

# Security systems

Protecting people and property



The correct specification of security products and systems is critical in protecting people and property from losses associated with crime and terrorism.

## LPCB Overview

LPCB (Loss Prevention Certification Board) has been setting standards for loss prevention since the 1800's, and its standards and approvals for security products are recognised across the world. That recognition is testimony to the extremely thorough technical evaluation work and rigorous quality audit processes undertaken by LPCB to ensure the security products it tests and approves deliver proven levels of protection.

LPCB works closely with government, police, insurers, risk consultants and architects to develop standards and approval schemes which ensure security equipment and services deliver the levels of performance required to protect against criminal and terrorist threats.

Approval to LPCB's Loss Prevention Standards (LPSs) is specified across multiple sectors, including: education, finance, healthcare, manufacturing, the public sector, residential, retail and utilities. The standards are also specified for the protection of critical infrastructure where delivery of specified levels of security performance is critical.



### Setting high standards of security

The Loss Prevention Standards developed by LPCB address risks not otherwise covered by existing national and international standards and codes. They are drafted by teams of experts, and are reviewed and endorsed by independent stakeholders representing major interest groups.

LPCB's broad range of standards are designed to simulate a variety of circumstances. This could be the likely length of attack, the tools or methods used, or even the likelihood of a stealth attack. Whatever the situation, an effective physical security solution should deter or delay an attacker and should be complimented by a suitable means of detection. This is to allow the response (whether that be electronic or human) to reach the scene before the attacker is successful.

LPCB Loss Prevention Standards are available free from LPCB's website: [www.redbooklive.com](http://www.redbooklive.com).



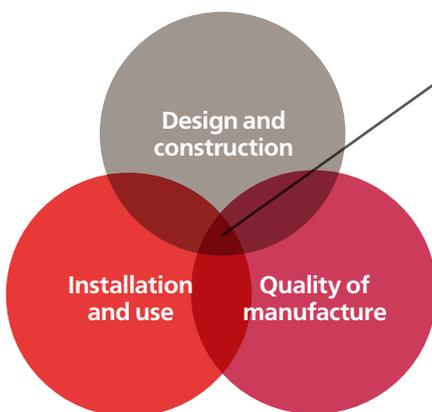


### Independent testing

LPCB uses fully equipped laboratories that are independently accredited by UKAS. LPCB can also arrange for testing to be conducted at manufacturers' premises, whether in the UK or abroad. This has many advantages to manufacturers including reduced costs and timescales.

### Approval of effective security

In order to ensure the LPCB certification mark is, and continues to be, a mark of excellence in loss prevention; the products that bear the LPCB certification mark and the companies that deliver those products onto the market have to complete a thorough evaluation process. That process focuses on the critical factors that combine to deliver the product's performance: design, use and quality control. It also involves thorough processes to ensure the quality of testing conducted in support of the product's certification, whether conducted by our own expert team of test engineers or by other independent laboratories recognised by LPCB.



### Product performance

A product's design, the quality of how it is constructed, and the manner in which it is installed and used contribute to its performance in use. These factors therefore form an integral part of LPCB's evaluation and approval process.

The evaluation activities we undertake, not only before approval is issued but while that approval remains in force, ensure the factors that affect product performance are suitably robust and managed effectively. These activities ensure the products we approve meet, and continue to meet, the exacting standards to which they are approved by LPCB.

### Why get approval?

Manufacturers benefit from approval by being able to positively distinguish their products from the competition in a way that purchasers will recognise, accept, and increasingly insist upon. When a product is approved by LPCB it is immediately listed in the Red Book, a source used by specifiers and purchasers in selecting security components.

Specifiers and designers also benefit by being able to cut through the confusion of claims of compliance, as the LPCB mark of approval evidences that a product has met a given standard.

### Red Book

Once LPCB is satisfied that a product or service meets the required standard, it is listed in the 'Red Book'. The Red Book is published in January each year and is available free of charge in hard copy, CD ROM, an updateable USB memory stick and as a mobile phone app. A live version of the Red Book can be also viewed free of charge on [www.RedBookLive.com](http://www.RedBookLive.com) where new entries and amendments are updated constantly. We recommend that users check the online version for the most up to date listings.

Reliable listings such as the Red Book are important tools in combating false or misleading claims of approval. Where such claims refer to LPCB schemes or services, LPCB actively investigates them and takes action as necessary.



# Security Systems

LPCB approval ensures that security products provide the reliable delay and means of detection required to protect against intrusion.



LPCB's standards, approvals and Red Book listings cover a broad range of potential solutions. These include:

- Access control systems
- Access covers and hatches
- Alarm receiving centres
- Alarm transmission systems
- Asset marking systems
- Bicycle storage
- Biometrics
- Cabinets and cages
- Cladding and roof systems
- Cylinders
- Curtain walling systems
- Doors
- Electronic locks
- Enclosures and kiosks
- Fences and walls
- Gates and turnstiles
- Glazing
- Grilles and barsets
- Intruder detection
- Locks and padlocks
- RFID
- Safes and strongrooms
- Secure asset registers
- Shutters
- Security fogging devices
- Sheds and tool stores
- Specialist security devices
- Theft resistant assets
- Vehicle barriers
- Windows and roof lights

An effective security strategy concentrates not only on one particular element, but addresses each and every 'layer' applicable to the scenario. LPCB approves security equipment to various British and European standards, as well as its own world-renowned Loss Prevention Standards (LPS). These allow specifiers to select appropriate products for each security layer, from the perimeter right through to the asset itself.

## Intruder-resistant products

LPS 1175 LPS 2081  
PAS 24 EN 1627

## Glazing

LPS 1270 EN 356

## Safe and strongrooms

LPS 1183 EN 1143  
EN 14450

## Padlocks

LPS 1654

## Lock cylinders

LPS 1242

## Alarm receiving and alarm transmission

LPS 1020 LPS 1277

## Asset marking

LPS 1224 LPS 1225

## Information technology

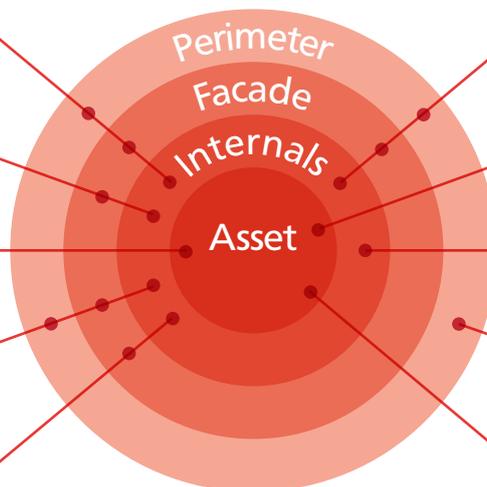
LPS 1214

## Vehicle barriers

PAS 68 LPS 1175

## Theft resistant consumer electronics

LPS 1650





## Building and perimeter

### LPS 1175

Requirements and testing procedures for the LPCB approval and listing of intruder resistant building components, strongpoints, security enclosures and free-standing barriers.

LPS 1175 covers the broadest scope of physical security products and services of any publicly available standard in the world. LPS 1175 is the result of many years of work by LPCB, Government, Insurers and Police, and has rapidly become a core element of physical security specification across many sectors. The standard comprises a number of security ratings with test requirements of ascending intensity. These are measured in terms of attack tools and time available to the attacker, and enables specifiers to select products according to the risks that they and their property face. LPS 1175 can be used in a range of applications, from residential right through to critical infrastructure projects.

Level of risk	Security rating to LPS 1175	Resistance provided
 High risk	SR8	Products provide resistance to extreme means of attempted forced entry into higher value areas.
	SR6 & 7	Products provide high levels of resistance to professional means of attempted forced entry into higher value storage areas using a wide range of tools including mains powered tools.
	SR4 & 5	Products resist experienced attempts at forced entry using a wide range of tools including battery powered tools lasting up to 10 minutes depending on the security rating sought.
	SR3	Products provide moderate resistance to determined attempts of force entry using a range of techniques including those that involve creation of noise.
	SR1 & 2	Products provide the minimum levels of recognised resistance to opportunist attempts at forced entry using a range of techniques including those that create noise such as those involving breaking glass.
Low risk		

### EN 1627

Pedestrian doorsets, windows, curtain walling, grilles and shutters. Burglar resistance. Requirements and classification.

This standard classifies a product's resistance to tiered levels (resistance classes). The lower classes of EN 1627 are aimed at attacks by criminals using stealth to gain access, rather than the higher levels of attack covered by LPS 1175. Approval to EN 1627 can be used to demonstrate part-compliance with the requirements of PAS 24.



## Domestic Security

### PAS 24

Enhanced security performance requirements for doorsets and windows in the UK.

As of the 2012 version, the scope of this domestic security standard includes doors (hinged, sliding, bi-folding) and windows (casement, tilt-turn, sliding sash). PAS 24 is a mix of mechanical loading and manual intervention tests and is advocated by the police through the 'Secured by Design' scheme. Doors and windows certified by LPCB to PAS 24 and LPS 1175 are accepted by the police for use in Secured by Design projects.

## Glazing

### LPS 1270

Requirements and testing procedures for the LPCB approval and listing of intruder resistant security glazing units.

LPS 1270 classifies glazing's resistance to forced entry to the same levels as specified in LPS 1175. The classification is represented by 3 digits; these signify the glazing's resistance to local penetration, hand hole access, and complete access.

Digit	Type	Description
1st	Local penetration	Represents glazing's likely resistance to creation of a hole through which a piece of wire, screwdriver, lever or other such device can be passed. Such attacks may be attempted by intruders wishing to operate a panic bar, emergency lever handle or other.
2nd	Hand hole access	Represents glazing's likely resistance to creation of a hand hole. Such attacks may be attempted by intruders wishing to: <ul style="list-style-type: none"> <li>Operate a thumbturn to release a lock fitted to an Illapproved product.</li> <li>Retrieve an item from the protected side of the glass.</li> </ul>
3rd	Complete access	Confirms the glazing's resistance to creation of a hole through which an elliptical test block measuring 400 mm by 225 mm may be passed. This replicates the size of a hole a person may be able to pass through and reflects the test block defined in LPS 1175.



## Hostile vehicle mitigation

### PAS 68

Impact test specifications for vehicle security barriers.

LPCB offers independent third-party approval of vehicle mitigation equipment. This ensures the products supplied by manufacturers deliver the levels of performance claimed and that the performance demonstrated during testing is replicated by the products delivered to site. LPCB can also undertake testing of vehicle barriers together with ancillary equipment, such as hydraulic motor housing, to LPS 1175. This demonstrates their resistance to manual attacks aimed at compromising the barrier's ability to prevent the passage of hostile vehicles.

## Safes, strongrooms & ATMs

### EN 1143

Secure storage units. Requirements, classification and methods of test for resistance to burglary. Safes, ATM safes, strongroom doors and strongrooms.

LPCB provides testing and approvals to the widely-specified EN 1143 standard, which can be applied to safes, strongrooms and ATMs. The standard comprises a series of 'grades', with the designated grade indicating the value of contents acceptable to insurers.

LPCB also provide approvals to LPS 1183 and EN 14450, both of which are recognised by Insurers and Police.

## Padlocks

### LPS 1654

Requirements and testing procedures for the LPCB approval and listing of padlocks.

LPS 1654 specifies the requirements for resistance to manual attack for padlocks. The standard shares the same security ratings as LPS 1175, allowing specifiers to determine the suitability of padlocks for use on other LPS-approved products.

LPCB also operate approval schemes for other hardware including locksets, exit devices and cylinders.

## Asset marking and databases

### LPS 1225

Requirements for the LPCB approval and listing of asset marking systems.

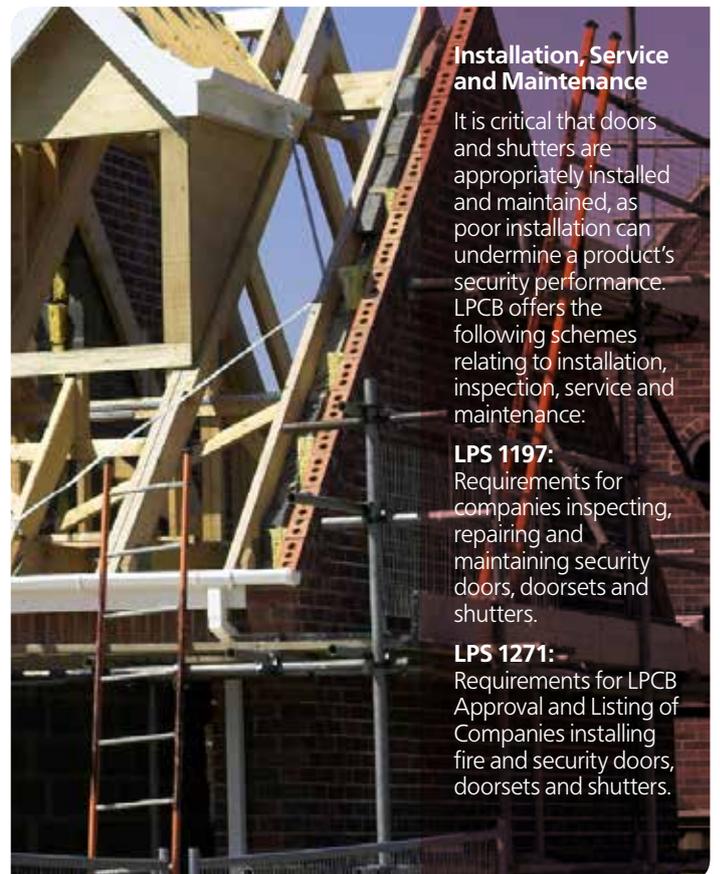
LPS 1225 specifies the requirements for the composition and performance of an asset marking system such that, when used according to the manufacturer's instructions, the asset marking device may both:

- Enable the marked asset to be traced back to the legal owner via a secure database register (see below), and
- Act as a theft deterrent in the first instance by virtue of known existence.

### LPS 1224

Requirements for secure database registers.

LPS 1224 sets out the requirements for secure databases on which information may be stored pertaining to asset marked products.



### Installation, Service and Maintenance

It is critical that doors and shutters are appropriately installed and maintained, as poor installation can undermine a product's security performance. LPCB offers the following schemes relating to installation, inspection, service and maintenance:

#### LPS 1197:

Requirements for companies inspecting, repairing and maintaining security doors, doorsets and shutters.

#### LPS 1271:

Requirements for LPCB Approval and Listing of Companies installing fire and security doors, doorsets and shutters.



## Theft resistance

### LPS 1650

Requirements and testing procedures for the LPCB approval and listing of 'theft resistant' electronic products.

This standard describes tests for classifying the 'theft resistance' of information and communication technology (ICT) equipment and consumer electronic products.

The attributes that make these products desirable to thieves can be broken down in to six components, often referred to by the acronym 'CRAVED': Concealable, Removable, Available, Valuable, Enjoyable and Disposable. The overall security performance rating is indicated by a series of classifications. Products must achieve at least one denial of service classification to meet the minimum requirements of LPS 1650.

## Intruder detection equipment

### EN 50131

Intrusion and hold-up systems. System requirements.

The BS EN 50131 series of standards specify the requirements for Intrusion and Hold-up Alarm Systems (I&HAS) and components installed in buildings using specific or non-specific wired interconnections or wire-free interconnections. These requirements also apply to the components of an I&HAS installed in a building which are normally mounted on the external structure of a building e.g. ancillary control equipment or warning devices.

LPCB provides a range of services in respect of intruder detection products including testing of:

- Control panels
- Door contacts
- Glass break detectors
- PIR and microwave detectors
- Seismic and shock detectors
- Power supplies



### Alarm receiving centres

LPCB approve alarm receiving centres to LPS 1020 'Requirements for Alarm Receiving Centres'. This standard specifies requirements for alarm receiving centres based on BS 5979 but incorporates additional clarification for centres receiving fire alarm calls.

## Alarm transmission systems

### LPS 1277

Requirements for LPCB approval and listing of alarm transmission equipment.

LPS 1277 specifies enhanced performance criteria for the 'ATS' ratings, as referenced in EN 50131. This ensures LPCB approved alarm transmission equipment meets the service demands expected of today's rapidly advancing technologies.

LPS 1277 requires performance testing to be conducted over 'live' networks, and includes:

- An 'ATS4<sup>plus</sup>' rating that offers fault reporting in 10 minutes, bridging the gap between the 5 hour fault reporting time of 'ATS4' and the 3 minutes of 'ATS5' specified in the European standards.
- A requirement for 'stepped up' reporting times for secondary paths and reporting of catastrophic failures.

Testing and approval can cover both LPS 1277 and EN 50136.

## CCTV security systems

### i-LIDS

LPCB has been awarded an exclusive contract to be the authorised test house for the Home Office and Centre for the Protection of National Infrastructure (CPNI) 'i-LIDS' sterile zone monitoring scheme. The term 'sterile zone' refers to an area next to the perimeter boundary of a site where the presence of people or objects could signify intent to attack the boundary. Systems that demonstrate their ability to alert CCTV operators of suspicious activities in these key security areas will be awarded 'i-LIDS' certification.



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## BRE Group

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The BRE Group of companies is owned by the BRE Trust, a charitable organisation representing interests across the built environment sector. The Trust uses profits made by the BRE Group to fund new research and education programmes that will help to meet its goal of 'building a better world together'.

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### BRE Global

BRE Global is an independent, third-party approvals body offering testing, inspection and certification of fire, security, micro-generation (MCS), environmental profiles and sustainability of products and services to an international market.

A training provider and assessment centre, BRE Global offers programmes leading to national vocational qualifications with CPD, and for other courses focussing on Energy (Energy Assessors and Green Deal), Sustainability (BREEAM), Fire, Regulation/Legislation, Security, Innovation, Health and safety, Intelligent buildings, Specification and Design.

BRE Global is owner of the internationally recognised LPCB and BREEAM and BRE Global certification schemes.

LPCB is responsible for the approval of fire and security products and services listed in the Red Book. LPCB also operates installation and service maintenance schemes and provides inspection and expert witness services.

[www.redbooklive.com](http://www.redbooklive.com)

BREEAM, the world's leading sustainability assessment method for buildings, BREEAM sets the standard for best practice in sustainable design.

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BRE Global can also provide testing in the following areas in support of CE Marking: Acoustics, airtightness, fire resistance, impact, mechanical strength, operating forces, reaction to fire, substances, thermal transmittance, water tightness and wind loading.

BRE Global, in partnership with Fire Investigations LLP (FIUK) provide a comprehensive package of fire investigation services, capable of conducting a full and thorough investigation of any fire.



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