

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 1 of 19

Loss Prevention Standard

Specification for testing and classifying the burglary resistance of building components, strongpoints and security enclosures

LPS 1175 : Issue 5
June 2000

This standard is available for information only and should not be used for any other purpose. Its use is subject to interpretation by LPCB and BRE experts, and we take no responsibility for its use by others. Any distribution or use of this material may only be done with the written permission of BRE Certification Ltd. Those wishing to use or reproduce this standard for any purpose other than to obtain approval from LPCB should apply to enquiries@bre.certification.co.uk for a licence. A fee will normally be payable.

LPCB offers a full range of services for certification and testing. For further information please contact BRE Certification Limited, Garston, Herts WD25 9XX. Tel: +44 (0) 1923 664100, Fax: +44 (0) 1923 664994, E-mail: enquiries@bre.certification.co.uk

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 2 of 19

Amendments Issued Since Publication

DOCUMENT NO.	AMENDMENT DETAILS	SIGNATURE	DATE
LPS 1175	Copyright and address change	CJA	24/10/01
LPS 1175	Further copyright change	CJA	29/7/02

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 3 of 19

CONTENTS

	Page
1. SCOPE	4
2. DEFINITIONS	5
3. INFORMATION TO BE SUPPLIED BY APPLICANT	7
4. SPECIMENS TO BE SUPPLIED FOR TESTING	8
5. EXAMINATION	9
6. TESTING PROTOCOL	10
7. TEST OBJECTIVE AND REQUIREMENTS	11
8. ATTACK TOOLS	13
9. SOFT BODY IMPACT ATTACK TEST	16
10. MANUAL INTERVENTION ATTACK TESTING	17
11. STATIC LOAD TESTS	18
12. MARKING	19
13. PUBLICATIONS REFERRED TO	19

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 4 of 19

1. SCOPE

This standard describes tests for classifying the burglary resistance to physical attack of building components, such as doors, windows, shutters, grilles; strongpoints and security enclosures, e.g. access covers. The burglary resistance of the product, any in-situ hardware, such as locks and hinges, and any associated form of locking, such as a padlock, are tested. Where the product comprises an opening element and a frame or retaining guides, the element and its frame or guides are tested as a combination, locked accordingly. Each opening configuration is subject of a separate evaluation. The standard also makes provision to test the adequacy of the installation method.

The burglary resistance performance of a building component, strongpoint or security enclosure and any associated hardware is classified regardless of design or materials used in their construction.

The resistance to manipulation of any fitted or supplied locks is not tested.

It is assumed that the structure of the building has a resistance rating at least equivalent to the rating of any building component.

The requirements and testing procedures have, as far as possible, been rationalized and harmonized with the following corresponding CEN standard documents where appropriate:

- ENV 1627 Windows, doors, shutters - Burglar resistance - Requirements and classification.
- ENV 1628 Windows, doors, shutters - Burglar resistance – Test method for the determination of resistance under static loading.
- ENV 1629 Windows, doors, shutters - Burglar resistance - Test method for the determination of resistance under dynamic loading.
- ENV 1630 Windows, doors, shutters - Burglar resistance - Test method for the determination of resistance to manual burglary attempts.

Notes:

- 1) *Other Loss Prevention Certification Board or European standards exist for classification of security products not covered by LPS 1175, e.g. safe storage units, strongrooms, protection devices for personal computers, office furniture, high security locks, thief resistant locks etc.*
- 2) *For guidance the security rating classification system was loosely based upon domestic (1/2), commercial (2, 3 and 4) and nuclear/military (5 and 6) risks.*
- 3) *The security rating classification applies to the prime barrier, no provision is made for enhancement of a product by means of a secondary barrier and it is not the intention of this standard to prohibit such an arrangement.*

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 5 of 19

2. DEFINITIONS

2.1 Building component

A means of securing an aperture in the facade of a building or a barrier to prevent free movement within a building or access to a storage area, e.g. door, shutter, grille, window, screen, ventilator.

2.2 Strongpoint

A secure storage room or cupboard either built-in using building components or a free-standing dedicated structure.

2.3 Security enclosure

A self-contained mechanical device designed to inhibit access to, or removal of, an item of value by an unauthorized person.

2.4 Access cover

A special purpose security enclosure designed to inhibit access to, or tampering with, the specific item being protected.

2.5 Burglary resistance

The capacity of a building component, strongpoint or security enclosure and associated hardware to withstand the attempt of a forced entry.

2.6 Security rating

Indication of the degree of resistance of a building component, strongpoint or security enclosure and associated hardware to forced entry.

2.7 Security rating expectation

The anticipated classification level for which the building component, strongpoint or security enclosure was designed.

2.8 Attack side(s)

The face of a product confronting the person attempting forced entry.

2.9 Closed condition

The opening element of a building component, strongpoint or security enclosure is "pulled to" or roller shutter lowered, with no engagement of any locking mechanism. Closed elements of the product can be opened from the attack side without a key, force or damage. Doors with a latch can be opened by actuating the handle and a window can simply be pulled or pushed open.

In this condition the product has no burglary resistance.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 6 of 19

2.10 Latched condition

The opening element of a building component, strongpoint or security enclosure is closed with any automatic latching mechanism engaged. Closed elements of the product cannot be opened from the attack side without a key, force or damage.

This is the minimum locked condition and the burglary resistance of the product will be adjudged for minimum resistance with the locking mechanism in this state.

2.11 Locked condition

The opening element of a building component, strongpoint or security enclosure is closed, latched and deadlocked.

This is the optimum locked condition and the burglary resistance of the product will be adjudged with the locking mechanism in this state. This condition may be the same as for the minimum locked condition if the locking logic does not include an automatic latch state.

2.12 Soft body impact attack test

A laboratory method of simulating shoulder blows or kicking as a means of gaining forced entry.

2.13 Manual intervention attack test

A manual attempt at gaining forced entry with the aid of tools.

2.14 Static load test

A laboratory method for applying calibrated loads to highlight structural weaknesses.

2.15 Working time (resistance time)

The aggregate time of an attack test.

2.16 Total test time

The maximum duration of an attack test which is the sum of the accrued working time, rest time of an operative for well being and safety reasons, time to change tools or exchange defective expendable tool elements and any inspection time called by the project leader.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 7 of 19

3. INFORMATION TO BE SUPPLIED BY APPLICANT

3.1 General

Prior to examination and testing an applicant shall furnish comprehensive information about the product to the LPCB for consideration. All documents shall be dated and given a reference number and issue description. If the applicant is not the manufacturer then an application must be accompanied by written permission for testing from the manufacturer.

3.2 Data

The applicant shall supply the following detailed information relating to the product and hardware to be tested.

- a) Manufacturing responsibilities:
 - i) Name of manufacturer.
 - ii) Place of manufacture.
 - iii) Year of manufacture.
 - iv) Relationship of applicant to manufacturer.
 - v) Company responsible for design and quality assurance.
- b) Drawings of the building component, strongpoint or security enclosure and hardware including:
 - i) Cross sections.
 - ii) General assembly.
 - iii) The location and design of any local areas of special protection.
 - iv) Details of any other element relevant to physical security.
- c) A description of the materials of construction if not contained on the drawings.
- d) Instructions and specification for secure installation / use including limitations and recommendations for compatible structural opening materials / design and anchorage where applicable.
- e) Whether the product or hardware are prototypes or in series production.
- f) The face of the product designed to resist attack shall be identified.
- g) The applicant's security rating expectation.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 8 of 19

4. SPECIMENS TO BE SUPPLIED FOR TESTING

Subsequent to the LPCB's acceptance of an application for approval, the following shall be observed:

- a) The applicant shall supply an agreed number of specimens.
- b) If a prototype building component, strongpoint, security enclosure or hardware is supplied for testing, approval will not be given until the drawings for subsequent series production have been examined and confirmed that they accord with the tested prototype or that any changes will not reduce the security rating.
- c) Additional component parts of some products may be requested for testing purposes.
- d) When the product incorporates advances or changes in technology, then additional sample pieces, parts or sections can be requested for evaluation prior to the supply of the agreed specimens.
- e) The number of specimens to be supplied for test is dependent upon the test schedule specified for the product type/security rating expectation, size range design variations and alternative hardware. All specimens shall be complete with any associated hardware supplied or fitted. Additional specimens of hardware may be required for separate tests.
- f) The size of specimens for testing shall be at the discretion of the test laboratory. The normal size of the product and intended application shall be taken into account. Where the product is manufactured and intended for use in a range of sizes, a size of specimen likely to be least effective against attack shall be chosen to ensure the test results are representative for the complete range.

The maximum size of building component which can be accommodated for test is as follows:

- i) Single leaf hinged doors 1.5m wide x 3m high.
- ii) Double leaf hinged doors 3m wide x 3m high.
- iii) Shutters, collapsible grilles, fixed grilles and glazed units 3m x 3m.

For shutters and collapsible grilles greater in width than 3m, the maximum size that an assessment will cover is 5m unless additional lateral restraint is provided in which case the maximum can be extended to 10m subject to effectiveness of the restraint. There is no restriction with respect to height, however, the barrier shall be of consistent construction for the whole of the exposed face.

- g) All specimens shall be supplied complete with specified fixings for secure installation.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 9 of 19

5. EXAMINATION

5.1 Data

All information and drawings supplied will be reviewed to ensure suitability for test, certification and end-user purposes.

5.2 Conformity between specimen and documentation

Prior to testing the test specimen(s) shall be visually examined for conformity with the details supplied by the applicant. A lack of conformity identified at this stage or during testing will, unless promptly corrected, prevent granting of approval / certification.

5.3 Design requirements

5.3.1 Fixing

The instructions and recommendations for secure installation shall be reviewed in order to assess potential weaknesses for test purposes and to ensure that where applicable the strength of the structural opening materials are consistent with the security rating of a building component or access cover.

The recommended minimum size of fixing and acceptable structural opening materials are specified in Table 1.

Note: The number / type of fixing, attack accessibility and anchorage method may compensate for a reduced fixing diameter or dictate the need for fixings with an increased diameter.

Free-standing strongpoints shall have a means of anchorage compatible with the designated security rating. The walls, and if applicable, the ceiling of a built-in strongpoint shall have a resistance compatible with the security rating of the opening element.

5.3.2 Locking

On building components, strongpoints or security enclosures (including access covers) to be opened in normal use, provision of a suitable lock(s) shall be verified and the design / attachment of the lock(s) reviewed for any weakness that may be exploited during testing. If the product utilizes an exposed padlock, additional protection shall be provided by shrouding the lock in order to inhibit tool access. Brass bodied padlocks shall not be used on the attack side of the product and products with a security rating 5 or 6 expectation shall not incorporate a padlock as a prime lock. Additional locking devices, not capable of being engaged from outside the protected area on a building component that is specified as a point of entry and/or exit, shall not be used as enhancements during testing. The locking logic shall also be reviewed in order to determine the minimum and optimum locked conditions for test purposes.

For security rating classifications 5 and 6 there shall only be closed and optimum locked conditions, no intermediate locked condition shall be capable of being engaged.

5.3.3 Security features

On products primarily intended for use in commercial properties, security features shall be reviewed to ensure that, as far as is reasonably possible and where applicable, they are tamper resistant on the non-attack side so as to prevent surreptitious interference of the designed level of security by an attacker's accomplice.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 10 of 19

5.3.4 Access covers

The following are specific design features applicable to access covers:

- i) If a cover is provided with a vent it shall be obscured from direct line of sight when viewed from any attitude.
- ii) A vent opening shall be protected by a mesh screen that has holes no greater than 425 micron.
- iii) A vent shall be baffled to prevent direct access to the protected area.
- iv) When the cover is closed and locked, hinges and fixings shall be obscured from direct line of sight when viewed from any attitude.
- v) Failure or breakage of any hinge shall not permit the removal or separation of the cover when in the closed and locked mode such that bodily access can be achieved as determined by the test block specified in section 7.5.
- vi) If the access cover is fitted with a proximity switch, such a device is optional but the manner in which it is attached shall not influence resistance to attack such that the desired security rating is not achieved.

Table 1 Recommendations for secure installation

Security rating classification	Acceptable structural opening	Minimum size of fixing
1	Timber Blockwork Brickwork/concrete blockwork	M6/No. 12
2	Timber (hardwood) Blockwork Brickwork/concrete blockwork Steelwork	M6/No. 12
3	Brickwork/concrete blockwork Steelwork	M8
4	Reinforced brickwork / blockwork Reinforced concrete Steelwork	M10
5	Reinforced concrete Steelwork	M10
6	Reinforced concrete Steelwork	M12

6. TESTING PROTOCOL

General laboratory procedures, confidential handling of specimens, event record requirements and presentation of the test report shall be in accordance with the requirements specified in EN 45001.

7. TEST OBJECTIVE AND REQUIREMENTS

7.1 General

The overall objective is to confirm the security rating expectation of a building component, strongpoint or security enclosure by conducting a series of dynamic, manual intervention and static load tests, as applicable. Requirements for each security rating classification are given in Tables 2 and 3. Overall classification is confirmed if the requirements for the anticipated class are met for each test phase.

Security rating 4 classification is the minimum requirement for strongpoints and access covers.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 11 of 19

7.2 Soft body impact attack test

This test is utilized on products with a security rating 1, 2 or 3 expectation that incorporate an opening element permitting human access. When the requisite impact is applied the product shall not permit the test block, specified in Clause 7.5, to pass through the barrier, neither shall it expose the locking mechanism permitting manipulation without the aid of a tool to open any element.

7.3 Manual intervention attack tests

Using tools from the tool category appropriate to the security rating classification expected (see Table 2), attacks against the security features of the product (in both minimum and optimum locked conditions) are made as appropriate with a view of allowing the free entry through the barrier of the test block specified in Clause 7.5 or access to / removal of the protected item. The working time (resistance time) shall be recorded in order to determine whether the building component, strongpoint or security enclosure is capable of meeting security rating expectation. For classification expectation of this style of test to be verified, all security aspects of the product shall withstand attack, without any height constraints.

Classification is determined in the optimum locked condition. If locked conditions other than the optimum prevail, such a condition shall be obvious. All locked conditions, other than the optimum, shall demonstrate a resistance equivalent to security rating 1, when tools appropriate to the security rating expectation in the optimum locked condition are used.

For security enclosures and access covers that incorporate an opening element that is smaller than the specified test block the resistance time is that taken for complete removal of the device or access to the specific item being protected.

7.4 Static load tests

Application of the static loads to specific locations of a building component shall not result in a measurement of deflection in excess of the maxima specified for each security rating in Table 3. Static load testing is not required for collapsible gates, grilles, shutters, outward opening hinged doors/access covers and hinged doors with a security rating 4, 5 or 6 expectation.

7.5 Test block

The test block used to determine when access through a barrier has been achieved shall have an elliptical cross section 400mm -0mm/+3mm major axis by 225mm -0mm/+3mm minor axis and be at least 300mm long.

7.6 Glazed infills

The glazed infill of any building component, strongpoint or security enclosure is treated as part of the integral security barrier irrespective of specification and compliance with dedicated glazing standards, i.e. manual intervention attack tests prevail against both the glazing and mounting system, and static load testing where applicable.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 12 of 19

Table 2 Security rating requirements for manual intervention attack tests

Security rating classification	Tool category	Maximum working time (minutes)	Maximum test duration (minutes)
1	A	1	10
2	B	3	15
3	C	5	20
4	D	10	30
5	E	10	30
6	F	10	30

Table 3 Security rating requirements for static load tests on building components with an opening element

Security rating classification	Loading points					
	Corners of filling		Between lock points		At lock points	
	Load kN	Maximum deflection mm	Load kN	Maximum deflection mm	Load kN	Maximum deflection mm
1	3	5	1.5	30	3	10
2	3	5	1.5	30	3	10
3	6	5	3	20	6	10
4	10	5	6	10	10	10
5	15	5	10	10	15	10
6	15	5	10	10	15	10

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 13 of 19

8. ATTACK TOOLS

The tool manifest for the dynamic and manual intervention attack tests and ascribed tool category is as follows:

TOOL CATEGORY A

- i) NON TOOL
 - 1 Soft body impactor - 30kg
- ii) PRIME KIT
 - 1 Screwdriver - 6.5mmø/square x 150mm long
 - 1 Knife - blade 125mm long x 3mm thick
 - 1 Lever - 0.7kg/300mm long
 - 1 Glass cutter
- iii) ADDITIONAL
 - Tweezers
 - Hooks
 - Pliers (including self gripping) - selection 200mm long
 - Spanners - selection 150mm long
 - Hexagon wrenches - selection 120mm long
 - Punches
 - Rope
 - Wire
 - Adhesive tape
 - Flexible plastic coupon
 - Wood/plastic wedges

The tools of this category are selected in order to simulate an opportunist attack by bodily physical force and by stealth using minimal tools.

TOOL CATEGORY B

Tool category A plus:

- 1 Junior hacksaw / 2 HSS blades
- 1 Screwdriver - 7mmø/square x 250mm long
- 1 Screwdriver - 14mmø/square x 400mm long
- 1 Pipe wrench - 250mm long
- 1 Multiple slip joint pliers - 250mm long
- 1 Claw-hammer - 350mm long/0.7kg
- 1 Hand drill - 400mm long/1.5kg
- 1 HSS / HSCO or carbide drill bit - 6mmø (Jobber)/
- 1 Tube - 300mm long/38mmø

This tool category provides a more determined opportunist attack by bodily physical force and tools with a higher mechanical advantage.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 14 of 19

TOOL CATEGORY C

Tool category A and B plus:

- 1 Crowbar - 2.5kg/700mm long
- 1 Power drill (cordless with rotary action only) - 7.2V d.c.*
- 1 HSS / HSCO or carbide drill bit - 10mmø (Jobber)
- 1 Hacksaw / 2 HSS blades
- 1 Pad saw / 2 HSS blades
- 1 Hammer - 400mm long/1.5kg
- 1 Axe - 350mm long/1.5kg
- 1 Butane / propane gas torch
- 1 Scissor jack – 750kg capacity, 100mm minimum retracted, 200mm stroke
 - Cold chisels - 250mm long/25mm wide
 - Wood chisels - 250mm long/25mm wide
 - Brick bolsters - 250mm long/75mm wide

** Each complete with a spare power pack.*

The tool category is for deliberate forced entry of a well-protected premises using bodily physical force and a wide selection of attack options.

TOOL CATEGORY D

Tool category A, B and C plus:

- 1 Jigsaw (cordless) - 12V d.c.*
- 1 Disc grinder / 3 cutting discs (cordless) - 12V d.c.*
- 1 Sledge-hammer - 750mm long/3kg
- 1 Tube - 500mm long/75mmø
- 1 General purpose saw
- 1 Felling/fire axe - 850mm long/3kg
- 1 Power drill (cordless with rotary action only) - 12V d.c.*
- 1 Hole saw - 50mmø
- 1 Plate shears - 300mm long
- 5 HSS / HSCO or carbide drill bits - various sizes up to 13mmø (Jobber)
 - Bolt cutters - 500mm long
 - Steel wedges - 150mm long

** Each complete with a spare power pack.*

This tool category is for experienced attempts at forced entry.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 15 of 19

TOOL CATEGORY E

Tool category A, B, C and D plus:

- 1 Circular saw - 200mm \varnothing /1100W
- 1 Sledge-hammer - 750mm/6kg
- 1 Reciprocating saw - 750W
- 1 Disc grinder / 3 cutting discs - 125mm \varnothing /1100W
- 1 Power drill with rotary / hammer action - 750W
- 1 Pinch bar - 1500mm long
- 5 HSS / HSCO or carbide drill bits - various sizes up to 13mm \varnothing (Jobber and long series)
 - Wood boring spade bits
 - Hole saws >50mm \varnothing

This tool category provides a professional means of attempting forced entry into higher value storage areas generally after penetrating the facade.

TOOL CATEGORY F

Tool category A, B, C, D and E plus:

- 1 Circular saw - 300mm \varnothing /2100W
- 1 Reciprocating saw - 2000W
- 1 Disc grinder / 3 cutting discs - 250mm \varnothing /2300W
- 1 Power drill with rotary / hammer action - 2000W
- 1 Tube - 1500mm long/75mm \varnothing
- 1 Saffire "Portapak" cutting blowtorch kit
- 5 HSS / HSCO or carbide drill bits - various sizes up to 20mm \varnothing

This tool category is an enhancement of category E.

Note: All dimensions are maximum unless otherwise specified.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 16 of 19

9. SOFT BODY IMPACT ATTACK TEST

9.1 Test facility

The apparatus for this test shall consist of a rigid frame suitable for mounting a building component in its normal attitude with fixings specified by the manufacturer. The frame shall not deflect or move in such a way to absorb impact energy.

The striker shall consist of a spheroconical soft body 325mm \pm 25mm diameter with a mass of 30kg \pm 0.5kg. It shall be suspended in the form of a pendulum, the distance between the pivot point and centre of the striker major diameter being 1.5m \pm 10mm. The soft body shall be made from a leather or canvas bag filled with dry sand with a central core of a lead shot. The striker shall be suspended from a frame which incorporates a release mechanism which controls the drop height. The frame position shall be adjustable such that the centre of the striker is infinitely variable within the confines of the target area of the building component under test.

9.2 Test method

Mount the component under test in the frame in accordance with the manufacturer's installation instructions.

Secure any opening element in the minimum or optimum locked condition, as appropriate.

With impactor freely suspended, locate the striker at the desired point of impact such that it is just in contact with the face of the attack side of the component. Withdraw impactor and hold at required drop height, 800mm for security rating 1 and 2, and 1200mm for security rating 3.

Subsequent to release of impactor, inspect component for access before proceeding with further blows as required.

Test for effect on both the minimum and optimum locked conditions, as applicable.

9.3 Points of impact

For this test each product shall be subjected to the following series of impact blows as appropriate for the type of product where an integrity failure of the barrier would permit human access:

- a) For all components, three impacts shall be aimed at the centre of each opening or closed element.
- b) For single leaf doors and shutters a single impact shall be aimed at the lower infill corners.
- c) For windows, screens etc. each corner infill shall be tested with a single blow.
- d) For double leaf components with opening elements, three impacts shall be aimed at the central interface and a single blow at the upper and lower interface position.

Note: For a more detailed description of this test, refer to ENV 1629-1.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 17 of 19

10. MANUAL INTERVENTION ATTACK TESTING

10.1 Test facility

The apparatus for this test shall consist of a rigid frame suitable for mounting a building component in its normal attitude with fixings specified by the manufacturer. The frame shall prevent excessive movement of the specimen during testing. For free-standing strongpoints mounting shall be by means of the normal anchorage provided. For security enclosures the test frame shall simulate the protected device. The apparatus shall also comprise attack tools of the appropriate category as specified in clause 8.

10.2 Test team

The test team shall comprise a team leader whose function is to direct, time, compile an event record and control the testing work on a product specimen and a test operative whose prime function is to carry out the testing work on the specimen as directed by the team leader.

At any time during testing the team leader may substitute himself for the test operative, the operative assuming the role of time keeper whilst maintaining the event record.

A different test operative may be used for different styles of attack but only one operative (other than the team leader) shall partake in any individual test.

10.3 Test method

Mount the building component strongpoint or security enclosure under test in the appropriate frame in accordance with the manufacturer's installation instructions with the attack side confronting the test operative.

Secure any opening element in the minimum or optimum locked condition, as appropriate.

A series of attack tests, using tools of the appropriate category relative to the security rating expectation, shall then be undertaken. Each individual attack test shall be continued until i) the objective is achieved ii) the maximum test duration is exceeded or iii) the team leader decides that the attack is ineffective for classification purposes.

Tests on the locking system shall be undertaken in both the minimum and optimum locked conditions, as applicable.

Attack tests shall only be aimed at areas or features which in the opinion of the team leader have not been weakened by previous tests.

During each individual attack test the timing device used to measure test duration shall remain activated. The resolution of this device shall be at least 1 second. The timing devices(s) used to record working time shall have a resolution of at least 0.01 second. At the conclusion of the test the working time shall be rounded to the next full second.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 18 of 19

11. STATIC LOAD TESTS

11.1 Test facility

The apparatus for this shall consist of a rigid frame suitable for mounting a building component in its normal attitude with fixings specified by the manufacturer. The frame or method of sub mounting shall not contribute to the deflection of the component when under load, neither shall it prevent the specified method of fixing from being evaluated. The frame shall incorporate a method of applying loads up to 15kN at any point within the confines of the target area of the building component under test.

11.2 Test method

Mount the building component under test in the frame in accordance with the manufacturer's installation instructions.

Secure any opening element in the minimum or optimum locked condition, as appropriate.

Apply a static load to the attack side of the component at the locations and magnitude appropriate to the security rating expectation in accordance with that specified in Table 3 and record resulting deflection.

Test for effect on both the minimum and optimum locked conditions, as applicable.

Note: For a more detailed description of this test, refer to ENV 1628-1.

ISSUE 5	LOSS PREVENTION STANDARD	LPS 1175
Date: June 2000	SPECIFICATION FOR TESTING AND CLASSIFYING THE BURGLARY RESISTANCE OF BUILDING COMPONENTS, STRONGPOINTS AND SECURITY ENCLOSURES	Page 19 of 19

12. MARKING

All products submitted for test shall be indelibly marked with the manufacturer's/supplier's name or trademark and product type designation.

13. PUBLICATIONS REFERRED TO

BS EN ISO 9001:1994:	Quality systems. Model for quality assurance in design, development, production, installation and servicing.
BS EN ISO 9002:1994:	Quality systems. Model for quality assurance in production, installation and servicing.
ENV 1628:	Windows, doors, shutters - Burglar resistance – Test method for the determination of resistance under static loading.
ENV 1629:	Windows, doors, shutters - Burglar resistance - Test method for the determination of resistance under dynamic loading.
EN45001:1989:	General criteria for the operation of testing laboratories.