Altro Whiterock™ hygienic doorsets™ and Altro Fortis™ doorsets – Installation guide

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Altro Whiterock hygienic doorsets and Altro Fortis doorsets are a range of top quality timber door and frame sets encapsulated in either Altro Whiterock or Altro Fortis Titanium wall sheet for a hygienic or door protection finish. They are designed for use on their own, or as part of the Altro Wall complete system. Colours can be selected from the Altro Whiterock Satins, wall designs or Altro Fortis Titanium ranges. A range of door plates, handles and locks that suit the customer specification are available. They can be supplied as either FD30(S) and FD60(S) fire rated, or as a non-fire rated doorset configuration.

Please ensure you follow the installation guidelines carefully to ensure best results.

Before you start

- Are you part of a fire door installation scheme? If not, what are your company policies in association with signing off the doorsets?
- Do you have a full overview of the fire doorsets on the project i.e FD30 or FD60's e.g how many require smoke seals, what are the ironmongery requirements etc.
- Have you read and understood the latest version of BS 8214 and understand the implications for tolerances?
- What are the moisture and humidity levels? Timber based doors are manufactured with moisture content of 10-12% for internal use and 12-14% for external use to BS EN 942. If materials are called to a site with moisture readings outside the 40-60% relative humidity range, then this is done so at the contractor's own risk.
- Any sign-offs associated with the door openings and floor levels should be agreed before starting.
- Fire rated doorsets must not be modified, except for those allowed under the parameters identified within the certification data sheets.
- Check all fire doors are identified - certified fire doors are permanently marked with their declared fire resistance rating, on a printed label on the top of the door. This must NOT be removed.
- Have you got the correct screws, packers, back filling materials and appropriate PPE?

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Quick fix install

1. Remove packaging and ensure loose items such as perimeter seals, discs and ironmongery are not lost.
2. Carefully remove doors/doorsets from the packaging and place upright beside the opening, ensuring both walls and doorsets are protected to avoid any damage
3. Flat pack frames will need assembling. Joints will have been pre-drilled and appropriate fixings supplied. Check the internal frame dimensions match the doors, allowing for appropriate gaps around the perimeter of the leaves.
4. Refer to the fixings section detailed below for fixing position and consider predrilling framing before offering into location with wood bits, therefore when in location only masonry/fixing drilling is required, thus avoiding any safety issues changing equipment. It may be possible to fix behind seals and the stop to conceal the fixing points.
5. Offer the frame into the opening and pack the hanging jamb to make it plumb to both opening and wall face.
6. Fix the hanging jamb, making sure that it is plumb both to the structural opening and wall faces, making allowances for any floor level discrepancies. For example, if the floor is out of level, it may be possible to keep the hanging jamb above the floor screed but still concealed by floor coverings.
7. Check and adjust the level of the frame head. Position the second jamb, ensure that is is plumb both ways and parallel to the hanging jamb.
8. Pack and insert two fixings only to the second jamb and one in the head if paired situation or if the frame is wider than 1050mm. This allows adjustments to be made.
9. Hang the door(s) on the hinges or pivots and achieve the required clearances by increasing or decreasing the packing thickness between the frame and wall. Check allignment to ensure there is no twist. Adjust the second jamb as appropriate.
10. Insert all remaining fixings and apply flush discs over visible fixing points.
12. Planted stops, for the frame with integral stop and split frame with separate stop, should be fixed in place using the secret fix biscuits.
13. Gaps at the back of the frames must be fully sealed prior to application of the architraves.

NOTE: where the frame is of a two part construction, like the split frame with separate stop, the secondary section is installed in the same method as the primary section and is lined up with the primary section by means of splines. The secondary section does not require back-filling to comply with fire certification. Similarly, the rear of the extension linings do not need to be protected.

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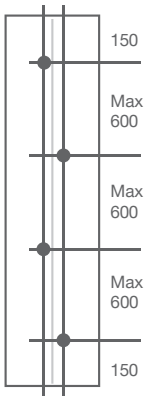
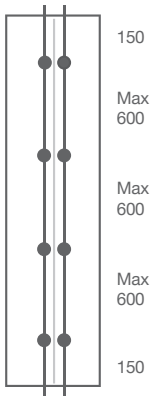
Fixings

To comply with our performance certification you are required to have fixings positioned no more than 150mm from the top and bottom of the door frame jambs, with a maximum spacing between them of 600mm. On pairs of doors or 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, whilst the secondary section can be fixed in any manner which securely fixes it in place.

- Staggered fixing positions down the jamb are recommended, increased to paired fixing positions for heavier doors, unless specialist fixings are used appropriate to the door weight. Equally, with appropriate and secure fixings, a single row of fixings can be used.

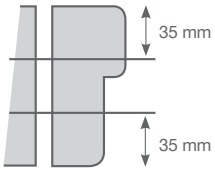


Staggered fixing positions



Paired fixing positions

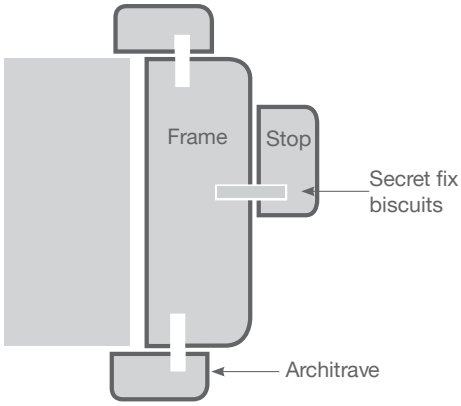
- All fixings need to be made into a solid material with a minimum of 50mm of penetration into the wall construction (70mm for heavy doorsets). Soft mortar joints are not suitable fixing points as they will work loose with time. Steel studs should be fitted with timber as part of the erection of the wall. When fixing to timber/steel stud partitions, screws must be of a sufficient length to penetrate the timber stud, or timber reinforcement within the steel stud.
- Fixings should be kept in from the partition faces to stop the wall material breaking away; we recommend a minimum of 35mm, although this is determined by the wall and facing construction.



- Screws / bolts should have a minimum shank of no less than 4mm unless the fixing manufacturer states their fixings are suitable for the load to be applied to them.
- Fixing screws are not supplied by Altro.
- Failure to follow our fixing recommendations may invalidate our guarantee, affect performance certification or cause the products not to operate as specified.

Frames are screw fixed in place with fixings concealed behind the planted stop.

The planted stop and architraves are fixed using the secret fix biscuits supplied with the doorset, with the aid of 2-pack adhesive supplied with every frame.



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Frame to wall fixing packers

PVC packers have been tested for all fire ratings as per the table below:

	18mm thick architraves		No architraves
	Full width PVC packers	PVC packers cut back 10mm	PVC packers cut back 10mm
FD30	Yes	Yes	Yes
FD60	Yes	Yes	Yes

Additional frame packing material types:

NR/FD30 Softwood, ply, MDF, hardwood

FD60 Hardwood, hardwood ply

Frame to wall abutment gaps

Frames should be installed with gaps between the frame and the wall backfilled in accordance with tables 2-5 of BS 8214: 2016.

Acoustic doorsets:

The frame to wall gap should be tightly packed with mineral rock fibre and capped off with intumescent sealant to ensure an air tight gap.

Smoke doorsets:

Smoke sealing is achieved using ‘mastic capping’ to the gap between the frame and the wall, by reference to the latest version of BS 8214.

Architraves:

PVC wrapped architraves can be fitted to frames if required. Architraves should be fixed at max 400mm centres. Altro supplied architraves are supplied mitred for immediate fixing.

Fitting gaps

It is critical to the performance of the doorset that the perimeter gaps are set up correctly.

- The minimum clearance for all doorsets is 2mm for top and sides. In addition to this, the door must be able to close fully without excessive force being applied.
- Maximum gaps
  - Sides and top of doors = 4mm (manufactured to allow 3mm)
  - Meeting stile gap = 4mm (manufactured to allow 3mm)
- Bottom of door to finished floor covering
  - 10mm for 30 and 60 minute fire rated doorsets
- Doorsets designed to meet smoke control requirements should be sealed along the bottom edge whilst observing the gap requirement above. If this is not practicable, a maximum 3mm unsealed gap is allowed.
- Refer to the acoustic section for more detailed information on acoustic thresehold sealing.

Fire door identification

Doorsets fire certified by the Certifire scheme will have a label fitted to the door similar to that below

Please ensure you follow the installation guidelines carefully to ensure best results.

Special details

Shadow gaps:

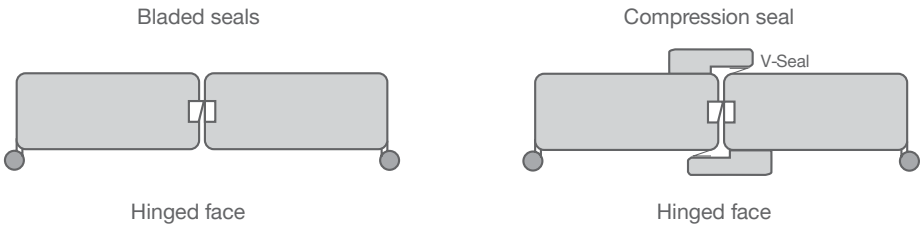
Shadow gaps should be formed by sacrifical plasterboard layer and QIC trims R10 and R20, trims are for 10mm and 20mm shadow gaps respectively. The trim butts up to the rear of the frame forming the shadow gap. The frame is installed and sealed in the normal manner prior to the trims being fitted, projecting the frame from the wall, allowing for the additional plasterboard layer to be applied bringing the wall flush with the frame.

Acoustic 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 doorsets' optimum performance (the seals are cut 3mm longer than the door to both sides to seal the bottom corners).

Meeting stile arrangements

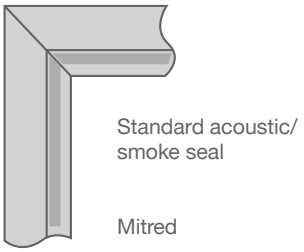
The seal arrangements will vary subject to your required performance needs.



Astragals arrive fully fitted to pairs of high level acoustic doors to ensure maximum performance. Please do not remove or adjust, as this will reduce 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 3mm if fitting our standard acoustic / smoke seal.



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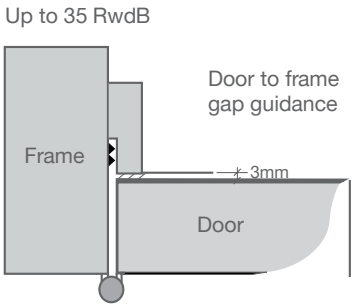
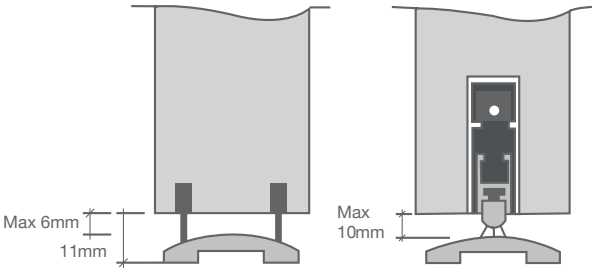
The seals to the doorstops should make light contact with the door face. If the door face to stop gaps are too loose, this will reduce the acoustic performance of the doorset. If the gaps are too tight, this will prevent the door from closing correctly.



If required and not already fitted, insert the seals in the groove located in the doorstop.

Threshold seal arrangements

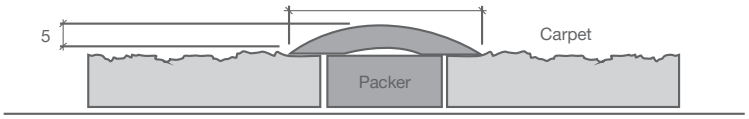
Please note that all gap dimensions shown are recommended to obtain optimum performance for acoustic solutions. The details shown relate to our most common designs. If your design varies from those shown below, please consult our technical department for further guidance.



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

Threshold strips are supplied with our acoustic doorsets. 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, allowing the seal to contact across the full length evenly. Failure to do this will reduce the acoustic performance of the doorset.

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.



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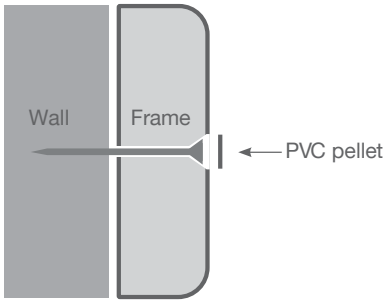
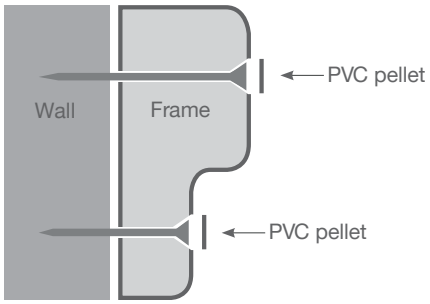
Drop seals, dependent on the rating, can be used on some acoustic doorsets. These are best suited to solid, smooth floor surfaces to ensure maximum contact. If the door is an area with uneven surfaces, or carpeted etc. a threshold will be required in the same way as above, wipe seal details. The seal will require adjustment to ensure even, light contact with the floor covering is achieved. Simply open the door to 90° and screw the activation button clockwise or anti-clockwise to adjust the drop depth.

Unlike the split frame with separate stop and frame with separate stop, the frame with integral stop will have visible fixings, as will a double action frame. The screw fixing points are covered with a PVC pellet made from the same material as the frame finish, these discs need bonding in place with a small amount of adhesive or silicone. Where 2-pack adhesive is supplied for the biscuits this should not be used for fixing cover caps.

Double action lining



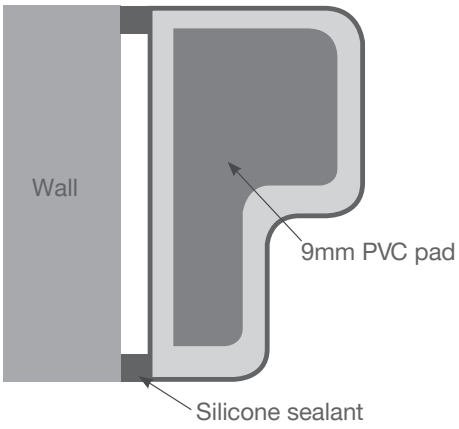
Frame with integral stop



Water resistant doorsets

Water resistant doorsets are like the standard doorsets but the architraves and ironmongery need bedding on silicone sealant to prevent water ingress, and all ironmongery should be grade-316 stainless steel. Split door frames also need stops bedding on silicone sealant and require a bead of sealant to both parts of the frame to prevent water ingress from either side.

The foot of the jambs (and stops and architraves if supplied) will have a 9mm PVC pad to keep them off the ground, preventing water soaking up the jambs. The foot will require sealing with silicone sealant after installation. The rubber pads should sit on the finished floor level.



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Ancillaries

Extension lining

Most extension linings fit into a groove on the frame and can be pulled in or out slightly to suit any variation in 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 to the wall in the same way as the frame. This would be our recommendation, but as this element does not effect the fire or other performance ratings it can also be bonded in place. Extension linings do not need back filling, however 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 internal framing prior to manufacture.

It is strongly recommended that all privacy vision panels are installed onsite after the door has been installed. This is to prevent damage to the privacy vision panels in transit.

Air transfer grilles

Fire doors can only be fitted with air transfer grilles that have been proven by test or 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.

Ancillaries continued

Ironmongery

With the vast array of ironmongery components available to enhance the performance and aesthetics of any doorset, Altro cannot cover all associated parts in our array of test certificates. We can however recommend the following is always considered before 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 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 Altro are approved to use for fire and smoke leakage doors can be found in our certification that is available upon request.
- Care should be taken to ensure that when installing ironmongery with the use of battery operated tools, the correct torque settings are applied to minimise the risk of over tightening or spinning of screw fixings.
- Ironmongery is to be fitted in accordance with the ironmongery manufacturer's instructions and the product data sheet that is provided with each door/doorset, as this identifies maximum dimensions, material specification and intumescent protection requirements.
- Flush fitting ironmongery can be factory installed (locks/flushbolts/strike plates) where specified. Where required, surface mounted hardware is supplied loose with your delivery.
- If installing flushbolts or locks not supplied by Altro 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.
- Please take care to unpack all contents ensuring no loose items are lost/discarded, any intumescent protection must be installed to maintain the fire certification.
- 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 require intumescent protection to hinges to meet fire certification. If not fitted, the fire certification is invalidated. Please refer to the appropriate fire door data sheets supplied for details.
- 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, the 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.

Onsite doorset modifications

All our doors are made to measure and cannot be cut down.

Site cutting of apertures is prohibited under our third party certification schemes.

If installing ironmongery not supplied by Altro 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.

Additional information

Further guidance for the installation of timber based fire doors can be found in the following two documents:

BS 8214 - Timber-based fire door assemblies – Code of practice

ASDMA Guidance on Fire Door Installation

Please ensure you follow the installation guidelines carefully to ensure best results.

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