

TDS090/240626

This guide is focused around the installation of DS performance doorsets, in particular doorsets that are fire resistant. For consistency our recommendation is to use this guidance for all doorsets.

Building Regulations recognise that independent Third Party Certification schemes are an effective means of providing assurance of quality, reliability and safety. DS Doorsets are designed and manufactured under IFC Third Party Certification and should be installed by a Third Party accredited contractor.

Before attempting installation make sure that a full set of our drawings and schedules are made available to the fixing team to help with identification and installation.

The doorsets will arrive on site palletised for mechanical offloading and protected against in-transit damage. It is important that all components are checked at the time of delivery and any observations are reported within 24 hours.

Should you need to contact us about an individual door or frame please refer to the details from the label or if you have an app on your smartphone, scan the barcode and forward that to us.

The doorsets have been produced in a temperature and humidity controlled factory to condition them for the environment in which they will be used. We aim for a product moisture content of between 9-14%. Providing they are kept in a controlled environment they will maintain stability and perform as they should. Please refer to our Technical Data Sheet 099 'On Site Storage, Care and Handling' for more details.

Delivery and installation should not take place until after wet trades have been completed and the building has returned to acceptable relative humidity levels, doorsets are designed and manufactured as a second/third fix item.

Delivery of doorsets will be pre-arranged and each item will be individually listed on our advice notes. Any loose items that need fitting on site will be boxed or bagged separately and will be accompanied by a packing check list.

Larger door frames will be supplied disassembled, packed as a kit and palletised with other products. This reduces the risk of injury from manual handling large assembled units and allows a single operative to distribute the frames to the required location. These frames will have been trial assembled, dismantled and bundled as a kit for easy on site assembly with a screwdriver.

Each doorset will be identified by a door number, usually designated by the building designer. The door number identified by a product label on the top of each door and frame can be used to locate the door on the floor plan. Do not remove or paint over these as certified doors must include a permanent product label, this identifies the door meets legal fire safety standards and maintains traceability.

To prevent injuries when lifting these heavy items it is important to recognise the weights from the delivery documents or the product labels and use your Health and Safety manual handling procedures.

Directly after installation, it is essential that the doors and frames are protected from being damaged by other trades. The level of protection is the contractors responsibility. Flame retardant polythene door sleeves can be supplied as an option to provide some level of protection against dirt, wear and minor scuffs. More substantial protection would be required to protect against heavier mistreatment. Be careful with adhesive tape as this could leave residue or it could react with the finish on the timber.

Installation

The doorsets can be installed in supporting constructions of timber or steel stud plasterboard partitions, blockwork, brickwork or concrete walls. Where fire rated, timber or steel stud partitions should be subjected to fire resistance test and should be shown to be capable of supporting door assemblies for the required fire resistance period.

Where doorsets are installed into timber or steel stud partitioning, the opening should be lined between the plasterboard with timber that is of a sufficient thickness to accept the minimum penetration of the frame fixing screws, at least 50mm. In steel stud partitioning the timber stud can be positioned inside the perimeter steel stud.

Before starting the installation it is advisable to check that the wall opening is plumb and square and the correct size for the doorset. The gap between the door frame and structure should not be less than 5mm and no more than 20mm for fire and smoke control.

Once you are satisfied that the wall opening and doorset sizes are correct, installation can begin by removing the brace and offering the frame (or doorset) into the opening, pack and temporarily fix the first (hanging) jamb plumb to the wall.

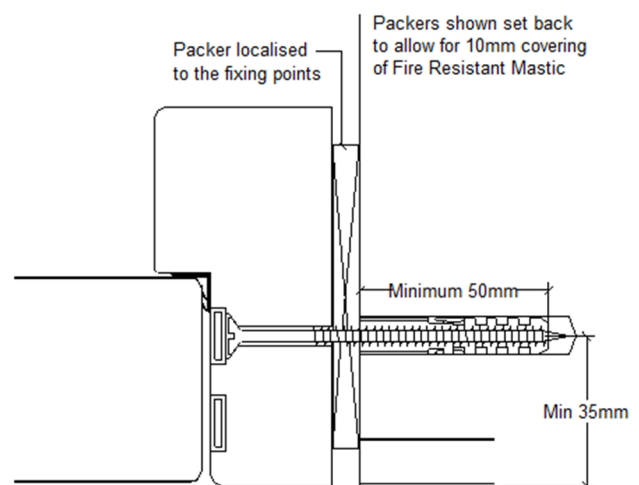
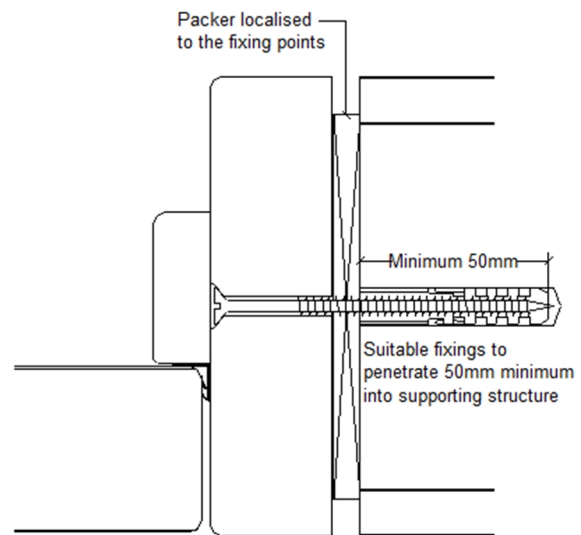
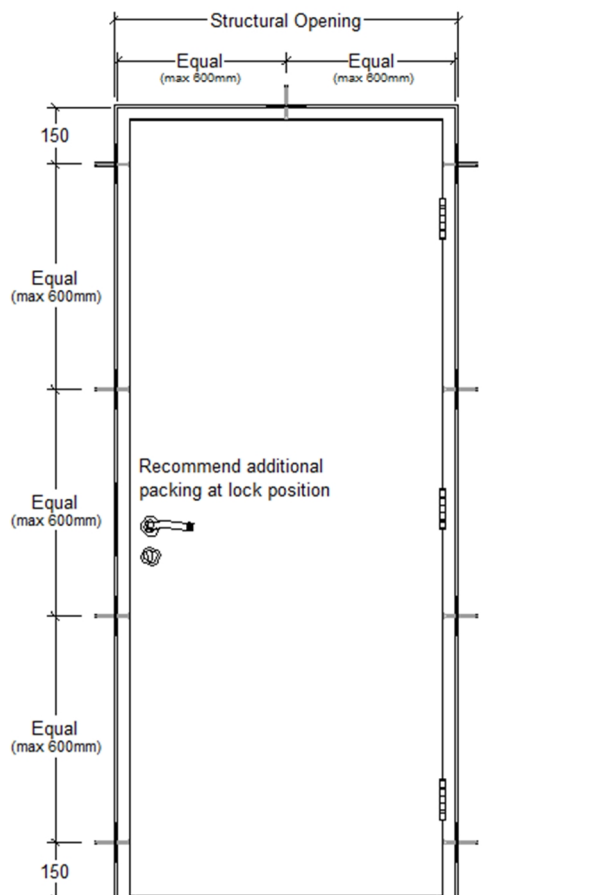
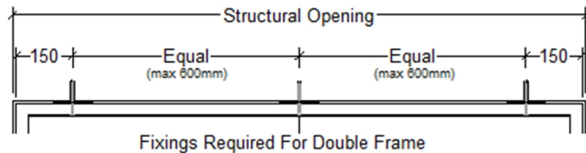
At this point it is advisable to check the level of the floor screed so that adjustment can be made to ensure compliance with threshold gaps, particularly for fire resistance.

Generally doorsets will be manufactured with a 10mm nominal clearance at the bottom of the door to allow for a minimal floor covering and adjustments during installation. When the installation and finished floor is complete the gap should be no more than 6mm for fire resistance and where smoke control is required this gap should be sealed with a suitable bottom of door sealing system such as a drop seal.

With the frame central in the opening, level the head and position the second jamb so that it is plumb and parallel to the first. Pack behind the frame jamb and temporarily fix with two fixings.

Hang the door(s) in the frame and use as a template to even the gaps around all edges. Pack and adjust at the frame fixing points to check and align the frame with the doors, making sure that there is no twist that would misalign the door(s).

As a suggestion, it is wise to add an additional packer at the lock strike plate position in single leaf doorsets. This is particularly important where security is a requirement.



Fixing positions for the jambs should be 150mm from each end and at no more than 600mm centres, the only exception is our Safehinge door range where this should be 50mm from the top corner and 175mm from the bottom corner and at no more than 300mm centres. For single leaf doorsets less than 1000mm wide it is possible to omit the fixing at the head although we would recommend at least one fixing. For the head of a double frame the fixings should be 150mm from each end and at no more than 600mm centres. Fixings at the head are used for extra stability and loads that might be imposed by door closers, pivots or other devices. The same requirements apply to any secondary frame section or extension lining.

Keep fixing points a minimum 35mm away from the wall or partition face to prevent breakout. Wider frames may need a double row of fixings positioned in pairs at the same fixing points. Wherever possible hide the head of the fixings under stops or in intumescent grooves, otherwise counterbore to a maximum depth of 10-15mm and pellet over the fixings using the same material as the frame glued in place using PVA or PU Adhesive.

Each fixing point must be properly packed with timber of equal density to the frame, MDF, plywood or with plastic packers (if fire tested for this application to BS 476: Part 22 or BS EN 1634-1) to provide a solid localized bearing between the structural opening and the back of the frame. If combustible packers, such as plastic, are used they must be protected by a 10mm deep capping of fire resistant mastic to both faces unless the sealing system has been successfully tested with the packers exposed.

Packers should not be left exposed when architraves are not applied. Where packers are exposed, regardless of packing material, they should be cut back at least 5mm and capped with tested intumescent mastic.

The mechanical fixings can be proprietary types suitable for door frame installation into the specific wall construction. Steel screws of 5mm or 6mm diameter are acceptable but in all cases the fixing must be of sufficient length to penetrate into the wall structure by at least 50mm. In most cases 90mm or 100mm screws can be used, for very heavy door leaves (over 75kg) we would suggest increasing the length of the fixings so that penetration into the structure is 60-70mm.

Door stops will be supplied mitred and temporarily fixed in position with a minimal number of pins in assembled frames. Once the frame and doors are fitted, the stops can be repositioned and permanently fixed using steel pins (minimum 40mm long) or screws at no more than 400mm centres. Always check the doorset details and make allowance for seals that could be fitted to the stops.

The doorsets are designed to have a 2.5 to 3mm gap between the leaf to jamb/head and 3mm between meeting stiles, these gaps are critical to ensure doors operate correctly once any seals have been fitted. To achieve fire resistance the maximum permitted gap is 4mm and where smoke control is required these gaps should be sealed with a suitable door sealing system.

When checking gaps avoid using wedge shaped checkers, these give a false reading where frames or doors have any profiled edges. We always suggest using flat steel gauges and inserting these to a depth close to the centre of the door thickness (this may necessitate the removal of certain seals).

The frames and doors will be fully prepared for any seals that are required for fire resistance, smoke control or acoustic insulation. These seals are typically supplied for on-site installation. It is recommended that these seals are fitted after final decoration so that they are not damaged by over painting.

Sealing the Frames to the Structure

It is critical that the correct fire stopping is used in gaps between the frame and the surrounding structure to maintain fire integrity and smoke control. This must be carried out in accordance with the relevant supporting evidence as outlined in BS 8214: 2026, for acceptable details that apply to our door ranges refer to Technical Data Sheet 096 'Sealing Frames to Structure'. The chosen method of sealing should be limited to the scenarios described by the products supporting evidence, which should include the frame material, type of supporting construction, maximum width and required depth of sealant, architrave requirements and period of fire resistance.

Expanding foam is a popular fire stopping material with installers of fire resistant timber doorsets. Blue 60 by Craylon Limited and FAS Fire Door Foam by Fire and Acoustic Seals Limited have been tested and assessed for use with Timber Doorsets. For further advice on these products, refer to Technical Data Sheet 202 'The Use of Fire Resistant Expanding Foam'.

Where architraves are relied on as part of the fire stopping arrangement, they must overlap the edge of the frame and the face of the wall by a minimum of 15mm and should be mechanically fixed to the door frame with steel pins (minimum 40mm long) or screws at no more than 400mm centres (300mm for our DSA range). In instances where architraves are fixed with adhesive the method should be one that does not rely on the architrave.

Sealing between the frame and wall is also important for sound transmittance and should be considered in the same way as fire stopping even where doorsets may not be fire resistant.

On Site Leaf Size Adjustment

There are occasions after installation where natural movement in the structure and/or doorset can cause gaps to change around the door/s, this subsequently creates issues with operation, especially where smoke and/or acoustic seals are included. Should it not be practicable to adjust the overall doorset it may be possible to adjust the door, however, this would be deemed a last resort. In situations where this is due to changing site conditions, we would suggest waiting for the building to settle before considering making any adjustments to the door itself.

Our DSTm, DSA and Safehinge door ranges permit the lipping thickness to be reduced by up to 1mm for fitting purposes, providing that the gaps and intumescent conditions remain as required. For our DSP range we would advise speaking to our technical team for clarification as this will be door type specific depending on the FoA that applies.

It is not permitted to make any adjustments to our DSP90 or DSPM120 doors ranges.