusive) and Section 3, paragraph 52.3.

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 allows sufficient space to accommodate the planting.

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

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 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.

18 Street lighting

- 18.1 All street lighting for adopted highways and footpaths, private estate roads and footpaths and car parks must comply with BS 5489:2013 (*Note 18.1*). Where conflict with other statutory provisions occurs, such as developments within conservation areas, requirements should be discussed with the CPDA and the local authority lighting engineer
- Note 18.1: Compliance with BS 5489:2013 ensures that an overall Uniformity of light level is achieved. Conflict areas such as larger roundabouts and shared surfaces will require a higher uniformity as they use a C class which will be determined by compliance with BS5489:2013.*
- 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 CPDA 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.

- 18.3 Bollard lighting is not compliant with BS5489:2013 because it does not project sufficient light at the right height and distorts the available light due to the 'up-lighting' effect; making it difficult to recognise facial features and as a result causes an increase in the fear of crime.
- 18.4 Care should be taken to ensure that landscaping, tree planting and lighting schemes work together to mitigate the effects of seasonal variations.
- 18.5 The colour rendering qualities of lamps used in an SBD development should achieve a minimum of at least 60Ra on the Colour Rendering Index (*Note 18.5*).
- Note 18.5: The Colour Rendering Index, scaled from 0 to 100 indicates the colour rendering qualities of lamps. 0 is a non-existent ability to render colour under illumination, such as low pressure sodium lamps (not allowed under BS5489:2013), and 100 is the colour rendering qualities of daylight. The 'Higher' the RA the better the colour rendition qualities. Appropriate optically controlled white light i.e. higher than RA60, will enable humans to see more clearly and improves facial recognition.*
- 18.6 The CPDA shall be provided with a declaration of conformity to BS 5489:2013 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.

18.7 Light Pollution must be minimised (Note 18.7)

Note 18.7: All living things adjust their behaviour according to natural light. The application of artificial light has done much to improve our experience of the night-time environment, but if this light is not properly controlled both physiological and ecological problems may occur. Minimising light emitted in directions where it is neither necessary nor desirable is extremely important. Obtrusive lighting from the private elements of the scheme is deemed a statutory nuisance (public lighting is not covered) and illuminating areas unintentionally is wasteful. SBD requires that only luminaires with suitable photometry serving to reduce light spill and upward light may be used.

In terms of sustainability consideration must be given to the consequences of turning off street lights. Such a measure may be counterproductive in terms of CO2 emissions and lead to the greater use of motor vehicles because residents are too afraid to use unlit streets. Crime levels, and in particular fear of crime levels, must also be carefully monitored to see what impact such an action has made to the community. The alternatives to switching off include Central Management Systems (CMS), which allow varying lighting levels for different times of the night and are

centrally controlled by a web based system, or stand-alone dimming equipment which can be pre-set to dim after an agreed time when most residents are asleep. Both systems are preferable to switching off. Some light sources are more controllable than others and these should be considered where possible. The most controllable light source with the correct colour rendition qualities (Ra) is LED which has no UV or IR output and therefore does not impact as heavily as other light sources on wildlife and birdlife.

Presence sensing should not be considered unless in bin stores or rarely used areas as it can produce nuisance switching and become a problem to residents. Varying light levels via a CMS or stand-alone system reduces CO2, energy consumption and light pollution so is preferable where cost is not prohibitive and where the local authority specification allows.

Glare is also an issue and is defined by direct view of the light source. Luminaires without good optical or lens control should not be used in residential areas.

18.8 Low energy light sources should be utilised (Note 18.8)

Note 18.8: The best light source should be used for each design to enable the least energy to be used whilst still meeting the BS5489:2013 criteria. Whole life costing of a design should be considered to make sure over the lifetime of the installation the most energy effective solution has been proposed.



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 new Building Regulation in England. Part Q of Schedule 1 to the Building Regulations 2010 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 2016 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 Secured by Design Gold Award.
- 19.3 The experience gained by the UK police service over the past 26 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 Approved Document Q of the Building Regulations (England); 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 UKAS Notified Body. This provides assurance that products have been produced under a controlled manufacturing environment in accordance with the specifiers 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 should be understood that this means that any manufacturer/fabricator of the installed door or window holds independent third party certification in their own company name. 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. Furthermore all doors and windows should clearly display the identifying mark of the certification body together with certificate number. Documentation that is provided bearing the name of a component or system manufacturer will only be acceptable within Section 2b of this guidance document (where indicated).
- 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 Police Preferred Specification

- 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 English Building Regulation for domestic security, Requirement Q1: Unauthorised access. Please note: the Building Regulations (England) 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, which is applicable to all dwellings and includes extensions to existing dwellings, can also be demonstrated through the application of the standards contained within this section.
- 20.3 Where there is a client led requirement for Secured by Design 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.
- 20.4 This section may also be used by organisations or individuals that are undertaking both major and

minor refurbishment of one or more dwellings.

- 20.5 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.

21 External dwelling doorsets

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

- 21.1 All doorsets allowing direct access into to the home, e.g. front and rear doors, interconnecting garage doorsets (see paragraph 21.2), French doors, Bi-fold or sliding patio doorsets, dedicated private flat or apartment entrance doorsets, easily accessible balcony doorsets (*Note 21.1a*), etc., shall be certificated to one of the following standards:
- PAS 24:2012 (*Note 21.1b*); or
 - PAS 24:2016 (*Note 21.1b also applies*); or
 - STS 201 Issue 4:2012 (*Note 21.1c*); or
 - LPS 1175 Issue 7.2 (2014) Security Rating 2+ (*Note 21.1d*); or
 - STS 202 Issue 3 (2011) Burglary Rating 2 (*Note 21.1d*); or



- LPS 2081 Issue 1 (2015) Security Rating B+ (Note 21.1e)

N.B. The benefits of third party certification are recognised within the Scottish Building Standard 4.13, paragraph 4.13.1 and within ADQ, Appendix A, Note 3 (England)

‘Schemes that certify compliance with PAS 24:2012, PAS 24:2016 or other standards that offer similar or better performance may be acceptable for demonstrating compliance. A list of UKAS accredited Certification bodies is given on the UKAS website. Many recognised schemes are also listed in Secured by Design’s New Homes 2014, Section 2’.

Furthermore the pitfalls of ‘tested only’ data, particularly the unreliable nature of the quality and performance of the product without additional third party certification, is recognised and highlighted within ADQ, Appendix A, Note 2 (England)

‘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’.

Note 21.1a: 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 21.1b: PAS 24:2012 and PAS 24:2016 embody 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 24:2012 or 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 ‘Test Standards Explained’ section.



Note 21.1c: STS 201 is the unique reference number for Warrington Certification's published standards replicating the requirements of PAS 24:2012

Note 21.1d: LPS 1175 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 21.1e: LPS 2081 is a new 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.

Garage doorsets, vehicular and pedestrian

- 21.2 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 (*Note 21.2*) can be designated as the secure doorset. Pedestrian doorsets (interconnecting or garage access doorsets) shall

meet the requirements in paragraph 21 (excluding 21.17, 21.18, 21.21-21.31).

Note 21.2: Specifiers are reminded that interconnecting doorsets between the garage and the dwelling are required to achieve a minimum fire rating of 30 minutes and be fitted with a self-closing device. Any glazed aperture within or adjacent to the doorset must also be fire rated. Specifiers should pay particular attention to the need for a doorset to be both fire and security rated and therefore the glazing must meet the requirements of both Approved Document B and Approved Document Q.

- 21.3 Where a vehicular access doorset provides the primary security in this area of the building that it should be certificated to:
- LPS 1175: Issue 7.2, Security Rating 1 or above, or;
 - STS 202, BR 1, or;
 - LPS 2081, SR A
- 21.4 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

21.5 Doorsets shall also be certificated to the following relevant material specific standards:

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

21.6 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.

21.7 There are two classifications for door locking hardware within PAS 24:2012 and PAS 24:2016 these are:

- DK – key operation from both sides of the doorset (*Note 21.8*)
- DKT – Key operation from the outside with non-key lockable hardware on the inside of the doorset e.g. thumb-turn

*Note 21.8: Locking systems that require the use of a key to gain access to the dwelling when not in the fully secure function (as tested to PAS 24) are **NOT** acceptable if the front door is the only means of escape e.g. flat entrance doorsets. Occupants **MUST** be afforded the opportunity to unlock the door from the inner face without the use of a key, investigate the cause of a fire or other emergency and return to raise the alarm without any use of*

a key – the only function that a key may have is to lock and unlock the door from the fully secure position from the outer face of the door when leaving an empty dwelling or returning to a secure dwelling (occupied or unoccupied). This is a requirement of the National House Building Council (NHBC). The classification 'DKT' must fall within the scope of the certification documentation and indicates that the manufacturer has submitted product for assessment with a thumb turn release mechanism.

21.8 Doorsets installed with a thumb-turn release mechanism must specifically form part of the certified product range as the pass criteria for such products is significantly more stringent. NB The National House-Building Council (NHBC) requires a thumb-turn release mechanism to be installed on the doorset designated as the primary fire exit route.

Important: A doorset tested with a key/key operation cannot claim compliance when a thumb-turn release is installed.

21.9 Suitably qualified and recognised third party Certification Authorities (*Note 21.9a*) for the above standards are as follows:

For PAS 24 and BS 6375:

- British Standards Institute (BSI)
- Exova BM TRADA Certification
- Exova Warrington Certification
- Buildcheck
- Building Research Establishment (BRE)
- British Board of Agrément (BBA)
- Loss Prevention Certification Board (LPCB)
- Build Check Certification
- ER Certification
- UL International (UK)
- IFCC Certification
- Wintech Certification

For STS 201 and STS 202

- Warrington Certification

For LPS 1175 and LPS 2081

- Loss Prevention Certification Board (LPCB). NB The LPCB is part of the Building Research Establishment (BRE)

Alternative compliance may be possible in certain circumstances (*Note 21.9b*)

Note 21.9a: 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 21.9b: 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 above bodies. 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 CPDA may refer such cases to SBD management for verification.

- 21.10 Unless the developer has been awarded Secured by Design National Building Approval (SBD NBA) for the relevant dwelling types, the CPDA shall be supplied with proof of certification by the developer or the developer's agent (from one of the bodies referenced at 21.9), 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

CPDA prior to the SBD certificate being awarded.

- 21.11 Specifiers are reminded that products tested to PAS 24:2012 or 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. DK or DKT

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.

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

- 21.12 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 21.12*). The instructions should be easily removable by the end user.

Note 21.12: 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

- 21.13 Any glazing within PAS 24:2012, 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 21.13). NB This is a specific requirement within PAS 24:2012 and PAS 24:2016 which is referenced within both the Building Regulations (England) and the Scottish Building Standards.

Note 21.13: 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.

Specifiers should pay particular attention to the need, in some installations, for a doorset to be both fire and security rated and therefore the glazing must meet the requirements of both Approved Document B and Approved Document Q.

- 21.14 The above requirement is not necessary for doorsets certificated to LPS 2081 (Note 21.14), 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.

Note 21.14: LPS 2081 is a new standard that utilises a similar methodology to that used in LPS 1175, but the attacks tests are designed to use stealth (low noise levels). It may therefore be more applicable to residential applications.

- 21.15 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

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

Door limitation and caller identification

- 21.17 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.
- 21.18 A door viewer meeting the requirements with the Door & Hardware Federation Technical Specification 002 (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

- 21.19 Door frames must be securely fixed to the building fabric in accordance with the manufacturer's specifications.
- 21.20 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 (typically a front door) (*Note 21.20*).

Note 21.20: 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

- 21.21 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.

Letter plate apertures in doors

- 21.22 Where a letter plate aperture required to be is installed within a doorset it must form part of the certificated doorset range.
- 21.23 **Specifiers and doorset manufacturers are advised that if a letterplate was not present in the doorset when it was tested to any of the standards in paragraph 23, 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.**
- 21.24 A letter plate tested to the requirements of the Door Hardware Federation's Technical Standard 008 (TS 008) will provide reassurance that the likelihood of the letterplate aperture being used to gain access to the home will be substantially reduced. Specifiers attention is drawn to the fact that TS 008 is referenced within Approved Document Q as a proven method of protecting the dwelling from attacks known to be committed via the letterplate.
- Alternative compliance can be demonstrated by utilising Letterplates meeting the following requirements (*Note 21.24a*):
- 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 21.24b*) 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 21.24a: 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.

Note 21.24b: This specification is the minimum requirement within PAS 24:2012, PAS 24:2016 and STS 201.

- 21.25 The above requirements are also required for doorset products certificated to LPS 2081, LPS 1175 and STS 202, alternatively a letterplate tested to the requirements of TS 008 (see paragraph 23.29) will be acceptable when included within the Scope of Certification for the doorset.
- 21.26 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.

- 21.27 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).

External surface mounted letter boxes

- 21.28 Where a single surface mounted letter box is to be used for each dwelling 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

- 21.29 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.
- 21.30 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.



22 Windows, roof windows and roof lights

22.1 All easily accessible (*Note 22.1a*) windows (including easily accessible roof lights and roof windows) shall be certificated to one of the following standards:

- PAS 24:2012 (*Note 22.1b*); or
- PAS 24:2016 (*Note 22.1b applies*); or
- STS 204 Issue 4:2012 (*Note 22.1c*); or
- LPS 1175 Issue 7.2 (2014) Security Rating 1 (*Note 22.1d*); or
- STS 202 Issue 3 (2011) Burglary rating 1, or
- LPS 2081 Issue 1 (2015) Security Rating A

Note 22.1a: 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 22.1b: PAS 24:2012 and PAS 24:2016 embody 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 22.1c: STS 204 is the unique reference number for Warrington Certification's published standards replicating the requirements of PAS 24:2012

Note 22.1d: Specifiers and CPDAs are reminded that a requirement for windows to meet LPS 1175 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.



- 22.2 All windows should incorporate key lockable hardware unless designated as emergency egress routes within the Building Regulations. However it is acceptable to install non-key locking hardware if the window has the appropriate classification i.e. PAS 24:2012 WKT (Note 22.2).

Note 22.2 There are two classifications for window locking hardware within PAS 24:2012, these are:

- WK – key operation only
- WKT – non-key locking hardware

Windows installed with non-key locking hardware must specifically form part of the certified product range as the pass criteria for such products is significantly more stringent including the requirement to install laminated glass to BS EN 356:2000 class P1A.

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

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

The following performance requirements are also required:

- BS 6375 parts 1 & 2 (Note 22.3)

Note 22.3: 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.

- 22.4 Windows installed within SBD developments shall be certificated by one of the following UKAS accredited certification (Note 22.4a) bodies or can demonstrate alternative compliance (Note 22.4b):

- British Standards Institute (BSI)
- Exova BM TRADA Certification
- Exova Warrington Certification (STS 204)
- Buildcheck
- Building Research Establishment (BRE)
- British Board of Agrément (BBA)
- Loss Prevention Certification Board
- Steel Window Association
- ER Certification
- UL International (UK)
- IFCC Certification
- Wintech Certification

Note 22.4a: 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 22.4b: Alternative compliance can either be demonstrated by SBD licence holders that have reached an advanced stage of the certification process with one of the above bodies. All such cases must be verified with ACPO CPI. Alternatively third party accreditation via a Notified Certification Body that has signed the EA MLA (European co-operation for Accreditation Multilateral Agreement) may be acceptable if such a body is also accredited to conduct such activities. The CPDA may refer such cases to ACPO CPI for verification.

22.5 Unless the developer has been awarded Secured by Design National Building Approval (SBD NBA) for the relevant dwelling types, the CPDA shall be supplied with proof of certification by the developer or the developer's agent (from one of the bodies referenced at 22.4), 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 CPDA prior to the SBD certificate being awarded.

22.6 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 24:2012, PAS 24:2016 or STS 204 Issue 3:2012. Any such assessment shall include the appropriate fitness for purpose standard (paragraph 22.3). The CPDA 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.

22.7 Windows must be securely fixed in accordance with the manufacturer's specifications. Unless the developer has been awarded Secured by Design National Building Approval (SBD NBA) for the relevant house types, the CPDA shall be provided with a copy of the manufacturer's specifications.

22.8 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 24:2012 and PAS 24:2016)
- easily accessible roof lights with non-lockable hardware.

22.9 Where automatic opening window and venting systems controlled by sensors and computers are used, for example in some eco homes or flat developments, then the security of the building should be considered in the event of failure of the system.

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 21.1 to 21.16 and 21.19 to 21.20. 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 clause 22.1. The doorset shall comply with

the requirements within paragraph 21.1 to 21.16 and 21.19 to 21.20.

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 (England) (*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
- STS 202 Issue 3 (2011) Burglary rating 1
- EN 1627: 2011 Resistance Class 2
- Wall systems, proven by test, to meet all of the following clauses within PAS 24:2012 or PAS 24:2016 will also be deemed to be acceptable:
 - B.3.4 (Soft Body impact test)
 - B.3.5 (Hard body impact test)
 - B.4.3 (Manipulation test)
 - B.4.4.4 (Manual cutting test)

- 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)

If the above ‘Robust details’ are used to demonstrate compliance then it is strongly recommended that the supporting structure (timber, steel or aluminium) is staggered so as to reduce the space between vertical and horizontal construction rails.

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

- 24.3 Annex ‘A’ details additional or alternative requirements for student or key worker accommodation and other ‘single room’ accommodation with shared communal facilities

25 External lighting for dwellings

- 25.1 Lighting is required to each dwelling elevation that contains a doorset (*Note 25.1*).

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 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

- 25.2 24 hour lighting (switched using a photoelectric cell) to communal parts of blocks of flats will be required. This will normally include



the communal entrance hall, lobbies, landings, corridors and stairwells and underground garaging facilities and all entrance/exit points. Other areas requiring lighting will be indicated by the CPDA in writing. To reduce energy consumption this may be provided by a dimming system which leaves luminaires on at a lower level during quieter period.

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). 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).

27 Additional or alternative requirements for buildings containing multiple dwellings or bedrooms

- 27.1 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).

Communal and shared entrance doorset standards

- 27.2 A communal or shared entrance doorset can be defined as an external doorset leading to an internal communal area providing access to segregated flats, bedsit or individual bedrooms. They can be further categorized by use as follows:
- 27.2.1 A shared doorset with access controlled by use of a key without a designated access control system (and no remote release facility), serving a maximum number of 10 dwellings (flats, bedsits or bedrooms). Doorsets falling within this category shall meet the same physical security requirements as 'External dwelling doorsets and flat entrance doorsets served off a shared corridor or stairway dwelling doorsets' (paragraph 21).
- 27.2.2 A Communal doorset with access controlled via a separate access control unit installed within an integral adjacent panel, side screen, separate panel or adjacent masonry incorporating a remote release facility, serving multiple dwellings, with no minimum or maximum limit (see paragraphs 27.5 – 27.11) for access control system requirements).



Communal Doorsets with a separate adjacent access control panel (see paragraph 27.2.2)

27.3 Communal entrance doorsets with a separate adjacent access control panel are usually subjected to greater use (and abuse) due to the number of dwellings served. Certification to one of the following standards can demonstrate that the doorset has a more robust construction and is more able to withstand the day to day use in a communal application than a doorset tested to PAS 24:2012, PAS 24:2016 or STS 201:

- STS 202 Issue 3 (2011) Burglary Rating 2 (minimum)
- LPS 1175 Issue 7.2 (2014) Security Rating 2+ (minimum)
- PAS 24:2012, paragraph 4.4.3 i.e. tested to BS EN 1627 Resistance Class 3

Note 27.3: Specifiers are reminded that doorsets utilising non mechanical magnetic locks fall outside the scope of BS 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' in accordance with the National forward of BS EN 1627, NB This is a requirement within the UK national forward of BS EN 1627.

27.4 There have been numerous examples of doorsets failing in use due to poor general performance leading to properties becoming insecure and in some cases particularly heavy communal entrance exit doors have become detached from the frame which may result in serious injury or worse. Specifiers are reminded that the safety and security of a doorset can be severely compromised if it has not been certificated to the appropriate 'fitness for purpose' requirements within BS 6375, and therefore 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
- Weather performance - which may be influenced by the geographical location, temperature and climate)
- Wind resistance – also influenced by the location of the building
- And relevant sections of BS 6375 Part 3 (applicable to the installation)

Door entry and access control systems

27.5 All communal dwellings (see paragraph 30) with more than 10 dwellings or bedrooms should have a visitor door entry system or 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.

Small developments (up to 25 dwellings or bedrooms)

- 27.6 Visitor door entry systems or access control is not normally required for communal developments with four dwellings or less unless there is a dwelling or bedroom with a floor level higher than 4.5m or the accommodation is intended for use by the elderly or persons with disabilities.
- 27.7 Smaller developments containing up to 25 dwellings or bedrooms shall have a visitor door entry 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 restricted electronic key fob, card or key
 - Remote release of the primary entrance doorset from the dwelling or bedroom (Note 27.7a)
 - Audio and visual communication between the occupant and the visitor (Note 27.7b)

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

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.

Note 27.7a: Specifiers are reminded that the installed electronic release hardware must form part of the certificated doorset range.

Note 27.7b: Whilst a black and white monitor will meet the requirements of this paragraph, SBD recommends the use of colour monitors to assist the

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

Developments with more than 25 dwellings or bedrooms

- 27.8 Larger developments containing more than 25 dwelling or bedrooms shall have an access control system. The technology by which the access control system operates is outlined within UL 293, however it should provide the following attributes:
- Access to the building via use of a restricted electronic key fob, card or key
 - Vandal resistant external door entry panel with an integral camera (Note 27.8a)
 - Remote release of the primary entrance doorset from the dwelling or bedroom (Note 27.8b)
 - Audio/visual communication between the occupant and the visitor (Note 27.8a)
 - Capture (record) images in colour of people using the door entry panel
 - Battery back-up facility of the resident entry features of the system in the event of a power failure for up to 6 hours (Note 27.8c)
 - Unrestricted egress from the building should be afforded to the user in the event of an emergency or power failure.
 - Every event of the entry system both visitor and resident should be recorded and stored for 30 days.

Note 27.8a: Whilst a black and white monitor will meet the requirements of this paragraph, 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.

Note 27.8b: Specifiers are reminded that the installed electronic release hardware must form part of the certificated doorset range

Note 27.8c: In the event of an initial power failure door locks shall remain in the secure mode, however, once the battery back-up ceases to operate the system must revert to a safe (unlocked) mode.

Compartmentalisation of developments incorporating multiple flats, bedsits or bedrooms

27.9 Larger developments incorporating multiple flats, 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 curtail unlawful free movement throughout the building through the use of an access control system. The application of such is a matter for the specifier, but may be achieved by either, or a combination, of the following:

- Controlled lift access – each resident is assigned access to the floor on which their dwelling is located via the use of a proximity reader, swipe card or key (*Note 27.9*). Fire egress stairwells should also be controlled on each floor, from the stairwell into communal corridors, to reduce the risk of them being used for anti-social behaviour or criminal activities.

Note 27.9: 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.

- Dedicated doorsets on each landing preventing unauthorised access to the corridor from the stairwell and lift; each resident being assigned access to the floor on which their dwelling is located. Fire egress stairwells should then be controlled on the ground floor preventing access into the stairwell, to reduce the risk of them being used for anti-social behaviour or criminal activities. Unrestricted egress, from the corridor into the stairwell via the lobby, should also be provided at all times.

SBD recommends no more than 25 flats should be accessed via either of the access control methods above.

Fire service access

- 27.10 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:
- 27.10.1 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’.
- 27.10.2 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 easily identifiable in the event of an emergency. It has been agreed between the police and fire services that the most practical means of achieving this aim is to install a key switch within an external fire plans box (often referred to as a Premises Information Box) located at the main entrance to the



building. A Fire Plans Box (Premises Information Box) may also be located in a prominent position within the main foyer or communal entrance of the building. The key system should be of a restricted type acceptable to the fire service. The Fire Plans Box (Premises Information Box) 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
- STS 205 Issue 3 (2011), Burglary Rating 2

The use of fire plans boxes are recommended by the Fire and Rescue service and are referenced within clause 21(d) of BS 9991:2011. In accordance with the British Standard all fire plans boxes (Premises Information Box) should be clearly marked with a photo-luminescent identification sign on the outer face of the box door.

Emergency door release devices

- 27.11 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.

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

- 28.1 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) Section 1, paragraph 1.1. Doorsets shall meet the requirements within paragraphs 21.1 – 21.27.

Emergency egress doorsets from underground car parks

- 28.2 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 (paragraphs 28.3 to 28.8) as an alternative design solution for just such a scenario.

28.3 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) to be secure doorsets. However if an SBD Gold award is required all such doorsets shall meet the requirements within Section 3, paragraph 49.1.

28.4 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.

28.5 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 both Part B and Part Q of the English 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 (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.

28.6 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 paragraph 21.

28.7 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 recommended that a fire plans box is installed in accordance with BS 9991:2011 Section 21(d) to provide the fire service the appropriate information about the building.

28.8 Access control systems on all doors allowing access to communal areas of the building shall meet the requirements within paragraph 27.5 – 28.10 (inclusive).

Glazing in communal entrance doorsets

28.9 Where a glazed vision panel is installed it must form part of the manufacturers certificated doorset range.

28.10 Specifiers should note that Part Q of the Building Regulations (England) 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). NB This is a security performance criteria rather than a glazing thickness specification,

so glazing thicknesses may vary between manufacturers/suppliers.

29 Mail delivery in buildings containing multiple dwellings or bedrooms

- 29.1 There are increasing crime problems associated with the delivery of post to buildings containing multiple dwellings or bedrooms.

Communal mail delivery

- 29.2 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 an 'airlock' 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 retardation where considered necessary
- Installed in accordance with the manufacturers specifications

- 29.3 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.

Individual mail delivery to flats

- 29.4 It is not recommended that post is delivered to individual flat entrance doorsets within larger developments. However where letter plates/ boxes are installed in communal developments serving each individual flat shall meet the requirements of paragraphs 21.21 to 21.27 (inclusive) (Note 29.4).

Note 29.4: Letter aperture hardware installed within flat entrance doorsets must be assessed by the relevant certification authority and form part of a certificated fire and security range of products.

Windows, roof windows and roof lights in buildings containing multiple dwellings or bedrooms

- 29.5 All easily accessible windows, roof windows and roof lights in building containing multiple dwellings or bedrooms shall meet the requirements of clauses 23.34 to 23.42 (inclusive).

30 Lighting for buildings containing multiple dwellings

External lighting

- 30.1 Lighting is required to each elevation that contains a doorset where the public, visitors or occupants of the building are expected to use (Note 30.1).

Note 30.1: 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

- 30.2 24 hour lighting (switched using a photoelectric cell) to internal communal areas of the building is required. 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.

31 Loft hatches in Communal areas

- 31.1 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 compartmentalized 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 1:2013 SR1 and fitted in accordance with the manufacturer's instructions

SECTION 2B

32 Technical guidance for bespoke new and refurbished homes

- 32.1 This section provides technical guidance for bespoke new homes and the upgrading 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 with Section 2a where possible. However, Approved Document Q (English 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.
- 32.2 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.

- 32.3 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.
- 32.4 This section may also be used by organisations or individuals that are undertaking both minor refurbishment of a single dwelling. Major refurbishment schemes should meet the requirements within Section 2a.
- 32.5 Section 2b of this guidance document is further separated into two areas:
- 32.5.1 Houses, bungalows and flats or maisonettes accessed via a private dedicated entrance doorset.
- 32.5.2 Buildings containing multiple dwellings or bedrooms accessed from a semi-private area and served by a shared or communal entrance doorset.

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

- 33.1 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 33.1*) etc., are required to be secure doorsets within both the Building Regulations (England) and the Scottish Building Standards.

Note 33.1: 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.

Door and window materials

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

Timber products

33.3 Approved Document Q of the Building Regulations (England) 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:

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

33.3.2 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.

33.3.3 Dimensions (windows)

- Casement window frame components (head, sill, jamb, transom & mullion) are to 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 have a minimum of 56mm deep and 56mm deep rebated and moulded to retain a minimum section of 25mm.



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

- 33.4 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'*

PVC-U products

- 33.5 All windows and doorsets should be constructed from profile meeting the requirements of BS EN 12608:2003 *Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors. Classification, requirements and test methods.*

- 33.6 Bespoke PVC-U products e.g. those falling outside the scope of PAS 24:2012 or 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 24:2012 or PAS 24:2016 in other window styles within the profile manufacturers or fabricators range.
- 33.7 All window and door profiles should incorporate reinforcement to cater for the secure fixing of hardware and to provide additional strength to the profile.
- 33.8 Further guidance for the construction of good quality bespoke PVC-U 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

- 33.9 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 75509:2008 or BS EN 12020-2:2008
- 33.10 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.

33.11 Bespoke aluminium products e.g. those falling outside the scope of PAS 24:2012 or 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 24:2012 or PAS 24:2016 in other window styles within the profile manufacturers or fabricators range.

33.12 Further guidance for the construction of good quality bespoke aluminium windows and doorsets can be sought from BS 4873:2009 '*Aluminium alloy windows and doorsets. Specification*'

Composite products

33.13 It is difficult to provide detailed guidance for composite products due to the myriad of differing materials used and indeed the numerous combinations of composite products used in doorset and window products in more recent times. For this reason the Association of Composite Door Manufacturers has advised SBD that it is unwise to produce a specification for a 'bespoke' application, therefore all composite doorsets should be certificated to the standards outlined within Section 2a.

33.14 Although BS 8529:2010 '*Composite doorsets. Domestic external doorsets. Specification*' was developed for the composite doorset products it may provide further guidance for the construction of good quality composite windows.

Steel products

33.15 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

33.16 The primary entrance doorset should be fitted with a multipoint locking system that meets the requirements of:

- PAS 3621 (key locking both sides), or;

- PAS 8621 (non-key locking on the internal face), or;
- PAS 10621 (non-key locking on the internal face – with an external locking override facility).

33.17 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;

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

33.18 The above mortice locks should be supplemented with a surface mounted rim lock conforming to the same standard. There should be a minimum of 400mm and a maximum of 600mm between the two locking points.

33.19 Non-primary doorsets (back or garage interconnecting doorsets) may be fitted with a multi point locking system conforming to the standards in 33.18 above, alternatively single point locks conforming to the standards in 33.18 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).

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

33.21 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 33.21*).

The instructions should be easily removable by the end user.

Note 33.21: 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

- 33.23 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 33.23*). Specifiers are reminded that this is also a requirement within ADQ, Annex B, paragraph B.11.

Note 33.23: 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

- 33.23 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.
- 33.24 A door viewer meeting the requirements with the Door & Hardware Federation Technical Specification 002 (TS 002) standard must be fitted between 1200mm and 1500mm 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

- 33.25 Door frames must be securely fixed to the building fabric in accordance with the manufacturer's specifications.
- 33.26 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 uses, ensure that the frame remains centralised, level and square and allow for thermal movement of the frame.
- 33.27 Doorsets that are hidden from public view, typically a side or back doors, should not be recessed more than 600mm. This requirement is not

applicable to doorsets that are located within public view (typically a front door) (Note 33.27).

Note 33.27: For the purposes of this guidance document a doorset is considered to be within 'public view' when it can be seen from the street.

34 Security of existing (refurbished) doorsets

34.1 It is difficult to provide a definitive requirement for each doorset type and material, therefore if the existing doorset are to be retained during a refurbishment scheme the CPDA 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 sound, free from rot (timber products) and any repairs. The material and dimensional requirements within paragraph 33 (inclusive) should be observed as a guide to the suitability of the existing doorset.
- Locking systems can be replaced with those referenced within paragraph's 33.18 to 33.23.
- Europrofile cylinders should be replaced with products certificated to Door Hardware Federation (DHF) Technical Standard 007 (TS 007) - 3-Star rating, or a TS 007 1-star cylinder may be utilised if accompanied by 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 be installed with anti-lift hardware designed to prevent the doorset from 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, sometimes referred to as an anti-thrust plate, to the door leaf and the installation of a London 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 PVC-U 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. PVC-U panels can be replaced with new panels that have been shown by test to meet the security requirements of PAS 24:2012 or PAS 24:2016 (as a component part of a full test).
- Glazing in existing doorsets should be upgraded to meet the requirements in paragraph 21.13. Glazing in aluminium and PVC-U 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.

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

35.1 A letterplate tested to the requirements of the Door Hardware Federation's Technical Standard 008 (TS 008) will provide reassurance



that the likelihood of the letterplate aperture being used to gain access to the home will be substantially reduced. Specifiers attention is drawn to the fact that TS 008 is referenced within Approved Document Q as a proven method of protecting the dwelling from attacks known to be committed via the letterplate.

35.2 Alternative compliance can be demonstrated by utilising letterplates meeting the following requirements (*Note 35.2a*):

- 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 35.2b*) 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 35.2a: This specification is the minimum requirement within PAS 24:2012, PAS 24:2016 and STS 201.

Note 35.2b: 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

35.3 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 standard Technical Standard 009 (TS 009) or delivery ‘through the wall’ into a secure area of the dwelling. 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

- 35.4 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.
- 35.5 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.

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

- 36.1 All new bespoke windows should comply with the applicable material and dimensions requirements within paragraph at 33.3 to 33.17 above.

Window hardware

- 36.2 Windows should be installed with multipoint espagnolette locking systems that have been shown by test to meet the security requirements of PAS 24:2012 or 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.
- 36.3 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.

- 36.4 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 24:2012 or PAS 24:2016 as a component part of a window of the same material.
- 36.5 Heritage hinges (untested as a component part of PAS 24) should be supplemented with hinge bolts.
- 36.6 Tilting window pivots and top retaining bolts should be enhanced to resist increased loads.
- 36.7 Sash fasteners (fitch catches) should also be enhanced to resist increased loads.

Glazing in windows

- 36.8 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 36.8). NB This is a specific requirement within PAS 24:2012, which is referenced within both the Building Regulations (England) and the Scottish Building Standards.

Note 36.8: 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.

- 36.9 SBD requires all easily accessible emergency egress windows to incorporate non-lockable hardware and laminated glass meeting the requirements of BS EN 356:2000 class P1A.

Window installation

- 36.10 Windows must be securely fixed to the building fabric in accordance with the manufacturer's specifications.
- 36.11 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 uses, ensure that the frame remains centralised, level and square and allow for thermal movement of the frame.
- 36.12 Vertical Sliding sash windows should be securely retained in the frame by the face lining, parting bead and staff bead.

37 Security of existing (refurbished) windows

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 CPDA should be consulted before embarking on any improvements. However some areas for improvement may include:

- Lockable hardware (with a minimum of two locking points per opening light). Unless the window is a designated emergency egress route.
- The security of existing PVC-U and aluminium windows can be improved through the use of hardware that has been shown by test to meet the security requirements of PAS 24:2012 or 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 22.8. Glazing in aluminium windows can be secured through the use of glazing security clips or glazing security tape.

38 Conservatories and sun rooms

- 38.1 Where a conservatory or sun room is installed in a bespoke home and it is not possible to utilise PAS 24:2012 or PAS 24:2016 doorsets and windows for the reasons previously mentioned within paragraph 32.2, then the doors and windows must meet the same material, dimensional (where applicable), and physical security standards within Section 2b.
- 38.2 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. The doorset should either meet the requirements of Section 2a or comply with the relevant material, dimensional and physical requirements within Section 2b.

39 External lighting for dwellings

- 39.1 Lighting is required to each dwelling elevation that contains a doorset (*Note 39.1*).

Note 39.1: 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

- 39.2 24 hour lighting (switched using a photoelectric cell) to communal parts of blocks of flats will be required. This will normally include the communal entrance hall, lobbies, landings, corridors and stairwells and underground garaging facilities and all entrance/exit points. Other areas requiring lighting will be indicated by the CPDA in writing. To reduce energy consumption this may be provided by a dimming system which leaves luminaires on at a lower level during quieter period

40 Utility meters

- 40.1 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).

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

- 41.1 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).

Communal and shared doorset standards

- 41.2 Please refer to Section 2a, paragraph 27.2 for the SBD definition of a communal and shared doorset.
- 41.3 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 27.4).
- 41.4 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 CPDA 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 41.4*). Specifiers are reminded that this is also a requirement within ADQ, Annex B, paragraph B.11.

Note 41.4: 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 33.18 or 33.19. Magnetic doorset locking systems should be shown by test to meet the security requirements of PAS 24:2012, 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 shared or communal entrance doorsets can be enhanced if necessary by the installation of a deadlock guard, sometimes referred to as an anti-thrust plate, to the door leaf and the installation of a London 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, Paragraph 27.5 – 27.11.

42 Mail delivery in bespoke buildings containing multiple dwellings or bedrooms

- 42.1 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 29.

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

- 43.1 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) Section 1, paragraph 1.1. Bespoke doorsets shall meet the requirements within paragraphs 33 and 34.

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

- 44.1 All easily accessible bespoke windows, roof windows and roof lights in building containing multiple dwellings or bedrooms shall, where possible, meet the material and dimensional requirements within paragraphs, window hardware requirements within paragraphs 33, 36 and 37.

45 Lightweight framed walls in bespoke dwellings

- 45.1 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 (England) (*Note 45.1*). 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 45.1: See – The Building Regulations 2000, Security-Dwellings, Q1: Unauthorised access, Section 1: Doors, paragraph 1.6

- 45.2 Annex A details additional or alternative requirements for student or key worker accommodation and other 'single room' accommodation with shared communal facilities

46 Lighting for buildings containing multiple bespoke dwellings

External lighting

- 46.1 Lighting is required to each elevation that contains a doorset where the public, visitors or occupants of the building are expected to use (*Note 46.1*).

Note 46.1: 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

- 46.2 24 hour lighting (switched using a photoelectric cell) to internal communal areas of the building is required. 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.

47 Loft hatches in Communal areas

- 47.1 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 compartmentalized to prevent the spread of fire and smoke. There are currently no 'hinged' or 'lift out' loft hatches being manufactured to recognised security standards, but where padlocks, hasps and staples are used to secure the hatch the products must be certificated to BS EN 12320:2012, Sold Secure 'Silver' or LPS 1654 Issue 1:2013 SR1 and fitted in accordance with the manufacturer's instructions



SECTION 3

48 Additional features for the SBD Gold award or for a SBD Silver award or bespoke development

- 48.1 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.
- 48.2 This section also addresses an additional glazing requirement that the police CPDA may invoke for SBD Gold applications if the area crime profile indicates an increased level of risk.
- 48.3 Individuals may also utilise this section when installing any of the features in an existing development to increase security.
- 48.4 Developers wishing to apply for the full SBD Gold award shall adhere to Sections 1 and 2 in full together with

the relevant features contained within this section.

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

- 49.1 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.

50 Additional window requirements for SBD Gold

- 50.1 In certain high crime locations only, to ensure that security is commensurate with the risk, the CPDA may require laminated glass meeting the requirements of BS EN 356:2000 class 1A (*Note 50.1a*) to be installed on all ground floor and basement windows and those easily accessible above ground floor (*Note 50.1b*). Such a requirement will be justified following a crime impact assessment of the area by the CPDA 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 50.1a: 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 50.1b: 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.*

51 External garage doorsets

51.1 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 'External dwelling doorsets' (Section 2a paragraph 21.1 to 21.16 and 21.19 to 21.20).

51.2 Vehicle access doorsets shall be certificated to one of the following standards (*Note 51.2*):

- LPS 1175 Issue 7.2 (2014) Security Rating 1
- STS 202 Issue 3 (2011) Burglary Rating 1

Specifiers are reminded of the

requirements within the English Building Regulations (Part Q), see Section 2a, paragraph 21.2.

Note 51.2: 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.

51.3 Alternatively a vehicle access door that is not certificated to one of the above standards, and not subject to the requirements within the English 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. The CPDA must be supplied with proof of certification (by one of the above bodies) including the technical schedule (sometimes referred to as 'Scope of Certification') prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design Licensing Scheme and the doorset can be identified on the SBD website.

52 Car parking

Communal car parking areas

52.1 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 52.1*). It may be necessary to provide additional windows to provide the opportunity for overlooking of the parking facility.

Note 52.1: 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.

- 52.2 Lighting must be at the levels recommended by BS 5489:2013. The CPDA shall be provided with a declaration of conformity to BS 5489:2013 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.

Underground car parking

- 52.3 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 27.10 and 27.11):
- 52.3.1 An access control system must be applied to all vehicular and pedestrian entrances to prevent unauthorised access in to the car park.
- 52.3.2 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 a minimum of LPS 1175 SR1 or STS 202 BR 1.

- 52.3.3 Lighting must be at the levels recommended by BS 5489:2013. The CPDA shall be provided with a declaration of conformity to BS 5489:2013 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.
- 52.3.4 Walls and ceilings must have light colour finishes to maximise the effectiveness of the lighting as this will reduce the luminaires required to achieve an acceptable light level (*Note 52.2.4*).
- Note 52.2.4: Reflective paint can reduce the number of luminaires needed to achieve the desired lighting level and reduce long term running costs.*
- 52.3.5 Any internal door that gives access to the residential floors must have an access control system.
- 52.3.6 In developments where closed circuit television (CCTV) is required by the client or by the CPDA, following a crime risk assessment, 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 1998. Developers are reminded that if images of public space are visible and recorded then there may be a legal responsibility to register the system with the Information Commissioner. Such a system would only be practical if there is a planned management service for the development.

53 Secure external storage facilities and bicycle security

- 53.1 External containers specifically designed for the secure storage of bicycles and other property must be certificated to LPS 1175 SR 1 or Sold Secure (Bronze, Silver or Gold depending on location).
- 53.2 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 (min)
 - 10x125mm (min) Tongue & Grooved board
 - No window to be present

- Door hinges, hasp and staple to be coach-bolted through the shed structure
- ‘Sold Secure’ Silver or LPS 1654 Issue 1:2013 SR1 standard padlock to be used
- Shall be securely fixed to a suitable substrate foundation
- The bicycle security anchor shall also be certificated to ‘Sold Secure’ Silver Standard or LPS 1175 Issue 7.2 (2014) SR1 and securely fixed to the concrete foundation in accordance with the manufacturer’s specifications
- Proprietary wall-mounted anchoring systems certificated to Sold Secure Silver standard and installed according to the manufacturer’s specifications are acceptable

External communal bicycle storage

- 53.3 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 53.3*) of dwellings. The store must be lit at night using vandal resistant, light fittings and energy efficient lamps. NB Vertical cycle racks can

be difficult for some sections of the community to use.

Note 53.3: 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.

- 53.4 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)
- Minimum foundation depth of 300mm with welded 'anchor bar'. Compliance can be demonstrated by products certificated to LPS 1175 Issue 7.2 (2014) Security Rating 1 or 2, or alternatively Sold Secure (Bronze, Silver or Gold).

54 Integral communal bin, mobility vehicles and bicycle stores

- 54.1 Integral communal bin, mobility vehicles and bicycle stores within blocks of flats must have no windows and be fitted with a secure doorset that meets the same physical specification as 'front door' and specifically Section 2a, paragraphs 21.1 to 21.16 and 21.19 to 21.20. This will ensure that such stores are only accessible to 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. A bicycle store must also be

provided with stands with secure anchor points or secure cycle stands (see paragraph 53).

- 54.2 Doorsets providing access from the storage facility into communal parts of the building (including emergency egress doorsets) are required to meet both Part B and Part Q of the English Building Regulations.
- 54.3 Any doorset that provides access to the communal areas shall also be controlled via an access control system.

55 Internal communal drying rooms

- 55.1 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 2, paragraphs 21.1 to 21.16 and 21.19 to 21.20. 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

56 Private external lighting and dwelling lighting

Private external lighting to common areas

- 56.1 Where possible the lighting requirements within BS 5489:2013 should be applied (see paragraph 18).
- 56.2 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 51.1*).

Note 56.2: Developers are reminded that intrusive lighting from the private

lighting schemes into public areas may constitute a statutory nuisance and is wasteful and costly.

- 56.3 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

- 56.4 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 and distorts the available light due to the 'up-lighting' effect; making it difficult to recognise facial features and as a result causes an increase in the fear of crime.
- 56.5 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 56.5).

Note 56.5: 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.

57 Intruder Alarms

- 57.1 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)

Additional or alternative requirements for student or key worker accommodation and other 'single room' accommodation with shared communal facilities

- A1.1 Purpose built or converted existing buildings, often intended for use by students or key workers, that offer a single room for the use by the occupier with shared facilities e.g. kitchen, dining and bathing, are subject to increased criminal activity. The nature of such developments affords the opportunist criminal additional anonymity and therefore aids the criminal act and escape. The following requirements are intended for buildings housing numerous 'accommodation rooms (bedrooms)'.

Compartmentalisation of 'dwelling' areas

- A2.1 No more than 8 bedrooms intended for the sole use of individual occupants will be acceptable within each communal unit. Buildings housing numerous communal units (flats/apartments) must be arranged to ensure that each communal unit does not exceed the maximum number of bedrooms allowed. Each communal unit must also incorporate the requirements below.

Party walls

- A3.1 Each communal unit (i.e. the external boundary walls of the flat or apartment) together with the associated shared facilities and living space will be afforded the same protection as outlined in Section 2a paragraph 24. However, the same level of protection is not required between each of the individual accommodation rooms (unless the room abuts a public or semi-public corridor), however it is expected that the wall construction is still of a robust nature and satisfactorily sound proofed.

Flat/dwelling entrance doorset

- A4.1 The primary communal unit doorset (allowing access to the flat/apartment) shall meet the same physical specification outlined within paragraph 21.

Accommodation room (bedroom) doorsets

- A5.1 Doorsets providing access to the individual bedrooms shall be of:
- robust construction and fire rated (FD30 or higher), and;
 - installed with a lock certificated to BS 8621 or PAS 8621, and will be;
 - fitted with a minimum of two hinge bolts or hinges with a similar integral facility to ensure protection in the event of a hinge failure under following a criminal attack, and;
 - installed with a securely fixed, robust planted stop, OR;
 - Shall meet the same physical specification as 'front door' (paragraphs 21, excluding any requirements for postal delivery).

Image Attributions

Cover	Kidbrooke Estate, image copyright Berkeley Homes
Page 7	Image copyright Redrow
Page 13	Image copyright Gleeson Homes
Page 15	Image copyright Secured by Design
Page 17	Image copyright Secured by Design, image taken by Emma Snow
Page 19	Image copyright Jackson's Fencing
Page 23	Image copyright Secured by Design
Page 26	Image copyright Secured by Design
Page 28	Logo copyright Secured by Design
Page 29	Image copyright JCK Joinery Ltd
Page 30	Image copyright Garador Ltd
Page 36	Image copyright Rationel Windows UK Ltd
Page 37	Image copyright The Rooflight Company
Page 39	Image copyright Velfac Ltd
Page 41	Image copyright NEOS Protect Ltd
Page 43	Image copyright Gerda UK
Page 48	Purchased stock image
Page 50	Image copyright Rationel Windows UK Ltd
Page 51	Image copyright Reynaers Aluminium
Page 55	Image copyright DAD (UK) Limited (Trading as Decayeux Security)
Page 61	Purchased stock image
Page 65	Image copyright Trimetals Limited

Secured by Design



Official Police Security Initiative

www.securedbydesign.com

Secured by Design

First Floor, 10 Victoria Street

London SW1H 0NN

Telephone: 02038 623 999

Email: enquiries@police-cpi.co.uk