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Title

Field of Application for:

The Enfield speciality doors Range of Doorsets Using Premier Acoustic 46 & Premier Acoustic 48 Door Blanks in Timber Based Door Frames

For 30 minutes Fire Resistance

Report No.:

Chilt/A12282 Revision B

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Prepared for:

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1 Foreword

This Field of application report has been commissioned by Enfield Speciality Doors and relates to the fire resistance of 30 minute fire resisting doorset designs.

The report is for national application and has been written in accordance with the general principles outlined in BS EN 15725.

This Field of Application (scope) uses established empirical methods of extrapolation and experience of fire testing similar doorsets, in order to extend the scope of application by determining the limits for the designs based on the tested constructions and performances obtained. The scope is an evaluation of the potential fire resistance performance, if the variations specified herein were to be tested in accordance with BS 476-22: 1987.

This scope document cannot be used as supporting documentation for either a UKCA or CE marking application, nor can the conclusion be used to establish a formal classification against EN13501-2.

This Field of Application has been written using appropriate test evidence generated at UKAS accredited laboratories, to the relevant test standard. The supporting test evidence has been deemed appropriate to support the manufacturers stated door design and is summarised in section 3.

The scope presented in this report relates to the behaviour of the proposed door design variations under the particular conditions of the test; they are not intended to be the sole criterion for considering the potential fire hazard of the door assembly in use.

This Field of Application has been prepared and checked by product assessors with the necessary competence, who subscribe to the principles outlined in the Passive Fire Protection Forum (PFPF) *'Guide to Undertaking Technical Assessments of the Fire Performance of Construction Products Based on Fire Test Evidence'.* The aim of the PFPF guidelines is to give confidence to end-users that assessments that exist in the UK are of a satisfactory standard to be used for building control and other purposes.

The drawings provided in this report are for guidance and illustrative purposes only. Please note that the written scope of application takes precedence.

2 Proposal

It is proposed to consider the fire resistance performance of the specified proprietary Premier Acoustic 46 & Premier Acoustic 48doorset designs, for 30 minutes fire resistance integrity performance (and where appropriate insulation performance), if the doorset designs were to be tested to the requirements of BS 476-22: 1987, *Methods for determination of the fire resistance of non-loadbearing elements of construction.*

The field of application defined in this report is based on the fire resistance test evidence for the doorset design, which is summarised in section 3. Analysis of specific construction details that require assessment are given within this report against the relevant element of construction, as appropriate.

Whilst specific items are included within this Field of Application report that may be used to provide additional performance characteristics (such as acoustic or smoke control for example), it is beyond the remit of this Field of Application report to provide scope for performance characteristics other than fire resistance integrity and (where applicable) insulation performance. Any other performance requirement for the door designs contained herein is to be subject to a separate analysis.

2.1 Assumptions

- All densities referred to in this document are based upon an assumed moisture content of 12%.
- It is assumed that unless otherwise documented in the field of application sections of this report, the doorset subject to this report will be constructed in accordance with the test evidence referred to herein.
- For components created using solid timber sections referred to in this assessment, it is assumed that, for all timbers, they will be of a quality deemed to meet or exceed class J30 as specified in BS EN 942: 2007, subject to adequate repairs, other than glazing beads which must meet a minimum class J10. Note that areas under intumescent seals/gaskets are not considered to be concealed faces and defects must be repaired.
- Where timber is referred to within this document it is assumed that the timber element is made from a continuous solid piece, unless specifically detailed otherwise.
- All dimensions detailed herein may be varied by ±2% except where minimum, maximum or a range of dimensions are given.
- Where morticed items of hardware are used (within the leaf or frame) it is assumed that the preparation for such items are tight to the item (and where applicable intumescent protection) as tested with no excessive gaps, unless stated otherwise within a particular section of this report.

3 Test Data

The test evidence summarised below has been generated to support the fire resistance performance of the door designs that are the subject of this field of application. The summary details are considered to be the key aspects of the design tested. These test summaries are not intended to be a definitive guide to constructing a doorset. The details for the construction of a doorset must be taken from other sections within this Field of Application.

Note:

1. Dimensions are in mm unless otherwise stated.
2. Abbreviations: (h) = height; (w) = width; (t) = thickness; (d) = deep: (l) = long.
3. Latches fitted but disengaged for the test, are reported as 'unlatched'.

The test evidence has been generated across singular doorset configuration, being an unlatched double doorset.

All of the test evidence used in the evaluation is over 5 years old. In accordance with industry guidance, the evidence has been reviewed to consider its suitability. Warringtonfire are satisfied that there have been no significant revisions to the relevant test standards which would render the evidence irrelevant.

The evidence has been generated to BS 476 Part 22: 1987 and EN 1634-1. The latter is known to be more onerous than the BS 476: Part 22: 1987 standard, primarily due to the use of plate thermocouples within the furnace to record the furnace temperature.

The same time temperature curve is used to control the temperature within the furnace for both test methods (the heating curve given within ISO 834-1). However, the plate thermocouple used to record the temperature within the furnace for the EN test method, requires a longer thermal exposure to read the same temperature as the probe thermocouple that is used for the BS 476: Part 22: 1987 test, particularly during the early stages of the test. Furthermore, the neutral pressure regime is positioned lower relative to the specimen height in a European fire door test, therefore resulting in greater relative positive pressure conditions than those expected in a BS 476-22: 1987 test, which has the potential to increase hot gases and flaming on the unexposed side. These factors result in more onerous test conditions for doorsets tested to the BS EN 1634-1 test standard compared with the BS 476: Part 22: 1987 test standard, which has been demonstrated by testing the same products to both standards.

It is therefore the opinion of Warringtonfire that the evidence citied in the following section, tested to both named standards referenced above can be utilised in this assessment which will conclude in terms of the fire resistance performance of the Enfield Speciality Doors doorset designs if tested in accordance with BS 476: Part 22: 1987.

3.1 Primary Test Evidence

The following summary is provided to give the key details relevant to the tested specimen. Throughout this assessment report, relevant sections will reference the test where it has been used to provide the scope of application.

3.1.1 Test Report RF12107

Date of Test:	29th October 2012
Identification of Test Body:	Chiltern International Fire, now trading as Warringtonfire Testing and Certification Ltd. UKAS No. 1762
Sponsor:	Enfield Speciality Doors (Enfield) Ltd
Tested Product:	Unlatched, Single Acting, Double Leaf, Joinery Timber Doorset with rebated lippings to vertical and top edges – ULSADD.
Tested Orientation:	Opening in towards heating condition
Sampling information:	No details of sampling are recorded
Test Standard:	BS EN 1634-1:2008
Performance:	**Integrity:** 46 minutes **Insulation:** 46 minutes
Reason for Use	For use as primary evidence for: • Leaf construction • Frame construction • Doorset Configurations • Intumescent specification • Leaf sizes • Environmental seals • Hardware

3.1.2 Test Report BMT/FEP/F14207 Revision B

Date of Test:	14th August 2014	
Identification of Test Body:	Chiltern International Fire Ltd Now Trading as Warringtonfire Testing and Certification Ltd. UKAS No. 1762	
Sponsor:	Sealed Tight Solutions Ltd	
Tested Product:	Doorset A: Unlatched, Single Acting, Single Leaf, Doorset. Doorset B: Unlatched, Single Acting, Single Leaf, Doorset with Glazed Aperture.	
Tested Orientation:	Both doorsets were installed opening in towards the heating conditions of the test.	
Test Standard:	Doorset A: BS 476-22: 1987 – Method 6 Doorset B: BS 476-22: 1987 – Method 7	
Performance:	**Doorset A:**	**Integrity:** 65 minutes **Insulation:** 65 minutes
	Doorset B:	**Integrity:** 30 minutes **Insulation:** 30 minutes

This test report has been included to support the performance of the drop down seals being considered within the Enfield Speciality Doors doorset design.

3.1.3 Test Report BMT/FEP/F15288 Revision A

Date of Test:	09th November 2015	
Identification of Test Body:	Exova Warringtonfire Now Trading as Warringtonfire Testing and Certification Ltd. UKAS No. 1762	
Sponsor:	Sealed Tight Solutions	
Tested Product:	Doorset A: Latched, Single Acting, Single Leaf, Doorset with Glazed Aperture. Doorset B: Latched, Single Acting, Double Leaf, Doorset.	
Tested Orientation:	Both doorsets were installed opening in towards the heating conditions of the test.	
Test Standard:	Doorset A: BS 476-22: 1987 – Method 8 Doorset B: BS 476-22: 1987 – Method 6	
Performance:	**Doorset A:**	**Integrity:** 44 minutes **Insulation:** 0 minutes
	Doorset B:	**Integrity:** 83 minutes **Insulation:** 83 minutes

This test report has been included to support the performance of the drop down seals being considered within the Enfield Speciality Doors doorset design.

4 Technical Specification

4.1 General

The technical specification for the proposed door assemblies is given in the following sections and is based on the test evidence for the door designs, summarised in section 3.

4.2 Intended Use

The intended use of the proposed door assembly is summarised below:

A pedestrian doorset including any frame, door leaf or leaves which is provided to give a fire resisting capability when used for the closing of permanent openings in fire resisting separating elements, which together with the building hardware and any seals (whether provided for the purpose of fire resistance or smoke control or for other purposes such as draught or acoustics) form the assembly.

4.3 Door Leaf

Doorsets constructed using the different leaf options can include various design features as summarised below.

Specific sections within this assessment must be referred to for design limitations and construction requirements.

Section 5 gives the description of each leaf type in terms of composition and density etc.

4.3.1 Leaf 1 – Premier Acoustic 46 – 60mm thick

The door designs can include:

1. Various hardware options
2. Decorative facings
3. Decorative planted on timber mouldings

4.3.2 Leaf 2 – Premier Acoustic 48 – 60mm thick

The door designs can include:

1. Rebated leaf edges
2. Various hardware options
3. Decorative facings
4. Decorative planted on timber mouldings

4.4 Door Frames

Doorsets constructed using the different leaf types have specific associated frame option. Each frame option includes various design features as summarised below.

Specific sections within this assessment must be referred to for design limitations and construction requirements, where applicable.

4.4.1 Frame 1 – Hardwood Timber – 46

The construction of the door frame is Hardwood with minimum frame dimensions and includes a single stop to accommodate the flat leaf edges within the Premier Acoustic 46 door leaf design. For further information on the specification and construction of the door frames see section 7.

4.4.2 Frame 2 – Hardwood Timber – 48

The construction of the door frames is Hardwood with minimum frame dimensions and includes a double stop to accommodate the rebated leaf edge within the Premier Acoustic 48 door leaf design. For further information on the specification and construction of the door frames see section 7.

4.5 Doorset Configurations & Maximum Leaf Sizes

4.5.1 General

The evaluation of the leaf size for each door leaf option and doorset configuration is based on the tests listed in Section 3 and takes into account:

1. The margin of over performance above 30 minutes integrity for the design.
2. The characteristics exhibited during test.
3. The doorset configuration tested.

The evaluation of the permitted configurations included in this field of application is based on the configuration tested. The principle is that the more components included in testing, the harder it becomes to pass a test. This approach leads to the following statements:

1. A test on a double doorset is more onerous than a test on a single doorset.
2. A test on an unlatched doorset is more onerous than a test on a latched doorset as the leading edge is unrestrained and will deflect more in fire test conditions.
3. A doorset with transomed overpanel is considered to perform comparably to a similar doorset without an overpanel. This is because the transom structurally separates the overpanel from the doorset.

The leaf size for each door leaf option and configuration is linked to the perimeter intumescent specification and frame option. The following section details the maximum leaf size for each door leaf option and configuration based on the intumescent specification and frame details tested.

Doorsets with reduced height and width dimensions from those tested are deemed to be less onerous. Therefore, doors with dimensions less than those given in the leaf size envelopes (for the relevant intumescent specification) in the following sections are covered and may be manufactured.

4.5.2 Configuration

The table below shows the permitted configurations for the Premier Acoustic 46 & Premier Acoustic 48 doorset designs, with the abbreviation and full description of each configuration.

The following sections details the assessed maximum leaf size envelops for each permitted configuration based on the intumescent specification and door frame tested.

Depiction	Abbreviation	Description	Leaf Type
	LSASD	Latched Single Acting Single Doorset Permitted for Premier Acoustic 46 & Premier Acoustic 48	1 or 2
	ULSASD	Unlatched Single Acting Single Doorset Permitted for Premier Acoustic 46 & Premier Acoustic 48	1 or 2
	LSADD	Latched Single Acting Double Doorset Permitted for Premier Acoustic 48 only	2
	ULSADD	Unlatched Single Acting Double Doorset Permitted for Premier Acoustic 48 only	2

4.5.3 Orientation

The primary fire resistance test for these designs were conducted with the doorset hung such that the door leaf opened towards the fire, which is considered the most onerous orientation in terms of fire resistance performance. Based on this testing, assessment is made that the doorsets to this design may be hung either away from or towards the fire risk side of the doorset. The rationale behind the direction of fire testing timber based doorsets opening towards the fire test conditions is further explained in Annex C of BS EN 1634-1:2014 +A1:2018.

4.5.4 Envelopes for each Configurations

The following sections detail the door leaf envelopes which indicate the permitted leaf sizes for the listed configurations based on the perimeter intumescent, door leaf option and door frame.

Unequal leaf double doorsets are covered by this assessment provided that all the following criteria are met:

- The relevant door leaf envelopes are not exceeded.
- Door leaf widths are no smaller than 300mm.

For equal double doorsets both leaves must comply with the door leaf envelope size limitations.

Single acting double doorsets are only considered acceptable when the leaves are hung to open in the same direction.

A table of essential hardware is given in section 10.3 for each doorset configuration, as a minimum requirement for the doorset described. Changes to hardware can affect the intumescent specification and frame details which are subsequently considered for each specific hardware component, where required.

4.5.4.1 General Note on Intumescent Seals

- Intumescent seals are to be fitted centrally to the thickness of the leaf unless stated otherwise.
- Intumescent seals are partially interrupted at hardware locations unless stated otherwise.
- Intumescent seals must run the full length of the leaf edge or frame reveals, with tightly formed abutting corner joints, unless stated otherwise.
- Vertical perimeter intumescent seals may include one tight butt joint in their length if needed.
    - Where two seals are fitted, the joints must be offset by a minimum of 100mm and may not be coincident.
    - Where one seal is fitted the joint must be in the lower half of the doorset.
- Intumescent seals are not to be concealed below lippings.

4.5.4.2 Explanation for following sections

The performance of a doorset in terms of configuration and size is dependent on the leaf type, perimeter intumescent used and frame type. These elements are not automatically interchangeable. The following sections present the envelopes for the 2No. leaf types and hardwood frames. Each envelope is linked to a specific perimeter intumescent which is given a unique reference and is based directly on test evidence.

The envelopes are presented as follows:-

- for LSASD increasing in configuration complexity up to ULSADD

A test on a doorset with rebated edges/lippings is considered more onerous than a test with flat lippings, therefore Warringtonfire have assessed the use of flat lippings/leaf edges for the Premier Acoustic 46 design.

The two leaf designs herein have been assessed with the same leaf sizes based on the performance observed under test conditions and the construction of the doorset designs.

Summary of Permitted Configurations for the Premier Acoustic 46 and 48 door leaf design

Permitted Configurations with leaf type 1 (Premier Acoustic 46)					
		Configuration			
		LSASD	ULSASD	LSADD	ULSADD
Frame	1 – Hardwood frame*	Yes	Yes	No	No

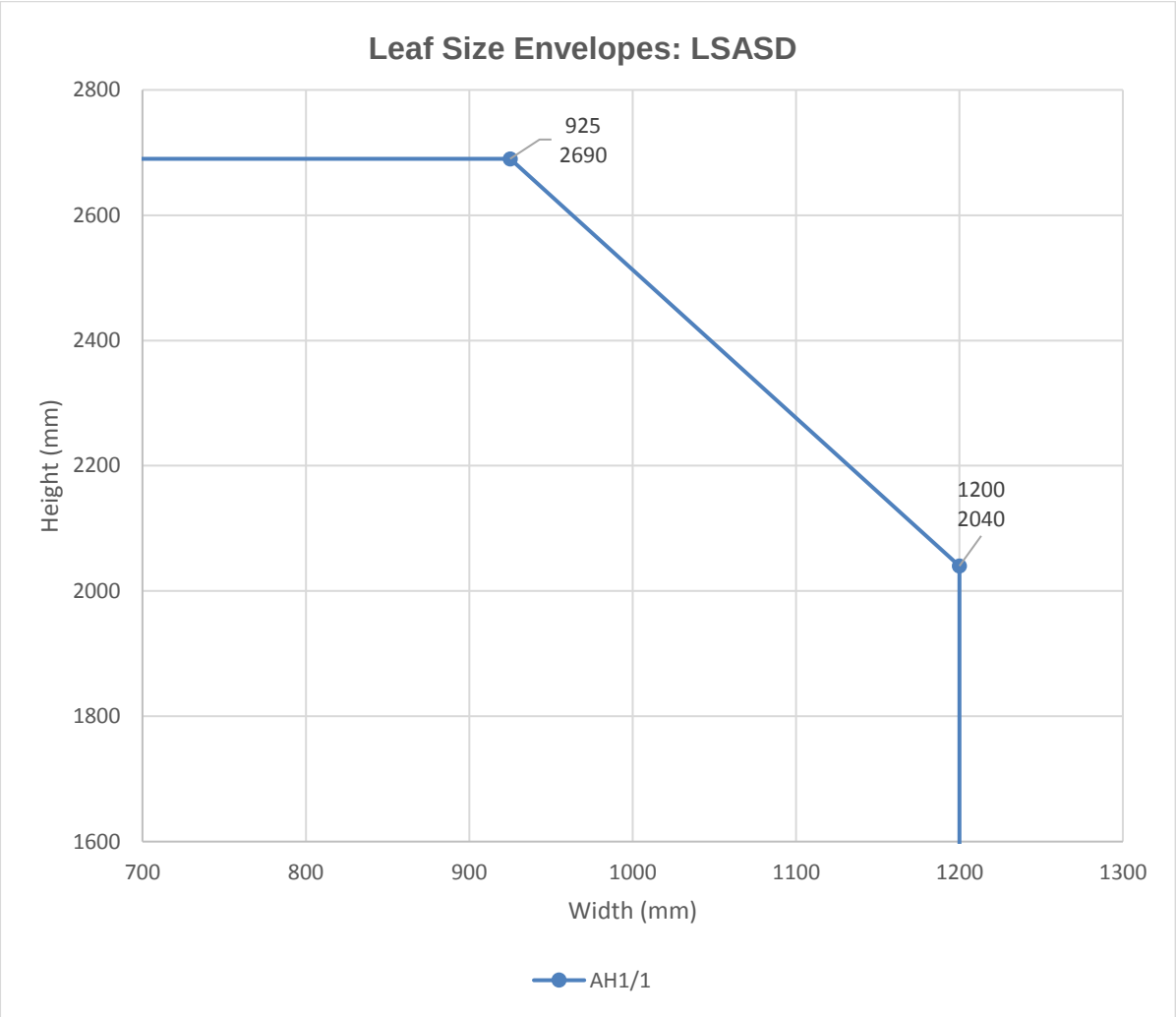
* See Section 7 for specific limitations with respect to the framing types

Permitted Configurations with leaf type 2 (Premier Acoustic 48)					
		Configuration			
		LSASD	ULSASD	LSADD	ULSADD
Frame	1 – Hardwood frame*	Yes	Yes	Yes	Yes

* See Section 7 for specific limitations with respect to the framing types

4.5.5 LSASD Configuration: Leaf Sizes & Intumescent Specification

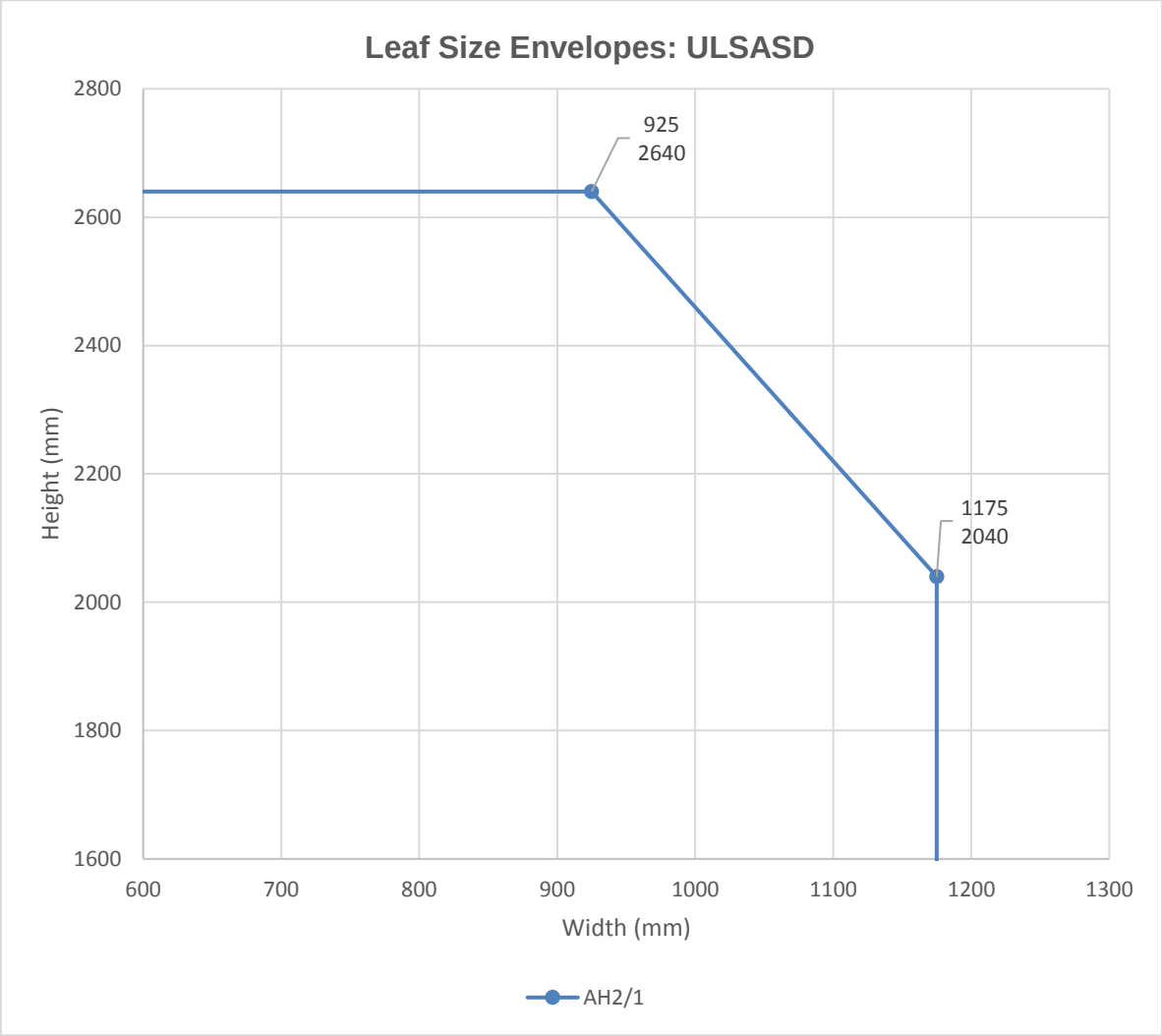
Doorset created from Premier Acoustic 46 & Premier Acoustic 48 (Leaf Type 1 & Leaf Type 2)



Intumescent Specification for LSASD Premier Acoustic 46 or Premier Acoustic 48			
Intumescent Spec. Reference	Make / Type	Manufacturer / Supplier	Location & Size
AH1/1 (RF12107)	NOR10x4FO NOR15x4TF	Norsound Ltd	**Frame Head & Jambs:** 1 No NOR10x4FO seal fitted 8mm from the opening face and 1No NOR15x4TF seal fitted 27mm from the opening face of the door leaf.

4.5.6 ULSASD Configuration: Leaf Sizes & Intumescent Specification

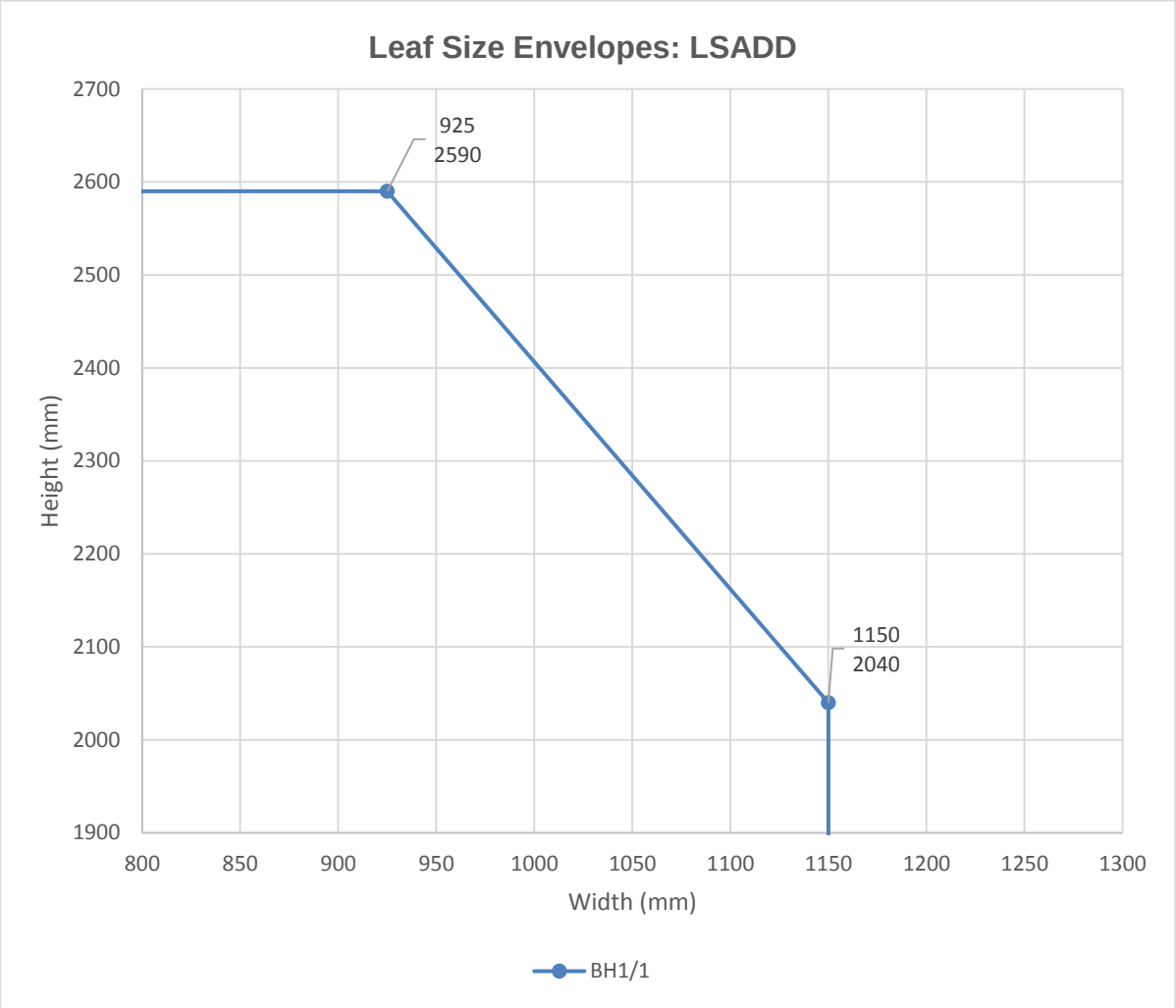
Doorset created from Premier Acoustic 46 & Premier Acoustic 48 (Leaf Type 1 & Leaf Type 2)



Intumescent Specification for ULSASD Premier Acoustic 46 or Premier Acoustic 48			
Intumescent Spec. Reference	Make / Type	Manufacturer / Supplier	Location & Size
AH2/1 (RF12107)	NOR10x4FO NOR15x4TF	Norsound Ltd	**Frame Head & Jambs:** 1 No NOR10x4FO seal fitted 8mm from the opening face and 1No NOR15x4TF seal fitted 27mm from the opening face of the door leaf.

4.5.7 LSADD Configuration: Leaf Sizes & Intumescent Specification

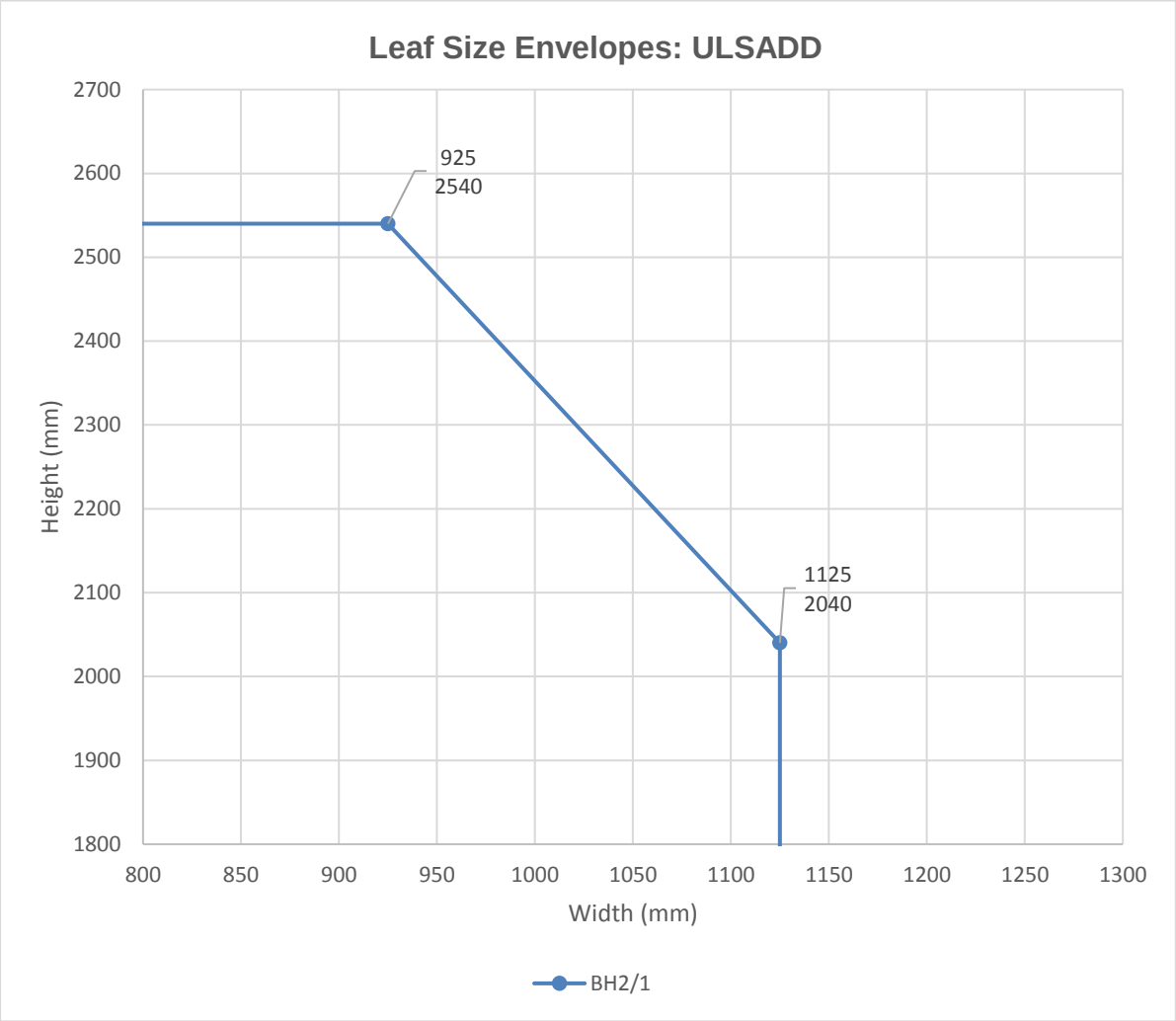
Doorset created from Premier Acoustic 48 (Leaf Type 2)



Intumescent Specification for LSADD Premier Acoustic 48			
Intumescent Spec. Reference	Make / Type	Manufacturer / Supplier	Location & Size
BH1/1 (RF12107)	NOR10x4FO NOR15x4TF	Norsound Ltd	**Frame Head & Jambs:** 1 No NOR10x4FO seal fitted 8mm from the opening face and 1No NOR15x4TF seal fitted 27mm from the opening face of the door leaf. **Meeting Edges, rebated:** 1 No NOR15x4TF seal fitted 8mm from the opening face and 1No NOR10x4FO seal fitted in the bottom corner of the rebate of the active door leaf.

4.5.8 ULSADD Configuration: Leaf Sizes & Intumescent Specification

Doorset created from Premier Acoustic 48 (Leaf Type 2)



Intumescent Specification for ULSADD Premier Acoustic 48			
Intumescent Spec. Reference	Make / Type	Manufacturer / Supplier	Location & Size
BH2/1 (RF12107)	NOR10x4FO NOR15x4TF	Norsound Ltd	**Frame Head & Jambs:** 1 No NOR10x4FO seal fitted 8mm from the opening face and 1No NOR15x4TF seal fitted 27mm from the opening face of the door leaf. **Meeting Edges, rebated:** 1 No NOR15x4TF seal fitted 8mm from the opening face and 1No NOR10x4FO seal fitted in the bottom corner of the rebate of the active door leaf.

5 General Description of Construction

5.1 Leaf Core Construction

The two door leaf options are detailed below are approved by this assessment.

5.1.1 Leaf Type 1 – Premier Acoustic 46 – 60mm thick

The basic tested construction of this door leaf design comprises the following:

Element		**Material**		**Dimensions** (mm)	**Minimum Density** (kg/m^3)
Core	Inner	Sauerland S3 Chipboard		3 No layers, each 13(t)	523
	Outer	Cork		3 (t)	200
Stiles & Rails		Steamed Beech		49 (t) x 68 (w) with rebate for steel and cork facings	690
Facings		Inner[1]	Mild steel	2No layers 1 (t)	-
		Middle	Cork	2 (t)	200
		Outer	MDF (oversails stiles and rails)	6 (t)	730
Lippings		Steamed Beech to all 4 leaf edges		20 (t)	690

The leaf must be lipped as specified in section 5.4.1.

The minimum leaf thickness after calibration is 59mm (i.e. a maximum of 0.5mm from both sides).

The minimum leaf thickness after finishes applied is 60mm.

[1] Inner facing materials must be spaced 26mm from lipping's.

The core construction includes butt joints between materials, no more joints than demonstrated within the test evidence detailed within section 3.1 are permitted. Additionally, when jointed each of the joints must be staggered as tested and no joint shall be coincident with another.

5.1.2 Leaf Type 2 – Premier Acoustic 48 – 60mm thick

The basic tested construction of this door leaf design comprises the following:

Element		Material		Dimensions (mm)	Minimum Density (kg/m^3)
Core	Inner	Sauerland S3 Chipboard		3 No layers, each 13(t)	523
	Outer	Cork		3 (t)	200
Stiles & Rails		Steamed Beech		49 (t) x 68 (w) with rebate for steel and cork facings	690
Facings		Inner[1]	Mild steel	2No layers 1 (t)	-
		Middle	Cork	3 (t)	200
		Outer	MDF (oversails stiles and rails)	6 (t)	730
Lippings	Leaf Head	Steamed Beech		20 (t) with a 18 (w) x 12 (d) rebate	690
	Hanging Edge				
	Meeting Edges			Active Leaf: 20 (t) with a 18 (w) x 12 (d) rebate Inactive Leaf: 20 (t) with a 45 (w) x 12 (d) rebate	
	Threshold			20 (t)	

The leaf must be lipped as specified in section 5.4.1.

The minimum leaf thickness after calibration is 59mm (i.e. a maximum of 0.5mm from both sides).

The minimum leaf thickness after finishes applied is 60mm.

[1] Inner facing materials must be spaced 26mm from lipping's.

The core construction includes butt joints between materials, no more joints than demonstrated within the test evidence detailed within section 3.1 are permitted. Additionally, when jointed each of the joints must be staggered as tested and no joint shall be coincident with another.

5.2 Comparison of Door Core Designs

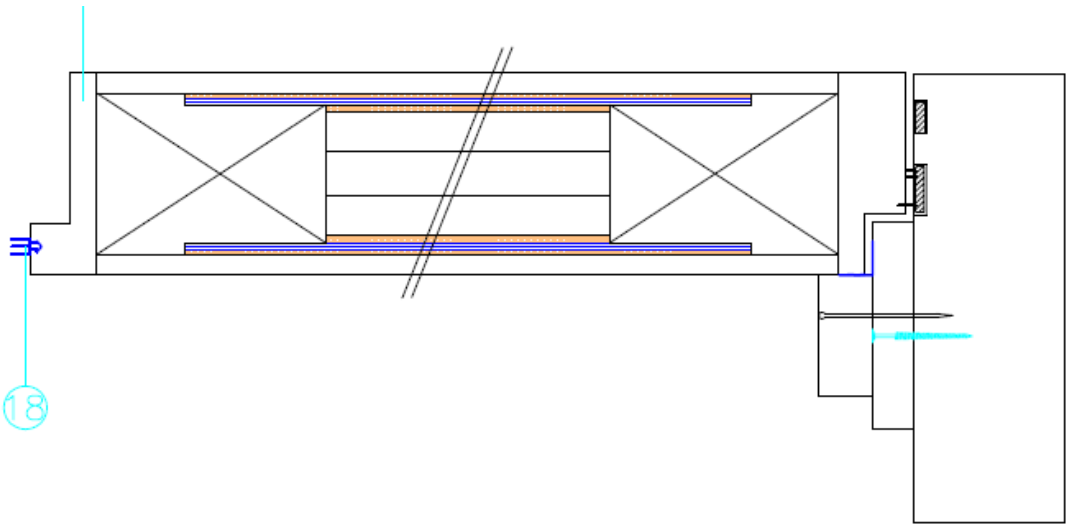
The essential construction of the Premier Acoustic 46 & Premier Acoustic 48 designs is identical apart from the lipping specification.

A test on a doorset with rebated edges/lippings is considered more onerous than a test with flat lippings, therefore Warringtonfire have assessed the use of flat lippings/leaf edges for the Premier Acoustic 46 design based on the successful testing on the Acoustic 48 design.

The two leaf designs herein have been assessed with the same leaf sizes, see section 4.5.

The Premier Acoustic 46 design is not permitted for use in double leaf configurations.

Diagram below shows the core makeup with rebated edges and 2 part stop, as tested.



5.3 Leaf Size Adjustment During Manufacturer – all Leaf Options

As detailed in section 5.1, as standard, leaf options 1 and 2 are manufactured with stiles and rails as part of the construction.

Based on the tested results and design of the leaf, the stiles and rails and lippings must remain as tested (refer to sections 5.1.1 and 5.1.2), flat lippings may replace the rebated details tested to create Leaf Type 1– see section 5.4.

In order to allow adjustment of leaf sizes from that tested, the core elements, only, may be increased or decreased in width and/or height to suit, subject to the leaf size limitations in section 4.5. All individual core elements must be in one piece, no joints in individual layers are permitted.

Door leaves may be altered as follows prior to the machining for hardware.

Pre-Machining Leaf Size Adjustment Specification	
Element	Reduction
Leaf	The size of the leaf may be reduced in height or width without restriction for manufacturing purposes, providing the finished leaf includes the above detailed stiles and rails and is lipped in accordance with section 5.4
Timber Lipping	The timber lipping thickness can be reduced after it has been glued in place, providing it is not reduced below the minimum stated in section 5.4

As noted in section 5.1, as standard, leaf options 1 and 2 are manufactured with stiles and rails as part of the construction. Stiles and rails must remain with the tested dimensions detailed in section 5.1.

5.4 Timber Lipping

5.4.1 Leaf Type 1 – Premier Acoustic 46

The testing documented in section 3 has generally been undertaken using 20mm thick lippings applied to all edges using hardwood adhered to the core with PVA.

On the above basis, Leaf Type 1 (Premier Acoustic 46 door design) must be lipped with the following specification, for all leaf types and solid panels.

Timber Lipping Specification for Premier Acoustic 46 door blanks		
Material	Size (mm)	Min Density (kg/m^3)
Hardwood	1. Flat = 20 - 25 thick to all edges 2. Rounded = not permitted 3. Rebated: not permitted	640

Notes:

1. All lippings are to be the same thickness as the door leaf.
2. Overpanels separated from the leaf heads with a transom must be lipped as detailed above.
3. Lippings must be bonded with cross linked PVA. These may be hand applied or may be applied using an edgebander. With either method it must be ensured that sufficient glue is applied to across the entire surface area between the 2No substrates being adhered to guarantee a robust bond. Other manufacturers guidance should be followed, for either installation application.
4. For flat lippings it is permitted to apply maximum 8mm radius to the corners of the lipping at vertical edges to create a maximum 2mm edge profiling.

5.4.2 Leaf Type 2 – Premier Acoustic 48

The testing documented in section 3 has generally been undertaken using 20mm thick rebated lippings applied to the vertical and top edges and flat 20mm thick lippings at the threshold.

On the above basis, Leaf Type 2 (Premier Acoustic 48 door design) must be lipped meeting the following specification.

Timber Lipping Specification for Premier acoustic 48 door blanks		
Material	Size (mm)	Min Density (kg/m^3)
Hardwood	1. Flat = 20 - 25 thick (threshold only) 2. Rounded = not permitted 3. Rebated: Leaf Head, Hanging Jambs and meeting edge of the active leaf: 20 – 25 (t) with a 18 (w) x 12 (d) rebate 4. Offset Rebated Meeting Edges: Primary Leaf = 20 - 25 (t) with 18 (d) x 12 (w) rebate Secondary Leaf = 20 - 25 (t) with 45 (d) x 12 (w) rebate	640

Notes:

1. All lippings are to be the same thickness as the door leaf.
2. Overpanels separated from the leaf heads with a transom need to be lipped as detailed above.
3. Lippings must be bonded with PVA as tested. These may be hand applied or may be applied using an edgebander. With either method it must be ensured that sufficient glue is applied to across the entire surface area between the 2No substrates being adhered to guarantee a robust bond. Other manufacturers guidance should be followed, for either installation application.

5.5 Decorative & Protective Facings – all Leaf Options

Relatively thin leaf facing materials are deemed to be decorative and their application is not considered to be of detriment to the overall stability or performance of the doorset design. In fact, when applied as an additional component on top of the minimum facing material required by the door blank, they are likely to provide a small enhancement in performance as an additional barrier to fire spread, although, this is likely to be negligible.

The following additional facing materials are therefore permitted to the leaf for this door design since they would have limited influence under fire resistance test conditions.

Decorative & Protective Facing Specification	
Facing Material	Maximum Permitted Thickness (mm)
Paint[5]	0.5
Timber veneers[3]	2
Plastic laminates[3]	2
PVC[3]	2
Cellulosic and non-metallic foils[3]	0.4

Notes:

1. Metallic facings are not permitted except for push plates and kick plates
1. The door leaf thickness may be reduced on both sides by a maximum of 0.5mm for calibration purposes in order to accommodate the chosen finish. The minimum overall leaf thickness must remain at 60mm after finishing has been applied.
2. Materials may over sail lippings but must not return around leaf edges.
3. For all options, materials must not conceal intumescent strips.
4. Intumescent paints are not permitted.

Decorative finishes listed above may be painted within the limits for paint finish, above.

5.6 Decorative Planted on Timber Mouldings – all Leaf Options

Decorative mouldings can be applied to the Premier Acoustic 46 and Premier Acoustic 48 designs providing the following criteria is adhered to:-

The mouldings:

1. Are surface applied to the door
2. Are no higher than 30mm i.e. proud of the door
3. Are no wider than 50mm
4. Cover no more than 20% of the door leaf area
5. Are no closer than 80mm to the door leaf edge
6. Are bonded into position with no mechanical fixings
7. Are bonded using any glue which is suitable for bonding the lipping of the door.

5.7 Astragal

The inclusion of timber astragals is permitted providing they meet the following specification:

- The astragal shall consist of the same material as the door frame with at least the same or greater density.
- The astragal shall be mechanically fixed using steel screws at no greater than 250mm centres, the screws shall penetrate into the substrate by at least 15mm and no greater than ½ the thickness of the substrate.
- The astragal shall measure 50mm wide x 18mm thick and shall be positioned centrally over the junction.

Other materials or dimensions of astragals are not permitted.

It has been considered possible to include the above specified astragal based on the fact that the effective rebate of the doorset design will remain unchanged. The addition of the astragal element will provide further protection at the perimeter gaps increasing the time in which failure modes may develop.

Astragals are permitted in the following designs:

- Optionally permitted at meeting edges of double doors.

Astragals may only be fitted to one side of any single doorset design.

When fitted to double doors, a door selector as defined within section 10.9.3 shall be fitted to the doorset to ensure functionality.

6 Glazing within the Leaf

6.1 General

The Premier Acoustic 46 and Premier Acoustic 48 doorset designs have not been assessed for the inclusion of glazing.

7 Door Frame Construction

7.1 Construction

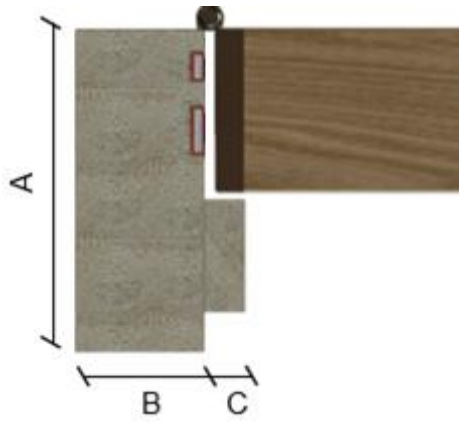
The door frames listed below are the minimum size and density which have been successfully tested and assessed by this report. The frame must be constructed to meet the following specification for single and double acting frames, where applicable.

Frame Specification		
Material	Minimum Section Size (mm)	Minimum Density (kg/m^3)
Hardwood	Frame: 100 (w) x 45 (t) (excluding stop) Stop: Premier Acoustic 46 Integral or planted on - 16 (h) Stop: Premier Acoustic 48 2-part planted on – 12 and 16 (h)	640

Note:
Minimum section size is subject to size of hardware and the use of transomed overpanel (see frame details below).

7.1.1 Frame 1 – for Leaf Type 1 – Premier Acoustic 46

The diagram below shows detail of the standard frame construction. Minimum section permitted is subject to hardware size and the use of transom overpanel. Any radius to the lipping must comply with section 5.4.1.



A: Frame width = 100mm minimum

B: Frame thickness = 45mm minimum

C: Stop height = 16mm minimum

Minimum section size when using a transomed overpanel:

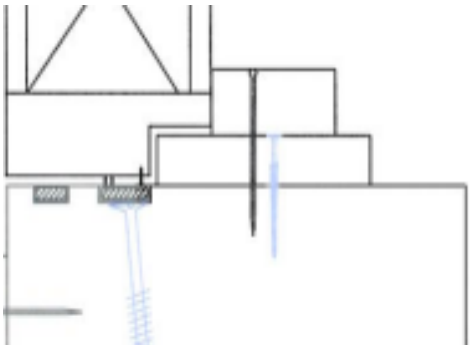
A: Frame width = 100mm minimum

B: Frame thickness = 45mm minimum

C: Stop height = 16mm minimum

7.1.2 Frame 2 – for Leaf Type 2 – Premier Acoustic 48

The diagram below shows detail of the standard frame construction. Minimum section is permitted is subject to hardware size and the use of transom overpanel. Any radius to the lipping must comply with section 5.4.2.



A: Frame width = 100mm minimum

B: Frame thickness = 45mm minimum

C: Stop height = 12 and 16mm minimum

Minimum section size when using a transomed overpanel:

A: Frame width = 100mm minimum

B: Frame thickness = 45mm minimum

C: Stop height = 12 and 16mm minimum

Note: The inner stop must be 12mm high to match rebate in leaf edges. Outer stop must be a minimum of 16mm high. Stops must be fixed individually if planted, as shown.

7.2 Door Frame Joints

Below are depictions of the door framing joints that are deemed acceptable. Please note that the drawings are provided as general illustrations of each type of door frame joint; actual construction in terms of intumescent seal location and material, etc. must be as the text within this document specifies. The door frame joints are required to be tight, with no gaps, and require mechanical fixing with the appropriate size ring shank nails or screws. Frame joints may additionally be reinforced with any of the adhesives approved for the application of lippings, on the basis that the approved lipping adhesive has been proven to contribute to the positive fire resistance performance of the timber to timber junction at the door leaf edge.

Half Lapped Joint

Mitre Joint

Mortice & Tenon Joint

Butt Joint

Trenched Joint

Approved door frame jointing options

7.3 Decorative Facings – All Frame Options

Relatively thin facing materials are deemed to be decorative, and their application is not considered to be of detriment to the overall stability or performance of the doorset design.

The following additional facing materials are therefore permitted to the frame for this door design, including frame reveal, since they would have limited influence under fire resistance test conditions.

Decorative & Protective Facing Specification	
Facing Material	Maximum Permitted Thickness (mm)
Paint[3]	0.2
Timber veneers	0.7

Notes:

1. Facing materials not listed above are not permitted.
2. For all options, materials must not conceal intumescent strips.
3. Intumescent paints are not permitted.

Decorative finishes listed above may be painted within the limits for paint finish, above.

8 Overpanels & Fanlights, Sidepanel & Sidelights

Overpanels, fanlights, sidepanels and sidelights are permitted based on the testing as summarised within section 3, the following sections outline the constructional details of each of the permitted elements and limitations associated with each configuration.

8.1 General

The testing undertaken on the doorset design allows for the application of:

Solid overpanels with two framing options (Modular & Transomed).

Framing options are detailed in the following section depending on the panel or glazing utilised.

8.2 Framing

The following framing options as detailed below are permitted for the doorset design and are permitted for solid panel arrangement. Information on the frame type permitted for the solid panel or glazed element is detailed in sections 8.2.1 – 8.2.2.

8.2.1 Modular Framing

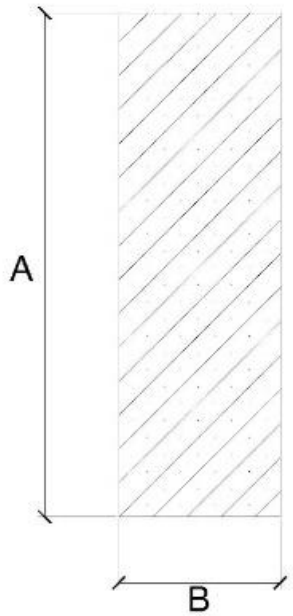
Modular framing for the purpose of this document is considered to be an element (panel) which is independently framed and fixed to the frame of a doorset design. An example of a modular framed solution is given below.

Single leaf doorset with modular overpanel.

8.2.1.1 Standard Frame Detail (Modular Framing)

The frame listed below is the minimum size and density which has assessed by this report. The frame must be constructed to meet the following specification for modular units containing solid panels, the frame section shall meet this specification on all four edges.

Modular Frame specification		
Material	**Minimum section size (mm)**	**Minimum density (kg/m^3)**
Hardwood: (see section 2.1) The use of Beech (*Fagus species*) is NOT permitted.	Frame: 100 (d) x 45 (w) (excluding stop dimensions)	640



A: Frame depth = 100mm minimum

B: Frame width = 45mm minimum

Notes:

The depth of the modular frame and the door frame shall be equal, this may result in increasing the depth of the permitted door frame to match the modular frame dimension, or vice versa. In all cases the greater dimension shall be used.

8.2.1.2 Frame Jointing (Modular Framing)

Below are depictions of the framing joints that are deemed acceptable for corner jointing of modular framing. Please note that the drawings are provided as general illustrations of each type of frame joint; actual construction in terms of intumescent seal location and material, etc. must be as the text within this document specifies.

Double Rebated Joint

Mitre Joint

Mortice & Tenon Joint

Butt Joint

Trenched or Half Lapped Joint

The modular frame joints are required to be tight, with no gaps, and require mechanical fixing with steel screws which penetrate into the adjacent substrate by a minimum of 30mm. Frame joints may additionally be reinforced with the adhesives approved for the application of the lipping detailed within section 9.

8.2.1.3 Attachment Technique (Modular Framing)

The modular framing shall be affixed to the door frame or adjacent modular framed units utilising steel screws appropriate for use with timber substrates.

Screws must be fixed between 50mm and 100mm from corners at maximum of 250mm centres from each face. Fixings shall penetrate approximately half of the depth of the adjacent timber section.

8.2.2 Shared framing (Transomed)

Shared framing (Transomed) for the purpose of this document is considered to be when an element (panel) is contained within the frame for the doorset and separated from the door leaf by a shared transom. An example of a transomed solution is given below, though the construction of doorsets shall be as the text in this document specifies.

8.2.2.1 Standard Frame Detail (Transomed)

The permitted frame detail for the doorset shall meet the minimum requirements as outlined in section 7, where applicable. The detail for the permitted transom can be found within section 8.2.2.2 below.

8.2.2.2 Detail for Transom (Transomed)

It is possible to include a transom to separate a panelled overpanel within a door frame from the door leaf. It is not permitted to include a mullion within a doorset which is constructed using the shared framing design. When applied the transom shall meet the specifications detailed in section 7.1.1.

Modular Frame specification		
Frame Type	**Minimum section size (mm)**	**Minimum density (kg/m^3)**
Frame 1 & 2	Transom: 100 (d) x 45 (w) (excluding stop and rebate dimensions)	640

Notes:

When the door leaf includes rebated lippings, the transom must include stops in the aperture which facilitates the door leaf of the following dimensions:

Stop No.1: 12 (w)

Stop No.2: 16 (w)

(the two stops may be either integral or planted on)

When applied the material for the transom shall match the timber species used for the frame surrounding the door frame.

The transom when applied shall be mortice and tenon or butt jointed as depicted in section 8.2.1.3. The joints are required to be tight, with no gaps, and require mechanical fixing with the appropriately sized steel screws. Butt joints must be additionally bonded with PVA.

Minimum Section Size – Frame 1

A: Transom depth = 100mm minimum

B: Transom width = 45mm minimum

8.2.2.3 Frame Jointing (Transomed)

Framing joints that are deemed acceptable for corner jointing of transomed framing are listed below:

- Mortice & Tenon Joint
- Butt Joint

The joints are required to be tight, with no gaps, and require mechanical fixing with appropriately sized steel screws and additionally bonded with PVA.

8.3 Solid Panels

Solid overpanels are permitted for use with the modular framing option given in section 8.2.1 above (Modular Framing).

Solid overpanels are also permitted for use with the shared framing option given in section 8.2.2 above. (Shared Framing).

8.3.1 Solid Panel Construction

Based on the testing undertaken on the doorset design, it has been assessed to include the tested core construction of Leaf Type 1 as a solid fixed panel. This is because under test conditions the panel will be fixed within the perimeter framing limiting the deflection throughout the test duration and enhancing the expected fire resistance performance which was observed for the door leaf itself. Therefore, the following specification shall be met:

Element		**Material**		**Dimensions** (mm)	**Minimum Density** (kg/m^3)
Core	Inner	Sauerland S3 Chipboard		3 No layers, each 13(t)	523
	Outer	Cork		3 (t)	200
Stiles & Rails		Steamed Beech		49 (t) x 68 (w) with rebate for steel and cork facings	690
Facings		Inner [1]	Mild steel	2No layers 1 (t)	-
		Middle	Cork	2 (t)	200
		Outer	MDF (oversails stiles and rails)	6 (t)	730
Lippings		Steamed Beech to all 4 leaf edges		20 (t)	690

The panel must be lipped as specified in section 5.4.1, and the panel shall be constructed of a single board, joints are not permitted within any panels.

The minimum panel thickness after calibration is 59mm (i.e. a maximum of 0.5mm from both sides).

The minimum panel thickness after finishes applied is 60mm.

Decorative & protective facings may be applied to the surface of the solid panels in accordance with section 5.5.

[1] Inner facing materials must be spaced 26mm from lipping's.

8.3.2 Intumescent Sealing Arrangement

Solid overpanels when included within a doorset design shall include the same intumescent specification as utilised within the door leaf or frame reveal.

8.3.3 Fixing Arrangement

Solid panels must be fixed into the framing solution by steel screws appropriate for the timber-based substrates.

Screws shall be applied nominally centrally to the thickness of the solid panel, through the rear of the frame to all edges and transom reveal where applicable and shall penetrate into the solid panel by at least 30mm.

Fixings must be no more than 100mm from each corner and a maximum of 250mm centres in between.

When fitted the solid panel shall have no greater than 1mm between the panel edge and the adjacent framing element.

Where fitted within shared framing (transomed) the face of the solid overpanel shall be nominally in line with the face of the door leaf.

8.3.4 Maximum Dimensions

Based on the testing undertaken within the doorset design the following maximum dimensions are permitted for any single panel, subject to the doorset not exceeding 2950mm in height and width including outer framing dimensions.

Solid Panel & Frame Type	Height (mm)	Width (mm)
Overpanel (Shared Framing)	Up to maximum dimension given in section 4.5 for leaf size based on intumescent specification used.	Overall doorset width
Overpanel (Modular Framing)		

The overall assembly shall form a rectilinear shape.

9 Adhesives

The following adhesives must be used in the construction of the doorsets. These may be hand applied or may be applied using an edgebander. With either method it must be ensured that sufficient glue is applied across the entire surface area between the 2No substrates being adhered to guarantee a robust bond. Other manufacturers guidance should be followed, for either installation application used.

Element	Product/Material Type
Door blank core	Pinned
Door blank facings	PVA and pinned
Timber lipping & decorative facings	PVA

10 Hardware

10.1 General

The following section details the permitted scope and constraints for fitting hardware to this door design. The following items of hardware must also bear the UKCA or CE Mark in addition to the requirements outlined in the following sections. The UKCA or CE mark must indicate that the hardware is suitable for fire doors in the classification code and declaration of performance issued by the hardware manufacturer:

- Latches & locks: Test Standard EN 12209
- Single axis hinges: Test Standard EN 1935
- Controlled door closing devices: Test Standard EN 1154
- Electrically powered hold-open devices: Test Standard EN 1155
- Door co-ordinators: Test Standard EN 1158
- Emergency exit hardware: Test Standard EN 179
- Panic exit hardware: Test Standard EN 1125.

The following sections consider what tested and assessed alternative items of essential and non-essential hardware can be used on the doorset range.

Items of hardware have been considered and approved via the following means:

- The component has been successfully tested to EN 1634-1 in a suitably similar type of doorset e.g. timber leaf in timber frame
- As a result of an assessment of the appropriateness of the item of hardware, based on test evidence not commissioned by Enfield Speciality Doors.
- As a result of the Certifire approval of the item of hardware

Each section will consider the named item of hardware and detail if there are any limitations associated with:

- Leaf size
- Configuration
- Intumescent seals
- Intumescent protection
- Frame configuration requirements

No item of hardware should be within 200mm of another item of hardware unless there is test evidence to demonstrated they can be in closer proximity.

Hardware items should generally be fitted in accordance with the manufacturer's instructions. **However, the parameters and requirements of this assessment always take precedence, including specified protection such as hardware gaskets.** Referenced 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.

10.2 Intumescent to Hardware

The intumescent materials used to protect hardware that have been tested and assessed for this doorset design are detailed below.

The door gap perimeter intumescent seal specifications are documented in conjunction with the leaf envelope size limitations in section 4.5.

Item	Location	Product/Manufacturer
Hinges	Under both blades	1mm thick Norseal graphite sheet
Lock/latches	Under forend & keep and encasing lock body	
Flush bolts	Lining all faces of the rebate	

Gaskets must be fitted where required by supporting evidence, for example, test evidence or Certifire certificates. If gaskets are not required by the supporting evidence but are within this Field of Application, the requirements of this Field of Application take precedence.

Where it is stated that intumescent is not required for a particular element of hardware, it is permitted to use up to 2mm thick MAP, Interdens or graphite-based gasket tested for the particular application [as appropriate for the hardware]. It is the opinion of Warringtonfire that the additional protection will not detract from the fire resistance performance under test conditions.

10.3 Essential Hardware

The following table details the essential hardware for the various doorset configurations that are referenced in this assessment.

Configuration	Hardware
LSASD	• Latch • Handle • Hinges • Self-closing device (closer)
ULSASD	• Hinges • Self-closing device (closer)
LSADD	• Latch • Handle • Hinges • Self-closing device (closer) • Flush bolt
ULSADD	• Hinges • Self-closing device (closer) • Flush bolt (Optional) • Deadlock (Optional)

10.4 Latches & Locks

Unless explicitly detailed within the sections below only 1No. lock or latch shall be applied within any individual doorset. When fitted the lock or latch body shall be installed within the vertical edge of the door leaf in all cases, at a height as detailed within the relevant section below. Refer to specific notes contained within each section for further considerations on lock or latch type.

10.4.1 Single Point Engagement

These items are suitable in the following applications only:

Leaf options: 1 and 2

The table below details the tested latches and locks that are approved.

Element	Manufacturer & Product Reference
Locks & latches	Eurospec mortise lock/latch - Forend: 235 x 24, Keep: 175 x 22

Alternatively, components with the following specification are also deemed acceptable.

Element	Specification
Maximum forend and strike plate dimensions	235mm high x 25mm wide x 4mm thick
Maximum body dimensions	165mm high x 100mm wide x 18mm thick
Intumescent protection	see section 10.2
Materials	All parts essential to the locking/latching action (including the latch bolt, forend and strike) to be steel, stainless steel or brass with a melting point ≥ 800^0 C

Notes:

1. In all instances the location of the handle must be between 800 – 1200mm from the threshold.

10.4.2 Cylinders

These items are suitable in the following applications only:

Leaf options: 1 and 2

Components with the following specification are deemed acceptable.

- Where required for use, the cylinder must be constructed of either brass or steel with a melting point in excess of 800^0C.
- The cylinder must be compatible with the lock/latch.
- Cylinder dimensions may be up to 33mm high x 17mm wide at the maximum dimension and may be of euro profile or oval.
- Single and double cylinders, along with cylinder & turn are permitted.
- Door preparation for single cylinders shall penetrate only half the door thickness.
- Intumescent protection and tightness of fitting:
    - As the lock body is protected with an intumescent material, maximum clearance between leaf and cylinder is 3mm to each edge.
    - 1mm thick MAP or non-pressure forming graphite intumescent around the cylinder is optionally permitted.

10.5 Handles & Escutcheons

These items are suitable in the following applications only:

Leaf options: 1 and 2

The table below details the tested handles that are approved.

Element	Manufacturer & Product Reference
Handles	• Carlisle Brass Calla lever type handle - Rose: Ø51
Escutcheons	• 'Euro' escutcheon ref: AA1 PB

Alternative handles are permitted providing they meet the specification given below:

- Steel, stainless steel, brass, aluminium or bronze are permitted
- Surface fixings or through fixings are permitted. If through fixed there must be no more than 0.5mm clearance between the hole and the fixing.
- The hole through the leaf to facilitate the spindle must be no greater than 20mm diameter.

The design may be either lever on rose or lever on back plate up to the following maximum sizes:

- Lever on rose with a rose diameter up to 54mm
- Lever on back plate with a back plate size up to 243mm high x 56mm wide
- Lever handle length 250mm

The handle must be compatible with the lock/latch, such that the closing action of the doorset is not impeded.

Alternative escutcheons are permitted providing they meet the specification given below:

- Steel, stainless steel, brass, aluminium or bronze are permitted
- Surface fixings or through fixings are permitted. If through fixed there must be no more than 0.5mm clearance between the hole and the fixing.
- The escutcheon may be up to Ø52mm overall and up to 8mm thick.

10.6 Butt Hinges

These items are suitable in the following applications only:

Leaf options: 1 and 2

The table below details the tested butt hinges that are approved.

Element	Manufacturer & Product Reference
Hinges	• Royde & Tucker H107 lift off hinges

Alternatively, components with the following specification are also deemed acceptable.

Element	Specification
Blade height:	90 - 120mm
Blade width (excluding knuckle):	30 - 35mm
Blade thickness	2.5 - 4mm
Fixings:	Minimum of 4 No. 30mm long No. 8 or No.10 steel wood screws per blade
Materials:	Steel or stainless steel

In all instances, the hinges must have the following specification.

Element		Specification	
Hinge Positions	4 hinges are required:	Top	100-200mm from the head to top of hinge
		2nd & 3rd	Equispaced between top and bottom or 2nd hinge 200mm from top hinge and 3rd hinge equally spaced between 2nd and bottom hinge
		Bottom	150 - 300mm from the foot of leaf to bottom of hinge
Intumescent protection:		See section 10.2	

10.7 Doorset Self Closing

Doorset automatic self-closing can be provided by:

- Overhead face fixed closers

Automatic doorset self-closing devices such as concealed closers, transom mounted, and offset pivots used with floor springs are not considered acceptable for use with the Premier Acoustic 46 or Premier Acoustic 48 doorset ranges.

10.7.1 Overhead Face Fixed Closer

These items are suitable in the following applications only:

Leaf options: 1 and 2

The table below details the tested overhead face-fixed closers that are approved.

Element	Manufacturer & Product Reference
Overhead face-fixed closers	• Ingersol Rand Briton 2130

Alternatively, components with the following specification are also deemed acceptable.

- Certifire approved overhead face-fixed closers for 30-minute fire resistance applications on 44mm thick timber door and timber frames

Note:

It must be ensured that the closer is of sufficient strength and power to ensure the door leaf/leaves fully engage into the frame reveal.

10.8 Bolts

10.8.1 Flush Bolts

These items are suitable in the following applications only:

Leaf options: Leaf Type 2 Only - Premier Acoustic 48

Configurations: LSADD & ULSADD

Flush bolts may be incorporated into the top and bottom of the inactive leaf meeting edge – fitted against the upstand of the rebate, providing the following maximum dimensions are not exceeded and the components are fitted opposite the edge fitted with intumescent strips:

- 203mm long x 20mm deep x 20mm wide.

Flush bolts must be steel, and the mortice must be as tight to the mechanism as is compatible with its operation. All edges of the mortice of the keep and body must be protected with intumescent gaskets as specified in section 10.2. Alternatively, the hardware manufacturers tested gaskets may be used.

Flush bolt installation and intumescent protection

10.9 Non-Essential Hardware

Only the following items of non-essential hardware are permitted in addition to the prescribed essential hardware as detailed within section 10.3.

10.9.1 Pull Handles

These items are suitable in the following applications only:

Leaf options: 1 and 2

Configurations: All configurations

A ‘D’-shaped pull handle ref: Worx PZD1150/SSS with a diameter of 20mm was incorporated in test RF12107, bolted through the leaf.

Steel, stainless steel or bronze handles may be surface-fixed or bolted through the door leaf, providing the length is limited to 1200mm between the fixing points. If through fixed, there must be no more than 1mm clearance between the hole and stud.

The above extended scope of application is provided as in the opinion of Warringtonfire they will not significantly affect the fire resistance performance of the doorset being considered. This is on the basis of the items being surface mounted away from the edge of the door leaf, therefore unlikely to influence the junction between door leaf and frame. Furthermore, they are generally of lightweight construction, meaning that they are unlikely to destabilise the doorset and therefore cause adverse deflection under test conditions. Lastly, the surface mounted arrangement of the features means no material is removed in terms of the overall thickness of the door leaf beyond the footprint of the item, therefore burn through of the leaf would not be expected.

10.9.2 Push Plates & Kick Plates

Leaf options: 1 and 2

Configurations: All configurations

The table below details the tested push plates that are approved.

Element	Manufacturer & Product Reference
Push plate	• Steel push plate ref: Worx PPP1350/SS

Alternatively, components with the following specification are also deemed acceptable as in the opinion of Warringtonfire they will not significantly affect the fire resistance performance of the doorset being considered. This is on the basis of the items being surface mounted away from the edge of the door leaf, therefore unlikely to influence the junction between door leaf and frame. Furthermore, they are generally of lightweight construction, meaning that they are unlikely to destabilise the doorset and therefore cause adverse deflection under test conditions. Lastly, the surface mounted arrangement of the features means no material is removed in terms of the overall thickness of the door leaf beyond the footprint of the item, therefore burn through of the leaf would not be expected.

Approved specification:

- Polymeric or metal face-fixed hardware such as push plates and kick plates up to 2mm thick may be surface fitted to the doorset. These items of hardware 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.
- In all cases plates meeting the above specification shall not be applied under glazing beads or door stops.

10.9.3 Door Selectors

These items are suitable in the following applications only:

Leaf options: Leaf Type 2 Only - Premier Acoustic 48

Configurations: All double leaf door configurations

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.

10.9.4 Environmental Seals

These items are suitable in the following applications only:

Leaf options: 1 and 2

Configurations: All configurations

Two different environmental seals have been successfully tested as part of the Premier Acoustic 46 & Premier Acoustic 48 doorset designs. The NOR710 and NOR720 weather seals were successfully tested in report RF12107.

On this basis, PVC & silicon based flame retardant acoustic, weather and dust seals (for example those referenced above) may be fitted to this doorset design without compromising the fire resistance performance, providing their fitting does not interfere with the activation of the intumescent seals or hinder the self-closing function of the leaves.

10.9.5 Threshold drop Seals

Leaf options: 1 and 2

Configurations: All configurations

The below detailed drop seals were successfully tested in BMT/FEP/F14207 Revision B and BMT/FEP/15288 Revision A. Based on the successful testing of the drop down seals they have been considered acceptable for use with the Premier Acoustic 46 & 48 doorset designs. This is based on the fact that both drop down seals have demonstrated a performance over 60 minutes fire resistance performance in a door leaf which is thinner than that used within the Premier Acoustic 46 & 48 doorset design. Therefore, the increased thickness of the Premier Acoustic 46 & 48 doorset design is believed to in fact improve the fire resistance performance observed with the thinner door leaves. The evidence demonstrates the performance of the drop down seals without additional intumescent protection and therefore, it is not required.

Note, if a rebated drop seal is fitted to the doorset then flush bolts, if approved, may not be fitted to the bottom of the doorset.

Product	Manufacturer
ST422	Sealed Tight Solutions Ltd
ST422 GT	Sealed Tight Solutions Ltd

Alternative drop down seals are not permitted.

10.9.6 Knockers, Numerals & Signage

These items are suitable in the following applications only:

Leaf options: 1 and 2

Configurations: All configurations

Components with the following specification are deemed acceptable as in the opinion of Warringtonfire they will not significantly affect the fire resistance performance of the doorset being considered. This is on the basis of the items being surface mounted away from the edge of the door leaf, therefore unlikely to influence the junction between door leaf and frame. Furthermore, they are generally of lightweight construction, meaning that they are unlikely to destabilise the doorset and therefore cause adverse deflection under test conditions. Lastly, the surface mounted arrangement of the features means no material is removed in terms of the overall thickness of the door leaf beyond the footprint of the item, therefore burn through of the leaf would not be expected.

Approved specifications:

Knockers:

- Steel, stainless steel, aluminium or bronze knockers, may be surface fixed or bolted through the door leaf, providing they are fitted no closer than 75mm from the leaf edge, other elements of building hardware or to any glazing and are no greater than 200mm high x 120mm wide. If through fixed, there must be no more than 1mm clearance between the hole and stud. It is only permitted to fit 1No. knocker to any one doorset.

Numerals & Signage:

- Steel, stainless steel, aluminium or bronze numerals or signage may be surface fixed to the door leaf, providing they are fitted no closer than 35mm from the leaf edge, other elements of building hardware or to any glazing. The dimension of each numeral or sign must be no greater than 200mm high x 100mm wide x 4mm thick. Up to 5No. numerals or signs may be applied to a doorset, numerals and signs may be applied adjacent to each other providing the 35mm from other elements as detailed above is maintained.

10.9.7 Security Chains

Components with the following specification are also deemed acceptable as in the opinion of Warringtonfire they will not significantly affect the fire resistance performance of the doorset being considered. This is on the basis of the items being surface mounted with fixings positioned away from the edge of the door leaf and therefore unlikely to influence the junction between door leaf and frame. Furthermore, they are generally of lightweight construction, meaning that they are unlikely to destabilise the doorset and cause adverse deflection under test conditions. Lastly, the surface mounted arrangement of the features means no material is removed in terms of the overall thickness of the door leaf beyond the footprint of the item, therefore burn through of the leaf would not be expected.

Approved specification:

- Metallic security chains may be surface fixed to the face of the door leaf and frame, providing they are fitted such that they do not interfere with the junction between the leaf edge and the frame, and no material is removed in order to facilitate the fitting of the security chain. Screws to affix the security chain shall be no greater than 25mm long.

10.9.8 Fire Door Identification Plates

Plastic or metal fire door identification plates may be glued or screwed to the face of the door leaves providing they are fitted no closer than 35mm from the leaf edge, other elements of building hardware or to any glazing. The dimension of any applied plate must be no greater than 100mm high x 100mm wide x 3mm thick.

These may be required to identify the following:

a) To be kept closed when not in use (Fire Door Keep Shut)

b) To be kept locked shut when not in use (Fire Door Keep Locked Shut)

c) Held open by an automatic release mechanism or free swing device (Automatic Fire Door Keep Clear).

When applied to a door leaf the plate shall be surface mounted to the face without removing material from the leaf.

10.9.9 Panic Hardware

These items are suitable in the following applications only:

Leaf options: 1 and 2

Frame options: 1 and 2

Configurations: All configurations

Certifire approved panic hardware may be fitted, providing the installation does not require the removal of any timber from the leaf, stop or frame reveal and it does not interfere with the self-closing action of the door leaf.

The fitting of panic hardware is not considered to change the latching arrangement of the doorset and therefore the permitted leaf size shall be established using unlatched doorset configurations as detailed within section 4.5.

11 Installation

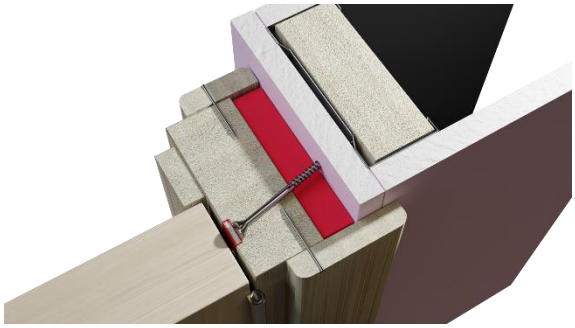
11.1 General

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

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

11.2 Door Frame Installation

The following figures indicate the acceptable door frame installations. Please note that the firestopping element is provided in the below 3D models as a generic coloured seal. For further clarification of the approved firestopping systems see section 11.3.

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 firestopping 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 11.5. 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.

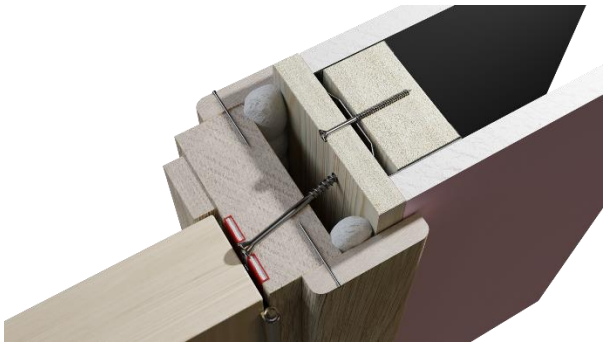
Note:

1. 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.
2. When fitted within a masonry construction as detailed in section 11.5 the entire thickness of the leaf shall be within the thickness of the masonry element.

11.3 Firestopping

The firestopping 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 the same depth as the overall wall thickness.

Gap (mm)	Requirement	3D model depiction
0 – 2	In practice, unlikely to occur, but if present, must be sealed with architraves, as below, fitted over a bead of acrylic intumescent sealant, tested as below.	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 18mm 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 18mm 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	A timber based or non-combustible subframe up to 50mm thick can be inserted and fixed to the wall bedded on intumescent mastic, the gap between door frame and subframe filled as follows: 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. Timber architraves of a minimum 18mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	 

11.4 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.

11.5 Wall Types, Structural Opening & Fixity

11.5.1 Wall Types

The following wall types are approved for this doorset design:

a) Plasterboard clad timber stud partitions
b) Plasterboard clad steel stud partitions including timber lining
c) Masonry constructions

Wall types a & b above must have supporting fire resistance test evidence which demonstrates that it is capable of staying in place and intact for a minimum of 30 minutes supporting a doorset design.

Wall type c above must be determined to be able to provide at least the same level of fire resistance of the doorset design.

All wall types detailed above shall provide a suitable medium to permit adequate fixity, it is anticipated that for:

- Plasterboard clad timber stud partitions, the timber stud will be of sufficient dimensions such that the fixing for the door frame penetrates into solid timber.
- Plasterboard clad steel stud partitions will include a timber lining of sufficient dimensions such that the fixing for the door frame penetrates into solid timber.
- Masonry constructions are anticipated to be constructed of a solid block or brickwork to receive the fixings.

Note: Other tested solutions to achieve adequate fixity may be detailed within the above noted supporting fire resistance test evidence.

11.5.2 Structural Opening

For all wall types the structural opening shall 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.

11.5.3 Fixity

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.

For single leaf doorset without overpanels, 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.

11.6 Post Production (Onsite) Leaf Size Adjustment

The Premier Acoustic 46 & Premier Acoustic 48 range of doorsets may be altered as follows:

Leaf Size Adjustment Specification	
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

11.7 Door Gaps

Door gaps and alignment tolerances must fall within the following range:

Door Gap & Alignment Tolerance Specification	
Location	Dimension
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 / Bottom edge of the leaf This is the maximum tolerance for fire resistance only.	8mm between bottom of leaf and top of floor covering.

12 Insulation Performance

Insulation performance may be claimed for a doorset to this design meeting the following:

Type	Details
Fully insulating	All doorset configurations

13 Conclusion

If Premier Acoustic 46 & Premier Acoustic 48 range of doorsets, constructed in accordance with the specification documented in this field of application, were to be tested in accordance with BS 476: Part 22: 1987, it is our opinion that they would provide a minimum of 30 minutes integrity and insulation (subject to section 12).

14 Declaration by the Applicant

1) We the undersigned confirm that we have read and comply with obligations placed on us by the Passive Fire Protection Forum (PFPF) Guide to undertaking technical assessments and engineering evaluations based on fire test evidence 2021 Industry Standard Procedure
2) We confirm that any changes to a component or element of structure which are the subject of this assessment have not to our knowledge been tested to the standard against which this assessment has been made.
3) We agree to withdraw this assessment from circulation should the component or element of structure, or any of its component parts be the subject of a failed fire resistance test to the standard against which this assessment is being made.
4) We understand that this assessment is based on test evidence and will be withdrawn should evidence become available that causes the conclusion to be questioned. In that case, we accept that new test evidence may be required.
5) We are not aware of any information that could affect the conclusions of this assessment. If we subsequently become aware of any such information, we agree to ask the assessing authority to withdraw the assessment.

(In accordance with the principles of FTSG Resolution No. 82: 2001)

Signed: DocuSigned by: Jamie Cunningham 03FFF397C2BE4E4...

Name: Jamie Cunningham

Position: Compliance Manager

Date: 29-May-2024

For and on behalf of: **Enfield Speciality Doors**

15 Limitations

The following limitations apply to this assessment:

1) This field of application addresses itself solely to the elements and subjects discussed and do not cover any other criteria or modifications. All other details not specifically referred to should remain as tested or assessed.
2) This field of application report is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available to Warringtonfire, the assessment will be unconditionally withdrawn, and the applicant will be notified in writing. Similarly, the assessment evaluation is invalidated if the assessed construction is subsequently tested since actual test data is deemed to take precedence.
3) This field of application has been carried out in accordance with Fire Test Study Group Resolution No. 82: 2001.
4) Opinions and interpretation expressed herein are outside the scope of UKAS accreditation.
5) This field of application relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions against the ISO 834 time/temperature curve that is stipulated in the standard this assessment concludes to. It does not purport to be a complete specification ensuring fitness for purpose and long-term serviceability. It is the responsibility of the client to ensure that the element conforms to recognised good practice in all other respects and that, with the incorporation of the guidance given in this field of application, the element is suitable for its intended purpose.
6) This field of application report represents our opinion as to the performance likely to be demonstrated on a test in accordance with BS 476: Part 22: 1987, on the basis of the test evidence referred to in this report. We express no opinion as to whether that evidence, and/or this field of application would be regarded by any Building Control authorities or any other third parties as sufficient for that or any other purpose.
7) This report may only be reproduced in full. Extracts or abridgements of reports shall not be published without permission of Warringtonfire. All work and services carried out by Warringtonfire Testing and Certification Limited are subject to, and conducted in accordance with, the Standard Terms and Conditions of Warringtonfire Testing and Certification Limited, which are available at https://www.element.com/terms/terms-and-conditions or upon request.
8) 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 Validity

1) The assessment is initially valid for five years after which time it is recommended to be submitted to Warringtonfire for re-appraisal.
2) This assessment report is not valid unless it incorporates the declaration given in Section 14 duly signed by the applicant.

Position:	**Assessor**	**Reviewer**
Signature:	DocuSigned by: 43935C1A192A419...	DocuSigned by: 3A9C822F3E7F487...
Name:	**N Whitelock***	**C Newton***
Title:	Technical Manager, Doors & Smoke Leakage	Product Assessor

* For and on behalf of Warringtonfire

Appendix A: Revisions

Revision	Warringtonfire Reference	Date	Description
A	WF403276	24/08/2018	Revalidation and technical review. Removal of Double acting configuration, addition of note 6 in section 23.
B	WF538744	22/05/2024	Revalidation and technical review, update to Warringtonfire format, removal of smoke control references, addition of test reports BMT/FEP/F14207 Revision B and BMT/FEP/F15288 Revision A to support the inclusion of drop seals.