



ABLOY®  **DOOR**

Safe and Secure Solution

TECHNICAL BROCHURE

About Abloy UK's Security Doors

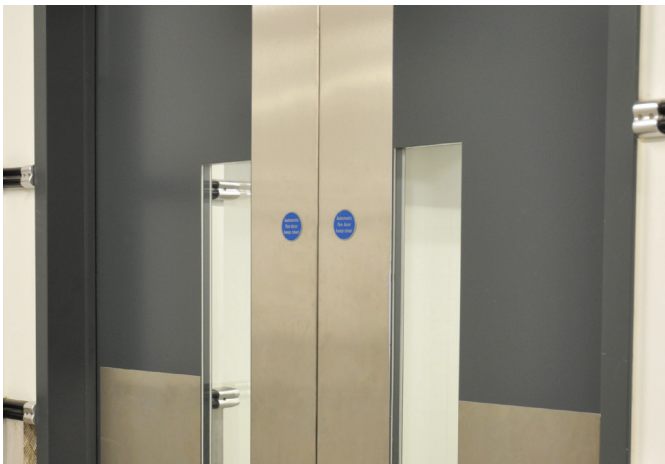
High Performance Steel and Timber Security Doors

UK's leading ranges of proven security doors

ASSA ABLOY Security Doors designs, manufactures and installs high performance steel and timber doors tailor-made to individual project requirements, with the support and resources of the global leader in door opening solutions.

We offer the UK's leading ranges of proven security doors – Powershield Steel Doors and Safeguard Timber Doors.

Powershield Steel Doors



Synonymous with exceptional product quality and attention to detail

Powershield Steel Doors are the UK's number one range of steel doors. They have been specified for a diverse range of major construction projects for over 20 years, from commercial office and telecommunication facilities to pharmaceutical and chemical plants, as well as military bases, transport hubs and leisure stadia.

Safeguard Timber Doors

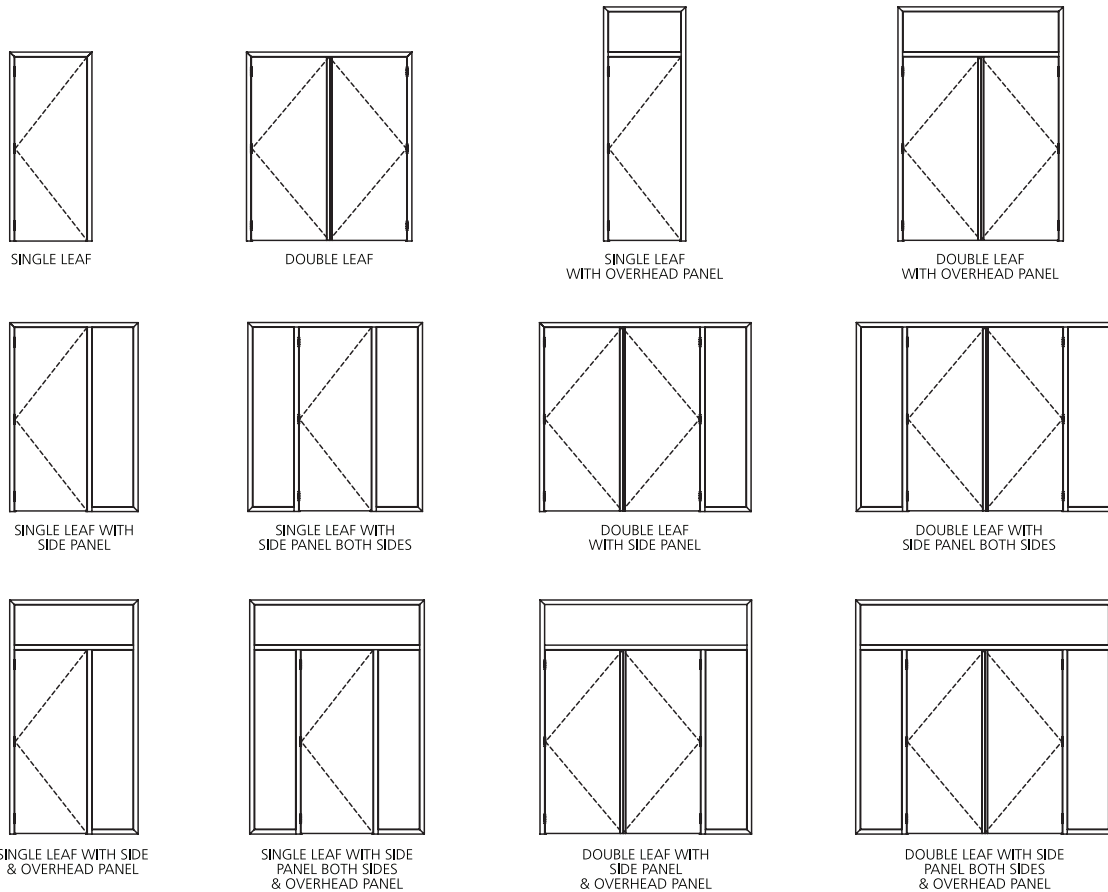


Maximum security for high profile buildings at risk from attack

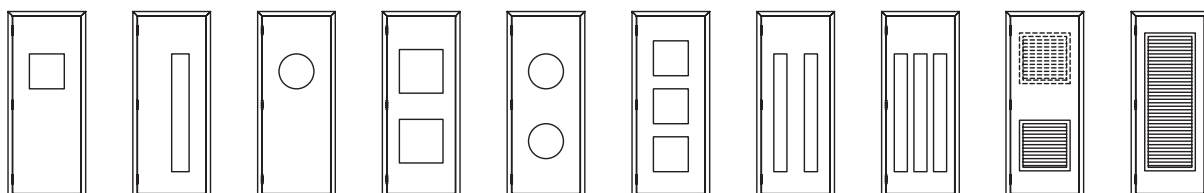
Safeguard Timber Doors are approved by many governmental and military organisations to provide maximum security for high profile buildings at risk of attack. Each Safeguard doorset offers advanced protection in discreet designs that will not attract unwanted attention.

Typical Door Configurations for Timber and Steel Doorsets

Door Configurations



Glazing and Louvre Options for Steel and Timber Doors

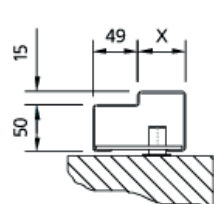


May not be applicable to all door products.

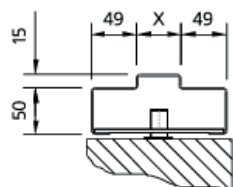
For increased accessibility we can offer vision panels designed to meet approved Document M and BS8300.

Typical Steel Door Details

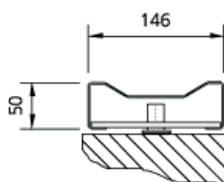
Typical Steel Frame Profiles



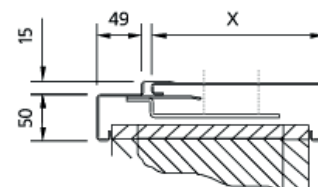
SINGLE REBATE



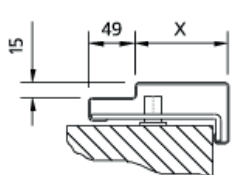
DOUBLE REBATE



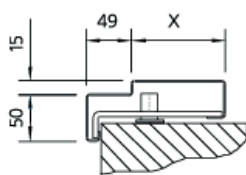
DOUBLE SWING



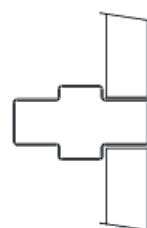
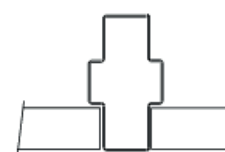
WRAPAROUND



HALF WRAPAROUND



HALF WRAPAROUND

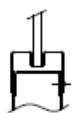
OVERHEAD PANEL
TRANSOMSIDE PANEL
MULLION

Project specific frame options available on request.

Typical Steel Door Vision Profiles and Louvre Options



TYPE 1A



TYPE 2



TYPE 3



TYPE 3A



TYPE 4

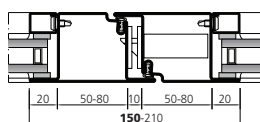
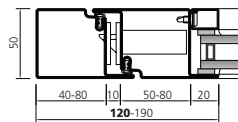
STANDARD LOUVRE
(FREE AIR FLOW 50%)

FIREBLOCK LOUVRE

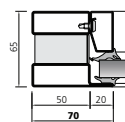
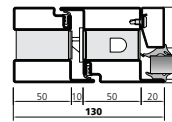
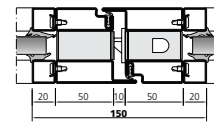
(NON FIRE
RATED
ONLY)

Glazing Frame Profile

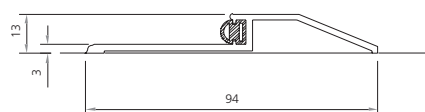
Uninsulated Profiles

DOUBLE DOOR
MEETING STILEDOOR JAMB
DETAIL

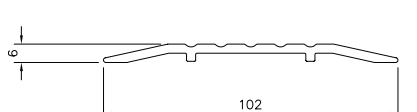
Insulated Profiles

OUTER FRAME
PROFILEDOOR JAMB
DETAILDOUBLE DOOR
MEETING STILE

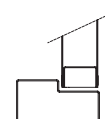
Typical Threshold Options



LOW PROFILE ALUMINIUM

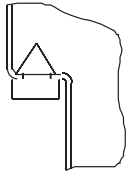


RAMPED

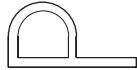
SINGLE REBATE
4-SIDED FRAME

Options

Standard Steel Door Seals



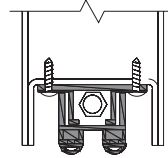
DOOR
SILENCER



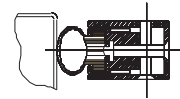
EPDM DRAUGHT
SEAL



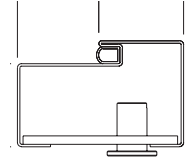
88S SMOKE
SEAL



INTEGRAL DROP
SEAL

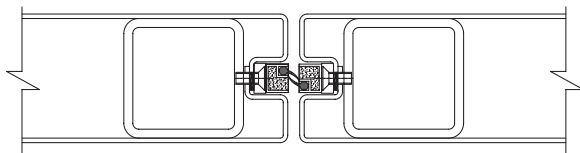


ACOUSTIC
FRAME SEAL

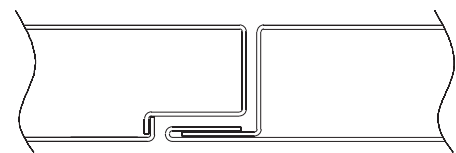


INTEGRAL
FRAME SEAL
(THERMO
DOOR)

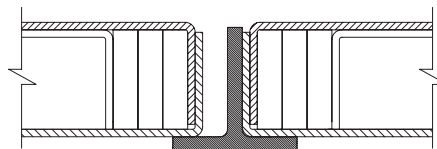
Steel Double Door Meeting Stile Options



PLAIN

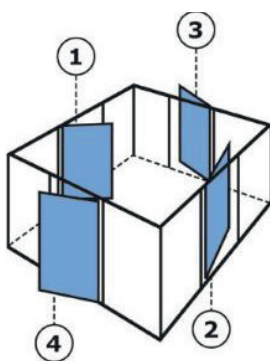


REBAITED



HIGH SECURITY

Handings



The correct hand of a door can be selected using this diagram. Standing inside the box looking out, choose your door hand from 1 to 4, determined by hinge side and if the door opens inwards or outwards.

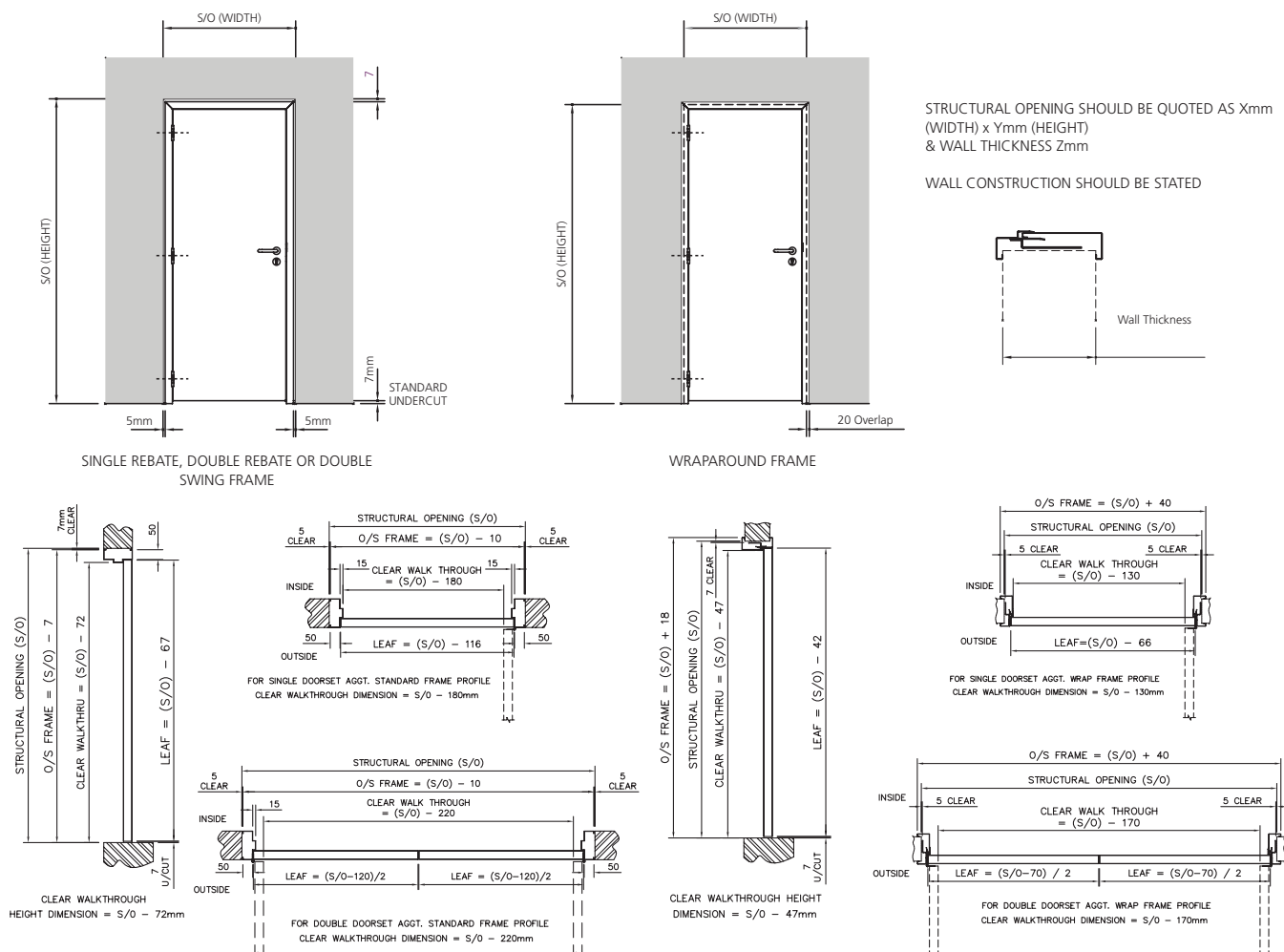
When viewing the door on the side where the hinge is visible, the door is either left or right hand hinged - for double doors, left or right hand active.

The door is then described as either inward or outward opening.

For Security, Blast and Ballistic doors, attack side should be identified.

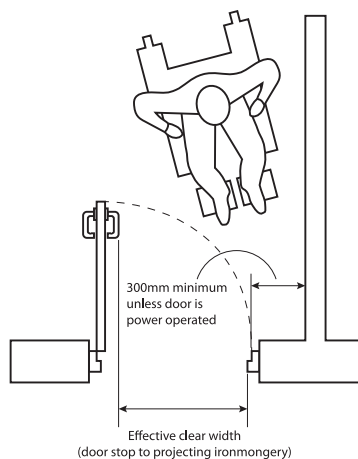
Clear Opening and Fitting Tolerances

Tolerances

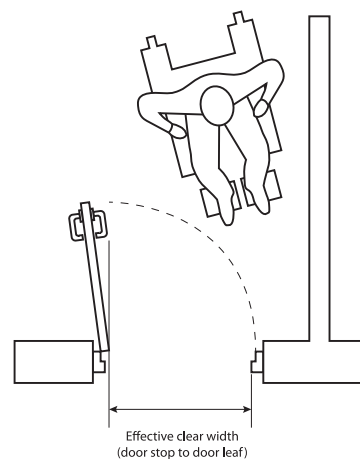


Direction and Width of Approach	New Buildings (mm)	Existing Buildings (mm)
Straight-on (without a turn or approach)	800	750
At right-angles to an access route at least 1500mm wide	800	750
At right-angles to an access route at least 1200mm wide	825	775
External doors to buildings used by the general public	1000	775

Opening to 90°



Opening beyond 90°



Materials and Finishes

Steel and Timber doors are supplied in the following materials and finishes.

Steel Material Types

- ‘Galvanneal Magizinc’ to EN 10327: 2004; IZ140ZF
- Stainless Steel Grade 304 (1.4301) to EN 58E
- Stainless Steel Grade 316 (1.4401) to EN 58H

Timber Material Types

- Solid hardwood frame sections, with steel reinforcement in some door types.
- Solid hardwood/lamelled door cores
- Hardwood veneered, steel laminate and composite exterior facings.
- Hardened steel, inserts as required
- Anti-drill plates available to protect doors fitted with panic or emergency exit hardware.

Finish Performance

- Increased corrosion resistance
- Marine-grade
- Anti-graffiti
- High impact laminate
- Flame retardant

Colours

- A wide selection of standard BS and RAL colours available.



Steel Finishes

- Epoxy Powder Primed Finish
- Polyester Powder Coated Finish
- Satin Polish 180 -240 grit (Stainless Steel Only).
- Patterned Finish (Stainless Steel Only)
- Security Doors: Prison products are supplied in Epoxy Powder Primed Finish Only.
- Laminates

Timber Finishes

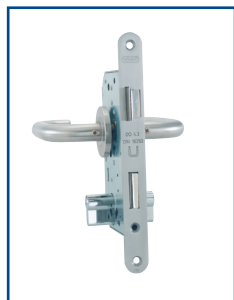
- Timber veneers including ash, mahogany, oak and specialist timbers
- Two-pack Polyurethane
- Two-pack lacquer
- Solid panels
- Water based two coat paint



Standard Hardware Options

A choice of hardware solutions are available as standard for our steel and timber doors from across the ASSA ABLOY Group. A wider range of hardware is available on request.

Standard Locks / Latches



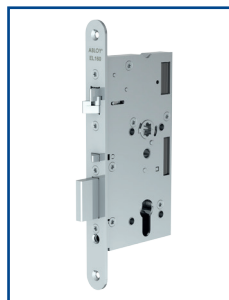
Mortice Sashlock
Latchbolt withdrawn by lever handles from either side. Deadbolt operated by cylinder key or thumbturn.



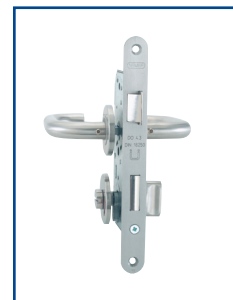
Mortice Deadlock
Deadbolt operated by cylinder key or thumbturn.



Mortice Latch
Latchbolt withdrawn by lever handles from either side.



Mortice Nightlatch
Latchbolt withdrawn by lever handle inside and by key from outside. (Complies with BS EN 179)



Mortice Bathroom Lock
Latchbolt withdrawn by lever handles from either side. Deadbolt operated by turn or emergency release.



Electric Lock
Deadbolt and anti-friction bolt, fail locked / fail unlocked. Outside handle controlled. (Complies with BS EN 1125)



Flush Bolts
Fire rated and non-fire rated for double leaf doors. Standard or automated.



Euro Profile Cylinders (disc)
single, double or cylinder and turn. (Available keyed-alike or masterkeyed to special order)



Pull Handles
19mm or 22mm D-Shape or off-set D-Shape stainless steel finish.



Push Plates
Push/kick plate
Finger pull
Escutcheon
Signage.

Emergency Escape



High Security Multi-Point Panic Escape System

2 or 3 point system available with panic bar (Complies with BS EN 1125) or paddle / lever handle. (Complies to EN 179)



Single Panic Latch

Single point latch with panic bar. (Complies with BS EN 1125)



Outside Access Device

To suit touchbar latch or bolt and panic latch or bolt. (standard euro cylinders)



Security panic latch

Single point latch. (Complies with BS EN 1125)



Outside Access Device

To suit touchbar latch or bolt and panic latch or bolt. (standard euro cylinders)



Two Panic Bolt

Two point locking (top and bottom shoot bolts) with panic bar. (Complies with BS EN 1125)



Two Point Panic Bar

Panic bolt and latch to suit double leaf with rebated meeting stile. (Complies with BS EN 1125)



Single Panic Touchbar Bolt

Two or three point locking (top and bottom shoot bolts) with panic bar. (Complies with BS EN 1125)



Door Closer

Light, medium and heavy duty door closer. Silver or stainless steel cover, variable backcheck and hold open options available.



Friction Door Holder

Door Limiting Stay Wind Restrictor.

Personnel Doors

Standard Steel Leaf Construction

- Two skins of 1.2mm (18ga.) thick steel
- 44mm thick door leaf with no face seams
- Doors are stiffened, insulated and sound deadened with pre-expanded, small cell honeycomb core (or high density mineral wool if thermal insulation is required) and laminated under heat and pressure to the face skins.
- Face skins are connected by a continuous 4 sided 'deep pocket' interlocking edge lock seam for added strength and durability (SMARTform).
- Door edges are bevelled for ease of operation and close fit.
- Doors are morticed, reinforced, drilled and tapped for three templated hinges.
- On double doors, a flush astragal is folded into the leading edge of one leaf to improve sealing.



Standard Steel Frame Construction

- Manufactured from 1.5mm (16ga.) steel with single, double rebate or wraparound profile.
- Supplied in either knock down or fully welded smooth finish.
- Frames are morticed, reinforced, drilled and tapped for hinges and strikes.
- Standard height frames are provided with four fixings per jamb, built-in adjustment and complete with plastic push fit cover caps.

Performance

- Typical insulation value: Pre-expanded, small cell honeycomb core 3.7 W / m²k.
- Typical insulation value: High density mineral wool core 3.2 W / m²k.

Fire Doors

To BS 476 Part 22 and EN 1634-1: 2008

Steel Fire Door Construction

- Similar construction to Powershield Personnel with minimum material thicknesses as specified.
- Non-combustible core (reinforced where required).
- Includes singles, doubles/leaf & half, all as per configurations detailed on Page 3.
- Fire doors can be certified latched or unlatched depending on size and configuration and can include vision panels up 600mm wide x 800mm high or 200mm wide x 1500mm high. Fire rated louvres are also available up to 500mm wide x 1500mm high.



Performance

- FD30(S) – FD240(S) in accordance with BS476 Part 22: 1987.
- E30 – E240 in accordance with EN 1634-1: 2008.
- Most standard configurations are Certifire compliant and therefore regularly audited and approved by third party to ensure continued conformity.


Options

- Double action with door opening size up to 2.6m W x 2.6m H to FD60(S) / E60.

Other performance options available with fire performance: Security, Cleanroom, Blast, Ballistic and Acoustic

Security Doors and High Security Doors Product Selector

All security doors are supplied with security hinges and integral astragals as standard, in a wide range of finishes including primed, powder coated, laminate and veneered.

Category	Product name	Description / Type	Material		Leaf Thickness	SMARTform 
			Steel	Timber		
Powershield Fire Doorset	Fire	Fire	✓		44mm	✓
Powershield Doorset	Lagan	Personnel	✓		44mm	✓
Powershield Security Doorset	Carrick	Security Class 1	✓		44mm	✓
	Carlingford	PAS 23/24	✓		44mm	✓
	Clandeboyne	SR2	✓		44mm	
	Glen	SR3	✓		46mm	
	Strangford	SR4	✓		56mm	
Safeguard Timber Doorset - Certified security	Trenchard	SR3		✓		
	Ultimum	SR4		✓		
Safeguard Timber Doorsets - Certified Security	Cromwell	CPNI		✓		
	Fenwick	CPNI		✓		
	Bowden	CPNI		✓		

Certified High Security	Safety fire Rating	U Value	Recommended Locking			Vision Panels
			Single Point (recommended for custodial doors)	Two Point	Three Point	
✗	FD30/60/240	3.7	✓			✓
✗	FD30/60/240	3.7	✓			✓
✗	FD30/60/240	3.7	✓			✓
PAS 23/24	FD30/60/240	3.7	✓			✓
LPS 1175 Issue 7 SR2	FD30/60/240	3.7	✓			✓
LPS 1175 Issue 7 SR3	FD30/60/240	3.7	✓		✓	✓
LPS 1175 Issue 7 SR4	FD30/60/240	3.7			✓	✓
LPS 1175 Issue 5 SR3	FD30/60/240				✓	
LPS 1175 Issue 7 SR4	FD30/60/240	2.5			✓	
CPNI Approved		2.5			✓	
CPNI Approved		2.5			✓	
CPNI Approved		2.5			✓	

Powershield and Safeguard Blast and Ballistic Doors

Doorsets are tested in both inward and outward opening configurations

ASSA ABLOY Security Doors is a leading supplier for public properties providing a full range of commercial products in timber and steel that can provide protection against vehicle-delivered charges, hand-delivered charges and fragmentation, as well as handguns, rifles and larger weapons.

Testing and Certification

Doorsets are blast tested on both inward and outward opening configurations. Single and double doorsets, vision panels, single-point and multiple locking systems are all configured within testing. Supporting physical testing, we also have independent assessments from other recognised blast authorities.

Doorsets are also ballistic tested in ISO-accredited test houses and equipment is calibrated and ammunition loaded by hand to ensure consistent testing and reliability.

Product Performance

Blast products are tested with charges from <1kg to over 500kg and for ranges from <1m to 30m. Our products are also tested with the inclusion of both soft and hardened fragmentation. Ballistic protection is offered from 9mm handguns through to armour-piercing rounds. All testing is to European Standards EN 1522 and EN 1523. This not only involves 'straight on' shots but also 'angular' shots, which were not a requirement in previous British Standard testing.

Design and Evaluation

Understanding blast is crucial when designing products or advising clients. Interpreting clients' or consultants' requirements has led us to study the propagation of blast waves and apply these elements to the structural loading of products. Software is very important as a complimentary tool to our testing to help understand the science of blast. We are able to model blast situations and then determine the most suitable product ranges to meet clients' requirements. This is often more cost-effective, as a building may often need more than one doorset but rarely do they have to be built to the same specification.

Providing ballistic protection is also an ongoing challenge. New and more powerful weapons, ammunition and increasing threat levels mean that products need to be re-evaluated or re-invented to deliver consistent protection. Ballistic rounds travel at velocities between 450m / sec and 1000m / sec. When this is combined with armour piercing tips, it becomes a formidable challenge for our designers. Our blast knowledge provides an advantage at this point, as blast fragmentation travels at 3000m / sec, which informs and improves our ballistic protection design, giving confidence to customers and clients.

Further Protection

ASSA ABLOY Security Doors can build further protection into door solutions, allowing one doorset to provide protection against blast, ballistic and physical attack.

All Blast and Ballistic doorsets can be fire certified from 60 minutes to 4 hours.

Standards and Security Ratings

LPS 1175

The LPS 1175 test stipulates the allowable toolset and minimum time at each security rating level to prevent forcible entry through a building element.

It is intended to form part of an overall security strategy, with the user deciding on the level of threat and exposure time before intervention arrives - in the context of the consequences of losing items, information or systems being protected.

In the case of a modular building, the test measures the time to make a hole big enough to get a person through (minimum of an elliptical shape 400mm x 225mm) plus it looks at all the joints and fixing to the building environment as appropriate. The tests are carried out by trained personnel of the BRE - with full knowledge of the product and its construction. Many initial trials are carried out to assess the best tools to use from the allowable toolset.

SR2: More *determined* opportunist attack with tools of a higher mechanical advantage (e.g. SR1 tools plus bolt cutters, claw hammer, drill, etc).

SR3: *Deliberate* forced entry of protected premises using bodily force and a selection of attack options (e.g. SR2 tools plus short axe, chisels, crowbar, gas torch, etc).

SR4: *Experience* attempts at forced entry with higher tool levels (e.g. SR3 tools plus felling axe, sledgehammer, steel wedges, disc grinder, jigsaw, etc).

BS 476 Part 22

Fire tests on building materials and structures. Method for determination of the fire resistance of non-loadbearing elements of construction.

EN 1634-1: 2008

Fire resistance and smoke control tests for door, shutter and, openable window assemblies and elements of building hardware. Fire resistance tests for doors, shutters and openable windows.

PAS 24

This PAS supersedes the PAS 24:2007 + A2:2011 with effect from 31st August 2012 and provides a method for testing and assessing the enhanced security performance requirements of external doorsets and windows providing an easier specification requirement for developments. This PAS covers doorsets and windows of all material types. Products are still required to meet the material specific requirements as detailed by the product standards for doorsets and windows.

BS EN 1522 and BS EN 1523

Windows, doors, shutters and blinds. Bullet resistance. BR4 utilises a 357 magnum raling.

Security Rating	Maximum work time* (min)	Maximum test duration (min)
SR2	3	15
SR3	5	20
SR4	10	30

*Max working time is the total accumulated time during the test duration when tools are being applied – e.g. with a power saw, the timing stops as soon as the blade stops moving. The remaining time in test duration is for assessment, rest, change of tools or power packs, etc.





ABLOY secures people, property, and business operations on land, at sea, and in the air – in all circumstances.

ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.

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