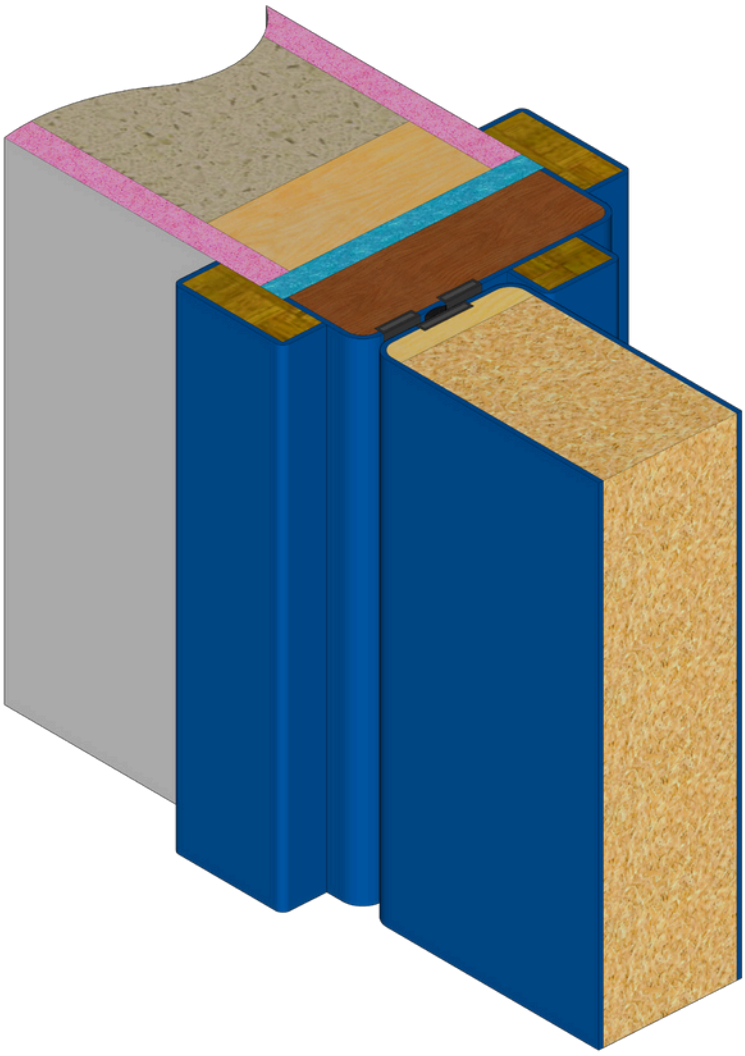

INSTALLATION GUIDE

Traditional frame doorset fitting instructions.

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Suitability of the structural opening.

The following wall types are approved for this doorset design:

a) Plasterboard clad timber stud partitions
b) Plasterboard clad steel stud partitions including timber lining
c) Masonry constructions

Wall types a & b above must have supporting fire resistance test evidence which demonstrates that it is capable of staying in place and intact for a minimum of 30/60 minutes (depending on fire rating) supporting a doorset design.

Wall type c above must be determined to be able to provide at least the same level of fire resistance of the doorset design.

All wall types detailed above shall provide a suitable medium to permit adequate fixity, it is anticipated that for:

- Plasterboard clad timber stud partitions, the timber stud will be of sufficient dimensions such that the fixing for the door frame penetrates into solid timber.
- Plasterboard clad steel stud partitions will include a timber lining of sufficient dimensions such that the fixing for the door frame penetrates into solid timber.
- Masonry constructions are anticipated to be constructed of a solid block or brickwork to receive the fixings.

Note: Other tested solutions to achieve adequate fixity may be detailed within the above noted supporting fire resistance test evidence.

For all wall types the structural opening shall be square, plumb and provide a flat surface for installation of the doorset.

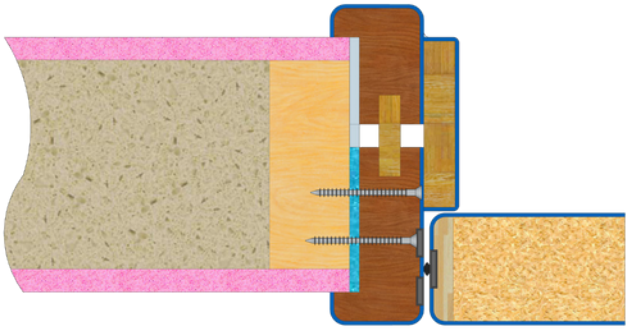
For flexible wall types such as steel and timber stud partitions the structural opening must be prepared in line with the test evidence provided by the wall manufacturer with particular reference to protecting any voids in the wall makeup.

Frame fixing.

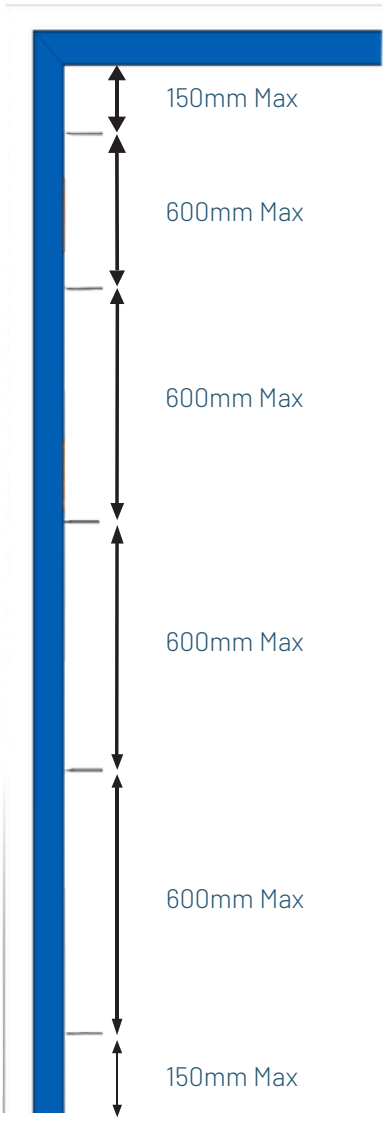
Frame Fixing A (integral half of frame/ door hanging side only).

Before you start, check the structural opening is plumb and square, with no loose brickwork or cables.

When installing the door frame, ensure the fixings are positioned such that they will be covered by the doorstop, as illustrated. Note - doorstops vary in size. Check the door schedule to see what size of doorstop has been scheduled for the door you are fitting.



- Screws must penetrate a minimum of 40mm into substrate.
- A minimum of 5 fixing points are required on each jamb. Spaced a maximum of 150mm from the top and bottom and spaced no more than 600mm apart.
- Fixings are not required in the head but can be used if and where required to offer additional support. Packers MUST be inserted into the head.
- Frame packers must be selected according to the fire rating of the doorset – refer to the table on page 4 for more details.
- For a single doorset, fixings are not required in the head of the frame. For all other door configurations fixings are required in the frame head, positioned at 150mm from internal corners and max 600mm centres.
- It is good practice to add a fixing behind the top hinge in order to give more support for the weight of the door. Additionally, if the frame has intumescent grooves in it, fixings can be placed within these grooves behind the intumescent strip.



Packers table.

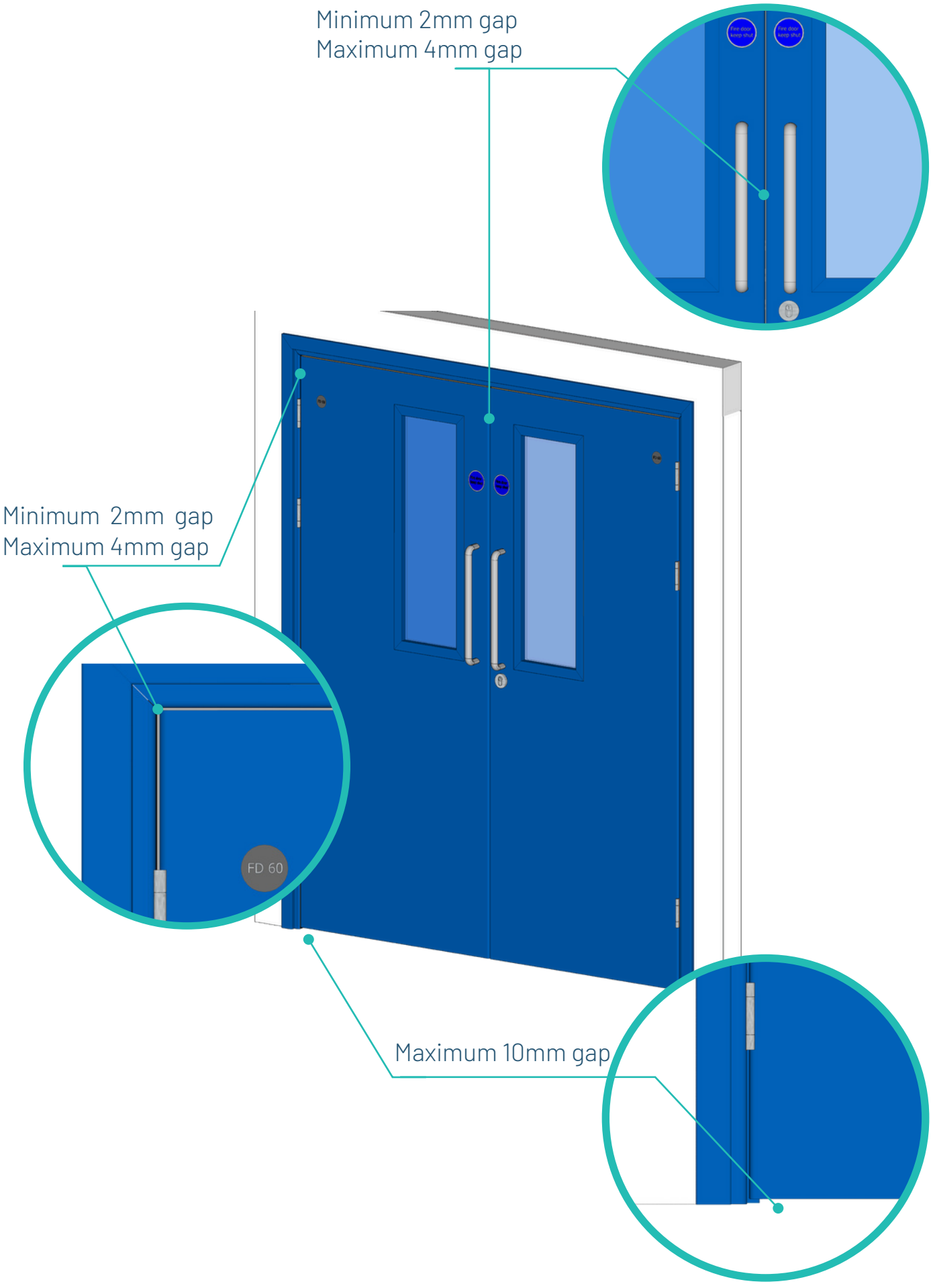
	NFR	FD30	FD60	Comments
Plastic	✓	✓		Must be cut back to 10mm and capped with mastic
Softwood	✓	✓		DO NOT need cutting back and capping
Hardwood	✓	✓	✓	DO NOT need cutting back and capping
Non-Combustable (i.e Blue 60)	✓	✓	✓	DO NOT need cutting back and capping

Please note: Packers can be timber of equal density to the frame, or plywood or plastic packers if fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1.

Door hanging.

Once the frame is installed, the door leaves should be hung to ensure that the frame is fitted correctly before proceeding with fire stopping.

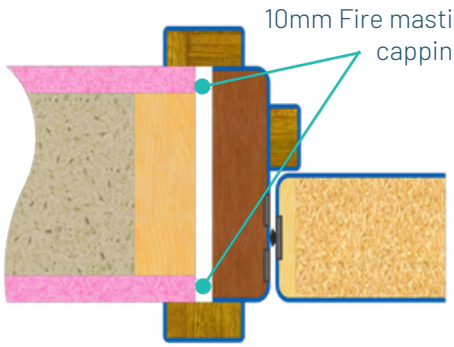
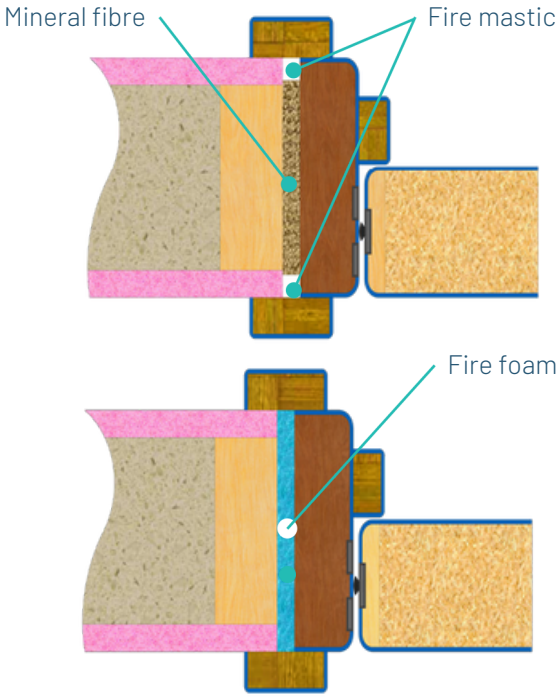
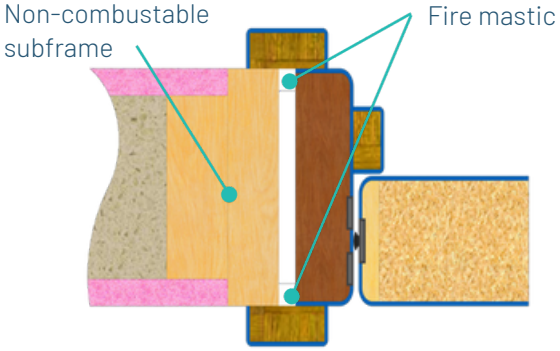
- Some doorsets require intumescent hinge pads – refer to Intumescent Table on page 12.
- Ensure hinges are fully butted into the recess and fixed flush with no protruding screws.
- Ensure the gaps around the door, between both vertical edges and the head are a minimum of 2mm and a maximum of 4mm (including meeting stiles). See images below.
- If the door is fire rated - gaps under the door must be a maximum of 10mm between the finished floor level and the underside of the door.
- If the door is designated as Smoke Rated (FD30s/FD60s) the gap under the door must be a maximum of 3mm without a drop seal, or up to 10mm if fitted with a drop seal.
- Ensure the door swings freely with no impediments.

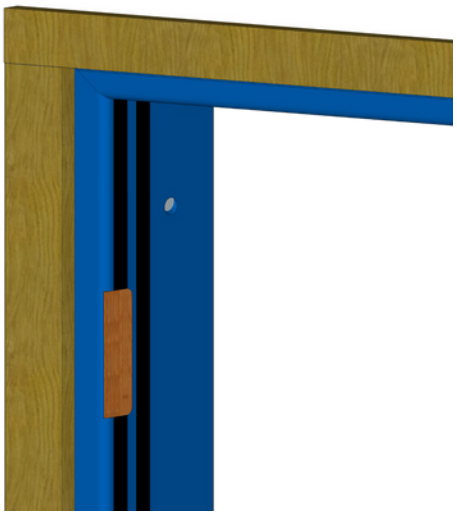

Minimum 2mm gap
Maximum 4mm gap
Minimum 2mm gap
Maximum 4mm gap
FD 60
Maximum 10mm gap

Fire stopping.

Once the doors are hung, and all tolerances are correct, then the fire stopping should be carried out as follows.

NOTE: All fire stopping/mastic must comply to either BS 476 part 22/ BS EN1634-1.

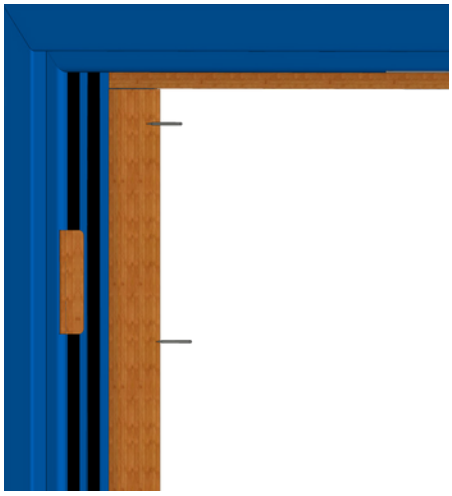
Gaps 0-2mm	In practice, unlikely to occur, but if present, must be sealed with architraves, as below, fitted over a bead of acrylic intumescent sealant, tested as below.	
Gaps 3 - 20mm	Gaps must be tightly packed with mineral fibre capped on both sides with a 10mm depth of acrylic intumescent mastic, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1 or full depth expanding PU foam, fire tested for this application to BS 476: Part 22:1987 or BS EN 1634-12. For FD30 doorsets, mineral fibre is optional for gaps beween 3-10mm.	
Gaps 20 - 50mm	This would be considered a poor preparation of the structural opening. A timber based or non-combustible subframe up to 50mm thick can be inserted and fixed to the wall bedded on intumescent mastic, the gap between door frame and subframe filled as follows: Gaps 5 to 10mm filled on both sides with 10mm depth of acrylic intumescent mastic or full depth expanding PU foam, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1.	



Architrave MDF core.

Architraves (including the PVC covers) must overlap the wall by a minimum of 15mm.

- Cut the MDF architrave to suit the size of the door frame. Architrave MDF cores can be either mitred or butt jointed.
- Fix the vertical and horizontal MDF sections to the frame using pins/screws.
- Repeat on other side of the frame.
- Ensure MDF cores are left dust-free ready for the PVC covers.



Doorstops.

Note–doorstops vary in size. Check the door schedule to see what size of doorstop has been scheduled for the door you are fitting.

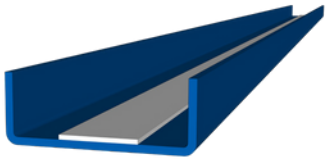
MDF core.

- Cut the MDF core to suit the internal size of the door frame.
- Install the head section first, running the full internal width of the frame.
- Cut the vertical sections to fit underneath the head section.
- Pin or screw the MDF cores into place allowing for the thickness of the door, plus a 3mm tolerance (5mm if the doorset is to be fitted with batwing seals – refer to page 8 for more details).
- Ensure MDF cores are left dust-free ready for the PVC covers.

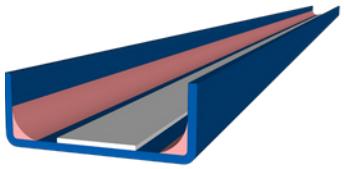
PVC covers.

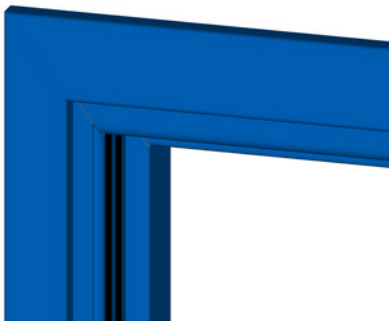
Mitre PVC covers to correct sizing.

- Once mitred, ensure the PVC covers are clean and free of dust.
- Apply a strip of the supplied double-sided foam tape to the centre of the PVC cover. (Two strips of tape can be used for wider doorstops)



- Apply a bead of PinkGrip adhesive to both internal corners of the PVC cover.
- Push the PVC covers onto the MDF core, ensuring that the double-sided tape makes contact with the MDF core. The double-sided tape will provide an instant but temporary hold, whilst the PinkGrip adhesive cures. Fit one jamb, followed by the head and then the remaining jamb.

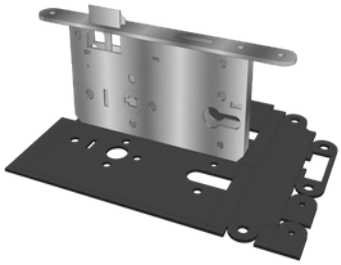




- Ensure there are no gaps in the PVC covers.
- The finished door frame should have no visible fixings.

Adding ironmongery.

- Refer to the schedule to ensure you have the correct fitment details and refer to the manufacturers fitting instructions to ensure the fitting is compliant to BS 476 part 22/ BS EN 1634-1. Only SDS approved Ironmongery should be fitted to the doorset.
- Apply intumescent to all hardware that requires/comes with an intumescent kit.

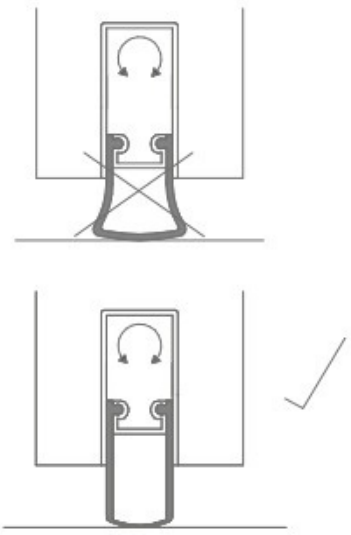


Closers.

For the fitting of a closer, please refer to the manufacturer's fitting instructions.

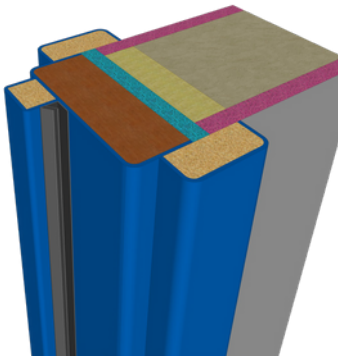
Adjusting dropseal.

It is vital that a dropseal, fully seals the threshold when the doors are in the closed position. If the dropseal doesn't fully seal the threshold when the doors are closed, you can adjust the dropseal. To do this, simply wind the plastic thread (closing edge) in small increments, checking the seal to the threshold after each adjustment. The perfect scenario is when the dropseal engages with the floor right at the point where the leaf is fully closed.



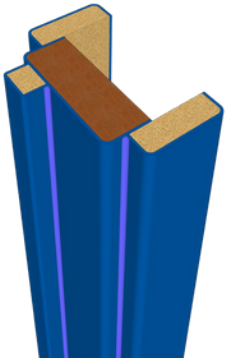
Batwing seals.

Some doors require 'Batwing Seals' to be fitted for the purpose of acoustics, or airflow restriction. Where these are required, these are noted on the door schedule, and are supplied loose for fitting on site. These seals are self- adhesive seals, that are stuck onto the frame after the installation of the doorset as illustrated.



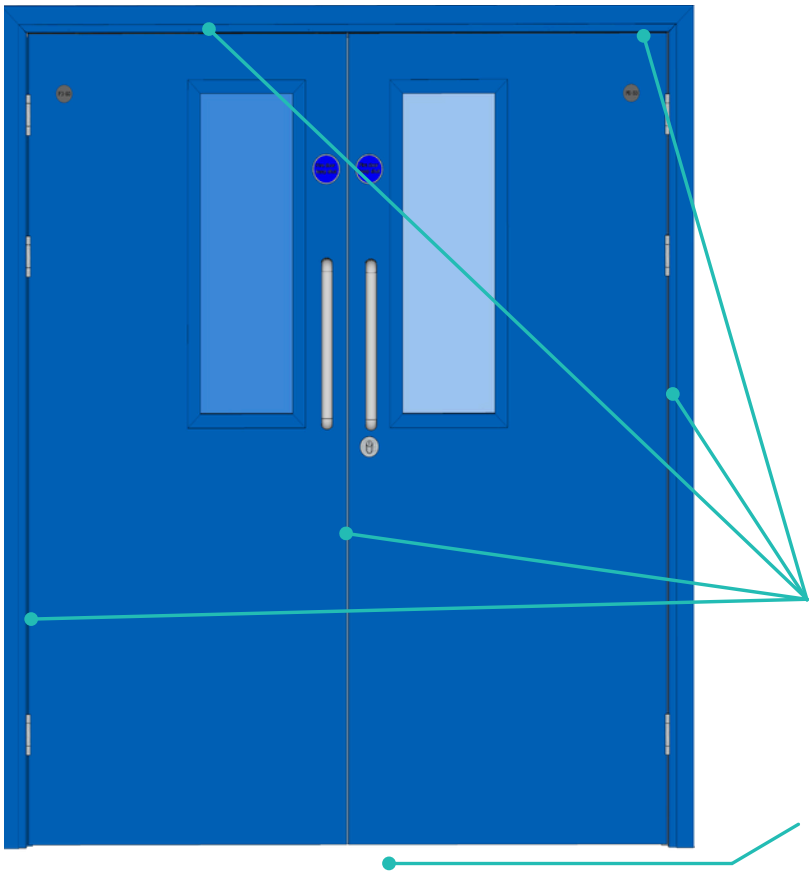
Silicone.

Silicone to the internal corners is not essential for the final finish, but some clients like to have this installed for aesthetics/infection control reasons. Where this is required, colour match silicone is available for solid colours and most woodgrain finishes. Where coloured silicone not available, clear silicone can be used.



Final checks.

- Gaps around door; between head and jambs must be a minimum of 2mm and maximum of 4mm.
- If the door is FD30s/FD60s the gap under door must be a maximum of 3mm without a smoke seal, or up to 10mm if fitted with a smoke seal.
- Ensure all intumescent is in place and undamaged.
- Remove any protective film that is present on PVC facings.
- Clean the doorset, ensuring all pencil marks, dust or debris is removed.
- Ensure the doors latch/ shut fully and DO NOT slam shut.



Gaps around the doorset and including the meeting edges must be a minimum of 2mm and a maximum of 4mm.

Gap at threshold must be a maximum of 10mm (see notes above).

Intumescent table.

	NFR	FD30	FD60	Comments
Hinges			✓	Intumescent pads are required under both blades of the hinge Product reference: Therm-A-Hinge 100x30x1mm (frame and door)
Locks/Keeps/Other morticed ironmongery		✓	✓	All locks and keeps must be fitted with the supplied intumescent jackets. Other morticed ironmongery may require intumescent protection – refer to ironmongery schedule.
Frame			✓	All FD60 frames will have 2 x (15mm x 4mm Pyroplex FOBK) intumescent strips. They sit 5mm either side of the door centre line.
Door Leaf	✓	✓	✓	NFR doors will have a central 20mm x 4mm Pyroplex FOBK/FSBK intumescent strip on both vertical edges of the door. FD30 & FD60 doors will have a central 20mm x 4mm Pyroplex FOBK/ FSBKintumescent strip on top of the door in addition to the vertical edges.

On-site leaf adjustment.

The SDS Defend range of doorsets may not be altered post production, except the leaf(s) may be trimmed from the bottom edge.

Critical elements.

Before fitting or replacing any of the following critical elements that are not supplied by SDS, there must first be written confirmation of approval from SDS.

- Hinges
- Intumescent to any hardware
- Glazing systems
- Kickplates
- Closers
- Doorset modifications

For more information please contact technical@specialistdoorsolutions.com

Doorset identification.

Plug Locations

A. When only one plug is required, it will normally be fitted to the door leaf but may also be fitted to the frame.
B. It is advised that plugs are fitted into the head of the leaf or the centre of the frame rebate.
C. Plugs can be fitted through intumescent seals if required

PLUG ASSEMBLY AND LOCATION

- Q-Mark fire door plugs come in two sections. The outer requires a Ø 9mm hole at 20mm depth to be drilled into the door leaf/frame. The inner tree then locates into the outer, ensuring that the customer specific certificate numbers at one end remain visible.
- The preference is for plugs to be fitted just below top hinge at around eye level.
- Plugs denoting a Complete Doorset will normally just be fitted to the door leaf but may also be fitted to the frame if desired which is in addition to the plug in the leaf.
- It is advised that plugs are fitted along the centerline of the leaf edge or the frame rebate where possible, however plugs should not be fitted through intumescent seals unless it cannot be avoided.
- All plugs must be spaced a minimum of 25mm distance between each plug and must also be located at least 25mm distance from the hinge or other items of hardware.

DOOR LEAF OR DOOR FRAME *(NOT APPLICABLE TO COMPOSITE DOOR MATERIAL TYPES, SCHEME 170)*

RED

Fitted within the appropriate outer plug to a door leaf (leaf manufacture only) or door frame (frame manufacture only) to identify that it is a Q-Mark approved door leaf or door frame. The leaf and frame could come from different Q-Mark certified fire door manufacturers.

The door leaf or door frame will not be in a finished state. The required intumescent strips will either not have been prepared for or be supplied at this stage. Therefore further work is needed to be carried out before the door leaf assembly is ready to be hung into a door frame.

Clear instructions for further processing and installation of the door assembly must be supplied by the Q-Mark certified fire door manufacturer relating to a specific Initial Type test or Field of Application within the fire door manufacturer's scope of certification.

GREEN

Fitted within the appropriate outer plug to a door leaf (leaf manufacture only) or door frame (frame manufacture only) to identify that it is a Q-Mark approved door leaf or door frame. The leaf and frame could come from different Q-Mark certified fire door manufacturers.

The door leaf or door frame may not be in a finished state. It must be fully prepared for all the required intumescent strips around the perimeter gap, which can be either fitted or supplied loose but must be supplied. If the intumescent strips are supplied loose, they must be clearly identified to the appropriate door leaf or frame to which they will be fitted.

The door leaf or frame might not be fully prepared for all of the appropriate hardware, in which case it must be clearly specified which hardware and any required associated intumescent protection is to be finally fitted at a later date by others.

Clear instructions for the further processing and installation of the door assembly must be supplied by the Q-Mark certified fire door manufacturer relating to a specific Initial Type test or Field of Application within the fire door manufacturer's scope of certification.

GLAZING *(ALL DOORSET MATERIAL TYPES)*

ORANGE

Fitted within the appropriate outer plug to a door leaf only if glazing is in the door leaf. This plug is in addition to all other required plugs, to identify that glazing has been correctly specified and fitted to the door leaf by a Q-Mark certified fire door manufacturer as per the same Initial Type Test or Field of Application used to manufacture the door leaf.

If glazing is included within an integral sidelight or fanlight (not within the door leaf), then all components for the glazing system must be specified and supplied by the certified fire door manufacturer, but may be finally fitted on site where necessary, in which case clear installation instructions must be provided by the Q-Mark certified fire door manufacturer relating to a specific initial Type Test or Field of Application within the fire door manufacturer's scope of certification.

COMPLETE DOORSET – Q-MARK CERTIFIED FOR FIRE ONLY *(ALL DOORSET MATERIAL TYPES)*

SILVER

Fitted within the appropriate outer plug to a door leaf and/or door frame to identify that it is a Q-Mark certified (factory hung) doorset. Where fire door plugs are not able to be fitted due to the doorset materials or design, then a label that depicts these plugs can be supplied by BM TRADA if necessary. The completed leaf and frame must have been physically quality checked together as a matched pair in the factory. The leaf and frame may then be sent to site at different times providing that clear traceability is in place to join the correct leaf and frame together again on site for installation.

There will be no further preparation work carried out to either the leaf or frame before it can be fitted into the building substrate. It is permissible for hardware such as locks, hinges or door closers etc. to be finally fitted during the installation process, but the preparations to accept the hardware will have been completed by the Q-Mark certified fire door manufacturer. All items of hardware (including closers, locks, handles, hinges, letterplates etc.), along with the supply of any required intumescent protection materials, must be supplied by the Q-Mark certified fire door manufacturer and identified for the specific doorset.

Clear instructions for final assembly and installation of the doorset must be supplied by the Q-Mark certified fire door manufacturer relating to a specific Initial Type Test or Field of Application within their scope of certification.

The final assembly and installation of the doorset should be able to be completed with simple tools only, such as a screwdriver. No further preparations are allowed to be completed by the installer other than appropriate pilot holes for screws etc.

Smoke control cannot be claimed when a silver inner tree has been fitted.

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