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Title

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

Issue Date

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Valid Until

22nd December 2025

WF Report No

FEA98164 Revision O

WF Contract Number

WF502946

Prepared for:

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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.

15 Tested Hardware

The following hardware has been successfully incorporated in the tests on Pacific Rim Wood Ltd. Flamebreak 30 doorsets.

Element	Make/Type
Hinges	1. Royde & Tucker H105 steel butt type hinges 2. Stainless steel butt type hinges
Closers	1. Dorma TS71 overhead type door closer 2. Dorma TS73V overhead type door closer 3. Dorma TS83V overhead type door closer
Latches and Locks	1. Henderson Hardware tubular mortice latch 2. E*S Hardware tubular mortice latch 3. Nemef latch 4. Winkhaus 3 pt lock ref: AV-2
Furniture	1. Aluminium lever type handle 2. Stainless steel lever type handle

16 Additional & Alternative Hardware

16.1 General

The following section details the permitted scope and constraints for fitting hardware to this door design.

The parameters of this assessment always take precedence, including specified protection such as hardware gaskets, where alternative hardware to that tested is permitted in the following sections, Certifire approved hardware may be incorporated subject to the design, material and dimensional limitations identified within this assessment report and identified on the relevant Certifire certificate. This route cannot be used where only specific hardware options stated by the doorset manufacturer are permitted (i.e. where alternative hardware is not permitted).

16.2 Certifire

The Certifire third party certification scheme approves various items of hardware for different door types and different fire ratings and has its own set of requirements relating to that item of hardware.

Where the alternative hardware sections in this report allow alternatives to the tested hardware, Certifire approved hardware may be used as an alternative, subject to the following provisos:

- In all cases, the requirements of this report must take precedence.
- The hardware must comply with the requirements of the relevant section e.g. hinges.
- The hardware must comply with the limitations specified in terms of design, materials and dimensions.

16.3 CE Marking

Where newly purchased on the open market, the following items of hardware must also bear the CE Mark.

- Latches & Locks: Standard EN 12209;
- Electro-Mechanically Operated Locks: Standard EN 14846;
- Single Axis Hinges: Standard EN 1935;
- Controlled Door Closing Devices: Standard EN 1154;
- Electrically Powered Hold-Open Devices: Standard EN 1155;
- Door Co-ordinators: Standard EN 1158;
- Emergency Exit Hardware: Standard EN 179;
- Panic Exit Hardware: Standard EN 1125.

16.4 Automatic Closing

Alternative overhead face fixed closers not listed in section 15 must be Certifire approved for 30 minutes in ITT doorsets with solid timber door leaves. The use of concealed overhead closers is not permitted.

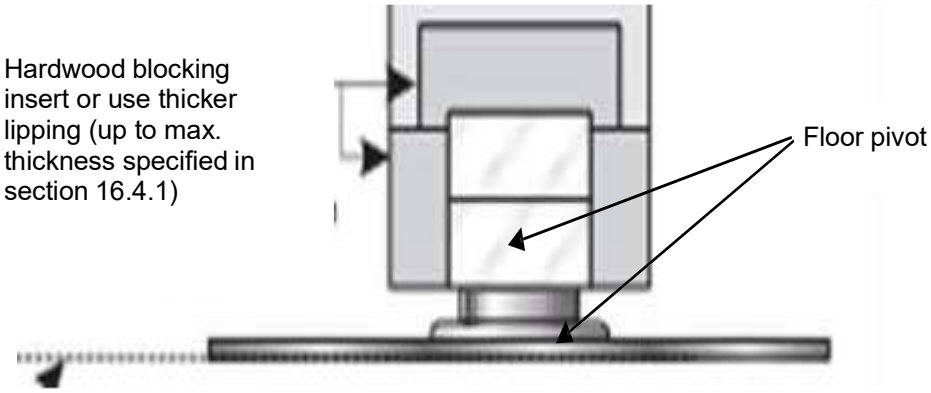
Notes: Top pivots to floorspring assemblies must be protected with 2mm thick intumescent gasket (see section 13) or alternatively the manufacturers tested intumescent gaskets.

16.4.1 Hardwood Blocking for Pivots

The following option is permitted for lipping the bottom of doors that are to receive pivot fixings and are to be used in severe duty locations (diagram below). It is not necessary to introduce additional blocking at the head of the door because of the presence of the integral top rail.

The hardwood insert may be a maximum of 15mm high by a length suitable for the hardware to be installed plus a maximum of 50mm (not full door width). The hardwood insert must be a maximum of 28mm wide and fitted centrally in the leaf leaving 8mm of leaf material on either face. The inserted block must be bonded on all contact faces using adhesives approved for the application of lippings (see section 14). Alternatively lippings in accordance with details shown in section 4.3 may be used.

Cross Section through Bottom of Leaf fitted onto Floor Spring and Pivot



16.5 Latches & Locks

Latches and locks must either be as tested, or alternatively Certifire approved latches and locks with the following specification are acceptable.

Element	Specification
Maximum forend & strike plate dimensions	235mm high by 24mm wide by 4mm thick
Maximum body dimensions	165mm high by 100mm wide by 18mm thick
Intumescent protection	See section 13
Materials	All parts essential to the locking/latching action (including the latch bolt, forend and strike) to be steel, stainless steel or brass (melting point ≥800°C)
Location	Between 750mm and 1200mm from the threshold

16.5.1 Winkhaus AV2 Multipoint Lock

The tested Winkhaus 3 pt Autofire multipoint lock may be utilised with the Flamebreak 430 design only, stiles and bottom rail may be removed as tested in 18-003111-PR04, the head rail must remain in place to the full dimensions shown in section 4.3, the locks must be installed with the tested intumescent protection detailed below. The lock must be kept locked at all 3 locking points when not in active use.

Element	Specification (mm)
Forend	1770 high by 20 wide
Centre Lock Keep	234 high x 24 wide
Top & Bottom Keeps	174 high x 24 wide
Top & Bottom Lock Bodies	113mm high by 42mm wide by 16mm thick
Lock Cylinder	A lock cylinder must always be installed
Intumescent protection	Encasing all lock bodies, and top and bottom hook bodies – 1mm thick STS graphite gasket Under all lock keeps – 1mm thick STS graphite gasket Under Forend – Not required
Materials	All parts essential to the lock must remain as tested
Location	Centre lock nib to be installed between 950mm and 1100mm from the threshold
Leaf Edge Seals	ST154FO- Sealed Tight Solutions Ltd only
Maximum Leaf Size (mm)	See section 6.2.21
Configurations	Latched, single acting, single leaf only

Based on the results of WF393276B the Winkhaus Trulock Pyro 3pt latch may also be used. This product does not auto engage at all 3 locking points. The Flamebreak design has been successfully tested with single point latches, as discussed in section 16.5, and the AV2 which has identical case sizes and forend dimensions. It is therefore our assessment that installation of the Trulock Pyro would not be expected to be the cause of premature integrity failure.

16.6 Hinges

Flamebreak 30 leaves must be hung on

- A minimum of 2 hinges for leaves below 1500mm high with hinges at top and bottom positions shown in table below
- A minimum of 3 hinges for leaves below 2400mm high
- A minimum of 4 hinges for leaves below 3000mm high
- A minimum of 5 hinges for leaves above 3000mm high.

Hinges must either be as tested, or alternatively Certifire approved hinges with the following specification and positioning are acceptable.

Element		Specification	
Blade height		90 - 120mm	
Blade width (excluding knuckle)		30 - 35mm	
Blade thickness		2.5 - 4mm	
Fixings		Minimum of 4No. 38mm long fully threaded 'twinfast' or chipboard screws per blade	
Materials		Steel, stainless steel or brass (melting point ≥800°C)	
Hinge positions	Leaf dimensions <2400mm	Top	120 -180mm from the head of the leaf to the top of the hinge
		2nd	150 - 250m from bottom of top hinge to top of second to central between top and bottom hinges
		Bottom	150 - 250mm from the foot of the leaf to the bottom of the hinge
	Leaf dimensions >2400mm	Top	120 - 180mm from the head of the leaf to the top of the hinge
		2nd	150 - 250m from bottom of top hinge to top of second to central between top and 3rd hinge
		3rd	Equispaced between 2nd and bottom hinge
		Bottom	150 - 250mm from the foot of the leaf to the bottom of the hinge
Intumescent protection		See section 13	

It is also permitted to use screw fixings as tested and supplied with the hinges approved for the Pacific Rim Wood Ltd. Flamebreak 30 design at 30 minutes fire resistance.

16.6.1 Safehinge™ ALUmax

The Safehinge ALUmax system is assessed within Chilt/A12005 Revision C for use in a range of timber based doorset construction types for both 30 and 60 minutes integrity performance. Chilt/A12005 Revision C details door frame, intumescent seal and installation requirements for use of the ALUmax system, which must be complied with in full where the ALUmax system is proposed for use with the Pacific Rim Wood Ltd. Flamebreak 30 design for 30 minutes fire resistance. Where specific details in Chilt/A12005 Revision C are different to those herein, whichever is the superior specification must be utilised.

Permitted configurations are limited to LSASD, ULSASD, DASD, LSADD, ULSADD and DADD, at the maximum leaf sizes shown in sections 6.2.22 & 6.2.23.

The use of Safehinge concealed overhead closers is not permitted.

16.7 Pull Handles

Handles (including 'D' shaped bolt through handles) may be fixed or bolted through the door leaf, providing they are steel or brass and the length is limited to 1200mm between the fixing points. No additional intumescent protection is required provided that the hole for the bolt through the leaf is tight.

Providing the handles are limited in height and are fitted as described, the handle will have negligible influence on the deflection of the leaf and integrity performance of the door core.

16.8 Push Plates/Kick Plates

Steel, stainless steel or brass plates are permitted up to a maximum of 20% of the door leaf area if mechanically fixed and a maximum of 30% if bonded with a contact or other thermally softening adhesive. Plates must not return around the door edges.

It is necessary to limit the area of the metal push/kick plate to limit the influence of the plate on the distortion of the leaf as the plate begins to heat in fire test conditions.

16.9 Door Selectors

These may be freely applied, provided that they are not invasive in the leaf edges or door frames and they do not interfere with the self-closing action of the door leaf. Products that are invasive will require fire resistance test/assessment evidence to support their use. See also section 4.3.5.

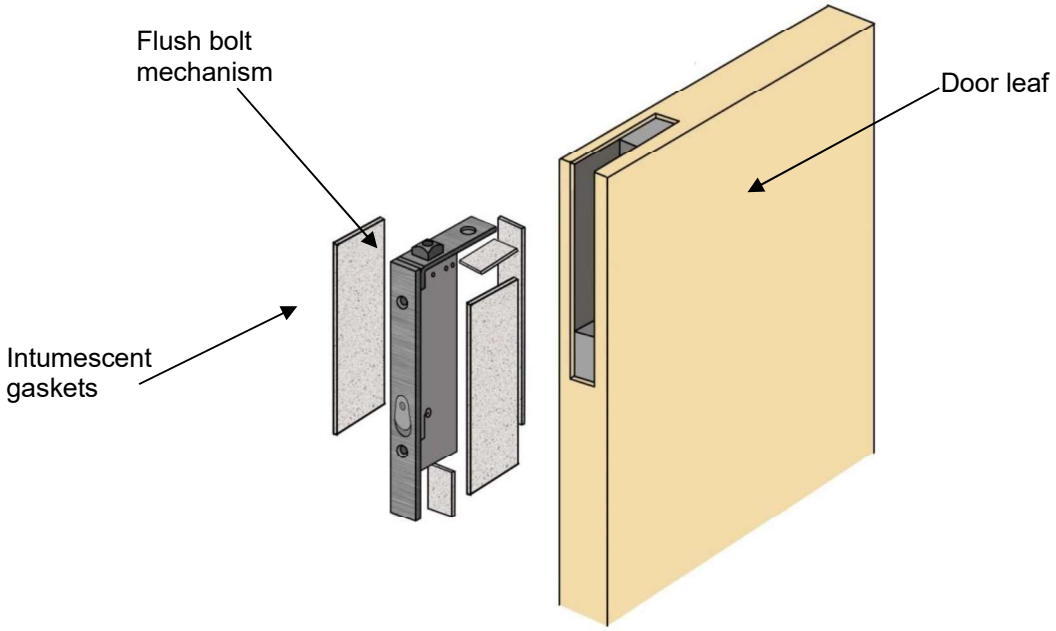
16.10 Flush Bolts

Flush bolts may be incorporated centrally into the top and bottom of one meeting edge, providing the following maximum dimensions are not exceeded and the components are fitted opposite the edge fitted with intumescent strips.

- Up to 210mm long x 20mm deep x 20mm wide*

Flush bolts must be steel or brass and the mortice must be as tight to the mechanism as is compatible with its operation. All edges of the mortice must be protected with intumescent gaskets as specified in section 13.

Alternatively, the hardware manufacturers tested gaskets may be used. See diagram below for example of intumescent protection to flush bolt.



16.11 Door Security Viewers

Given the integrity performance of the door core designs, door security viewers with brass or steel bodies of a diameter less than or equal to 15mm may be used provided that the through-hole is bored tight to the case of the viewer (maximum tolerance +1mm). Lenses must be glass and the item must be bedded into a tested intumescent material/mastic.

16.12 Panic Hardware

Panic hardware may be fitted, provided that its installation does not require the removal of any timber from the leaf, stop or frame reveal and it in no way interferes with the self-closing action of the door leaf.

16.13 Surface-Fixed Barrel Bolts

It is permitted to fit a surface-fixed barrel bolt to the top closing corner of a double leaf providing the item does not require removal of material from the leaf or door frame and does not interfere with the perimeter intumescent seals. The item must be no longer than 450mm.

16.14 Pyroplex Air Transfer Grilles

Based on the test evidence generated in WF146520 the following Pyroplex air transfer grilles have been assessed as acceptable for use with the Flamebreak 30 door leaf designs.

The grilles must be fitted 110mm from the edge of the door leaf and 80mm apart if more than one grille is to be fitted. The area occupied by the air transfer grille(s) must be deducted from the area of glazing and/or panelling, if both elements are fitted. The grilles may be fitted up to a maximum height of 2200mm from the threshold.

Grilles cannot be fitted within a recessed panel (i.e. must only be fitted into full thickness core area/rail).

Part No.	**Dimensions** (mm)	**Air Flow** (sq. cm)	**Compatible Faceplates**
ATG 1500	150 x 150	153	FP1500
ATG 1503	150 x 300	307	FP1503
ATG 1300	300 x 300	614	FP1300
ATG 2251	112 x 225	161	FP2251
ATG 2250	225 x 225	323	FP2250

The Pyroplex air transfer grilles must be installed in accordance with the manufacturer's installation details, which include a 6mm thick hardwood aperture liner and Pyroplex intumescent mastic applied around the perimeter of the grille. Full details can be obtained from Pyroplex Ltd.

16.15 Environmental Seals

Silicon based flame retardant acoustic, weather and dust seals (e.g. Lorient LAS1007, LAS1206, LAS1206K, LAS1010, LAS1212, LAS1212K, LAS1215, IS1511, IS7025, IS7060, Norseal NOR710, NOR720, NOR510; Fire & Acoustic Seals Ltd. FAS35, FAS39, FAS Trident, FAStragal or Sealed Tight Solutions ST1009) may be fitted to this doorset design without compromising the performance, providing their fitting does not interfere with the activation of the intumescent seals or hinder the self-closing function of the leaves.

16.16 Threshold Seals

The following types of automatic threshold drop seals have all been tested within timber based doorsets of 44mm thickness without compromising the integrity performance of the doorset and may therefore be recessed in to the bottom rail of leaves to this design.

Manufacturer	Product Reference
Norsound Ltd	NOR810, NOR810S & NOR810dB+
Lorient Polyproducts	IS8010s
Raven Products	RP8Si
Athmer	Schall-Ex Duo L-15
Sealed Tight Solutions	STS422 & STS422GT
Fire & Acoustic Seals	FAS45 & FAS810S

16.17 Cable-Way

Based on the integrity performance of the doorset construction, with no burn-through of the core material, we consider it acceptable to allow the provision for a concealed cable-way to facilitate electro-magnetic closing/latching mechanisms. The cable-way must be concealed in the following way:

1. A hole drilled centrally through the leaf of maximum 10mm diameter
2. The cable for the electronic closing/latching mechanisms must be no more than 2mm smaller in diameter than the hole through the leaf
3. The cable for the electronic closing/latching mechanism must be PVC encased
4. Cable ways are only permitted for use with latched, single leaf, single acting doorsets with maximum leaf dimensions of 2100mm (h) x 900mm (w)
5. The hole must be located below 1500mm from the threshold and must be spaced a minimum of 90mm from any apertures within the leaf, e.g. glazing, air transfer grilles or letter plates, etc.

This approval is subject to the hardware manufacturer having the appropriate test evidence for the product for use with this type of 30 minute construction. Test evidence generated in steel doorsets is not acceptable. Any tested intumescent gaskets for the lockset, closing mechanism, receiver plate, cable loops, etc. must be replicated.

16.18 Identification Plates

Plastic or metal fire safety signs may be glued or screwed to the face of the door leaves. The signage must comply with BS 5499-5: 2002 according to whether the door is.

1. To be kept closed when not in use (Fire Door Keep Shut)
2. To be kept locked shut when not in use (Fire Door Keep Locked Shut)
3. Held open by an automatic release mechanism or free swing device (Automatic Fire Door Keep Clear).

It is also permitted to fit aluminium (max. thickness 2mm) or PVC (max. thickness 3mm) identification plates, complying with HTM 58 – Internal Doorsets, HTM Building Component Series, NHS Estates. The signage must not exceed 45mm diameter and can be fitted flush with the leaf face a minimum of 50mm from any edge.

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[1]

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