



Fire Doors

Frequently Asked Question's

01 November 2019

Introduction

The following are a list of frequently asked questions relating to Fire Rated Doors covering many of the issues raised most often. To assist the FAQ's have been divided into the following groups;



- Maintenance & Repair
- Modification & Upgrade
- Compliance
- Labelling

The information contained in these FAQ's is offered to assist the user in better understanding their fire doors. We recommend that the user investigates and understands the versions of the NZBC and/or Standards that were applicable at the time the consent was issued for the building. Contact your fire door supplier for any specific requests or clarification of any the points following...

Maintenance & Repair

Q. *Does my fire door need to be inspected and maintained?*

A. Yes, refer to the manufacturer's recommendations, AS/NZS 4520 Fire resistant door sets section 7, and the building Compliance Schedule

Q. *Can I replace the locks and closers on a fire door?*

A. Like-for-like replacement shouldn't be an issue so long as the model and functions remain unchanged. Any intumescent sheets or sealants fitted with the original installation would need to be re-fitted or replaced. **Check with the manufacturer** to ascertain the correct intumescent to use.

Note: that for higher rated doors fixings may be into light gauge steel rather than timber, so repeated fitting of screws may cause a reduction in screw-holding capacity.

It is important to know the construction of the door leaf. **Check with the manufacturer**, if known.



Q. *Can I trim a door that is binding?*

A. Binding may be caused by a number of factors and the root cause should be addressed before resorting to trimming the leaf. It is important to know the construction of the door leaf. **Check with the manufacturer**, if known.

Doors with non-combustible cores, usually those with higher fire ratings may have internal clashing strips (6-10 mm thickness) on all edges and may already have been pre-eased when hung.

Note: the hinges are likely to be fixed to lightweight steel plates concealed behind the clashing strip and that repeated removal of the hinge screws may enlarge the hole for the self-tapping screws.

Doors of solid timber construction (sacrificial cores) may have external clashing strips 4-6 mm thick on the vertical edges and may have intumescent seals concealed behind the clashing. Thicker doors are likely to have been pre-eased in the factory, which will reduce the clashing thickness.

There are recommended maximum mean leaf clearances in the fire door Standards, though manufacturers may have fire tested with greater clearances.

Q. *Can I replace the clashing strip and if so, can I use panel pins?*

A. Refer to the manufacturer for the correct replacement clashing strip, as knowledge of the leaf construction and timber density may be important. Limited use of panel pins in conjunction with an approved contact adhesive, urea formaldehyde / phenol formaldehyde / resorcinol / formaldehyde glue or PVA will usually be acceptable. If the manufacturer is unknown, use Hardwood of minimum density 640 kg/m³.

Q. *Can I repair delamination of a door skin?*

A. Minor delamination that has not impacted on the integrity of the door core can be addressed but the manufacturers advice should be sought. Adhesives should be non-flammable, such as PVA, and small panel pins are unlikely to impact on the fire performance of the door. Screws are not recommended without express permission from the manufacturer.

Note: that fillers should be non-combustible and used sparingly, as timber density can be critical to the door's performance.



Q. What paint can I use on an exterior fire door?

A. Painting is critical to the performance and life expectancy of an exterior door. Refer to the paint manufacturers and door manufacturers recommendations. Lighter colours are preferred over dark colours.

Paint on fire doors is excluded from the 'Smoke developed' and 'flame spread' indices required of fire walls.

Q. Can I replace the intumescent seals?

A. Intumescent seals come in a range of formulations (mainly graphite, sodium silicate or calcium phosphate) and perform quite differently (volume vs pressure) so like-for-like replacement is acceptable. If the brand cannot be identified, **consult the door manufacturer.**

Q. Can the intumescent seal be painted over?

A. BS 8214, The Code of Practice for Fire Door Assemblies advises that on a door rated up to a 2hr, up to 5 coats of paint is acceptable

Q. Can the smoke seals be painted over?

A. No – They can become inflexible and brittle and if they are painted over will need to be replaced.

Modification & Upgrade

Q. Can I replace Georgian Wired Glass vision panels?

A. Consult with the door manufacturer to see if other glass types are approved for the size of pane. **Note:** the installation may require special beads, fixings and sealants. The change must be recorded in the site logbook.

Increased vision panel sizes will be constrained by the manufacturers testing, as well as cut-out to leaf edge, and hardware proximity, limitations.

For doors manufactured prior to 1988, like-with-like replacement is acceptable on an 'as near as reasonably practical' basis. The glazer can consider the particular situation and why the glass is being replaced. Glass of a lesser performance than that being replaced shall not be used.



Q. *Can I add intumescent seals to fire doors manufactured prior to the introduction of NZS 4232 in 1988 and/or to Heritage doors?*

A. The addition of intumescent seals may well improve the fire performance of the doors, but if they have not been fire tested on the specific door type, they cannot be approved as compliant with the fire door Standard. The Territorial Authority (Council) might accept the proposed modification as compliant with the NZBC but will require supporting evidence in order to make the decision. **Discuss this with your Council.**

Q. *Can I add smoke seals to existing doors?*

A. If the door is for smoke control only (no fire rating) the door must also comply with the construction requirements in the Building Code.

- Refer NZBC Clause C/AS2, Closures in fire and smoke separations, Section 4.16

If the door is already a labelled fire door refer to the manufacturer to check what seals have been fire tested on that door type, and for any specific installation instructions.

If the manufacturer of a fire door is unidentified, seek advice from the **Council or a Fire Engineer.**

Q. *Can I add smoke seals to older doors that have “Smoke Stop Door” labels on them?*

A. Many older Smoke Stop Doors have visible gaps around the leaves, so it is suggested that smoke seals be added to improve the smoke stop capability of the door. The door can't be considered as non-compliant if seals are not fitted as it was considered to be compliant (to the standards of the day) when it was installed.

Q. *Can I fit pull handles and/or push plates?*

A. Check with the manufacturer. There may be limitations on size and weight, and on the method of fixing.

If the manufacturer is unknown, large or heavy items of hardware should be avoided, and fixings penetrating the core should be minimised. Adhesive-fixing is recommended for push plates, ensuring that the push plate material and adhesive selected are non-combustible.

Through fixing of hardware is unacceptable for most products unless approved by the manufacturers. Again, **check with the manufacturer** before proceeding.



Q. *Can I fit kickplates to a fire door?*

A. Kickplates must be as fire tested on the particular door, so consult the door manufacturers approval list for size, location, material and method of fixing (adhesive, tape, screws, Flush-mounting etc). **Check with the manufacturer** before proceeding.

Q. *Can I retrofit mag-locks to a fire door?*

A. Depending on the configuration, Magnetic locks can impose significant torsional loads onto a fire door, especially in a fire scenario. **Check with the manufacturer** as to what brands, models and mounting methods are approved and if there are any specific mounting requirements.

Refer to the *Code of Practice for Electro Mechanical Controlled Locking Devices on Egress Doors*, for further information.

Q. *Can I retrofit electric locks and strikes to a fire door?*

A. Any item of hardware that requires a cut-out into the leaf or frame of a fire door needs to be carefully considered. The size of cut-outs should be minimised and may require the addition of intumescent sealants.

Check with the manufacturer as to what brands, models and configurations have been fire tested on the door type in question. It may be necessary for these to be fitted by the manufacturer, especially if cables are required to be run through the leaf. Some items may be feasible to be fitted during the construction of the leaf but unable to be retrofitted.

Refer to the *Code of Practice for Electro Mechanical Controlled Locking Devices on Egress Doors*, for further information - as above...

Q. *Can I fit an eye viewer to a fire door leaf?*

A. Contact the manufacturer to confirm what brand and models have been tested on the door type in question.

If the manufacturer is not known, check what eye viewers have been tested on fire doors.

Glass lensed eye viewers will generally perform better than those with a plastic lens.

Q. *Can I fit a security bolt to a fire door?*

A. No item of hardware that could make a door non-self-latching can be fitted to a fire door. This includes most deadbolts, hasps and staples and shoot and patio bolts.



Q. *Can I retro-fit a vision panel to a fire door?*

A. Vision panel design, placement and installation can be critical to a doors fire performance, so should only be undertaken by the manufacturer. Vision panels are not recommended on exterior doors unless totally protected from wind-blown rain. Consult the manufacturer.

Compliance

Q. *When does a fire door require draught seals at the sill?*

A. It is generally accepted that in a fire situation, there will be a negative draught underneath the door, so draught seals are not required. There are exceptions however, where a positive draught may exist.

- Refer NZBC Clause C/AS2, Closures in fire and smoke separations, Paragraph 4.16.3

Caution: Fully sealed doors may have issues with self-closing, and closer adjustment or sizing, may need to be addressed.

Refer to the manufacturer for approved seal models and any special requirements for fitment.

Q. *I'm renovating my building. At what stage does a pre-1988 fire door need to be upgraded or replaced?*

A. In essence, it is up to the local Building Consent Authority to determine whether a pre-1988 fire door would need to be brought up to *current code compliance*, if there were an alteration to the building.

Q. *When do I need to install a door co-ordinator / sequence selector?*

A. NZS 4520 advises that 'doorsets in pairs which have rebated meeting strike plates, astragals, or single bevel latches shall include selective sequence closing devices'.

Q. *Is it compliant if the door closers are used to control the closing sequence of the door leaves?*

A. Standard door closers would not be considered as door co-ordinators as they do not physically control the correct closing sequence.



Q. *What common faults will make my Fire or Smoke door non-compliant?*

- A.**
- no tags (if installed after 1988)
 - not self-closing (there may be exceptions if approved by the Fire Engineer/TA and with an appropriate Building Management Plan – e.g. Age Care facility corridors)
 - not self-latching
 - has a hole through the door leaf
 - has damage that affects the integrity of the door leaf or the door frame
 - damaged or missing intumescent or smoke seals
 - has hardware been fitted which is not in the door manufacturer's Approved Hardware list for that door type

Labelling

Q. *Do all fire rated doors require a label?*

- A.** Doors installed prior to 1988 were most likely manufactured to NZS 1188, which was a prescriptive Standard and did not require identification labels. They can often be identified by their solid construction and distinctive frame profiles. Caution, some of these doors may contain asbestos.
- NZS 1188 was followed by performance Standards NZS 4232 (1988), AS/NZS 1905.1 (1997) and NZS 4520 (2010). These all required labels as proof of compliance with the Standard.

