

Keeping safe and sound

Michael Miles highlights risk assessment issues and the physical security of building access, and discusses ways to maintain a property's security against various threats

The costly toll of vandalism and theft on property owners and businesses, and the escalating threat of terrorism, extortion and infiltration has brought the security of building assets into sharp focus.

The material performance of a building is fundamental to its security, playing an integral role in protecting the value of the asset, including its insurability, rentability and saleability.

New developments and existing buildings need to address the new emphasis on security, with an inevitable impact on the surveyor in evaluating products and costs.

Implementation of effective security is dependent on defining the security risks faced by a building in relation to the activities and people it supports. This stands and falls on the risk assessment. Security risk assessment of commercial property and public sector buildings involves three key steps: identifying threats, assessing the building's vulnerability to them, and evaluating the resulting impact on the asset and the operations it houses.

Over the last ten years, risk assessment of building security has been largely shaped by police advice. This has concentrated on the implementation of a minimum level of security, enhanced to higher levels commensurate with risk.

While the Home Office issues directives on security for operators of national infrastructure, Secured By Design (SBD) provides government-backed guidance on crime prevention in the layout, design and physical security of houses, commercial property, and other developments.

Launched by the Association of Chief Police Officers (ACPO) in 1989, SBD is facilitated by Local Crime Prevention Design Advisors (CPDAs), also known as Architectural Liaison Officers. In line with SBD advice, risk assessment should first identify and analyse security risks, and record what defensive measures are already in place, before making upgrades to a building.

The key issue is to identify the most important element within the business. It may not necessarily be the products produced in a building or factory, unless the products made are so intrinsically valuable that the loss of them – either by one single theft or constant leakage – would result in a business failing. More usually, the priority will be to protect the ability to keep the business operational.

Broadly speaking, the risk assessment methodology should:

- identify and record distinct areas of the building, its grounds and approaches
- identify and record the key risks in each area as risk scenarios, including the vulnerability, the trigger and the consequences, and assess the likelihood of the risk event happening
- look at how these risks are currently mitigated
- determine risk priorities and an implement action plan on key risks.

Both new developments and existing buildings can readily adopt SBD advice to reduce risk. The SBD's comprehensive range of guidance is updated regularly (*SBD Commercial 2010*, which was published in Spring) and is designed to address known criminal trends.

Responsibility and procedures for risk assessment of building security are not set in stone, and there is no legislation or standard governing on how it should be conducted. Building owners, their business tenants and property agents are acutely aware of the importance of implementing and being able to demonstrate sound security, not least to satisfy insurers.

Risk assessment is not a precise science, and for commercial insurance, in particular, is a bespoke exercise, depending on many complex variables. The property sector is hampered by a lack of regulation of security provision at the construction design stage, which would ensure that buildings are intrinsically 'hardened' against crime.

Some security measures are harnessed and delivered through the planning process, forming part of the design access statement. However, there is currently no obligation on the architect to design crime resistance into buildings, nor any powers to make builders install a minimum burglar-proof standard.

Back in 2004, the Sustainable and Secure Buildings Act granted powers to introduce a security standard (Part S) into the Building Regulations, to provide for the incorporation of crime resistance, just like fire resistance, into the design of buildings. But Part S has yet to materialise and, according to the Building Regulations Advisory Committee, there are no early plans for it.

There are also glaring gaps in guidance on secure design criteria for critical components, most notably doors.

Although a number of standards exist with relevance to certain areas of building security, none deal specifically with the security performance of doors, windows and associated components in relation to assessed risk. The BS8220 series, for example, offers guidance on a building's security design. But it generally refers to domestic standards and design attributes rather than advising on risk-related levels of performance required from products.

In terms of product-specific performance, the draft standard, ENV1627 covers the doors, windows and shutters' security performance, but is still in development.

Where the existing Building Regulations are concerned, specifiers have only the very broad provision of Approved Document Part M, 'Access to and Use of Buildings', which states that doors 'should be capable of remaining shut.' Dare it be said, this leaves the door wide open as to what might be considered secure. It also leaves specifiers frustrated as the existence of a measurable standard of security would allow performance specifications to be tailored to the level of assessed risk. In turn, this would give the flexibility and confidence to demonstrate cost savings from products geared to low-risk sites.

No wonder, then, that the commercial sector is increasingly buying into security products approved to robust third-party regimes, more often than not, the Loss Prevention Certification Board.

A key strength of LPCB approval is its robust, dedicated standard for façade elements, LPS 1175, which includes doors, shutters and grilles for commercial premises and higher risk domestic premises.

Products are tested and awarded an LPCB security rating (SR) – SR 1 to 8, where 8 is the highest level (anti-terrorist) – according to the duration of attack and type of tools they are able to withstand. The SR classes product performance according to a proven hierarchy of assessed risk of attack that is updated in response to Home Office guidance. In other words, it makes the vital link between the risk assessment and product specification that will meet it.

Doorsets that comply with PAS 23/24 (WCL 1), equate to LPS 1175 SR 1 or 2, which will not be suitable for higher risk applications (SR3 and above) in the commercial sector. Products with lower ratings of security are designed to withstand only relatively short durations of attack, which will often fall far short of best response times from police.

New demand for LPS 1175 products is being seen from supermarkets and large retailers, as well as pharmacists, medical centres, doctors' and dental surgeries, especially in high-risk areas and remote locations where there is greater risk of organised crime.

Businesses that self-insure tend to apply particularly stringent levels of asset protection, and often rely on the strengths of LPS 1175. And it will come as no surprise that SBD, in addition to recognising products that meet its own approval system, also advocates the use of LPS 1175 compliant products.

Another important aspect of LPCB approval is that it is not based on one product test. There is an ongoing audit of product quality and design compliance to ensure the security standard continues to be replicated in all units coming off the production line.

In terms of physical access to a building, rear doors and roof hatches pose the biggest security concern. Facilities managers often believe that CCTV provides adequate protection, but this is no substitute for a securely designed physical barrier that keeps the criminal out. CCTV will provide a visual alert to an attack and record evidence of it, but does not hold off unauthorised entry while police respond. Ram raiders, for example, will be gone by the time police arrive.

Today's high-security doors offer many options of physical access: entry only, exit only, entry and exit, as well as different ironmongery, such as key and lever handle, solenoid, punch-pad, thumb-turn and lever, full width panic bar, etc. In selecting a certificated solution, it should be established that doors and locks have gained third-party approval *in combination* and not just as independent systems.

Security door design can be further complicated by the conflicting needs of the fire service and police. Fire response needs ease of entry/exit, while police emphasis is on ensuring the opposite. Manufacturers experienced in approved security products will be able to provide risk assessment and advice on door security, including the building fabric in which they are framed. They will be able to point out any issues with adjacent wall construction, such as special considerations for timber-frame walls and wall systems based around alloy sheeting.

Disability Discrimination Act considerations will also affect the design of doors. For example, the locking system may have to accommodate operation by a push-pad as well as addressing security procedures.

Higher levels of security will require higher specification products that inevitably come at a higher price. However, by providing a methodology of defining and quantifying risk, the risk assessment provides a dependable, cost-efficient basis for matching appropriate, security rated products to mitigate risk. It supports greater accuracy in whole-life costings, helps to minimise maintenance and operational costs, and reduces the risks of ownership.

The then OPDM's publication, *Safer places: The Planning System and Crime Prevention* advises: "Planning in quality physical security from the outset is usually much cheaper and easier than retro-fitting it later".

The same publication, which has input from the Commission for Architecture and the Built Environment, encourages consideration of the visual impact of crime prevention measures.

As well as meeting rigorous performance criteria, high-security doors, shutters and grilles are available that also provide scope to achieve the right aesthetics. The building design, local planning, heritage or conservation needs may dictate a particular visual finish. Often,



Ref: H door 1958:
Consider the security of vulnerable rear access points



Ref: PS6
HOSDB-approved security louvres from Technocover, part of Technogroup



Ref: PS3
Security may need to fulfil tough aesthetic demands as well as security to comply with planning requirements

designers will favour products that soften the harsh, utilitarian look associated with security equipment as it is perceived to feed into the fear of crime.

Safer places additionally points out that security products may still leave areas of potential weakness if not properly installed. Manufacturers who also fit their products to a recognised security standard will be best equipped to install and assure their own systems.

Further information

Information on the Technocover (part of Technogroup) range of LPCB approved SR 2 to 5 high security doors and other products can be found on the BRE's specific link www.redbooklive.com

www.securedbydesign.com

www.crimereduction.gov.uk

References:

Sustainable and Secure Buildings Act 2004

BS 8220 (in 3 parts). Guide for Security of Buildings against Crime.

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

Building Regulations Approved Document M. Access to and Use of Buildings 2004

Loss Prevention Standard LPS 1175: Issue 6. Requirements and testing procedures for the LPCB approval and listing of intruder resistant building components, strongpoints, security enclosures and free-standing barriers

PAS 23-1: 1999. General performance requirements for door assemblies – Part 1: Single leaf, external door assemblies to dwellings

PAS 24-1: 1999. Enhanced security performance requirements for door assemblies - Part 1: Single leaf, external door assemblies to dwellings.

Disability Discrimination Act 2005



Related competencies include: T050