04/14

Installation guidance

Uniclass	L411
CI/SfB (31.5)	X

Recommendations for the Successful Installation of Leaderflush Shapland Doorsets

FM 580320 EMS 580321 OHS 580354

Leaderflush Shapland

Contents

Issued April 2014

Installer Qualifications

It is strongly recommended that the installer is a member of a recognised quality assurance scheme to ensure that best practice is used. In respect of fire doors, inspection authorities may require evidence that the installation process complies with the tested specification including:

- Intumescent systems
- Compliance of the glazing with tested detail supplied by the door leaf manufacturer
- The size of operating gaps
- Intumescent protection around hardware and the quality of the preparations
- The quality of supporting construction and the prepared opening
- The fixing of the fire door
- Fire and smokestopping methods used in fitting-in gaps and voids

Handling, storage & protection

Handling

- Leaderflush Shapland doors are a high quality product and therefore require an appropriate level of protection on site; we recommend the packaging should not be removed until immediately before the doorsets are ready to be installed. Our products are late second fix items and should be fixed after wet trades have finished on site when the moisture level in the building has returned to a normal level.
- Our products can be heavy and difficult to manoeuvre, so please take extra care to avoid damage to the product and prevent injury to site personnel, always work in accordance with sites manual handling policy.
- Specific door weight information can be found on the door label located on the top of the door on the packaging, this details the minimum number of people required to lift the door/doorset, and also gives the door/doorset reference number.
- Our products are designed for forklift truck off-loading and will be supplied banded in stacks for ease of distribution. Pairs of doors will be supplied packaged, separate to frames.

Storage

The correct storage conditions of Leaderflush Shapland products is essential to ensure the product performs and appears as specified. Storage and protection of the products on site is the responsibility of the contractor.

Leaderflush Shapland products should be stored close to the final installation area or in a location with the same moisture levels to allow the doorsets to acclimatise to the surrounding environment; ideally the products should be stored for 2 to 3 weeks in this location to allow the movement in the product to stabilise. **But please note even with these steps the doors/doorsets could still need adjusting when the building comes into use, as the environmental conditions will change.**

Product should not be stored outside.

Humidity Guidance within Timber Based products

Relative Humidity Rating (%)	Effects
Below 40%	Materials are susceptible to "Case Hardening", where the cell Structure of the material collapses, results in deformation (Bowing/Warping) of the material structure.
40-60%	This level is the "Optimum" Period, to sustain conditioned manufactured joinery, whereby Atmospheric Moisture is at "Equilibrium"
60-75%	Timber being "Hydroscopic", begins to absorb moisture, resulting in "Un - Controlled" expansion, and de-stabilisation of the Material
Above 75%	Materials are now exposed to High Levels of Atmospheric Moisture, Deformation of the Cell structure and Un-Controlled excessive swelling resulting in size/Shape alterations to the Manufactured Joinery, the details of which may not return to there original shape after Atmospheric Stabilization.

KEY

Acceptable Levels of Atmospheric Moisture

Control Measures Required

Activity Must Not Continue/ Commence, Residual Risk to Materials

- Products should **ALWAYS** be stored in a dry, enclosed location – the relative humidity of the storage area and the final installed location should fall within the range: 40 to 60% RH, Moisture content of our products is 10 to 12% for internal products, and for external doorsets they will be 12 to 14%. Doors/Doorsets stored outside of this range may swell or shrink and distort excessively, will void guarantees and not perform as specified.

- Store in a well ventilated location.
- Store close to the installation area.
- Stack doors/doorsets horizontally on 3 to 4 level bearers with bearers between the doors/doorsets. Bearers running the vertical length of the door are required if the doors/doorsets have long apertures. Bearers should line through with each other down the stack to stop doors being bent by the above load. Never put bearers across glass or glazing beads.
- Product should never be stacked straight on the floor.
- Doors should not be stacked more than 20 high and doorsets no more than 10 high.
- For extended storage periods doors should be covered with black polythene to stop the finish being affected by ultraviolet light.
- When restacking door leaves please ensure hinge knuckles or any other ironmongery is clear of the adjacent door face.

DO NOT

- Store outside.
- Store on door/frame edge.
- Store near heaters.
- Store in areas colder than 3°C.
- Store in direct sunlight.
- Store in a damp area.
- Stack product against walls.
- Install prior to 2nd fix.

Most of our doors and doorsets are despatched to site shrink-wrapped, whilst this gives a sensible level of transport protection it must not be deemed as waterproof. The shrink-wrapping is perforated to allow the product to breathe.

Prime/Seal

To prevent ingress of moisture, doors must be primed and sealed within three days of reaching site, and a second coat applied within a reasonable period of time thereafter. Both the top and the bottom edges of the door should be sealed. The Leaderflush Shapland label should not be painted over or removed.

Heating

Heating of the building should be introduced slowly over a long period. To achieve maximum air flow and to reduce the risk of uneven temperature build-up, doors should be left slightly open with the closer arms disconnected. Doors held open with wedges against a door closer action will induce twist.

Protection

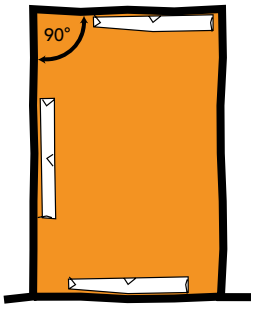
It is essential to protect the doorsets after they are installed until the handover of the building, our products are late second fix items but other trades will still be passing through the doorways. The packaging removed from the doors/doorsets could be reused to protect the door facings and will give basic protection from paint and dirt etc, but it's the contractor's responsibility to assess the level of protection required for the doorsets and provide it.

Adhesive tape should not be applied on to the door faces as this could damage the finish on the products, it may also cause natural veneer to fade or darken non-uniformly as areas of the door will be subjected to different levels of direct sunlight. Where the doors are subjected to a lot of sunlight, care must be taken as anything placed on the face of veneered doors could leave a silhouette as the veneer will fade or darken in direct sunlight.

Before you start

- Make sure that you have the correct door/doorset in relation to the opening in which it is going to be installed; each product has a unique reference located on the label, which links with the contract drawings and schedules. The door reference number is also marked under the middle hinge in permanent marker in the event the label is damaged. This will help you match the correct door and frame at a later date, where doors are stored to minimise site damage.

- Before removing the packaging check that the overall dimensions of the doorset will fit the opening it is intended for, if correct remove all packaging and take care to retain any loose items.



Check the structural opening is plumb and level before you start installation.

Where ironmongery is factory fitted, flush strike plates and bolt keeps may be attached to the door leaf or frame. You will need to remove these prior to installation.

- When removing the product packaging, please use a packaging knife with a concealed blade, as this will reduce the risk of damaging the product when opening.
- Timber frames supplied separately are fitted with a timber brace across the bottom – this will need removing.

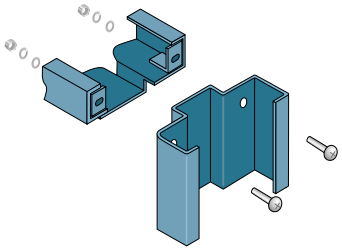
Also within the packaging on fire rated doors/doorsets you will find the product data sheet which gives the capabilities of the doorset and what you can and cannot do to the product. Plastic wrapped and steel frames may include cover discs to conceal any factory prepared frame fixings. You will need to remove these prior to installation.

Single leaf doorsets

- Remove the door from the frame by either:
  - Sliding the door off its hinges (if on lift off hinges), or,
  - By removing the screws from the frame hinge blades.
- Stack loose doors horizontally as per storage information.
- Single doorsets are delivered fully constructed unless requested otherwise, or of excessive weight.
- Where doorsets are delivered with 'knock down' frames please see assembly information attached to the frame.

Metal frames

We supply metal frames which are either welded and fully assembled or bolted together which are supplied 'knock down' for assembly on site with all the fixings supplied with each frame.



Assembled metal frames include a metal brace which is tack welded on and will need removing. The tack welds will break off with a few hits of a hammer near the weld at the back of the frame on to the brace.

Clearances

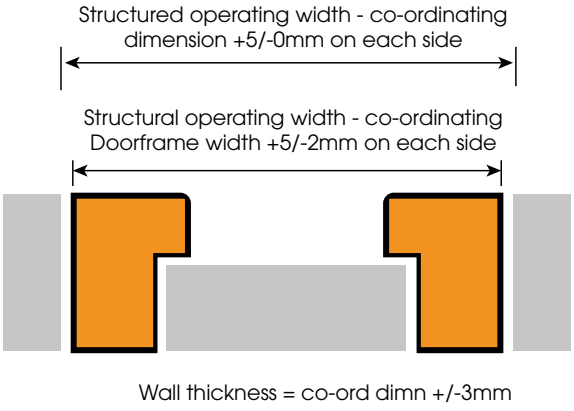
The following clearances should be achieved around fire door leafs when closed to comply with fire certification.

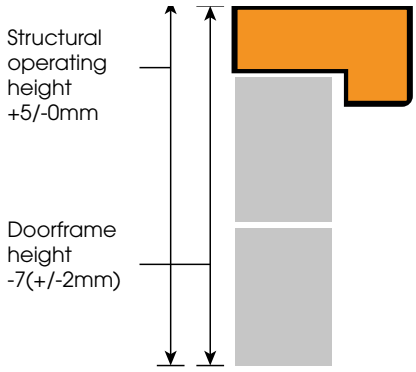
Timber doorsets

- Sides and top of door = 4mm maximum (Manufactured to allow 3mm).
- Meeting stile gap on pairs = 4mm maximum (Manufactured to allow 3mm).
- Bottom of door to finished floor covering = 10mm maximum (5mm maximum on 90 and 120 minute fire rated doorsets).

Additional guidance on undercuts can be found in BS8214 but the following are guidelines recommended by Leaderflush Shapland Fire only doors = 10mm maximum undercut from top of finished floor finishes to underside of door Fire and smoke controlled doors = 3mm maximum undercut from top of finished floor to underside of door – this can be increased up to 10mm with the use of a suitable threshold sealing system Leaderflush Shapland understand the tight tolerances specified, by the rules of BS8214, for smoke controlled doors and recommend that contact be made with Local Building Control or Fire Officer to seek a solution agreeable to all parties prior to doorset manufacture commencing.

The overall doorframe dimensions should be the co-ordinating height and width -5mm (+/-2) on each jamb and -7mm (+/-2) at the head to allow doorframes to be packed up a few millimetres if necessary for the door leaf to swing over high spots of floor coverings.





Leaderflush Shapland general guidance is to allow for a 7mm fitting tolerance to both sides and at the top of the doorset from the structural opening.

Recesses for floor mounted closer boxes

Plan pockets to receive closer boxes in reinforcement, floors and screeds. The pockets must be formed and located with great accuracy to co-ordinate with the doorframe position. For projects where underfloor heating is employed the planning of closer boxes, within the floor construction, and consideration for fixing of doorstops in advance is critical.

Steel doorsets

- Sides and top of door = 5.5mm maximum (Manufactured to allow 3mm).
- Meeting stile gap on pairs = 5.5mm maximum (Manufactured to allow 4mm).
- Bottom of door to finished floor covering = 19mm maximum.

If no threshold seal is to be used and the door is to stop cold smoke passage through the building then the maximum gap from bottom of door to finished floor covering is 3mm.

Adjusting door sizes

All our doors are made to measure and cannot be cut down unless provisions have been allowed prior to manufacture.

Doors only may be purchased to go into existing openings and these may need reducing to suit existing frames, the minimum lipping thickness allowed on our fire doors is 6mm and the maximum is 20mm, therefore a larger lipping will be required if doors are to be reduced on site.

Doors to go into frames or frames by other manufacturers will need the frames and any back filling checked for compliance with our fire certificate, please refer to the relevant product data sheet and BS8214.

If in any doubt, please check with our Technical Department before carrying out any work on 01773 530500.

Packer materials requirements

Timber frames

- FD30/Non-Rated – Softwood/Ply/Plastic/MDF.
- FD60 – Hardwood/Hardwood Ply/ (Plastic/Softwood/MDF - provided architraves are fitted or if intumescent paste covers the packers).
- FD90 and FD120 – Non-combustible material e.g. Calcium silicate board.

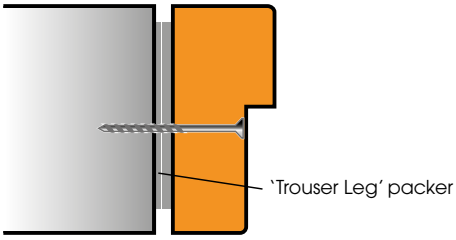
Metal frames:

- Non-fire rated – Softwood/Softwood Ply/Plastic/ MDF/Steel.
- All fire ratings – Steel.

Note: On our split frame constructions a full-width packer is recommended as it will help to keep the 2nd section in line with the first when fitting.

Pack between the door frame and the prepared opening immediately above each fixing position. Ensure that the door assembly when in position is perfectly plumb and square. Avoid later shrinkage of packers by using packers that are durable, hard and stable. Proprietary trouser leg packers are best. Alternatives are off cuts of laminate, metal shims or plywood.

Ensure that jambs are straight, opening gaps are even and in tolerance and that fixing screws cannot distort the frame when tightened.

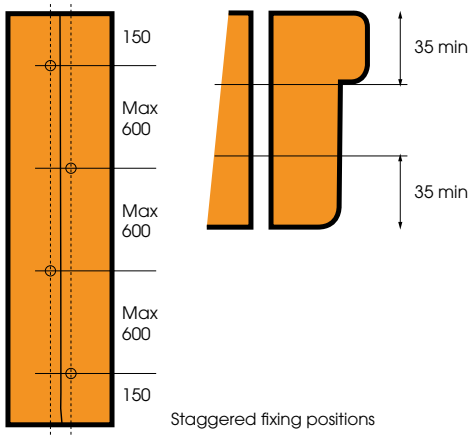


Note: the lateral force at the bottom hinge position can compress packings and metal studs causing the leading edge to drop. Before installing, ensure that studs are secure and fillings are dry.

Packing pieces are not supplied by Leaderflush Shapland.

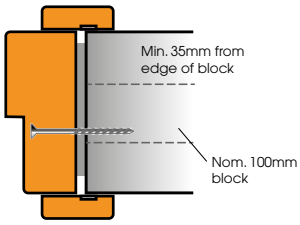
Fixing requirements

- To comply with our mechanical and fire test certification you are required to have fixings positioned no more than 150mm from the top and bottom of the doorframe jambs and fixing to the jambs with a maximum spacing between them of 600mm and on frames over 1050mm wide an additional fixing is required to the centre of the frame head. On split frames the section holding the door is required to be fixed in this manner, the secondary section can be fixed in any manner which securely fixes it in place.

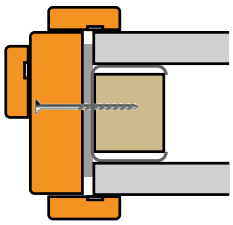


Staggered fixing positions

- On heavy doorsets paired fixing will normally be required unless specialist fixings are used which are approved by the fixing manufacturer for the door weight.
- All fixings need to be made in to a solid material with a minimum of 45mm of anchorage into the wall construction (70mm for heavy doorsets) soft mortar joints are not suitable fixing points as they will work loose with time.
- Fixing should be kept in from the partition faces to stop the wall material breaking away; we recommend a minimum of 35mm.



Secure fixing zone



Timber stud filler

- Screws/bolts should have a minimum shank of no less than 4mm unless fixing manufacturer states their fixings are suitable for the load to be applied on them.
- Fixing screws and panel pins are not supplied by Leaderflush Shapland.

Failure to follow our fixing recommendations may invalidate any guarantee, affect fire certification or cause the products not to operate as specified.

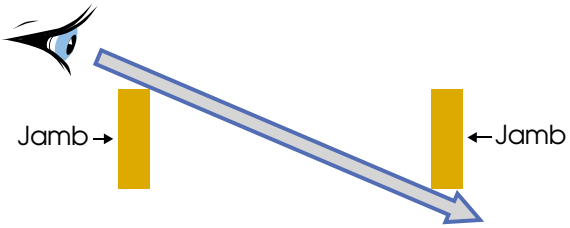
Basic doorset installation steps

Refer to additional Special installation notes for:

- Sentinel page 8
- Pivette page 9
- Vulcan page 9
- Audiodor page 9
- External page 11
- X-Ray page 11
- Plasform page 11
- Security page 11

1. Take the frame and offer it into the opening and level the head or transom rail, this is done by placing packers under the foot of the jambs or by altering the floor level, bearing in mind the required door undercut needed as this will lift or lower the door position.
2. Drill and fix the hanging jamb making sure it is plumb and free from bow and twist, always use packers behind fixing points, you should roughly have an equal amount of packers to both sides of the frame.

3. Drill and fix the lock jamb making sure it is plumb and free from bow and twist, sight through the frame jambs to check they are parallel to each other.



You may wish to put minimal fixings in at this point until the door(s) are re-hung as adjustment might be required.

4. On doorsets greater than 1050mm in width a fixing is required in the centre of the frame head to stop the frame head sagging.

5. Re-hang the door(s) in the frame.

6. Check you have a 3mm gap around the door(s) and it is flush with the frame, adjust the packing as required to achieve this, making sure when done all fixings are in and have been tightened.

7. Back fill frame as per previous instructions (see back filling section page 12).

8. Fix doorstops and architraves as required. (On high traffic areas and on heavy doors without door closers the door stops will require to be glue fixed as well as pinned or screw fixed in place).

Fix loose doorstops after all adjustments have been made. Fit to suit the shape of the door leaf, permit an easy latching action to ensure any seals are in correct contact with the door leaf face.

Doorstops can be pinned or screwed into position at centres that ensure that the doorstop is in full contact with the doorframe face at all times.

Where wide doorstops are being used it may be necessary to apply parallel or staggered fixings to ensure good fit.

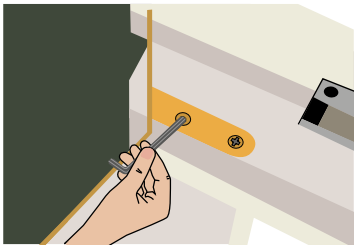
Note: Where lift-off hinges are fitted architraves greater than 14mm in depth to the head of the frame must be set back sufficiently to allow the door to lift clear of the hinge pin.

Special installation notes

The following are some unique points you need to know regarding our more specialised products these should be read in conjunction with the basic doorset installation guidance opposite.

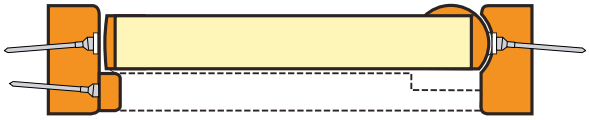
Sentinel doorsets

To release the door from the frame open the door to 90 degrees, whilst the door is being held open and steady, loosen the allen key bolt in the top centre but do not fully remove. Pushing the bolt in will retract the top pivot pin releasing the door which then can be angled out at the top allowing the door to be lifted off the bottom pivot. To re-hang the door, reverse this process, ensuring the door(s) are the right way up with the profiled section to the opening face.



When fitting a Sentinel door in wide partitions, extra fixings may be required on the hanging jamb this will require on-site drilling and counter boring.

If the bottom bracket is not in contact with the structural floor, include packing shims as required; where possible, and always in severe duty situations, include additional fixtures in the bottom of the bracket into the floor.



Pivette doorsets

To release the door from the frame open the door to 90 degrees, whilst the door is being held open and steady, remove the hinges from the larger door leaf and lift away the door. To remove the smaller door leaf, open the door to reveal the pivot at the top. You will notice a sprung pin which can be depressed downwards using a screwdriver thus retracting the pivot pin, releasing the door from the frame.

To re-hang the doors reverse this process.

The bottom pivot bracket can be easily adjusted loosening the lock nut and screwing the pivot in or out to adjust the height, you need to adjust it to level a 3mm gap between the top of the door and the frame when the door is installed, a hole in the floor under the bracket will be needed to allow the bolt to be screwed downwards. (Remember to tighten the lock nut back up when adjustments are complete).

Pivette door closers are positioned differently to standard closers, to allow for the bi-folding action of the doors, special drawings have been produced to show the correct positioning of the different closer types on the doorsets, so please refer to them before installing the door closer.

Vulcan doorsets

The Vulcan doorframe is made of non-combustible mineral core to achieve the high fire performance. The material is strong but is also brittle and care is needed when moving the frames into position. The frame jambs can snap if too much force is used to bend/move them.

Vulcan doors are always supplied on lift off or loose pin hinges, as the mineral core will break down if screws are repeatedly inserted and removed. If this happens a plastic plug bonded with epoxy adhesive can be used to form a new fixing point. This method of repair can be used for any fixing on the doorset.

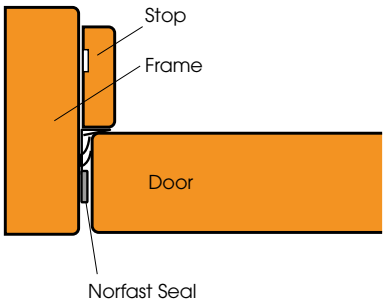
Door handles and pull bars should be fixed with bolt through fixings only.

Fix architraves to doorframe with pins and glue.

Non-standard intumescent sealing

In general terms Leaderflush Shapland use PVC encased intumescent seals that are recessed either into the door frame or door edge.

Where Viscount FD30 doors are required in excessive sizes (e.g 3442 x 928 single latched leaf) we are no longer permitted to use the PVC encased option. We are, however, permitted to use our Norfast product which is to be face applied to the door frame to ensure compliance. The sketch below illustrates its fitted position.

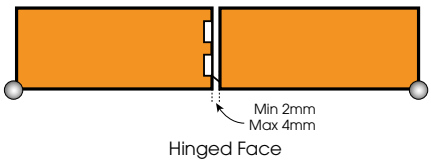


Audiodor doorsets

Extreme care must be taken not to damage the seals fitted in the bottom edge of the doors, any damaged seals will need replacing to achieve the doorset's optimum performance. (The seals are cut 3mm longer than the door width to both sides to seal the bottom corners).

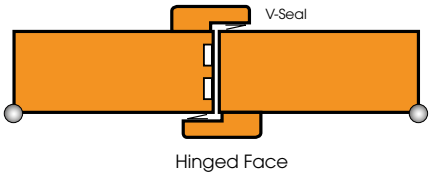
Meeting stile arrangements

Bladed seals



The seal arrangments will vary subject to your required performance needs.

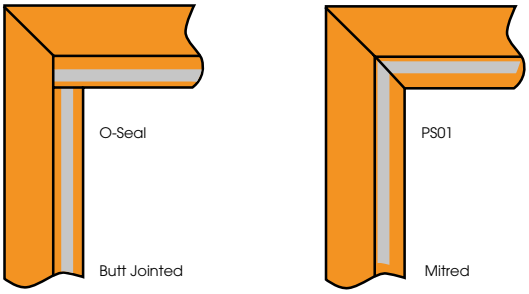
Compression seal



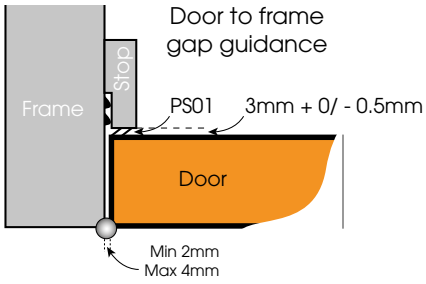
Astragals arrive fully fitted to pairs of acoustic doors to ensure maximum performance. Please do not remove or adjust, as this will damage the acoustic performance of the doorset.

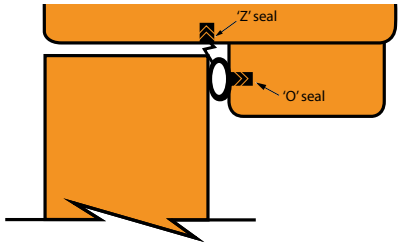
Doorstop seal arrangements

Apply the stop as normal with the door in the final closed position and then offer the stops up to the door face, ensuring an even gap of 5mm all around for stops fitted with the 'O' seal prior to the seals being fitted or 3mm if fitting the PS01. The 'O' seal stops need a bead of gap filling adhesive or mastic to the groove in the back prior to pinning the stop in position. The ends of the stops also need sealant applying to prevent any sound leakage.



The seals to the door stops should make light contact with the door face. If the door face to stop gaps are too tight or loose the doors performance will be adversely affected.





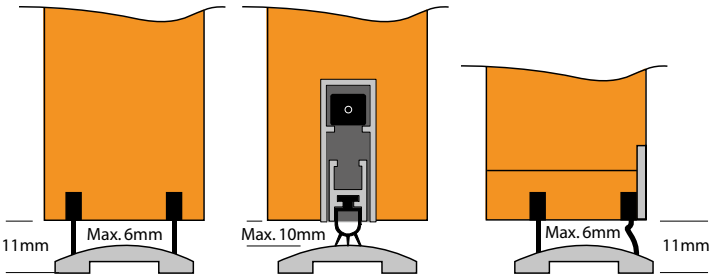
If required and not already fitted insert the seals in the groove located in the frame or doorstop. The 'Z' seal top angles away from the door stop, they need to be mitred in the corners so they abut the head/jamb seal neatly with no gaps.

Do not stretch the 'O' seal whilst fitting as the seal will return back to its starting length with time. Running the 'O' and 'Z' seal through a small amount of French chalk/talcum power in the hand will reduce the friction on the seal when inserting therefore reducing the chance of stretching the seal and ease the insertion of the seal.

Threshold seal arrangements

Please note that all gap dimensions shown are recommended to obtain optimum performance for acoustic solutions. The details shown relate to our most common designs. If your design varies from those shown below please consult our technical department for further guidance.

The seal arrangments will vary subject to your required performance needs.

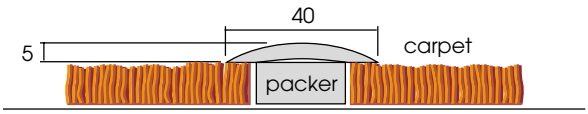


Low level acoustic performance

High level acoustic performance

Threshold strips are supplied with our Audiodor doorsets and where wipe seals are to be used an even 11mm gap is required under the door, measured from the finish floor level to the bottom of the door which allows the seal to contact across the full length evenly. Failure to do this will most certainly reduce the acoustic performance of the doorset in-use.

The threshold strip is sealed to the floor by applying a bead of silicone to the underside of the threshold and then screw-fixing it above the floor-finished covering. Where soft floor coverings are used e.g. carpet, the floor covering will need cutting back and the threshold then must be packed out with hardwood accordingly, with the packer piece also being sealed to the floor with silicone. These threshold strips come without fixing holes. Packers are not included.



Drop seals dependent on the rating can be used on some Audiodor doorsets. These are best suited to solid, smooth floor surfaces to ensure maximum contact. If the door is located in an area with uneven surfaces, or carpeted etc, a threshold will be required in the same way as above wipe seal details, the seal will require adjustment to ensure even, light contact with the floor covering is achieved.

External doorsets

Apply a bead of external grade silicone to the underside of the threshold and screw-fix it. Ensure the threshold is level and parallel to the bottom edge of the door.

All recessing on external doors/doorsets will require sealing to prevent moisture ingress.

Use stainless steel or nylon coated door ironmongery. On coastal or in very exposed areas use grade-316 stainless steel.

The decorative finish to doorsets on south facing buildings should be of a light colour to reduce the effect from the sunlight as the door will move with the heat of the sun.

CE marked products

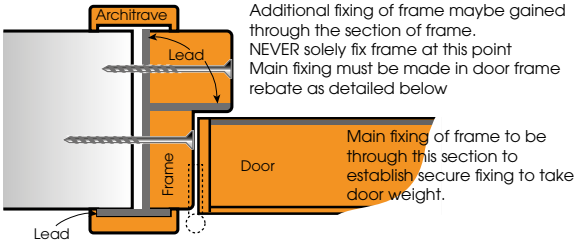
If we supply an external CE marked product, all the essential ironmongery to this product will be fitted within our factory apart from the door handles, thresholds and door closer if required. These will be supplied with the doorset for site installation with full fixing instructions supplied with the components. These products have a prescribed ironmongery specification which must be used so as not to invalidate the CE Certificate.

None essential ironmongery such as door numbers, kicking plates etc can be glued or screw fixed to the doorsets but you cannot fit any ironmongery which will remove door or frame material without our agreement as you could invalidate the cerificate covering the product.

X-Ray doorsets

These doorsets are **Extremely Heavy** so extra care when handling them should be taken.

Apply lead backed architraves to the X-Ray room side so overlapping the gap with the lead, and the plain architrave to the opposing side of doorframe by pin fixing or screwing.

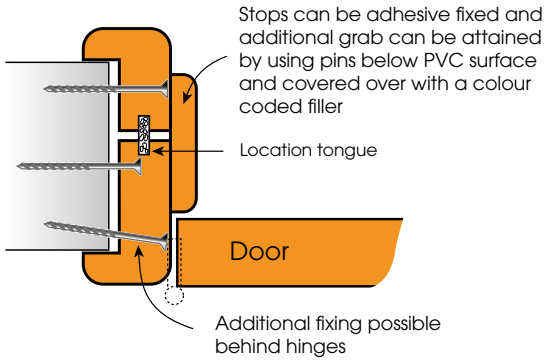


Plasform doorsets

Frame, stops and architrave are all screw fixed in place and the fixing points are covered with a cap made from the same material as the frame finish, these caps need bonding in place with a small amount of adhesive or silicone. Where permabond glue is supplied this should not be used for fixing cover caps!

Plasform WR (water resistant) doorsets are similar to standard Plasform but the architraves and ironmongery need bedding on silicone sealant to prevent water ingress and all ironmongery should be grade-316 stainless steel. Split doorframes also need stops bedding on silicone sealant but require a bead of sealant to both parts of the frame to prevent water ingress from either side.

The foot of the jambs will have a rubber pad to keep them off the ground, preventing water soaking up the jambs. The foot will require sealing with silicone sealant after installation. These rubber pads should sit on the finished floor level.



Security doorsets

All our security doorsets require deeper frame fixing anchorage in to the surrounding wall construction to a miniumum depth of 70mm and the wall must be of a construction to match the doorset security performance level. Any alternative fixing method must be agreed prior to installation.

Please refer to the external doorset section (page 10) for advice on fitting these products in external situations.

AV0 Internal

All essential ironmongery to this product will be fitted within our factory apart from the door handle and door closer. These will be supplied with the doorset for site installation with full fixing instructions supplied with the components. This product has prescribed ironmongery specification which must be used so as not to invalidate its Certisecure and SBD Certification.

The door handle must be fitted with bolt through stainless steel fixings which will be supplied with the set.

None essential ironmongery such as door numbers and kicking plates etc can be glued or screw fixed to the doorset but you cannot fit any ironmongery which will

remove door or frame material without our agreement as you could invalidate the certificate covering the product.

Castle AV1

The ironmongery to this doorset can be supplied loose. Fitting instructions will be supplied with each component.

Castle AV2 and AV3

The ironmongery recessing on these products is required to be done within our factory as they contain steel or GRP within the construction. If ironmongery preparation has NOT been done please seek advice from our technical department before attempting to cut the doorset. The ironmongery to these doorset can be supplied loose. Fitting instructions will be supplied with each component.

Back filling frame requirements

Internal doorsets

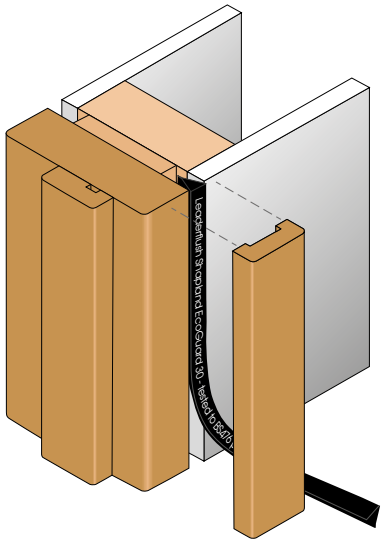
Non-rated:

Back filling not required.

Fire rated:

Three options to choose from:

1. Mineral or glass wool packed to a depth of at least 20mm on the door side or 10mm from each side.
2. A thick bead of intumescent acrylic/mastic 20mm on the door side or 10mm from each side. Fire tested for this application.
3. 25mm x 2mm intumescent material as a preformed strip. If using this option, apply a flexible silicone around perimeter of frame to prevent cold smoke leakage if a requirement.
4. Gaps between 6 and 14mm may be sealed on both faces with Leaderflush Shapland EcoGuard – as illustrated. EcoGuard must be fully inserted with its' wider edge flush with the supporting construction. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.



Note: Our Cubith frame type has integral architraves and therefore prior to fixing the 2nd section, the 1st frame section must be back filled as above.

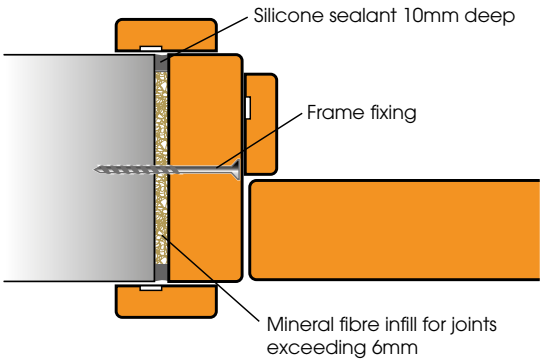
Acoustic doorsets

To prevent sound transfer the following back fills apply. Please also ensure in both cases that the bases of the jambs are sealed with silicone or mastic to the floor.

Non-Fire rated:

Gaps <6mm – requires a bead of dense silicone sealant to a depth of 10mm around both sides of the frame perimeter.

Gaps 6-12mm – requires densely packing with mineral wool and then capped off with a bead of dense silicone sealant to a maximum depth of 10mm around both sides of the frame perimeter.



Fire rated:

Gaps <6mm – requires a bead of intumescent sealant to a minimum depth of 10mm on the door side and a dense silicone sealant to a minimum depth of 10mm on the opposite side of the frame or a 25mm x 2mm intumescent material as a preformed strip. If using this option, apply a flexible silicone sealant around the perimeter of the frame to both sides to stop sound leakage.

Gaps 6-12mm – requires densely packing with mineral wool and then capped off with a bead of dense silicone sealant to a depth of 10mm around both sides of the frame perimeter.

Remember – sound is like water – seal all gaps or it will leak.

External doorsets

To prevent water ingress and heat loss the frame needs to be back filled with either mineral/glass wool or expanding foam and sealed with silicone on the outside face.

Fixing points & finishing

Our frames can be supplied bore and counter bored or left un-drilled for site drilling. Pellets can also be provided if requested these will be supplied bagged separate to the frames.

Screw fixings to lacquered timber frames will require pellets to be fitted. These are glued and hammered in over the fixing point, making sure the grain direction matches the frame. **However please note timber is a natural product and therefore the colour and grain pattern may vary from frame to frame, the pellets will therefore need matching to the frame for the best possible match.**

The remaining projecting pellet will need paring down flush to the frame, taking care not to mark the finished jamb. Finish the pellet head with a 30% clear gloss lacquer to match in with the rest of the frame on site.

Screw fixings to primed timber frames can be finished as above with pellets or filled with non-shrinking wood filler and sanded flat and painted over.

Pin fixings to lacquered timber stops and architraves should be filled with a matching coloured wax or coloured wood filler.

Pin fixings to painted timber stops and architraves should be filled with non-shrinking wood filler. (Decorators caulk is not suitable). Plastic wrapped and steel frames will be prepared for fixing holes and supplied with cover matching discs.

Finishing

We recommend that doors, frames and doorsets are supplied factory finished whenever possible to minimise the need for painting them on site in dusty environments. Where products are to be painted on site, they will be delivered factory-primed and will require de-nibbing by lightly sanding before painting. Factory primed doors may require undercoating and multiple top coats; consult your decoration specification. Top and bottom edges of doors must be painted. **Under no circumstances should the Certifire label be painted over or removed.**

Door only lippings need finishing on site as they are left clean to allow the door to be planed if required.

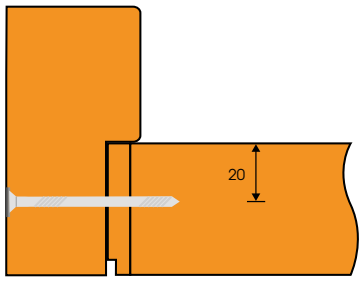
Full paint

Extra care must be taken when handling fully painted doors and frames. Fully painted frames will have all fixing paints concealed behind stops and seals where possible. Stops and architrave will need to be pin fixed. We will supply a small quantity of soft colour waxes to help conceal pin holes. We cannot accept responsibility for any touch up works required due to site or installation damage. Fully painted doors and frames are only available in standard BS or RAL colours.

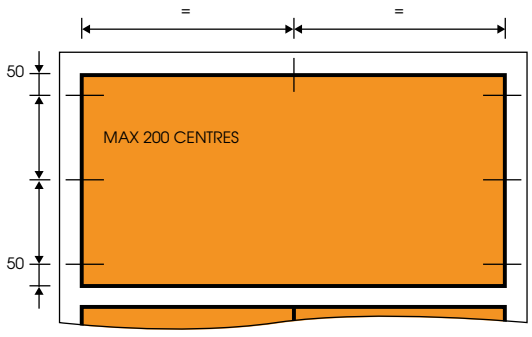
Ancillaries

Overpanels

Wherever possible overpanels are supplied factory–fitted within the frame of doorsets, however with some doorsets this may not be practical due to weight and size, in these cases the overpanel will be supplied factory prepared for site fixing and delivered separately.



The overpanels have a 3mm rebate to 3 or 4 edges to one side (both sides on double action), to represent gaps between the overpanel and frame to match the gaps around the doors below them. The overpanels require fixing prior to frame installation.



Overpanel should be positioned so it will line through with the door leaf, with the rebated face towards the opening side of the frame. Secure the panel in place by drilling and screwing it through the back of the frame with fixings 50mm in from the corners then fixings no greater than 300mm apart across the top and sides and across the transom (if fitted). Use a 4mm shank diameter screw, (screw length must give 30mm of anchorage into the overpanel).

Double doors with overpanels without a transom will require a metal or timber astragal to be fitted to the bottom of the overpanel for the door leaves to stop against.

Metal Astragal are 'L' shaped brackets recessed into the underside of the overpanels and screw fixed. Positioned at 100mm in from the meeting stile of the doors, on fire rated doorsets these will need bedding on 2mm of interdens.

Timber Astragals run the full width of the overpanel and are surface fixed to the overpanel overlapping the door leaf/leaves by 15mm. The astragals require gluing and screw fixing into place as they are subject to impacts.

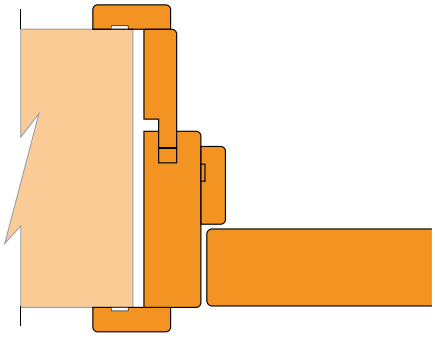
Due to the varying size and weight of removable overpanels/transoms and the height to which they are installed, a risk assessment needs carrying out prior to installation work.

Sliding doors

Fit in accordance with the installation instructions supplied by the sliding track manufacturer. The opening in the wall is lined with a plain frame lining and should be, if not specified otherwise by the sliding track manufacturer, fixed in the same method as a standard frame.

Extension linings

Most extension linings fit into a groove on the frame and can be pulled in or out slightly to suit the partition thickness (For performance reasons on some frame types we cannot groove the frame for the extension lining and they will need butt jointing to the frame).



The extension lining is normally screw fixed in the same way as the frame and this would be our recommendation but as this element does not affect the fire rating it can also be bonded in place. Extension linings do not need back filling ensure the main frame section is back filled prior to fixing the extension lining in place.

Glazing

Apertures cannot be cut into our fire rated doors on site. We strongly recommend that all aperture preparation is carried out in our works and cannot accept responsibility for later problems caused by site cutting of apertures. Some of our doors have metal linings to their cores or require special framing prior to manufacture.

It is strongly recommended that all Visicom products are installed on-site after the door has been installed. This is to prevent damage to the Visicom products in transit.

Where Plasform doors with a flush glazing system are employed, doors must have Visicom installed in the factory and Leaderflush Shapland procedures will ensure that no damage to visicom occurs.

Air transfer grilles

Fire doors can only be fitted with air transfer grilles that are Certifire approved, please see our product data sheets for details. Air transfer grilles must be installed in accordance with the manufacturer's installation instructions. Apertures cannot be cut into our fire rated doors on site. Non-Fire rated doors can have apertures cut, but we would advise that you check on the door construction prior to starting any work as some of our doors have metal or loose bonded cores which could give rise to problems on site.

Ironmongery installation

With the vast array of ironmongery components available to enhance the performance and aesthetics of any doorset, Leaderflush Shapland cannot cover all associated parts in our array of test certificates.

We can however recommend the following is always considered "PRIOR" to proceeding with any installation and or fixing of associated parts.

- Ironmongery falls into two specific categories – essential and non essential.
- Essential ironmongery is required to enable the doors to perform its fire resisting function.
- Non essential ironmongery may be needed to enable other functions to be achieved, but the elements involved could prejudice fire resistance.
- It is therefore vitally important to consider the influence that all ironmongery may have on fire resistance and establish that products being used/considered are compliant.
- Full listings of components that Leaderflush Shapland are approved to use for fire and smoke leakage doors can be found in our test evidence that is available upon request from any sales office.

- Care should be taken to ensure that when installing ironmongery with the use of battery operated tools, the correct torque settings are applied to the tools to minimise the risk of over tightening or spinning of screw fixings.
- Ironmongery to be fitted in accordance with the ironmongery manufacturer's instructions and our product data sheet that is provided with each door/doorset, as this identifies maximum dimensions, material specification and Intumescent protection.
- Flush fitting ironmongery can be factory installed (locks/flushbolts/strikeplates) where specified. Where required surface mounted hardware is supplied loose with your delivery.
- Please take care to unpack all contents ensuring no loose items are lost/discarded, in particular any intumescent protection. These must be installed to maintain the fire certification.
- Take care when installing ironmongery into Vulcan doorsets; this product has a mineral based core and screw threads are liable to break up the construction if they are removed or replaced repeatedly. See Vulcan doorset section for specific advice.
- When positioning a hold open device please make sure you place the hold open unit so it lines through with the position of the door closer, either at the top or bottom of the door. This ensures that if the door is held open for prolonged periods the danger of the door twisting will be reduced.
- Some FD30 & all FD60 doorsets and above require intumescent protection to hinges in order to meet fire certification. If not fitted, fire certification is invalidated. Please see the fire door data sheets supplied with the product for details.
- All fire door keeps need to be bedded on 1mm interdens/graphite in order to meet fire certification.
- When fitting concealed door closers such as the Geze Boxer or Dorma ITS 96, please ensure the supplied intumescent/seal packs are fitted as instructed. This is critical to achieving the product's fire rating. Without fitment of the intumescent in the door and frame, certification is invalid. The door and/or frame constructions will need to have been upgraded to receive this type of ironmongery to meet fire certification and mechanical strength test data.

Flush fitting – Flushbolts/Locks

If installing any flushbolts or locks not supplied by Leaderflush Shapland into fire rated doors, please ensure that all the intumescents are fitted around the product as identified in the product data sheet. Please ensure items comply with all rules stated in product data sheets.

All Ironmongery should be CE marked on fire rated doorsets.

Replacement parts

Doorset parts, for example seals and ironmongery etc, can get damaged or worn out. This can compromise the doorset performance and correct sourcing or acceptable replacement parts is crucial. Do not assume all products with the same generic description will all work the same. Please contact Leaderflush Shapland for details of any replacement components you may require.

Call our ironmongery department on 01773 530500 if your require any further assistance.

Leaderflush Shapland

www.leaderflushshapland.co.uk

Scotland & North East

Unit 1 Halifax Court, Halifax Road, Dunston, Gateshead Tyne & Wear NE11 9JT

T: 0191 461 4100

Inveralmond Industrial Estate, Inveralmond Road, Perth, Tayside PH1 3TW

T: 01738 634360

Midlands & Ireland

Milnhay Road, Langley Mill, Nottingham, NG16 4AZ

Tel: 01773 530500

Millenium Business Park, Concorde Way, Mansfield Nottingham NG19 7JZ

T: 01623 210030

Strawberry Lane, Willenhall, West Midlands WV13 3RS

T: 01902 600400

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Osprey House, 217 - 227 Broadway, Salford Quays, Manchester, M50 2UE

Tel: 0161 639 0000

Unit 37 Tir Llwyd Industrial Estate, St Asaph Avenue, Kinmel Bay, Rhyl, North Wales LL18 5JA

T: 01745 332151

3 - 5 Century Building, Summers Road, Brunswick Business Park, Liverpool, Merseyside L3 4BL

T: 0151 709 9438

Unit 17, Riverside Court, Don Road, Sheffield S9 2TJ

T: 0114 243 8916

Wales & South West

Regent House, Queen Street, Barnstaple, Devon EX32 8HJ

Tel: 01271 321007

Unit 4, Marketside Industrial Estate, Albert Road, St. Philips, Bristol BS2 0XS

T: 0117 300 3980

Unit A2 Cook Court, Pacific Business Park, Cardiff CF24 5HJ

T: 029 2047 1808

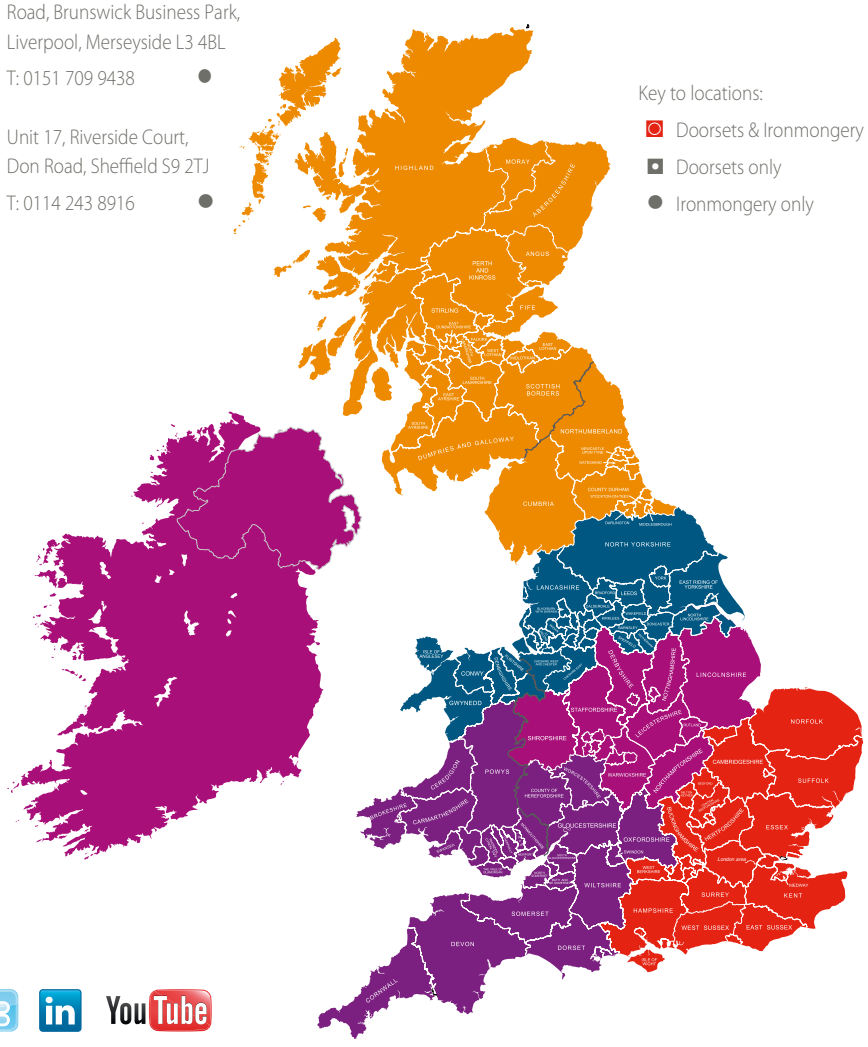
East Anglia, London & South East

14 Bonhill Street, London EC2A 4BX

T: 0207 436 0779

The White House, 14A Commercial Road, Tunbridge Wells, Kent TN1 2RR

Tel: 01892 512625



Key to locations:

- Doorsets & Ironmongery
- Doorsets only
- Ironmongery only

EMS 531228 RS10508 OHS 597049