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**Title**

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Field of Application Report for:  
Flamebreak Doorsets  
for:  
30 Minutes Fire Resistance

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**Issue Date**

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2<sup>nd</sup> August 2021

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**Valid Until**

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22<sup>nd</sup> December 2025

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**Prepared for:**

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**Pacific Rim Wood Ltd**

Ground Floor Suite  
Block B, Old Kelways  
Somerton Road  
Langport  
Somerset  
TA10 9SJ

The version/revision stated on the front of this Field of Application supersedes all previous versions/revisions and must be used to manufacture doorsets from the stated validity date on this front cover. Previous revisions of the Field of Application cannot be used once an updated Field of Application has been issued under a new revision.

### 16.19 Letter Boxes/Plates

Letter boxes/plates may be fitted providing the product can demonstrate contribution to the required performance of this type of 30 minute doorset design, when tested to BS 476 Part 22:1987 or BS EN 1634-1 and installed at the proposed location, within a timber based doorset of comparable thickness. Margins to the leaf edges must remain as specified for glazing.

## 17 Installation

### 17.1 General

This section considers the installation of the doorset. This section considers:

- the door frame and architrave installation position relative to the wall
- the fire stopping between the frame and the wall and the use of shadow gaps
- the fixing requirement including packers
- the requirements for door edge gaps
- the trimming of door edges

### 17.2 Door Gaps

For fire resistance applications, door gaps and alignment tolerances must fall within the following range.

Location	Dimensions
Door edge gaps	A minimum of 2mm and a maximum of 4mm
Alignment tolerances	Leaves must not be proud of each other or from the door frame by more than 1mm
Threshold	10mm between bottom of leaf and top of floor covering <sup>1</sup>

Note:

1. Tolerances are for fire resistance performance. Refer to section 19 for smoke control tolerances.

### 17.3 Onsite Leaf Adjustment

Door leaves may be altered as follows.




Element	Reduction
Lipping	The post-production lipping thickness may be reduced by 1mm for fitting purposes, providing that the door gaps and intumescent conditions remain as required by this assessment and the minimum limitation in terms of lipping thickness is still maintained

## 17.4 Door Frame Installation

The following figures indicate the acceptable door frame installations. Please note that the fire-stopping element is provided in the below 3D models as a generic red coloured seal. For further clarification of the approved fire-stopping systems see section 17.6.

The figures below show the wall as a steel stud partition, where the steel stud is full depth of the wall void and the steel stud includes a timber ground as defined in the fire test methods BS EN 1634-1:2014 + A1:2018, other wall constructions are considered later. The timber ground is to be fitted to the head and full height of the vertical studs adjacent to each jamb.

The face of the door is level with the face of the wall.

Permitted Installations	
	Instances where the door frame and the wall of the same depth such that architraves are fitted flush to both faces. Note that the minimum door frame section size (width and depth) must be as per the requirements noted in this report – see door frame section. Architraves requirements are documented in the fire-stopping section of this report.
	Instances where the wall thickness is greater than the door frame depth. In this scenario timber architraves of minimum 18mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap, other than when the architrave abuts the wall.
	Split frames are permitted providing that both frame sections are secured to the wall in accordance with section 17.5. Furthermore, the main frame section (from which the door is hung) must be constructed to at least the minimum door frame section size (width and depth) as per the requirements noted in this report – see door frame section. The extension piece must be constructed using the same timber species as the main frame section.

### Note:

The drawings are provided as a generalised illustration of the door frame installation only; actual installation must be as per the text within this document specifies.

## 17.5 Fixings

The positioning of installation fixings in height should be planned to avoid conflicts with hardware, sealing systems and other building elements.

- A top fixing must be located within 100mm from the underside of the head
- A bottom fixing must be located 100mm from the bottom of the jamb
- Intermediate fixings must be located at centres of not more than 600mm.

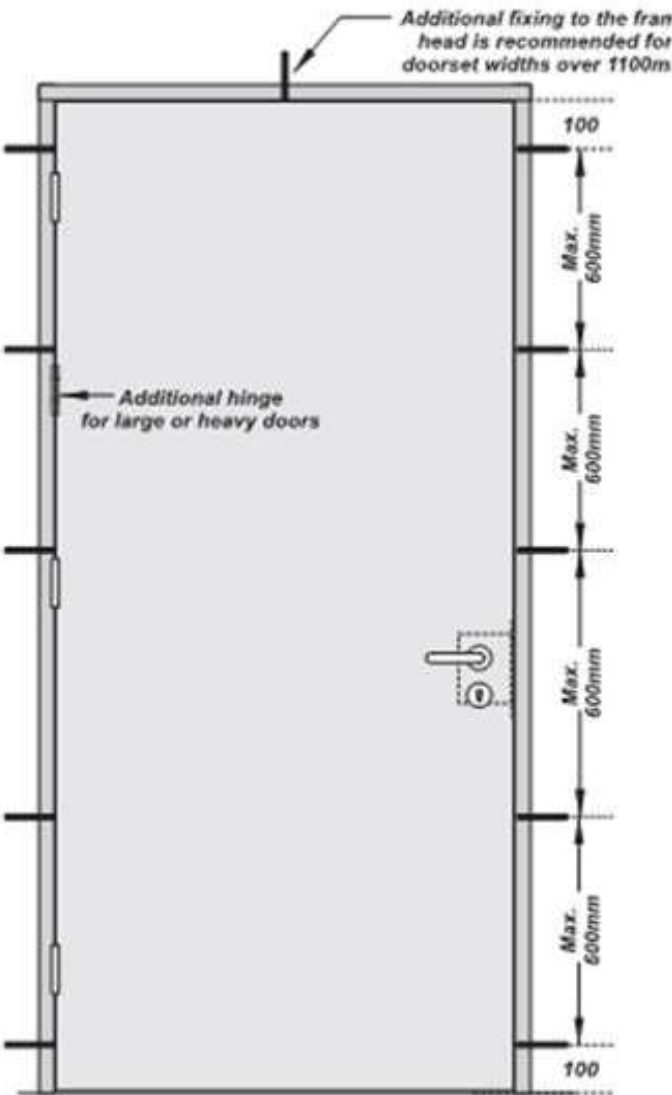
**The minimum number of fixings in height must be:**

- Doorset height up to 2000mm = 4 fixings
- Doorset height 2000 – 2500mm 2350mm = 5 fixings
- Add 1No. additional fixing for each further 500mm increase in door height.

### Notes:

- The fixings must be of the appropriate type for the supporting construction and must penetrate to a minimum depth of 40mm
- For storey height doorsets a top fixing must be provided within 100mm from the underside of the frame head with a further top fixing positioned 100mm from the underside of the transom rail (or bottom edge of the over panel if a flush overpanel design is used)
- It is not necessary to fix the frame head, although packers must be inserted. However, for doorset widths in excess of 1100mm the use of an additional fixing at centre width of the doorset at the head position is recommended
- MDF frames are more flexible than timber frames. To reduce the risk of frame distortion during fixing it is strongly recommended that the dimension for fixing centres between intermediate fixings is reduced from 600mm to a maximum of 500mm.


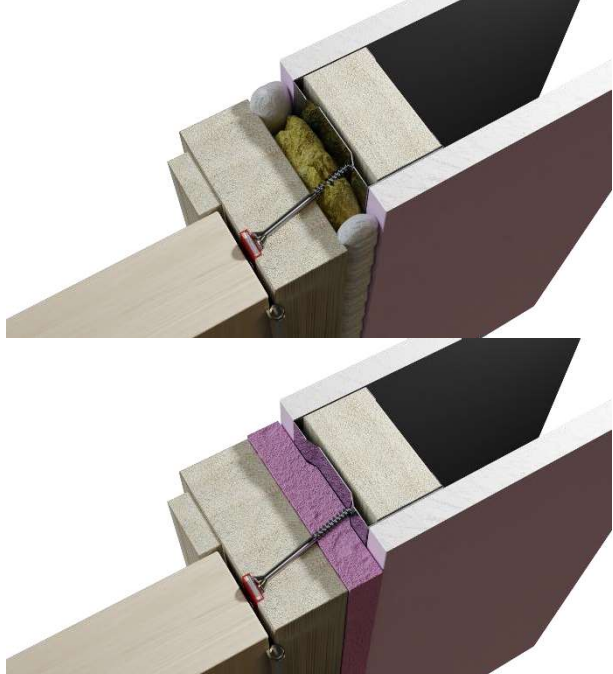
See following diagram for illustration on fixings for a typical timber door frame doorset installation.

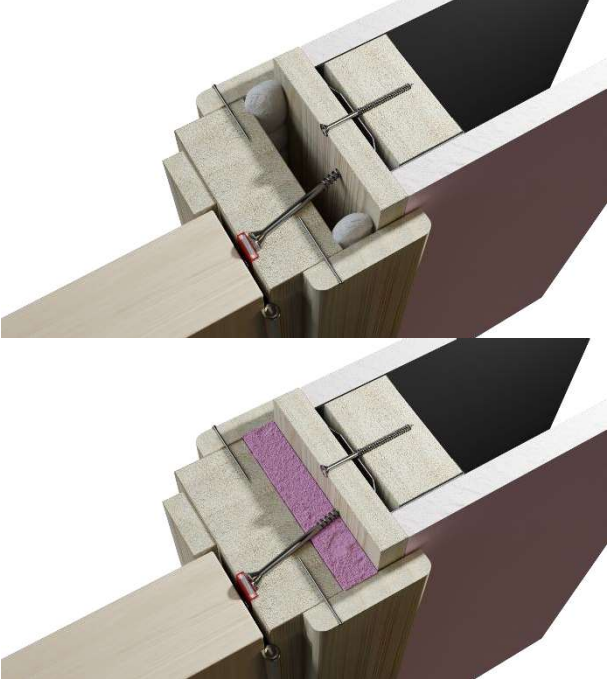


*Timber frame fixing locations illustrated.*

## 17.6 Firestopping

The fire-stopping requirements between the back of frame and wall are dependent on the gap size between the substrates. The table below provides the requirements based upon the gaps size. Please note that in the 3D depictions noted below show the application where a door frame is of the same depth as the overall wall thickness.

Gap (mm)	Requirement	3D model depiction
0 – 2	This should not occur as it is practically not possible to apply a fire-stopping material into a gap of this size.	N/A
3 – 10	Gap 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. Timber architraves of a minimum 15mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	
10 – 20	Gap 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 1634-1. Timber architraves of a minimum 15mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	

Gap (mm)	Requirement	3D model depiction
Over 20 Maximum 50	<p>A timber based or non-combustible subframe up to 50mm thick can be inserted and fixed to the wall and the gap between subframe and wall filled as follows:</p> <p>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.</p> <p>Timber architraves of a minimum 15mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.</p>	

**Note:**

Guidance for methods of sealing the frame to structural opening gap is also given in BS 8214: 2016, "*Timber-based fire door assemblies. Code of practice*" which may be referred to and implemented where appropriate.

### 17.7 Packers

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.

### 17.8 Wall types, Structural Opening & Fixity

For walls that remain rigid during fire exposure (brickwork or blockwork, for example) the opening should 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.

The supporting construction must provide at least the required level of fire resistance designated for the doorset design and be a suitable medium to permit adequate fixity.

It must therefore be capable of staying in place and intact for a minimum of 30 minutes. For single leaf doorset without sidepanels, the frame jambs only are to be fixed to the supporting construction using steel fixings at 600mm maximum centres and maximum of 150mm from corner. The fixings must be of the appropriate type for the supporting construction and must penetrate to a minimum depth of 50mm. It is not necessary to fix the frame head, although packers must be inserted.

For all other configurations of doorset, the upper horizontal framing section abutting the structural opening must also be secured to the wall using steel fixings at 600mm maximum centres and maximum of 150mm from corner. The fixings must be of the appropriate type for the supporting construction and must penetrate to a minimum depth of 50mm.

In all instances the fixing position must be such that it provides adequate restraint to the element of construction throughout the exposure to fire. This may therefore sometimes necessitate a twin line of fixings.