

Installation of FD30 & FD60 Installation Guide



1. Introduction

The installation of fire-rated, CE-marked doorsets using Falcon Panel Products' Stredor system will be covered in this manual.

A manufacturer's installation instructions should always be followed. This document should not be used in isolation or as a replacement for the manufacturer's installation instructions; rather, it is intended to supplement the manufacturer's general guidance.

Doorsets are not standalone items, and unless they are skilfully fitted into an appropriate framework, they will not serve any design function.

2. Preparation

Delivery and Storage of Door sets

Delivery of doorsets should be at the latest possible moment in a build schedule.

Doorsets are affected by dramatic changes in humidity and temperature, as this may cause timber to swell or contract, thereby changing the crucial gaps that have been allowed during manufacture and possibly jeopardizing the stability of the product. For this reason, it is also vital that doorsets are not stored in damp or exposed areas for any length of time, and that they are not installed before wet trades have completed their works and sufficient time has been allowed for drying.

Storage

Store in a dry, ventilated area. Do not store in any area that is damp or exposed to weather, near standing water. Do not store in direct sunlight as it can cause discolouration to timber products. Store on the supplied pallet/bearers, or on at least 4 equal size flat bearers on a flat surface. Protect doorsets from dirt and damage from other trades in necessary, but do not restrict the air flow. Ensure that any doorsets with projecting hardware or threshold have adequate spacers to separate them in the stack.

Internal doors should be conditioned slowly to the temperature and humidity of the building once operational, this applies before and after installation. Do not store doors in areas that wet trades are still working and ensure the building has sufficiently dried out before taking delivery. Storage on site should be kept to a minimum.

(See Recommendations page 7 for further details)

Preparing the installation area and the structural opening

Ensure that the work area is clean and debris-free, and that it is accessible. Check that the structural aperture is square and plumb, with adequate tolerance to accommodate the frame. The fitting tolerance must be between 4mm and 20mm to allow for the sealing material.



Check the labelling to check that you're installing the correct door in the correct opening and that the performance is appropriate for the application. Check the frame's total height, width, and depth to ensure that the products you receive is the correct for the job. Keep any manufacturer's instructions handy during the installation.

The supporting structure in which the doorset is mounted must have fire resistance equivalent to or greater than that of the doorset. The fire resistance of the supporting structure must have been determined separately in a previous test.

The doorset may be hung in a rigid supporting construction (blockwork/brickwork/masonry) or a flexible standard supporting construction (timber/steel stud) meeting the following requirements.

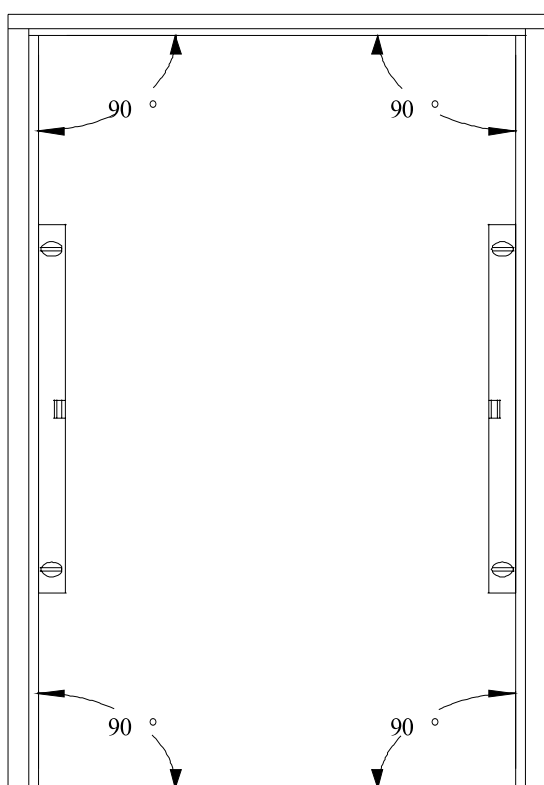
3. Locating the frame in the opening

Ensure the frame is central in the width of the opening, with equal tolerances on both sides.

Ensure that the frame is plumb and square, and that the tolerances are between 4mm and 20mm

It is possible to vary the position of the door frame within the supporting construction providing that the door frame does not project beyond the supporting construction more than tested.

Depending on the door type fit approved packers into the tolerance gap between the frame and supporting construction. Make sure you use the correct thickness type of packers to fill the tolerance gap which will not distort the frame the fixings are inserted. Packers should be located at fixing points.



For FD60 doors Fire Safety Store North West recommends using hardwood packers between the frame and supporting construction these packers should ideally meet the same density of the door frame.



4. Door Frame Installation

All fixing points must be pilot drilled, and counter bored to prevent the timber from splitting. Remove any loose timber fibres from the edges of the hole with a fine grade finishing paper.

If the fixings are to be hidden by an intumescent strip, the counter drilled cavity simply needs to be the depth of a screw head. If the fixings are not concealed, create a deeper counter-bored hole to accommodate a timber cap over the screw head.



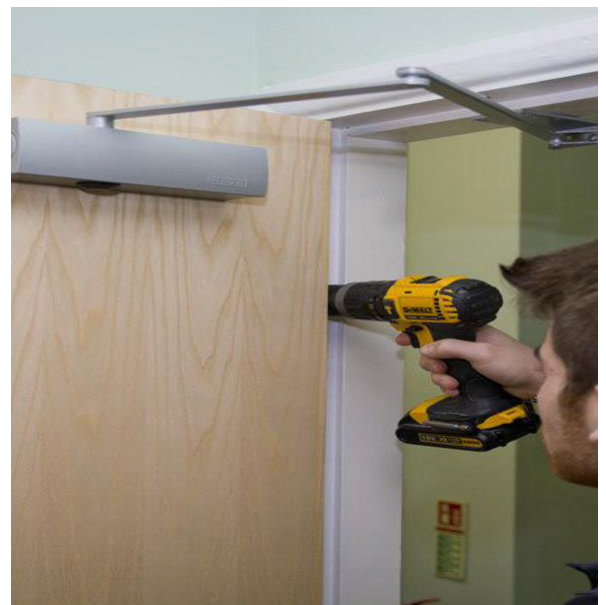
As a standard plant on doorstops will be pinned loosely with the doorset supplied so they can be adjusted and fixed on site

Fixing points

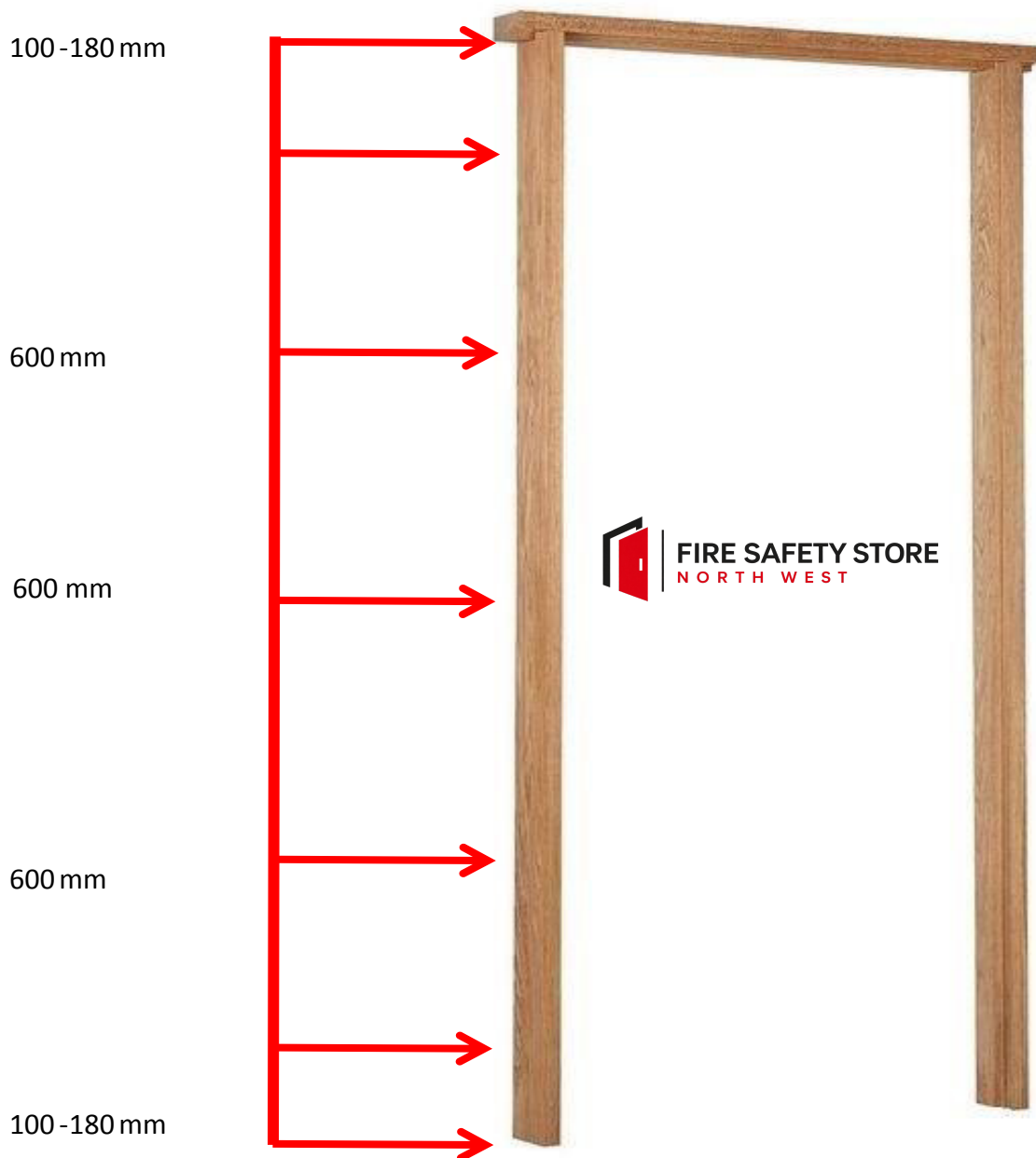
On the frame jambs, the top and bottom fixing must be located at 100-180mm from the top and bottom corners of the door frame. The intermediate fixings must be located at approximately 600mm centres or less. Fixings should be the appropriate type for the supporting construction to ensure a secure fixing.

(standard fixing type 80 x 5mm steel screws)

Fixings should penetrate the structure by a minimum depth of approximately 40mm, consider the thickness of the frame and opening between the frame and supporting construction to achieve the specified depth requirement. A fixing to the centre of the frame head is recommended for door leaves over 900mm in width and is required for all double doorsets.



(See Diagram Below)

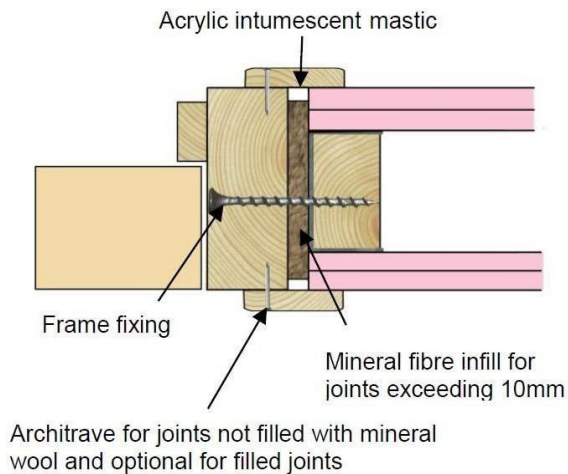


Note: Once all the fixings are applied, check that the frame is still square and plumb, and is not distorted. Check that the rebate size of the frame is correct to accommodate the door leaf, with acceptable operating gaps being 2mm - 4mm between the leaf and frame all around and a maximum of 10mm at the threshold

5. Sealing to structural opening

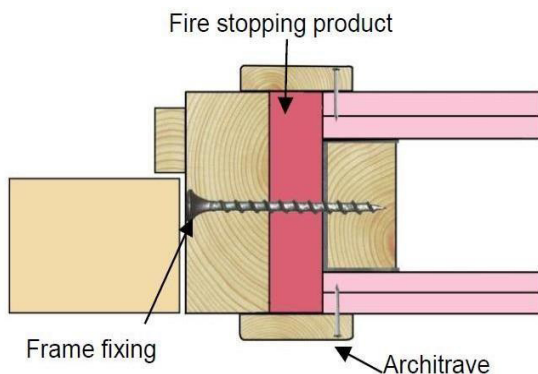
The following sealing method is as tested and approved for Stredor CE Marked doorsets.

A minimum of 60mm deep infill (**frame depth dependent**) of euro-class A1 stone-wool stone based mineral fibre tightly packed and friction fitted between the rear of the frame and structural opening. The mineral fibre is to be capped with a nominally 10mm deep (minimum) bead of Fire rated intumescent mastic on both sides of the rockfibre / Stonewool, to finish level with the face of the door frame.

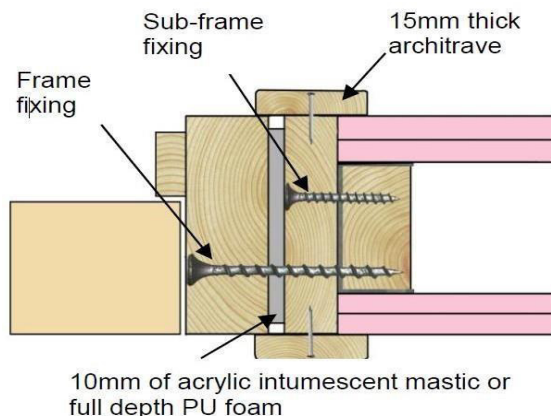


Gaps up to 10mm must be sealed on both sides with a 10mm depth of acrylic intumescent mastic, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1. Joint must be fitted with 15mm thick architrave overlapping at least 15mm on each side.

Gaps between 10mm & 20mm 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. Architraves are optional.



Gaps of 20mm filled with proprietary fire stopping product (e.g. expanding PU foam or preformed compressible intumescent foam). Products must be tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.



Timber based or non-combustible sub-frame up to 50mm thick, with gaps up to 10mm between the components 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 1631-1. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.

(See Notes Below)

Note: Sealing the doorset into the structural opening is a vital part of ensuring that a product will perform in the event of a fire. Additional guidance for sealing the frame to structural opening is given in BS8214:2016 “Code of practice for Fire Door Assemblies” which may be referred to where appropriate.

Note: Where CE marked ironmongery is to be fitted separately following the installation process, please cross reference the corresponding doorset specification for the inclusion of intumescent protection i.e. graphite lock wraps. If unsure speak to Fire Safety Store North West's technical team.

6. Recommendations

Moisture Content

Timber doors are manufactured with moisture content of 10 – 12% for internal use and 12 – 14% for external use. The applicable standard on this subject is BS EN 942:1996 timber in joinery. General classification of timber quality. Do not install until moisture readings are between 40 and 60% RH and until after any forced-drying procedure has been completed.

Storage area

The store must be clean, level, suitable for stacking doors and provide enough space for doors to be moved around, sorted and re-stacked as installation proceeds. The floor should be suitable to allow the use of pallet moving equipment.

Priming & Sealing

The applicable British Standard is BS 6150: 1991 code of practice for painting of buildings.

Prime or seal all items supplied unfinished immediately following delivery including top and bottom edges. Apply further coats within a reasonable time and before door leaves are hung or assemblies are installed.

Handling

Avoid bruising and damage caused by heavy contact with the ground. Wear clean gloves to avoid leaving finger marks.

Stacking door leaves

Do not store door leaves standing upright or leaning as this causes bowing. Stack horizontally on level supports that extend across the full width of the bottom door leaf. Provide support at the centre and at 300mm from each end. If over 2150 in height, provide a second intermediate support.

Cover the supports with cardboard or a similar product to prevent marking. Stack with the largest door leaf at the bottom with size reducing up the stack. Plain flush door leaves can be stacked to a maximum of around 20 door leaves. When door leaves have projections such as glazing beads or pre-fitted hardware, provide lever intermediate battens between door leaves to allow clearance. The same principles apply when storing door assemblies.