



Extended Performance Range

Extended
Performance
Range



**Leaderflush
Shapland**

FOR ACOUSTIC, EXTENDED FIRE, RADIATION SHIELDING AND SECURITY



for acoustic, extended fire, radiation shielding and security

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Extended Performance

an introduction

when the highest performance levels and specialist requirements are called for, there is no room for compromise and absolute confidence in the manufacturer is essential

As part of SIG plc, a successful £3 billion company, Leaderflush Shapland's financial strength and stability continues to grow whilst retaining its individual identity and position as the UK's largest performance door and doorset manufacturer.

Leaderflush Shapland combines long experience and a tradition of craftsmanship with the most efficient production techniques to ensure that even the largest, fast-track projects can be handled effectively.

Substantial investment into manufacturing technology, product development and customer relationship programmes ensure that all our customers receive the highest possible levels of service and product from manufacture through to installation.

The Extended Performance Range takes fully engineered flush doorsets to the highest specified performance levels while offering freedom of choice with styles, finishes and colours to match doorsets from our other ranges, particularly the Designer Range of flush doorsets. Being driven by technical requirements, Extended Performance doorsets

have been used in a wide range of building types including healthcare, education, transport, leisure and industry.

This brochure provides detailed information on particular doorsets to meet various specific performance demands but Leaderflush Shapland works in partnership with designers to achieve doorset solutions for whatever technical challenges are presented.

Other information sources

Specification details on the Extended Performance Range are available in the technical guide 'Specifying with Doors and Doorsets'.

Our website provides guidance on the specification of doorsets in relation to Building Regulations and other official documentation. Leaderflush Shapland can also provide guidance on specific applications including healthcare and education.

Visit www.leaderflushshapland.co.uk for further details or contact us directly on 01773 530500.



performance is at the core of every Leaderflush Shapland door

discover the Leaderflush Shapland difference

our philosophy today at Leaderflush Shapland is customer focused and service led in everything we do

Support

Expert technical support and a full NBS-based specification facility are available, supported by a team of Specification Managers and our project management service provides a single point of contact at all stages. As members of the RIBA CPD Providers' Network, we offer specifiers an independently assessed CPD seminar service with attendance certificates.

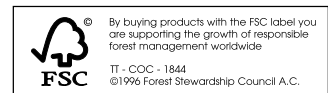
Installation Partners

Leaderflush Shapland has formed strategic relationships with numerous joinery subcontractors across the UK to offer an Installation Partners scheme for doorsets. Each Installation Partner recommended by Leaderflush Shapland is fully conversant in the latest installation techniques to ensure a continued chain of quality from manufacture to installation.

A list of these Installation Partners can be accessed from our website: www.leaderflushshapland.co.uk/installationlist.php

Sustainability

We have developed an Environmental Management System in accordance with BS EN ISO 14001:2004, based on a company Environmental Policy. Leaderflush Shapland is essentially a timber based manufacturing company and was the first company in its industry to develop and implement tracking systems independently assessed by the 'FSC Trada Trak' accreditation scheme. As a result, doors and doorsets can be specified using solid timber and timber-based raw materials exclusively from well-managed and sustainable sources, independently certified by the Forest Stewardship Council.



Diversity

In addition to the Extended Performance Range, Leaderflush Shapland offers the Designer Range of bespoke flush performance doors, doorsets and screens and the Plasform® Range of postformed doors and doorsets.



Certification

All our doors and doorsets are fully certified to recognised performance standards. The company is accredited to BS EN ISO 9001:2008. All fire resisting products are manufactured under the intensive BWF-CERTIFIRE independent product conformity scheme. Every fire door or doorset carries a tamper evident and fully traceable label with clear essential information.

Innovation

Continuing product development and an exhaustive performance testing programme enable us to offer a wide scope of certified doorsets. In addition to regular performance testing by UKAS accredited independent bodies our in-house test facility allows continuous product development and quality assurance checks. Our test facilities include a furnace for full size doorsets, cyclic testing rigs, as well as equipment for assessing mechanical properties and security performance. But this innovative approach is also applied to customer service and procurement initiatives to meet the challenges of today's construction industry.

Architectural Hardware

Leaderflush Shapland offers a full range of architectural hardware creating the complete end-to-end solution for a total doorset package. Our offer is available in two distinct ranges – Origins and Elements – providing architects and specifiers with products that are suitable for any application. An experienced team is on-hand to provide a full specification support service and have been accredited by the Guild of Architectural Ironmongers.





meeting the highest performance levels and special requirements

Extended Performance

when basic performance levels are simply not enough

Extended Performance

The Extended Performance range offers enhanced characteristics in the areas of acoustics, fire resistance (90 and 120 minutes), radiation shielding and security with individual products detailed in this brochure.

Hygienilac® – antimicrobial protection

Integral to our clear and tinted finishes is Hygienilac®, a biocidally proactive antimicrobial additive which provides protection from harmful bacteria such as C.diff, MRSA and Salmonella. It has a kill rate of 99.9% over a 24 hour period and is non-carcinogenic, non-mutagenic, non skin sensitive. Hygienilac® is also available as an additive within our exclusive high impact PVC facing option – Hygieniform.

Generally, Extended Performance doorsets can be supplied with finishes to match other Leaderflush Shapland products specified on a project – or to suit specific design requirements. Available door finishes include wood veneers, primed for paint, factory painted, laminates, PVC and through-coloured GRP.

Why choose Extended Performance?

There are many instances when doorsets are needed with a range of different performance characteristics. One option is to source these products from a number of separate specialist companies and run the risk of encountering problems of mismatching or doors not having a uniform look after installation.

Leaderflush Shapland can manufacture doorset solutions to achieve virtually any performance and design requirements and by buying from a single source, you can be confident that the end result will be both highly effective and aesthetically pleasing.



security, acoustic, fire, radiation... and more

your solution provider

whatever the size of your project, contact us and we will
be happy to give you the benefit of our many years of
technical expertise

The Extended Performance Range offers

- Sound Reduction up to 46R_wdB
- Fire Resistance up to FD120
- Radiation Shielding
- High Security up to 'Delayed Entry Level 3' and R2 Ballistic Resistant
- Blast Resistance
- Antimicrobial protection





excessive nuisance noise levels controlled

acoustic doorsets

Introducing acoustic doorsets

The Audiodor range of flush doorset constructions have been developed to meet acoustic performance requirements above other Leaderflush Shapland product ranges. These acoustic doorsets incorporate the latest construction and seal techniques to ensure high levels of sound reduction, while taking into account other performance characteristics including:

- Fire resistance, independently tested and accredited within the BWF-CERTIFIRE scheme.
- Smoke containment, as acoustic seals negate the need for additional smoke seals.
- Mechanical strength and durability, either Severe Duty (SD) or Heavy Duty (HD) in accordance with BS DD171.
- Ease of handling and installation with lighter weight doorsets.

Performance

The effects of acoustic privacy and nuisance noise are subjective and influenced by background noise within the room, distance from sound source and general context, amongst others.

When considering walls containing doors, it is the combined performance of both elements that is relevant, clearly the proportion of door to wall area is particularly important.

The following table provides some general guidance on acoustic privacy in relation to sound reduction:

R _w dB	Effect
25	Normal speech easily overheard
30	Loud speech clearly overheard
35	Loud speech can be distinguished
40	Loud speech heard but not intelligible
45	Loud speech heard faintly
50	Loud speech and shouting can be heard with difficulty

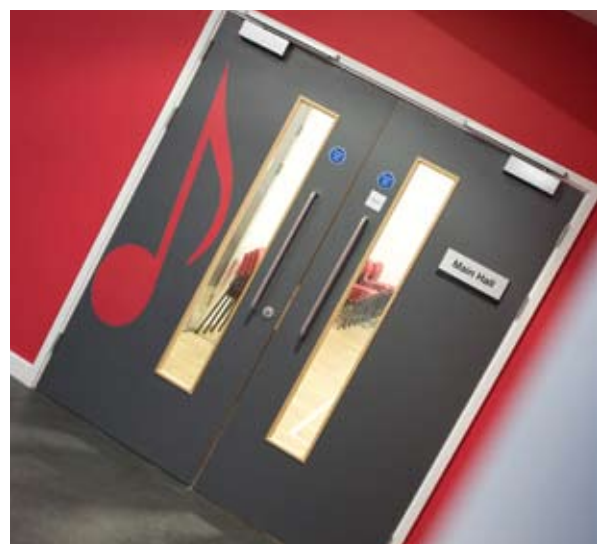


Central to the successful achievement of required acoustic levels is the specification of complete engineered doorsets, where all components are factory-assembled to the closest tolerances and test-proven, as opposed to site-assembly of disparate components. In addition, best practice on site is critical, sound is like water in that all gaps must be properly sealed to stop leakage (see Achieving Performance on Site – page 13).

Acoustics is a complex field and a wide variety of performance levels sometimes referred to including NR or NC levels and dBA, $R_{w,dB}$ and STC. **Acoustic performance for doorsets should always refer to $R_{w,dB}$.** It should be remembered that performance values quoted for products and ranges are based on laboratory test results; on-site testing will generally produce lower results.

Further technical information on acoustic performance of doorsets – including the implications of Part E of the Building Regulations – is available from our Technical Services Department.

All Leaderflush Shapland acoustic doorsets incorporate appropriate combinations of high performance acoustic frame seals (common throughout the range) and bottom edge-of-door seals, with low-profile aluminium thresholds to minimise accessibility difficulties. Each particular door leaf construction has been acoustically tested with its frame and associated seals, and designated for ease of selection.



Door Type	Sound Reduction (R _w dB)	Fire Resistance	Mechanical Strength BS DD171	Thermal Insulation (W/m ² K)*	External Use	Leaf Thickness (mm)	Door Weight (kg/m ²)
Audiodor							
30	32 32	NR/FD30 FD60	SD SD	1.84 1.36	No No	43 55	25 33
32	32 32	NR/FD30 FD60	SD SD	1.63 1.63	Yes No	45 53	23 29
35/60	35	FD60	HD	1.68	No	52	39
38	38	NR/FD30	HD	1.84	No	44	31
39/60	39	FD60	SD	1.94	No	56	68
40	40	NR/FD30	HD	1.84	No	44	31
44	44	NR/FD30	HD	1.82	No	47	54
Super	46	NR/FD30	HD	2.16	No	48	60

*Door leaf only NR – Non-fire rated

Acoustic doorsets and performance

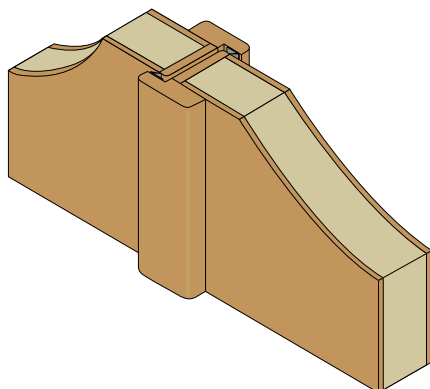
The table above summarises the various products available in the acoustic doorset range, related to performance and other characteristics, to assist with doorset selection to meet your particular needs.

Configurations

The tested values shown in the table above relate to single leaf, latched doors. Double leaf pairs are available as described later, with square meeting stiles and surface astragals where necessary.

Where pairs are required a slight reduction in performance can be expected from the single leaf value. Overpanels, side panels, fanlights and sidelights are also available. **Double action assemblies cannot provide high levels of acoustic performance.**

Square meeting stiles with surface astragals

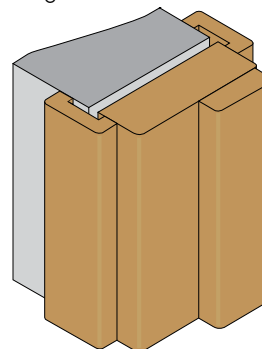


Frames and architraves

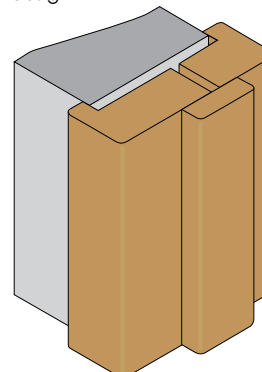
The Barum frame section (supplied with architraves where specified) is provided as standard for all acoustic doorsets.

The Cubith section can be used with certain doorsets as indicated on page 12. Frame materials for each doorset and seal arrangements are also shown.

Barum frame design



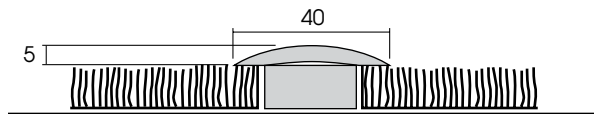
Cubith frame design



Thresholds

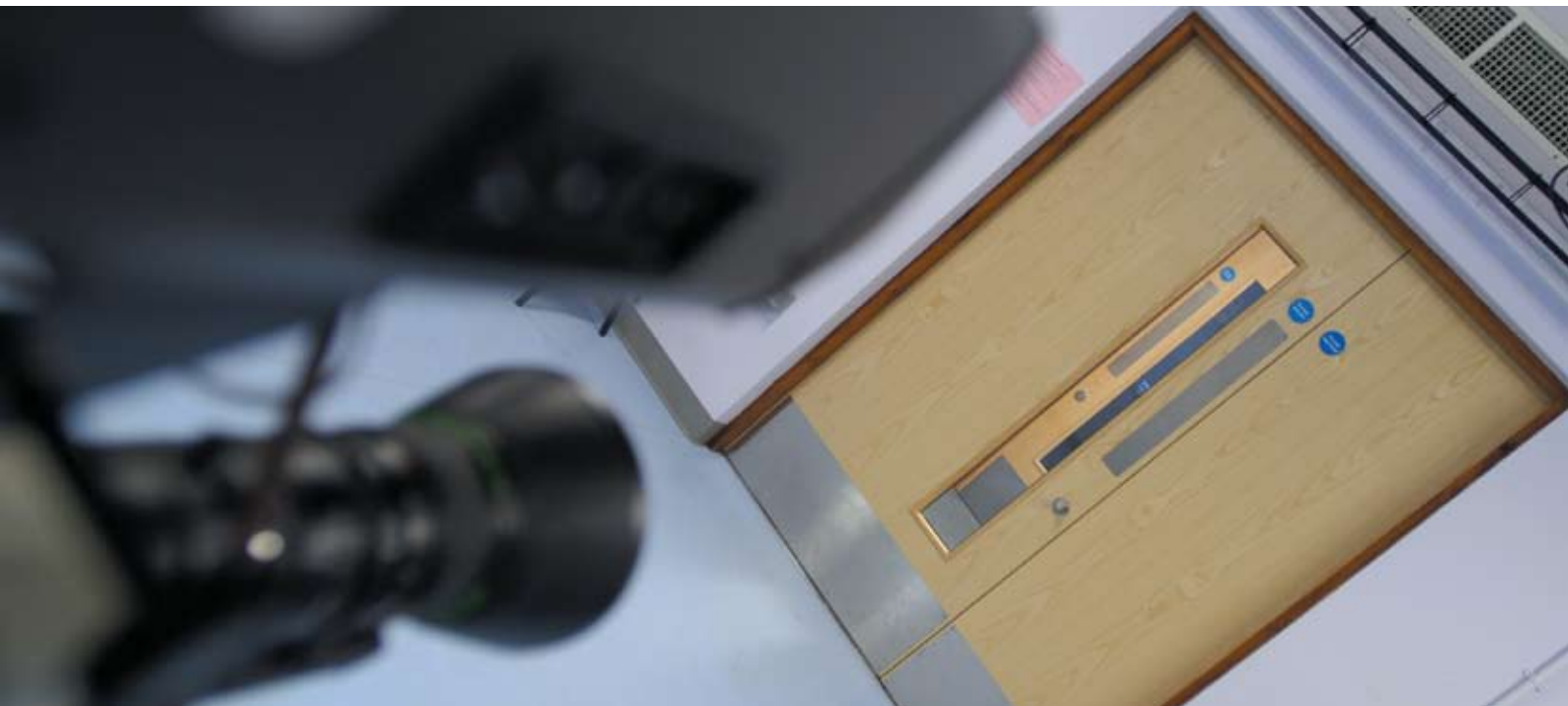
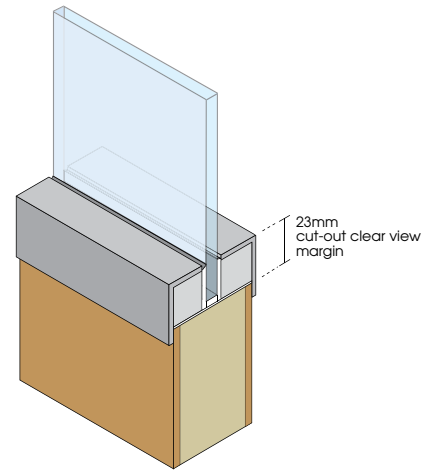
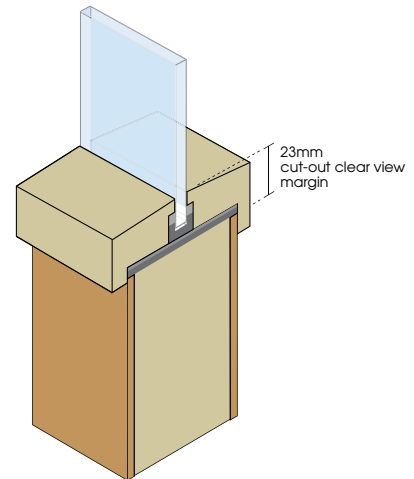
Low-profile aluminium thresholds are supplied with all acoustic doorsets, in two arrangements A and B, as shown on pages 12 and 13, depending upon performance. They must be installed level with the door and 5mm above the top of the floor finish to ensure correct sealing when the door is closed. For soft floor finishes, a hardwood packer may be needed below the threshold as shown. An option for automatic drop seals (threshold arrangement C) is available upon request for 32R_wdB. Further advice should be sought from our Technical Services Department.

Aluminium threshold



Vision panels

Acoustic doorsets can accommodate many of our standard vision panel designs – all factory glazed (with glass to suit acoustic and fire performance) using fully sealed glazing beads. Glazing generally has a lower acoustic performance than the door (maximum 40R_wdB) and will reduce overall performance, directly in proportion to the amount of glazing used. It is therefore recommended to minimise glazing in acoustic doorsets. Contact our Technical Services Department to discuss your design requirements.



frame/seal arrangements on-site

Audiodor 32 and 32/60

- Rated 'Severe Duty'
- FD30 & FD60 fire resistance
- Double leaf arrangement tested
- Latched or unlatched
- Frames – minimum 32mm Barum or optional Cubith
- Frame materials – softwood, hardwood or MDF (hardwood only for 32/60)
- Threshold arrangement – A & C

Audiodor 35/60

- FD60 fire resistance
- Latched or unlatched
- Frames – minimum 32mm Barum or optional Cubith
- Frame materials – hardwood
- Threshold arrangement – A & C

Audiodor 38

- Lightweight with high acoustic performance
- Latched or unlatched
- Double leaf arrangement – tested: 38 R_wdB with astragals, 35 R_wdB without
- FD30 fire resistance
- Frames – minimum 32mm Barum or optional Cubith
- Frame materials – softwood, hardwood or MDF
- Threshold arrangement – A

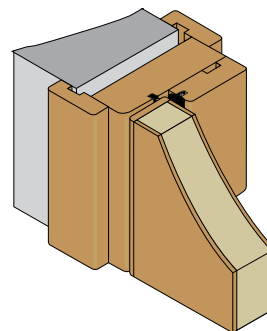
Audiodor 39/60

- Lead-lined door leaf, rated 'Severe Duty'
- Latched or unlatched
- FD60 fire resistance
- Frames – minimum 44mm Barum
- Frame materials – hardwood
- Threshold arrangement – A

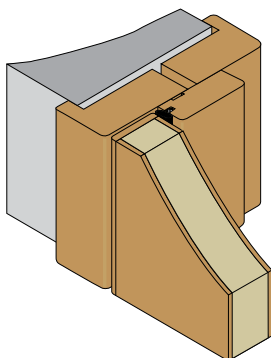
Audiodor 40

- Lightweight with high acoustic performance
- Latched or unlatched
- FD30 fire resistance
- Frames – minimum 32mm Barum or optional Cubith
- Frame materials – softwood, hardwood or MDF
- Threshold arrangement – B

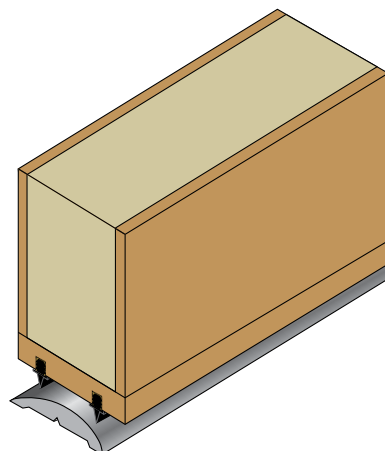
Audiodor 39/60 & Audiodor 40



Audiodor 32 & 32/60,
Audiodor 35/60 & Audiodor 38



Threshold A



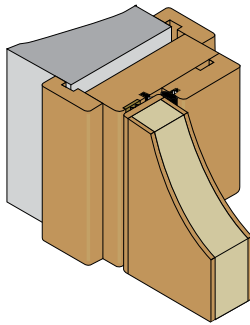
Audiodor 44

- Very high acoustic performance
- FD30 fire resistance
- Latched only
- Frames – minimum 44mm Barum
- Frame materials – hardwood
- Threshold arrangement – B

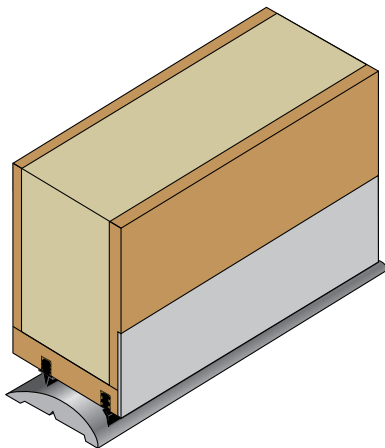
Audiodor Super

- Exceptionally high acoustic performance
- FD30 fire resistance
- Latched only
- Frames – minimum 44mm Barum
- Frame materials – hardwood
- Threshold arrangement – B

Audiodor 44 & Audiodor Super



Threshold B



Achieving performance on-site

Some acoustic doors may be heavy and require appropriate wall structures to support them. Guidance for handling and installation should be sought from our Technical Services Department.

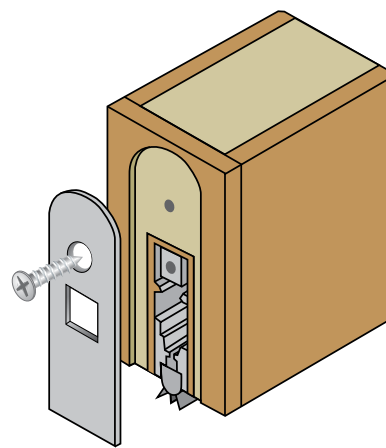
Doorsets are supplied with all the necessary seals fitted to either door or frame, including astragals for pairs. With acoustic doors the gap between door and threshold on the floor must also be sealed with contact seals or wiping seals, depending on performance requirements and floor finish. Thresholds are needed and these must be level with the door. They should be bedded on mastic and screw-fixed direct to hard surfaces while carpet and textured flooring should stop either side. Low profile aluminium thresholds may be fixed on a hardwood packer so that the top of the threshold is 5mm above the floor finish.

Gaps between back of frame and wall must be fully packed with mineral wool, leaving only enough space for mastic pointing where no architrave is used. Special care is needed to check that doors close correctly all around, noting a slight resistance when the door closes against its seals.

- A level floor is essential to threshold sealing
- Seal under the threshold and bottom of jambs, as well as back of frame
- Frame should be plumb square and level to ensure that seals contact fully all around
- Seals must not be cut for ironmongery
- Never paint seals or close a freshly painted door onto them
- Avoid damaging all seals, particularly on the bottom edge
- Periodic checks of seals will help maintain performance

Best practice on-site is critical, sound is like water in that all gaps must be properly sealed to stop leakage.

Threshold C





comprehensive protection against prolonged fire exposure

extended fire resistance doorsets

Introducing extended fire resistance doorsets

The Vulcan range of doorsets is specifically designed to meet the requirement for prolonged fire resistance periods of 90 and 120 minutes. The same performance levels are also available within the Leaderflush Shapland Plasform® Range of postformed doorsets.

Performance

Fire resistance

Vulcan doorsets have been successfully subjected to BS 476 : Part 22 : 1987 fire testing allowing Leaderflush Shapland to certificate 90 and 120 minute assemblies. All fire rated products are manufactured strictly in accordance with the BWF-CERTIFIRE scheme. Please contact our Technical Services Department for further details.

Sound reduction

The Vulcan doorsets, fitted with appropriate acoustic seals, have been tested to the appropriate British Standard and achieved a good level of sound reduction.

Mechanical strength

BS DD171 details a range of mechanical tests designed to evaluate the strength of the door in daily use. The Vulcan doorsets achieved a 'Medium Duty' rating when subjected to these procedures.

External applications

Vulcan doorsets are suitable for internal use only and should not be installed in external locations or subjected to prolonged damp conditions.

Construction

Both the Vulcan 90 and 120 consist of a mineral core supported by non-combustible stiles and rails. MDF to each face forms either the final facing for a paint quality door or the substrate for the final facings of veneer, laminate or PVC. Doors are lipped on all four edges in hardwood as standard.

Configurations

Both single and double leaf assemblies are available and overpanels can also be incorporated.



Door Type	Fire Resistance	Sound Reduction (R _W dB)	Mechanical Strength BS DD171	Thermal Insulation (W/m ² K)*	External Use	Leaf Thickness (mm)	Door Weight (kg/m ²)
Vulcan							
90	FD90	31	MD	1.92	No	56	35
120	FD120	31	MD	1.92	No	54	35

* Door leaf only

Frames

Frames are manufactured from non-combustible material and clad in veneer, which can be primed, or PVC as required. The standard frame section is 100mm x 39mm Barum with a 25mm x 42mm hardwood planted stop. Non-standard frame widths can be provided on request. Advice should be sought from our Technical Services Department.

Smoke seals

Where smoke control to BS 476 : Part 31.1 : 1983 is required, combined intumescent smoke seals will be provided.

Vision panels

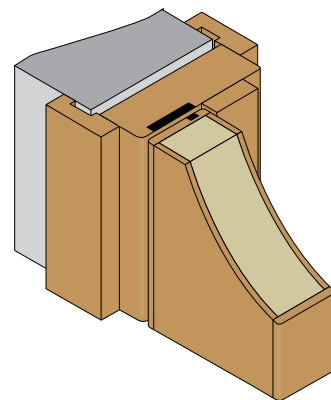
Vulcan doorsets can incorporate apertures with wired and unwired glass.

Ironmongery

Vulcan doorsets can accommodate standard ironmongery. However, the non-combustible stiles, rails and frames prohibit the morticing of locks and other items on site, and Leaderflush Shapland must be issued with details of all recessed ironmongery for factory preparation. Where flushbolts are required, these must be steel and installed in the door edge only. All ironmongery to be supplied with bolt through fixings.

Installation

Doorsets can be installed using traditional fixing methods, although gaps at the back of the frame must be fully filled with mineral wool and sealed with intumescent mastic.





comprehensive protection in a challenging environment

radiation shielding doorsets

effective solutions against unseen elements

Introducing radiation shielding doorsets

Leaderflush Shapland has developed the Leadline range of doorsets providing various levels of X-ray protection while accommodating all the standard Leaderflush Shapland facing options to match our other standard performance doorsets.

Performance

X-ray protection

Leadline AS doorsets incorporate lead sheeting in a range of thicknesses and this protection extends through the door frames, forming an effective barrier to radiation in all directions. Particular care is taken to ensure continuous protection and the lead sheeting is located closer to one door face so that it covers the lock-case.

The appropriate lead thickness is designated using the British Standard code number (e.g. 'BS code 5 lead' is 2.24mm thick). The controlling body for this requirement is the National Radiological Protection Board and guidance on the lead thickness necessary for specific situations should be sought from them.

Fire/smoke resistance

Fire resistance of up to 60 minutes can be provided by the application of lead sheeting to a certified core construction combined with the use of appropriate intumescent sealing. All fire rated products are manufactured strictly in accordance with the BWF-CERTIFIRE scheme. Where smoke control to BS 476 : Part 31.1 : 1983 is required, combined intumescent smoke seals will be provided.

Sound reduction

Where the Leadline AS door leaf incorporates 'code 7' (3.15mm thick) lead and appropriate high performance acoustic seals are fitted, this assembly will provide sound reduction of 39 R_wdB (see Audiodor 39/60 – Page 12).

Mechanical strength

Leadline AS offers 'Severe Duty' performance to BS DD171.

Construction

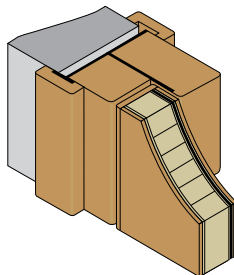
The Leadline AS X-ray door consists of a concealed lead sheet to the required specification. MDF each side forms either final facings for a paint quality door or the substrate



for final facings of veneer, laminate or PVC. Doors are lipped on 2 edges in 6mm hardwood as standard and lead fillets extend through the full thickness of lippings at meeting stiles of pairs of doors to ensure total shielding.

Frames

Frames are hardwood Mono section, 94mm x 69mm (finished), with lead lining to specification and 42mm x 14mm lead lined architrave is provided as standard for radiation protection. Non-standard sections are also available on request.



Configurations

Both single and double leaf assemblies are available, with overpanels and side panels. Double leaf assemblies will incorporate astragals with lead to maintain performance at meeting edges.

Ironmongery

Leadline doors are hung on two pairs of high capacity J602BP hinges as standard, with all other ironmongery to specifier's choice. However, the weight of the door should be taken into account when selecting door-closers or similar items.

Vision panels

Leadline doors (non rated only) can be supplied with apertures incorporating lead glass, with the corresponding X-ray performance.

Installation

Doorsets can be installed using traditional methods considering the assembly weight. Care must be taken to ensure that radiation shielding is continuous over the wall and frame junctions. X-ray protection doorsets are provided with a lead lined architrave to cover frame/wall void.

Door Type	BS Code Lead (thickness)	Fire Resistance	Mechanical Strength BS DD171	Sound Reduction (R _w dB)	Thermal Insulation (W/m ² K)*	External Use	Leaf Thickness (mm)	Door Weight (kg/m ²)
Leadline								
3	1.32mm	NR/FD30 FD60	SD	untested	1.94	No	54 54	44 47
4	1.8mm	NR/FD30 FD60	SD	untested	1.94	No	55 55	50 52
5	2.24mm	NR/FD30 FD60	SD	untested	1.94	No	55 55	55 56
6	2.65mm	NR/FD30 FD60	SD	untested	1.94	No	56 56	59 62
7	3.15mm	NR/FD30 FD60	SD	39	1.94	No	56 56	65 68

*Door leaf only NR – Non-fire rated



secure in the knowledge that your doorsets perform

high security doorsets

security and aesthetic requirements brought together to
complement the surroundings

Introducing high security doorsets

A wide choice of high performance security doorsets has been developed by Leaderflush Shapland for situations requiring resistance against forced entry, vandalism and more serious burglary or armed attacks. These are organised into two product ranges:

- Anti-vandal – the Castle AV range with burglary resistance, physical attack performance and blast resistance.
- Ballistic Resistant – Armador range offering three levels of ballistic protection to the appropriate British Standard.

Both ranges are offered with the Securidor anti-intruder option of integral alarm wiring linked to the intruder alarm system. The special performance of these doorsets is not visually apparent, as both ranges have been specifically designed to accommodate a variety of facings to match other Leaderflush Shapland performance doorsets.

Security – physical attack

Leaderflush Shapland has developed a physical attack test procedure, which reflects the considerable experience gained from our involvement with a wide range of clients and specialist bodies having a particular interest in security.



Security – ballistic resistance

Armador door leaf constructions have been successfully tested to the ballistic attack levels given in BS 5051 : Part 1. Further information, including details of other standards and level of threat covered, are available from our Technical Services Department.

Security – blast protection

All our blast doorsets are tested in accordance with the Home Office Protected Spaces test criteria. Performance levels of C25 and C15 have been achieved in various configurations. Specific requirements should be discussed with our Technical Services Department.

Fire resistance

Selected security doorsets have been subjected to BS 476 : Part 22 : 1987 fire testing and can be certificated to FD30 and FD60 fire resistance. Certificated options include hardwood and steel frames, concealed intumescents and security glazing. All fire rated products are manufactured strictly in accordance with the BWF-CERTIFIRE scheme. Please contact our Technical Services Department for further details.

Sound reduction

Due to the increased density and composite nature of our range of security doorsets, a high level of sound reduction can be achieved where appropriate seals are incorporated.



doorset constructions

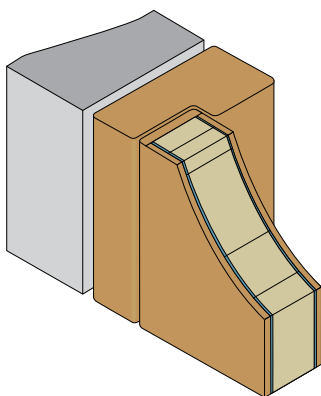
Castle Range

Castle AV1

100% solid hardwood core manufactured from lamels securely bonded together to form a laminated construction. Plywood each side forms either the final facings for a paint quality door for external use or the substrate for the final facings of veneer, laminate or PVC for internal applications. Doors are lipped on all four edges in 6mm hardwood as standard.

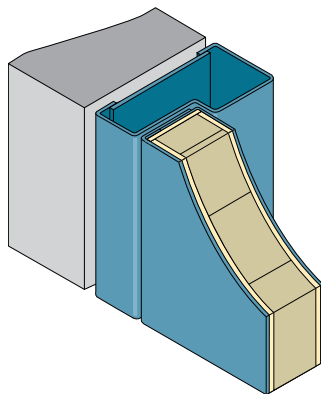
Castle AV2

Construction is identical to the AV1 but with the addition of 1mm thick Zintec steel sheets beneath the plywood facings to provide increased resistance to physical attack.



Castle AV3

This construction utilises the AV1 core and plywood substrate but is totally encapsulated in 1.2mm steel on both faces and all edges. This specification is ideal where very severe levels of vandalism and physical abuse are expected. Primer finish is supplied as standard, although powder-coated faces are also available on request.



Armador Range

The three doorset designs incorporate various arrangements of ballistic-resistant material. As with the Castle AV range, final facings can be plywood for paint, veneer, laminate or PVC. Doors are lipped on all four edges in 6mm hardwood as standard (10mm hang edge lipping on Armador Class 3). The ballistic-resistant core prohibits the morticing of locks and other items on site. Therefore Leaderflush Shapland must be issued with details of all recessed ironmongery for factory preparation.

Alarm wiring – Securidor option

Integral alarm wiring to BS 4737 : Parts 1 and 3 is incorporated behind external facings and linked to the proprietary alarm system. The wiring is designed to give an early warning of the doors being attacked or of unauthorised access. The Securidor system can be included in all Leaderflush Shapland high security doorsets and is connected via either a concealed loop (non-rated only) or wired conductor hinge to the frame. The assembly can also accommodate a magnetic contact in the head to monitor the open/closed status of the door.

External applications

All security doors are suitable for both internal and external usage.

Doorset constructions and performance

The following table summarises the various products available in the Castle and Armador Ranges, related to performance and other characteristics, to assist with doorset selection to meet your particular needs.

Door Type	Security Rating	Securidor Option	Fire Resistance	Mechanical Strength BS DD171	Sound Reduction (R _w dB)	Thermal Insulation (W/m ² K)*	Leaf Thickness (mm)	Door Weight (kg/m ²)
Castle								
AV1	Delayed entry level 1, C25 blast	Yes	NR/FD30 FD60	SD SD	29 29	2.31 2.31	53 57	34 39
AV2	Delayed entry level 2, C15 & C25 blast	Yes	NR/FD30 FD60	SD SD	33 33	2.31 2.31	55 59	51 56
AV3	Delayed entry level 3	Yes	NR	SD	33	2.31	55	54
Armador								
Class 1	G1 bullet resistance, delayed entry level 2, C15 & C25 blast	No	NR/FD30 FD60	SD SD	33 33	1.80 1.80	56 60	61 66
Class 2	G2 bullet resistance, delayed entry level 2, C15 & C25 blast	No	NR/FD30 FD60	SD SD	33 33	2.20 2.20	57 61	68 73
Class 3	G3 bullet resistance, delayed entry level 2	No	NR/FD30 FD60	SD	NR	2.16	55	80

*Door leaf only NR – Non-fire rated

doorset details

Configurations

Both single and double door leaf arrangements are available and other options include overpanels, sidepanels, fanlights and sidelights. Double leaf assemblies should incorporate an aluminium or steel 'T' section on the leading edge of the primary leaf. This detail can also be provided on the leading edge of single leaf assemblies. We would strongly recommend that, wherever possible, all security doorsets open towards the likely direction of attack.

Frames

As standard, there is a choice of either the Mono Security, 94mm x 69mm solid hardwood rebated frame, with a minimum density of 600kg/m³ or the Solo Security, 110mm x 75mm manufactured from 14 gauge steel. Frames of increased section are also available on request.

Smoke seals

Where smoke control to BS 476 : Part 31.1 is required, combined intumescent smoke seals will be provided.

Vision panels

Small observation windows glazed with laminated anti-bandit or ballistic resistant glass are available as standard. The glass is normally retained by high security steel beads, with no fixings exposed on the attack face. As standard, the bead is supplied in a black powder coated finish, however a stainless steel finish is also available. Alternative glazing materials available include toughened polycarbonate and 19mm Pyrosec glass – the latter being particularly suitable for secure accommodation such as seclusion rooms.

The standard vision panel size (reference VB1) is 300mm square, giving a clear viewing size of 230mm x 230mm. We suggest that security vision panels are kept as small as possible, with maximum clear viewing width of 250mm. Fire resisting security glazing is available on request.

Ironmongery

Hinges and hinge bolts

High security doors are hung on a minimum of 1½ pairs of J602BP hinges, with 1 pair of HB2 hinge bolts fitted as standard.

Lock arrangements

When deciding on lock specifications, the level of security and usage should be carefully considered. Obviously, multiple locking points greatly enhance overall performance of the assembly, although in many situations this is either unnecessary or impractical, for example with communal entrances.

The following are suggested lock specifications but for situations not covered by these examples or for more detailed advice, please contact our Technical Services Department.

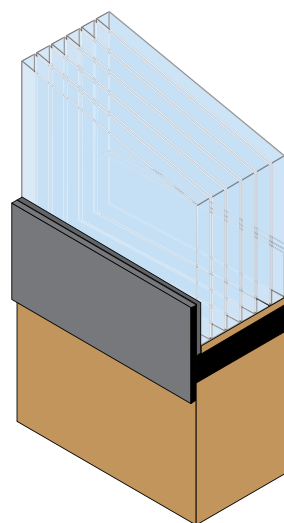
Pack 1 – standard security

ASSA 765 sash lock (70mm backset) with 35 33 56 striking plate, 601* cylinder, 256 accessory pack, with thumbturn, and ASSA 6650 lever furniture.

Pack 2 – high security and double leaf assemblies

Primary lock ASSA 765 sash lock (70mm backset) with 35 33 56 striking plate, 601* cylinder, 256 accessory pack, with thumbturn, and ASSA 6650 lever furniture. Secondary lock ASSA 9788 deadlock (70mm backset) with 35 17 85 striking plate, 601* cylinder, 256 accessory pack, with thumbturn. Both locks are suited to accept the same key as standard. The secondary leaf is fitted with 1 pair of S3-TA-W2 Tower Bolts with suitable sockets.

*Unsuited 602 double cylinders with 18256 accessories should be used where compliance with BS 3621 is required.



Pack 3 – very high security and double leaf assemblies

Primary leaf fitted with Mul-T-Lock concealed multiple bolting system. The secondary leaf is fitted with a similar system or appropriate barrel bolts. Alternative multi-point systems are available on request. Please contact our Technical Services Department for further advice. In addition to the above, we are able to incorporate electronic access control locks and strikes.

Installation

Recommended fixings for brickwork or concrete are Fischer FUR 10T (or Fischer FUR 10SS for steel frames) or Hilti HRD 10 (minimum 70mm anchorage into wall). These can also be used for new brickwork and blockwork, or wall cramps can be built-in. There must be a minimum of 5 fixings per jamb, staggered within the stop and rebate, at a maximum 450mm centres. Double leaf frames should include at least two fixings in the head. Leaderflush Shapland recommend you discuss your fixing requirements with our Technical Services Department.



specification

Specification of Leaderflush Shapland performance doorsets is straightforward, as all the necessary components of the doorset are matched by us to ensure that the specified performance levels are achieved. Guidance notes on typical NBS-based specifications follow.

410A INTERIOR VENEERED DOORSETS, ANTI VANDAL:

- Drawing reference(s):
- Manufacturer and reference: Leaderflush Shapland, Extended Performance interior doorsets
- Security performance: Delayed entry level 2
- Fire performance: Non-rated
- Door leaf:
 - Core: Castle AV2
 - Nominal thickness: 55mm
 - Facings: Quarter cut American White Oak veneer
 - Lippings: Concealed hardwood to all edges
 - Finish as delivered: Hyalux Natural polish
- Glazing details:
 - Bead system: High security beads in black stove enamelled steel
 - Size and position of aperture: VB1
 - Glass: 11.5mm anti-bandit
- Frame and architraves:
 - Frame: Security Mono
 - Architraves: Standard profile required for doorsets identified on door schedule
 - Material: American White Oak
 - Class (to BS EN 942) : J30
 - Finish as delivered: Hyalux Natural polish
- Ironmongery:
 - Hinges: Satin Chrome, supplied and fixed by doorset manufacturer
 - Locks: Security Pack 2 supplied and fixed by doorset manufacturer
- Fixing: Factory drilled frames with matching pellets
- Moisture content on delivery: 10 to 12%

410B INTERIOR PAINTED DOORSETS, ACOUSTIC, FIRE RESISTING:

- Drawing reference(s):
- Manufacturer and reference: Leaderflush Shapland, Extended Performance interior doorsets
- Fire performance: 30 minutes integrity
 - Smoke control: Not required
 - Certification: BWF-CERTIFIRE
- Acoustic performance: 38 R_wdB
- Door leaf:
 - Core: Audiodor 38
 - Facings: Chipboard
 - Lippings: Hardwood to all edges
 - Finish as delivered: Velvalux Opaque primer
- Glazing details:
 - Bead system: Hardwood bolecion bead, screw fixed
 - Size and position of aperture(s): VM1
 - Glass: 15mm Pyrostop
- Frame and architraves:
 - Frame: Barum
 - Architraves: Standard profile required for doorsets identified on door schedule
 - Material: Softwood
 - Finish as delivered: Velvalux Opaque primer
- Ironmongery: As schedule
 - Preparation: Factory morticed by doorset manufacturer
 - Hinges: Bright zinc plate (BZP), supplied and fixed by doorset manufacturer
 - Locks: Supplied and fixed by doorset manufacturer
- Fire seals: Standard type for this doorset, with intumescent seals in door frame
- Acoustic seals:
 - Frame head and jambs: Standard type for this doorset
 - Threshold: Wipe seal with low profile aluminium threshold
- Other requirements: Single astragal to meeting stile of pairs
- Fixing: Factory drilled frames with matching pellets
- Moisture content on delivery: 10 to 12%



410C INTERIOR PVC/LAMINATE FACED DOORSETS, FIRE RESISTING:

- Drawing reference(s):
- Manufacturer and reference: Leaderflush Shapland, Extended Performance interior doorsets
- Fire performance: 120 minutes integrity
Smoke control: Required for doorsets identified on schedule
Certification: BWF-CERTIFIRE
- Door leaf:
Core: Vulcan 120
Nominal thickness: 54mm
Facings: Formica
Lippings: Exposed hardwood to all edges
- Material: Maple
- Finish as delivered: Hyalux Natural polish
- Glazing details:
Bead system: Steel angle trim, powder coated, colour to match door ironmongery
Size and position of aperture(s): VC1
Glass: 6.5mm Pyran S
- Frame: Barum
Material: Non-combustible material
Facings: Maple
Finish as delivered: Hyalux Natural polish
- Architraves: Standard profile required for doorsets identified on door schedule
Material: Maple
Class: J30
Finish as delivered: Hyalux Natural polish
- Moisture content on delivery: 10 to 12%
- Ironmongery: As schedule
Preparation: Factory morticed by doorset manufacturer
Hinges: Powder coated, supplied and fixed by doorset manufacturer
Locks: Supplied and fixed by doorset manufacturer
- Fire seals: Standard type for this doorset
- Fixing: Factory drilled frames with matching pellets



410D INTERIOR VENEERED DOORSETS, RADIATION SHIELDING, FIRE RESISTING:

- Drawing reference(s):
- Manufacturer and reference: Leaderflush Shapland, Extended Performance interior doorsets
- Fire performance: 60 minutes integrity
Smoke control: Required to doorsets identified on schedule
Certification: BWF-CERTIFIRE
- Door leaf:
Core: 'Leadline AS' with combined lead thickness of Code 5 to BS 1178
Facings: Crown cut Ash veneer
Lippings: Concealed hardwood to all edges
Finish as delivered: Hyalux Natural polish
- Frame and architraves: Leadline Mono frame with matching lead lined architraves
Material: Ash
Finish as delivered: Hyalux Natural polish
- Moisture content on delivery: 10 to 12%
- Ironmongery: As schedule
Preparation: Factory morticed by doorset manufacturer
Hinges: Stainless steel, supplied and fixed by doorset manufacturer
Locks: Supplied and fixed by doorset manufacturer
- Fire seals: Standard type for this doorset, with intumescent seals rebated in door frame
- Fixing: Factory drilled frames with matching pellets





performance doorsets, meeting all performance criteria – across all sectors

introducing our other brands and ranges

an extensive portfolio of products that enables us to satisfy all your doorset needs

Through our brands, Leaderflush Shapland, Multisecure, Fitzpatrick and Longden, we offer the widest choice of performance doors and doorsets across all sectors encompassing commercial, health, education, social housing, heritage, conservation and consumer exclusive homes.

The **Designer Range** of flush doors and doorsets with numerous wood veneer, PVC, paint and metal finishes gives specifiers the freedom to choose from the most popular options which are included with 4 frame types and 11 vision panel designs, all of which have already been fire-tested and certified. The Designer Range also gives the specifier opportunities to produce unique designs with specific performance characteristics. This has been achieved by the partnerships which we have forged with specifiers which ensure that design visions are carried through to be practical long-term solutions.

The **Plasform® Range** has been developed to meet the hygiene, safety and operational requirements of applications ranging from commercial, educational and transport to health, food and the 'high tech' industries. It is characterised by the use of radiused vertical edges to door leaves and all

frame edges, with the post-forming of facings around them. This distinctive design is easy to clean, ergonomically friendly and damage resistant, and doors are fully encapsulated and low maintenance. Various vision panel options are available including flush-glazed systems.

The Architectural Hardware Range

Leaderflush Shapland is also able to offer a complete architectural hardware solution enabling you to specify all your doorset and ironmongery requirements from one convenient source. A dedicated technical team has been set up to help specifiers and architects with all their ironmongery requirements.

Innovations from Leaderflush Shapland

- Sentinel
- Hygienilac®
- Hygieniform
- Intelliglass®
- EnduraCor
- Envision

For more information please visit our website at www.leaderflushshapland.co.uk



Multisecure specialises in the manufacture of entry doorsets, communal entrances and screens for social housing projects. Blockade doorsets for external or internal applications are 'Secured by Design' accredited and utilise composite timber construction. Fortcullis communal entrance doorsets and screens combine visibility and light with high security. Yobstopper doorsets offer very high levels of security for applications requiring an even more robust solution.

www.multisecure.co.uk



Fitzpatrick offer a full bespoke design service for the manufacture of quality metal doorsets and frames. Fitzpatrick product range incorporates fire rated, acoustic and security products in both steel and stainless steel.

www.fitzpatrickmetaldors.co.uk



The Longden bespoke range of panelled doors and doorsets uses solid timber traditional construction methods combined with innovative techniques unique to the range to meet modern performance standards. Both raised and fielded panel and flat panel designs are available whilst boarded doors or glazed doors and screens can also be accommodated. Other products such as panelling for soffits and reveals or skirtings and dados can be manufactured. Longden has unrivalled experience in conservation and restoration, as well as manufacturing for new projects in either traditional and contemporary styles. Longden solid timber doorsets offer the ultimate in quality for luxury homes.

www.longdendoors.co.uk



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EMS 8007



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The future of performance doorsets

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