
Title

Field of Application for:
The Panel Technologies Limited 57
Range of steel doorset designs

For up to 90 minutes (with Leaf 2) or
120 minutes (with Leaf 1) Fire
Resistance (integrity only) if they were
to be tested in accordance with EN
1634-1:2014+A1:2018

Assessment Report No.:

WF501186 Revision B

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Prepared for:

Panel Technologies Limited

49-61 Jordell Street

Nuneaton

Warwickshire

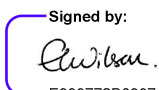
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United Kingdom

The issue/revision number stated on the front of this report supersedes all previous issues/revisions, if applicable. Previous issues/revisions of the report, if applicable, cannot be used once an updated report has been issued/revised under a new revision.

Signatories and Revision History

Issue No.	Date	FM No.	Report scope and Signatures
First issue	29.03.2021	501186	First issue of report
A	28.06.2024	543540	Revision and Revalidation for 5 years. Including additional test evidence to support Leaf 2 opening away from the risk direction, changes to the supporting construction options, assessed lock variations, beaded frame, frame variations.

Issue No.	Date	FM No.	Report scope and Signatures
B	01.08 2025	552647	Include Shaftwall design (tested in WF547575 and WF548600) Revision and Revalidation for 5 years.
Assessor		Reviewer	
Name: Emma Wilson*		Name: Liam Dunk*	
Title: Senior Product Assessor		Title: Technical Manager - Firestopping	
Signature:  Signed by: E399772B03874B1...		Signature:  Signed by: E92E9BDA6AE6488...	

*For and on behalf of Warringtonfire

Executive summary

This field of application report presents an assessment of the fire resistance performance of the specified proprietary Panel Technologies Limited 57 Range of steel doorset designs, as fire tested and described in the reports detailed within Appendix A when modified as detailed herein.

The proposed modifications include leaf and frame design options, doorset configurations and sizes, various hardware and installation parameters as discussed in the relevant sections below.

This assessment report is subject to the requirements and limitations described in Sections 2 and 13.

The findings of this report are that if the Panel Technologies Limited 57 Range of steel doorset designs constructed in accordance with the specification documented in this field of application were to be tested in accordance with BS EN 1634: 2014 +A1: 2018, it is expected that they would be capable of providing a minimum of 90 minutes (with Leaf 2) or 120 minutes (with Leaf 1) integrity fire resistance performance.

This report represents our opinion as to the performance likely to be demonstrated on a test in accordance with the test standard specified above, on the basis of the test evidence referred to in this report. We express no opinion as to whether that evidence, and/or this report would be regarded by any Building Control authorities or any other third parties as sufficient for that or any other purpose.

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1. Introduction

This field of application report presents an assessment of the fire resistance performance of the specified proprietary Panel Technologies Limited 57 Range of steel doorset designs, as fire tested and described in the reports detailed within Appendix A when modified as detailed herein.

Analysis of specific construction details that require assessment are given within this report against the relevant element of construction, as appropriate.

2. Assessment framework

An assessment is an opinion of the likely performance of a component or element of structure if it was subjected to a standard fire test.

This assessment report has been carried out in accordance with the Passive Fire Protection Forum (PFPF) 'Guide to Undertaking Technical Assessments of the Fire Performance of Construction Products Based on Fire Test Evidence - 2021' and has been written in accordance with the general principles outlined in BS EN 15725: 2023; *Extended application reports on the fire performance of construction products and building elements, as applicable.*

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

The scope presented in this report relates to the behaviour of the element 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 report 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 - 2021'. 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.

This report uses established empirical methods of extrapolation and experience of fire testing similar elements, 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 the test standard specified.

This report 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 stated design and is summarised in Appendix A.

3. General requirements and assumptions

The specified proprietary Panel Technologies Limited 57 Range of steel doorset designs shall be constructed in a similar manner from materials and components of the same manufacturer and equivalent quality as those tested or otherwise assessed by Warringtonfire.

The following assumptions have been made in the preparation of this report:

- 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.
- All dimensions detailed herein may be varied by $\pm 2\%$ except where minimum, maximum or a range of dimensions are given.
- Where steel is referred to within this document it is assumed that the steel element is made from a continuous solid piece, unless specifically detailed otherwise.

It is assumed that the end user will have an understanding of the tested specification as defined in the relevant test report(s) summarised in Appendix A.

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 performance. Any other performance requirement for the door designs contained herein is to be subject to a separate analysis.

If a design variation or extension to scope is not explicitly detailed within the assessment it should not be assumed to be acceptable by omission.

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 Appendix A.

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

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

Section 5 gives the description of the leaf in terms of composition and construction etc.

Doorsets constructed using different leaves can include various design features as summarised below.

4.3.1 Leaf 1

The door designs can include:

1. Empty core only
2. Specific hardware options
3. Decorative finishes
4. Alternative galvanisation processes

4.3.2 Leaf 2

The door designs can include:

1. Plasterboard core only
2. Specific hardware options
3. Decorative finishes
4. Alternative galvanisation processes

4.4 Door Frames

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

Section 6 gives the description of the frame including composition and dimensions.

4.4.1 Frame 1

The construction of the door frames is mild steel.

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 Appendix A and takes into account:

- Achieving a Category B overrun as stated in BS EN 1634-1: 2014+A1: 2018
- The characteristics exhibited during test
- The doorset configuration tested

The evaluation of the permitted configuration 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.

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

For steel doorsets dimension modifications can result in different performance, including both increases and reductions in leaf height and width dimensions from those tested. This has been taken into consideration and therefore, steel doorsets of the assessed design, with dimensions as shown in section 4.5.4, are covered and may be manufactured.

4.5.2 Configuration

The table below shows the permitted configuration for the doorset design, with the abbreviation and full description of the configuration.

The following sections detail the assessed maximum leaf size envelopes for each permitted configuration based on the door frame tested.

Depiction	Abbreviation	Description
	LSASD	3 point locked Single Acting Single Doorset

4.5.3 Orientation

Based on the test evidence, WF422106 Specimen A and B, Leaf 1 and 2 designs respectively opening towards the furnace test conditions and WF514070 Specimen A, Leaf 2 design opening away from the furnace test conditions, the following orientations are permitted herein:

- Leaf 1 doorset designs must only be fitted with the leaf opening towards the fire conditions.
- Leaf 2 doorset designs may be fitted with the leaf either opening away from or towards the fire conditions.

Consideration has been made of guidance within Annex C of BS EN 1634-1:2014 +A1:2018.

4.5.4 Single leaf sizes

The following sections detail the permitted leaf sizes.

A table of essential hardware is given in section 8.3 for each doorset configuration, as a minimum requirement for the doorset described.

4.5.4.1 Leaf 1 – Up to 120 Minutes Integrity Performance

The permitted leaf sizes are based on the demonstrated performance in test reference WF422106 Doorset A with tested leaf size of 1897mm (height) x 649mm (width) opening towards the furnace test conditions. This test achieved a Category B overrun at 120 minutes integrity performance for gap gauge and continuous flaming criteria.

It is assessed, that on the basis of the methodology adopted within BS EN 15269-2:2024 (Annex A clause A.2.1 to A.2.4), leaf size reduction and increase from that tested are permitted as follows:

Unlimited leaf size reduction (height and width) has been assessed as permitted (using the direct field principles of Annex B, Table B.1 of BS EN 1634-1: 2014+A1: 2018).

Based on the tested specimen achieving Category B overrun with high distortion, leaf size increase is assessed as permitted (using the direct field principles of Annex B, Table B.1 of BS EN 1634-1: 2014+A1: 2018) to apply up to 15% height, 15% width and up to 20% area increase.

For single leaf doorsets required to provide up to 120 minutes integrity performance, leaf size may be varied within the following range as specified in the table below, for square or rectangular leaves (Leaf 1).

Leaf Dimensions	Height (mm) (length of hinged and lock edge)	Width (mm) (length of other edges)
Minimum	No Limit ³	No Limit ³
Maximum	2182	746

Note:

- 1) In all cases the maximum permitted area of the leaf is **1.47m²**
- 2) It is required that for rectangular doorsets that one of the longer leaf edges is fitted with the central lock case. The longer leaf edge must be vertical.
- 3) The fitting of hardware with required positioning is stated in section 8 of this report and complying with leaf and frame designs will result in a practical minimum leaf dimension.
- 4) A high leaf distortion has been assumed in this case due to an incomplete distortion reading given in the referenced test report.

4.5.4.2 Leaf 2 - Up to 90 Minutes Integrity Performance

The permitted leaf sizes are based on the demonstrated performance in test reference WF514070/R Doorset A with a tested leaf size of 1900mm (height) x 650mm (width) opening away from the furnace test conditions and WF422106 Doorset B with tested leaf size of 1897mm (height) x 649mm (width) opening towards the furnace test conditions. Both tests achieved a Category B overrun at 90 minutes integrity performance for gap gauge and continuous flaming criteria.

It is assessed, that on the basis of the methodology adopted within BS EN 15269-2:2024 (Annex A clause A.2.1 to A.2.4), leaf size reduction and increase from that tested are permitted as follows:

Unlimited leaf size reduction (height and width) has been assessed as permitted (using the direct field principles of Annex B, Table B.1 of BS EN 1634-1: 2014+A1: 2018).

Based on the tested specimen achieving Category B overrun leaf size increase is assessed as permitted (using the direct field principles of Annex B, Table B.1 of BS EN 1634-1: 2014+A1: 2018) to apply up to 15% height, 15% width and up to 20% area increase.

For single leaf doorsets required to provide up to 90 minutes integrity performance, leaf size may be varied within the following range as specified in the table below, for square or rectangular leaves (Leaf 2).

Leaf Dimensions	Height (mm)	Width (mm)
	(length of hinged and lock edge)	(length of other edges)
Minimum ⁵	No Limit ³	No Limit ³
Maximum ⁴	2185	747

Note:

- 1) In all cases the maximum permitted area of the leaf is **1.48m²**
- 2) It is required for rectangular doorsets that one of the longer leaf edges is fitted with the central lock case. The longer leaf edge must be vertical.
- 3) The fitting of hardware with required positioning stated in section 8 of this report and complying with leaf and frame designs will result in a practical minimum leaf dimension.
- 4) Based on test reference WF514070 Doorset A with a high leaf distortion.
- 5) Based on test reference WF422106 Doorset B with a high leaf distortion assumed due to an incomplete distortion reading given in the referenced test report.

5. General Description of Construction

5.1 Leaf Core Construction

The door leaf designs detailed below are approved by this assessment.

Fabrication of the leaf must be as tested in WF422106 Specimen A for Leaf 1 designs and WF422106 Specimen B and WF514070 Specimen A for Leaf 2 designs. The tables in the following sections summarise the main components of the tested leaf design. For full construction details, reference should be made to the full test report which is summarised in Appendix A.

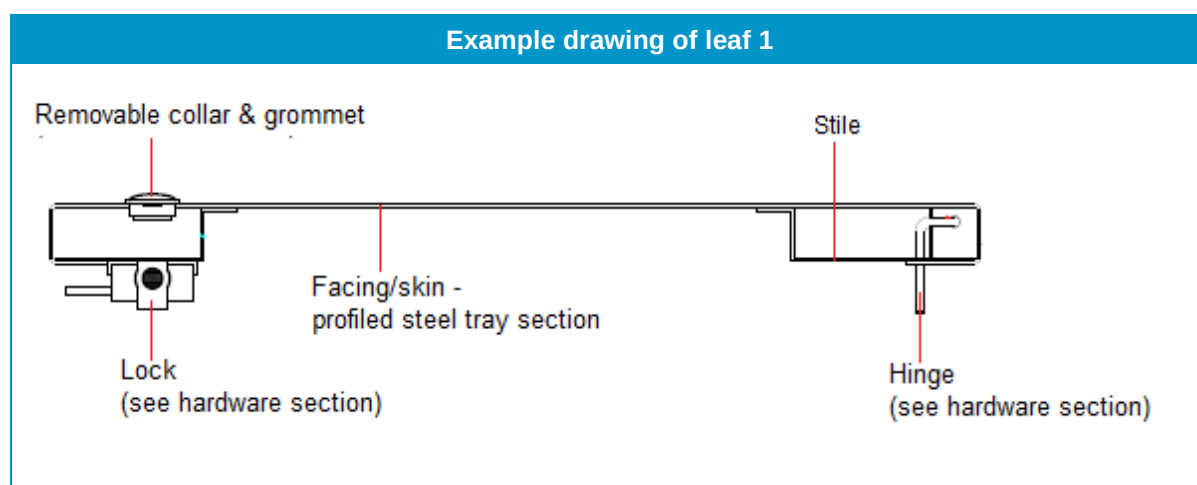
See section 5.2 for assessed variations to the tested leaf constructions.

5.1.1 Leaf 1 – 57 Range empty core - For up to 120 minutes integrity

The basic tested construction of this door leaf design is as tested in test reference WF422106 Specimen A, and comprises the following:

Element	Material	Dimensions (mm)
Stiles	Profiled steel section	0.9 thick x 21.5 high x 76 wide
Stile to 'tray' Fixing	Bright zinc plated round flat head serrated open end rivet nuts	M5
Rails	None	-
Facing/Skin	Zintec coated profiled steel tray	0.9 thick x 24 deep. (see section 5.2 for assessed maximum & minimum thicknesses)
Core	None	-

The figure below shows an example detail of Leaf 1. For full construction details, reference should be made to the full test report which is summarised in Appendix A.

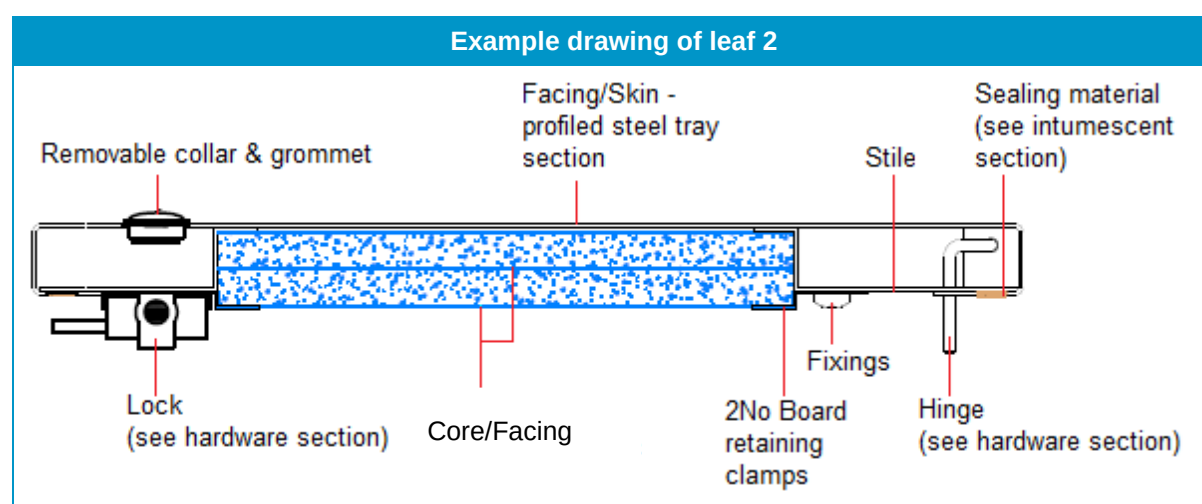


5.1.2 Leaf 2 – 57 Range with core – For up to 90 minutes integrity

The basic tested construction of this door leaf design is as tested in test reference WF422106 Specimen B and WF514070 Specimen A, and comprises the following:

Element	Product or Material	Dimensions (mm)
Stiles	Profiled steel section	0.9 thick x 21.5-22 high x 76-78 wide
Rails	None	
Facing/Skin	Zintec coated steel tray profile	0.9 thick x 24 deep. (see section 5.2 for assessed maximum & minimum thicknesses)
Core/Facing	2No layers of Siniat GTECH DB Board plasterboard.	12.5 thick each layer positioned between the stiles.
Board Retaining Clamps	Profiled steel section	0.9 thick x 6 high overall x 46 wide overall At full height of the stile, with the 28mm wide part to the stile
Stile to 'tray' Fixings	Bright zinc plated round flat head serrated open end rivet nuts	M5

The figure below shows an example detail of Leaf 2. For full construction details, reference should be made to the full test report which is summarised in Appendix A.



5.2 Variations to tested leaf construction

Variations to size or materials of leaf construction are not permitted unless specifically detailed in the following sections.

5.2.1 Leaf thickness

Based on the test evidence it is assessed that increase in the tested leaf thickness is not permitted.

It is the opinion of Warringtonfire that a reduction by up to 10% in the tested leaf thickness for leaf 1 only would not be expected to negatively influence the performance of the doorset if tested and is therefore permitted. This is based upon the fire resistance performance and overrun observed in the test evidence cited in Appendix A, as well as the requirements for hardware resulting in restraint between the leaf edge and frame at multiple positions around the leaf perimeter.

The permitted leaf thickness is therefore, as follows:

5.2.1.1 Leaf 1 Thickness

Maximum leaf tray thickness (without finishes) = **24mm** (as tested)

Minimum leaf tray thickness (without finishes) = **21.6mm**

5.2.1.2 Leaf 2 Thickness

This leaf incorporates 2No layers of Siniat GTECH DB plasterboard which provides insulating characteristics to parts of the leaf and is a key part of the design, for this reason variations in leaf thickness are not permitted.

Leaf tray thickness (without finishes) = **24mm** (as tested)

5.2.2 Leaf Facing/Skin

5.2.2.1 Leaf facing/skin thickness

Whilst the testing conducted on this design evaluated nominally **0.9mm** thick Zintec coated mild steel facing/skin, it is considered (in accordance with section A.3.21 of BS EN 15269-2: 2024) that a maximum 10% increase in the thickness of the steel sheet is permitted.

It is the opinion of Warringtonfire that the thickness may not be reduced any further than the tested thickness.

The permitted thickness of leaf facing/skin is therefore, as follows:

Maximum facing/skin thickness (without finishes) = **0.99mm**.

Minimum facing/skin thickness (without finishes) = **0.9mm**. (as tested)

5.2.2.2 Alternative Leaf Facing/Skin Material

Alternative leaf facing/skin material is not permitted. Leaf facing/skin material must remain as tested.

5.2.3 Leaf Core Material

Core material must remain as tested.

Leaf 1 was tested without a core material present and therefore must be installed with no core material (empty) in practice.

Leaf 2 was tested with 2No layers of 12.5mm thick Siniat GTECH DB plasterboard as a core material which must be used in practice.

5.2.4 Decorative and Protective Finishes

The following additional finishes for the leaf 'tray' are permitted for these doorset designs since they would either degrade rapidly or remain inert under test conditions without significant effect to the fire resistance performance of the doorset.

Decorative & Protective Facing Specification	
Facing Material	Maximum Permitted Thickness (mm)
Paint ¹	0.2
Vitreous enamel	1.0
Stove Enamelling	0.1
Epoxy Powder Coating	0.4

Notes:

1. Intumescent paints are not permitted.

5.2.5 Galvanisation Process

It is the opinion of Warringtonfire, that the effect the use of a particular galvanisation process will have on the doorset design tested, will be insignificant. Therefore, any of the galvanisation processes listed below are acceptable for the leaf:

- Hot dip
- Electro-galvanisation
- Aluzinc.

6. Door Frame Construction

6.1 Details for Frame 1

The frame design detailed below is approved by this assessment.

Fabrication of the frame must be as tested in WF422106 Specimen A and B and WF514070 Specimen A. The following table summarises the main components of the tested frame design. For full construction details, reference should be made to the full test reports which are summarised in Appendix A.

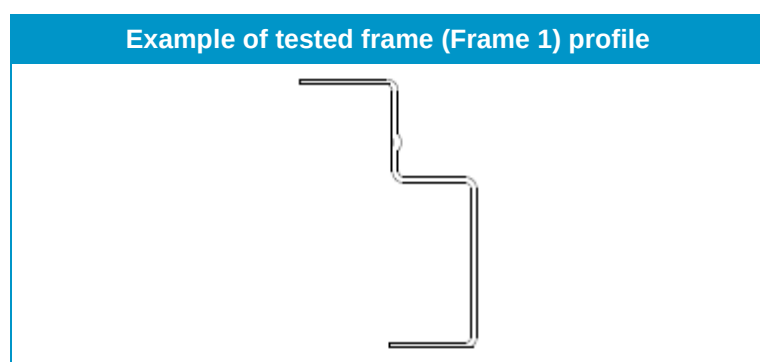
The tested construction is detailed in section 6.1. See section 6.2 for assessed variations to the tested frame construction.

Frame 1 is for up to 90 minutes fire resistance performance when used with Leaf 2 and for up to 120 minutes fire resistance performance when used with Leaf 1.

This is a four-sided single rebate frame construction based on the referenced test evidence (WF422106 Specimens A and B).

Element	Material or Product	Dimensions(mm)
Head, Jambs & Threshold	Zintec coated profiled steel section, featuring an integral stop and architrave.	77 deep x 44 wide x 1.5 thick overall.
Stop	Integral	19 deep x 44 wide
Architrave	Integral	25 wide x 1.5 thick lip section oversailing the supporting construction (see below).

The figure below shows example detail of the tested frame profile.

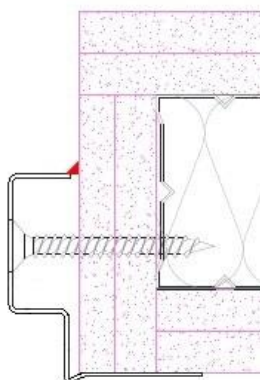


6.2 Variations to tested frame

The frame must remain as tested in WF422106 Specimens A and B except for the variations which follow.

6.2.1 Beaded Frame

Test reference WF527424 Specimen B incorporated a frame of the same profile as illustrated in section 6.1 with minor variations to the dimensions of the integral architrave (specifically 50mm wide instead of 25mm wide) and including a 2mm high 'plaster stop bead' as shown below, no frame infill was included behind the stop section. The steel thickness of the tested beaded frame was also 1.2mm.



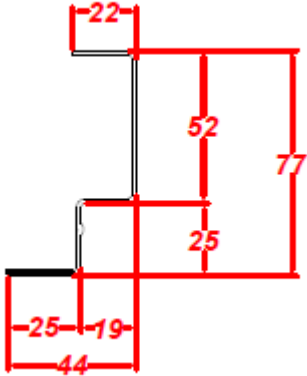
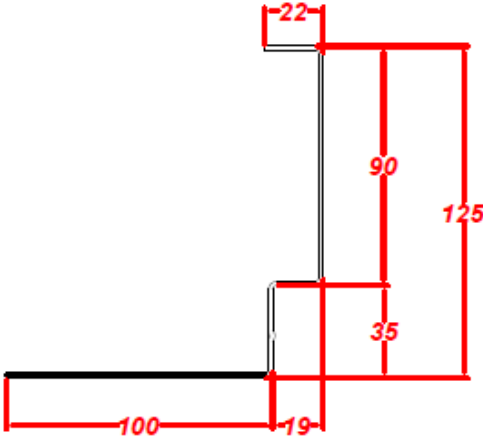
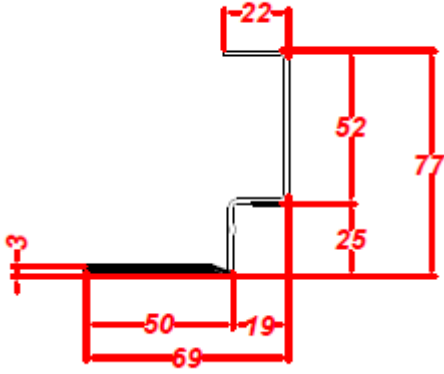
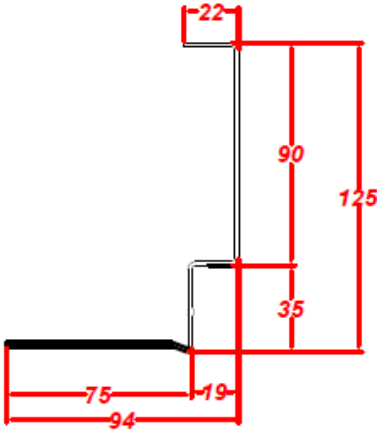
On the basis of the integrity performances obtained and in the similarity of frame profiles, it is the opinion of Warringtonfire that the inclusion of the tested plaster stop bead (as tested in WF527424 Specimen B) may therefore be positively appraised for use in combination with Leaf 1 and 2 doorset designs.

The permitted tested and assessed beaded frame dimensions are given in section 6.2.2.

6.2.2 Overall Cross Section Dimensions

It is assessed that, on the basis of the methodology adopted within BS EN 15269-2: 2024 (Annex A clause B.2.1 to B.2.2), frame cross section dimensions may be increased but not decreased as detailed below.

Increases in frame dimensions are permitted by increasing the integral architrave, increasing the reveal width and/or stop width.

Tested minimum frame dimensions (mm)	Assessed maximum frame dimensions (mm)
 Picture Frame (section 6.1)	 Picture frame
 Beaded frame (section 6.2.1)	 Beaded frame

6.2.3 Frame Infill Material

Test references WF422106 Specimens A and B, did not include infill to the frame and test reference WF514070 Specimen A included Rockwool RW3 semi rigid slabs, cut to 20mm to fit within the integral stop.

It is assessed, that on the basis of the methodology adopted within BS EN 15269-2: 2024 (Annex A clause B.2.6), the following tested or assessed frame infill materials are optionally permitted for Leaf 1 and Leaf 2 doorset designs:

Element	Product Information	Size (mm) and positioning
Frame Infill	Rockwool RW3 semi rigid slabs (density 60 kg/m ³)	Cut to 20mm thick to fill the integral stop
	Mineral Wool (glass, ceramic or stone wool) of Euroclass A1 or A2-s1, d0 and minimum density 60 kg/m ³	
	Gypsum Board of Euroclass A1 or A2-s1, d0	
	Gypsum Plaster	Filling the integral stop
	Mortar	
	Concrete	

All other materials not stated in the table above including timber and PU foam infills are not permitted.

6.2.4 Frame Material Thickness

The testing conducted on this design evaluated a nominally **1.5mm** thick Zintec coated mild steel frame, it is considered (clause 13.2.2.2 of BS EN 1634-1: 2014+A1: 2018) that a maximum 25% increase in the thickness of the steel sheet is permitted.

It is the opinion of Warringtonfire that the thickness may not be reduced any further than the tested thickness.

The permitted thickness of the frame material (picture frame) is therefore, as follows:

Maximum frame material thickness (without finishes) = **1.8mm**.

Minimum frame material thickness (without finishes) = **1.5mm** (as tested)

The permitted thickness of the frame material (beaded frame) is therefore, as follows:

Maximum frame material thickness (without finishes) = **1.5mm**.

Minimum frame material thickness (without finishes) = **1.2mm** (as tested)

6.2.5 Galvanisation Process

It is the opinion of Warringtonfire, that the effect the use of a particular galvanisation process will have on the design tested, will be insignificant. Therefore, any of the galvanisation processes listed below are acceptable for the frame:

- Hot dip
- Electro-galvanisation
- Aluzinc.

6.3 Frame Joint

The head to jambs and threshold to jambs jointing must be a welded type construction as tested in WF422106 Specimens A and B, WF514070 Specimen A and WF527424 Specimen B. Joints must be tight and secure with no gaps. For further details reference should be made to the full test reports.

7. Perimeter Intumescent & Sealing Materials

Intumescent and/or sealing materials tested with Leaf 2 (WF422106 Specimen B and WF514070 Specimen A) and Leaf 1 with a beaded frame (WF527424 Specimen B) were as follows:

Application	Product & Manufacturer	Location
Frame reveal		None permitted
Leaf edges	Norseal Ltd 10mm x 4.5mm FS1000 Foam buffer seal	Fitted around the leaf face perimeter to contact with the stop on all edges

Leaf 1 was also tested without intumescent and/or sealing materials (WF422106 Specimen A).

On the basis of the above testing, it is assessed that the above detailed leaf perimeter intumescent & sealing materials are required as follows:

- Leaf 1 designs – may be optionally fitted
- Leaf 2 designs – must be fitted as tested

Note:

Seals must run the full length of the required location, with tightly formed abutting corner joints. Apart from at corners, joints are not permitted.

8. Hardware

8.1 General

The following sections detail the permitted scope and constraints for fitting hardware to the doorset design and consider what tested or assessed items of essential hardware can be used on the doorset range.

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

Hardware items should generally be fitted in accordance with the manufacturer's instructions. However, the parameters and requirements of this assessment always take precedence.

8.2 Intumescent to Hardware

Intumescent materials were not used to protect hardware during the tests and are not required or permitted.

8.3 Essential Hardware

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

Configuration	Hardware
LSASD	• 3-point Lock • Pivot hinge • Restraining bolts • Fire Door Keep Locked Shut sign

Note:

1. Closer – the doorsets do not require self-closing devices since they must be kept locked shut. A metal 'Fire Door Keep Locked Shut' sign must therefore be fixed to the leaf face.
2. Lock – all leaves must be fitted with a 3 point locking system including a top and bottom shoot bolt as tested or assessed, which must be engaged when the doorset is in the closed position to maintain its fire resistance performance.
3. Only the hardware detailed herein is approved for use with this steel doorset design.

8.4 Locks – 3 point Engagement

The permitted options for a latch/lock are as detailed below in the following sections. No other options for a latch/lock are permitted.

The lock must be engaged when the doorset is in the closed position.

Only 1No. lock or latch shall be applied within any individual doorset.

When fitted the lock or latch body shall be installed within the closing edge of the leaf. For rectangular leaves this must be the vertical, longer edge of the leaf, 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.

8.4.1 3-point locking system (3WL)

The table below details the tested lock that is approved as tested in WF422106 Specimens A and B, WF527424 Specimen B and WF514070/R Specimen A.

Element	Product Information
Multi point Latch/Lock	3WL lock - 3-point locking system (case size 110mm x 34mm x 16mm), screwed in position using M5 x 25mm Hexagon Head Bolts with the central lock central to the closing edge and the lock engaging over the frame profile. 8mm diameter top and bottom rods extend through a minimum of 1No. (per rod) lock bar retaining bracket and 1No. (per rod) locking bar guide, which are welded in position.

Note:

1. The central lock case must be fitted at mid-height ± 50 mm of the leaf.
2. The central lock and top and bottom rods must all be engaged when the doorset is in the closed position.
3. An insert comprising a moulded polymer hinged flip top bung and collar as tested in WF527424/R Specimen B and WF514070/R Specimen A is optionally permitted for use with the 3WL lock for this doorset design.

The below illustration, supplied by Panel Technologies Limited details the components of the 3WL lock:



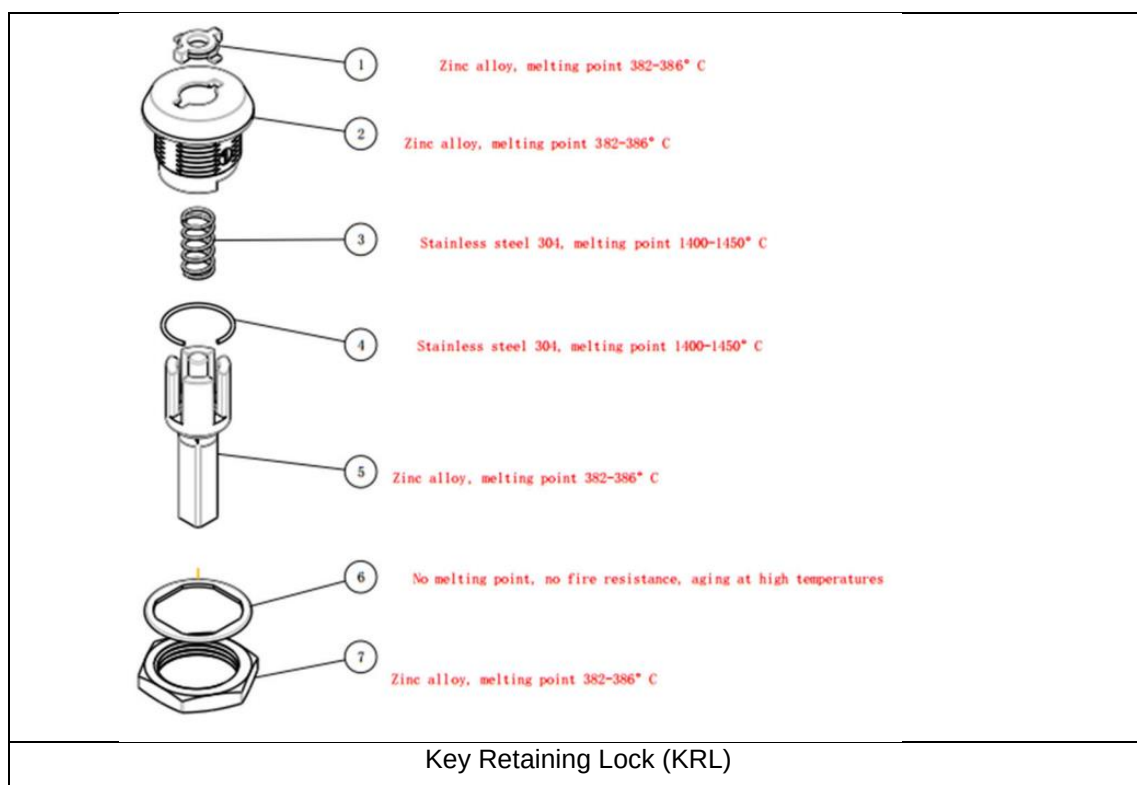
8.4.2 3WL inserts

The 3WL lock tested included a zinc “shaft keyhole” (item 6 in the illustration in section 8.4.1) with a polymer bung insert to the hole in the leaf as detailed in section 8.4.1.

The following alternate lock insert for use with the 3WL lock has been assessed.

8.4.2.1 Key Retaining Lock (KRL) insert with 3WL Lock

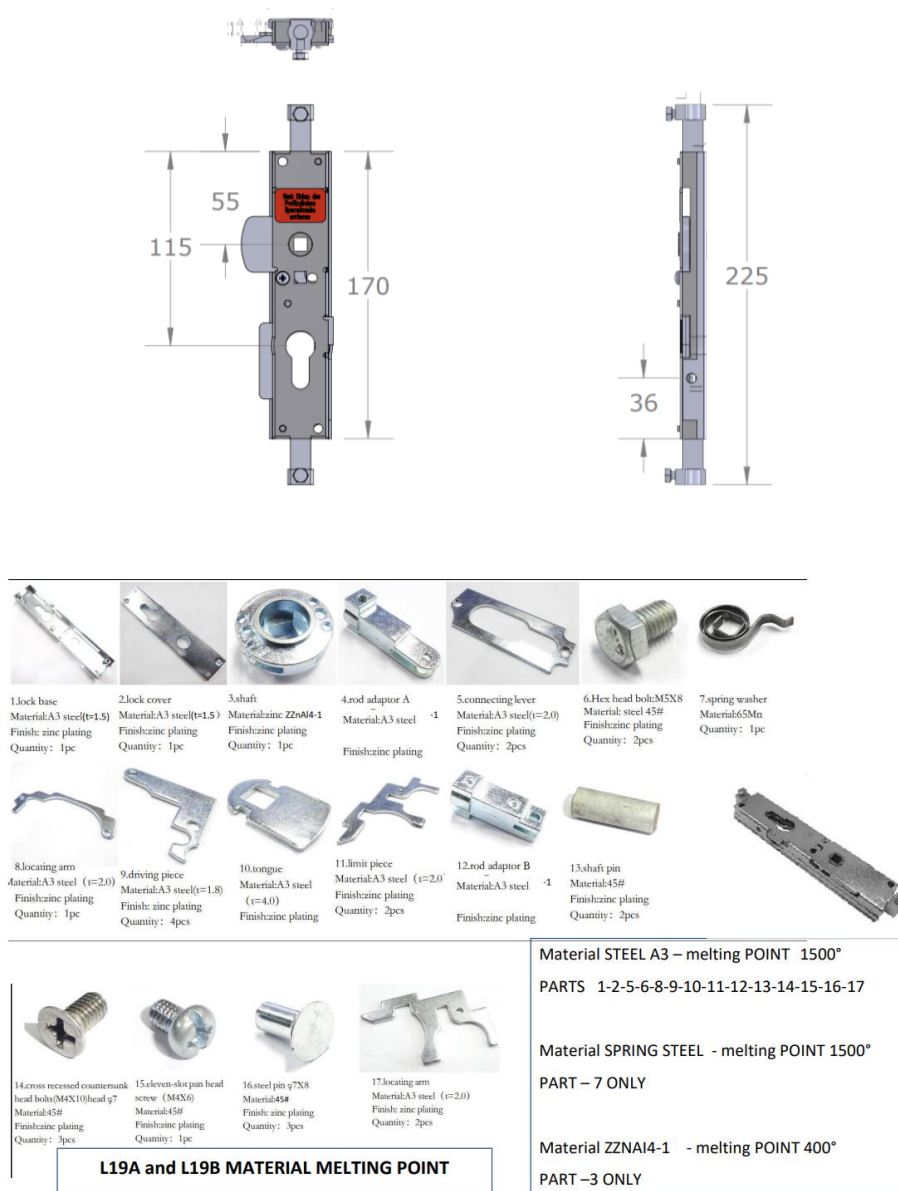
The below illustration, supplied by Panel Technologies Limited, details the components of the KRL lock insert.



The originally tested ‘shaft keyhole’ has been declared to be constructed from Zinc die cast with a melting point of 400°C. The Key Retaining Lock has been declared to be constructed from Zinc alloy with a melting point of 382-386°C. As the melting point of the two locks is similar and the alternative Key Retaining Lock shall be fitted in the same position, it is the opinion of Warringtonfire that this modification is acceptable.

8.4.3 3WLC Lock with Single Eurocylinder

The '3WL' lock has previously been proven with the assessed doorset design as detailed in section 8.4.1. The '3WLC' is the same as the '3WL' lock, except that it has an increased height to accommodate a eurocylinder and is slightly wider (case size 170mm x 37mm x 16mm). The 3WLC lock is detailed in the below illustrations:



The increased height and width to accommodate the cylinder would not be of detriment to performance over the 3WL lock tested as the lock is surface mounted and constructed from the same materials with the same melting point. The only modification required to the door leaf to accommodate the 3WLC lock is a hole through the leaf to accommodate the cylinder. As this hole will then be filled with a steel cylinder, it is the opinion of Warringtonfire that this will not be of detriment to performance, however the opening for the cylinder must be flush without any gaps.

The following cylinder is permitted for use with the 3WLC lock:

Zoo Hardware Ltd – V5 Range

- 50mm long (40/10 fixing Centre)

Steel or Stainless Steel escutcheons (up to 53mm diameter and 7mm projection) or cylinder pulls (up to 92mm high x 45mm wide) may be fitted in conjunction with a eurocylinder. The escutcheon or cylinder pull may not include other materials (such as plastic components).

- Permitted fixing methods for escutcheons or cylinder pulls are as follows:
 - Welded to the face of the leaf.
 - Screwed to the face of the leaf using machine screw(s), with the holes for the bolts kept to a minimum and backed with a steel or stainless steel flanged rivet nut.

8.5 Pivots Hinges

The table below details the tested fast fit spring hinges that are approved when fitted as tested in WF422106 Specimens A and B, WF527424 Specimen B and WF514070/R Specimen A.

Type	Size (mm)	Location
Ref: HINGE-RF-R51 Electroplated fast fit spring hinges	Ø8 (pin size) 19 depth x 19 width x 40 height.	Welded inside the door leaf and spring loaded pins engaged into the frame at the top & bottom of the leaf

8.6 Signage

A metal 'Fire Door Keep Locked Shut' sign is required to be fixed to the leaf face.

Surface mounted 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 design being considered. This is on the basis of the items being surface mounted away from the edge of the leaf, therefore unlikely to influence the junction between leaf and frame. Furthermore, they are generally of lightweight construction, meaning that they are unlikely to destabilise the steel doorset assembly and therefore cause adverse deflection under test conditions.

Approved specification:

- Steel, stainless steel, aluminium or bronze signage may be fitted to the steel face of the leaf providing they are fitted no closer than 75mm from the leaf edge and are no greater than 80mm diameter. A maximum of 2No. signs may be fitted and must be positioned at least 100mm apart.
- Permitted fixing methods are as follows:
 - Surface-fixed with adhesive.
 - Steel signage of the above specification may be welded to the face of the leaf.
 - Additionally, for Leaf 1 only, signage may be bolted to the face of the leaf, with the holes for the bolts kept to a minimum and backed with steel or stainless steel washer and nut or flanged rivet nut.

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

8.7 Door Retaining Bolts

Door retaining bolts were included in tests WF422106 Specimens A and B, WF527424 Specimen B and WF514070/R Specimen A, fitted to the hanging edge of the leaf.

The table below details the tested and assessed door retaining bolt arrangements:

Type	Size (mm)	Location
Door retaining bolt	M5 x 8mm steel Pan Pozi Head Cross recess machine screw.	Fitted through hanging edge of leaf tray to engage in frame.

In all instances, it is assessed that the required number of door retaining bolts and their positioning must be as follows:

Specification	
Leaf height and hinged side having a dimension of 500mm or less	1No. door retaining bolt is required, central to hanging edge of leaf.
Leaf height and hinged side having a dimension of greater than 500mm	Fitted equispaced along the hanging edge of the leaf at maximum of 525mm centres, and at 150mm from the top and bottom of the leaf.

Note:

1. For permitted leaf heights see section 4.5.4.

9. Installation

9.1 General

The steel doorset must be installed on the face of the supporting construction with the leaf opening towards the same direction as the integral architrave is fitted, as tested.

For Leaf 1 doorset designs the integral architrave must be situated on the side exposed to the fire conditions and the leaf must open into the fire conditions.

For Leaf 2 doorset designs the integral architrave may be fitted to either face of the supporting construction with the exposure direction of the fire conditions from either side.

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

- the frame installation
- the requirements for the supporting construction
- the fire stopping between the frame and the supporting construction
- the fixing requirements
- the requirements for door edge gaps

9.2 Door Frame Installation and sealing to structural opening

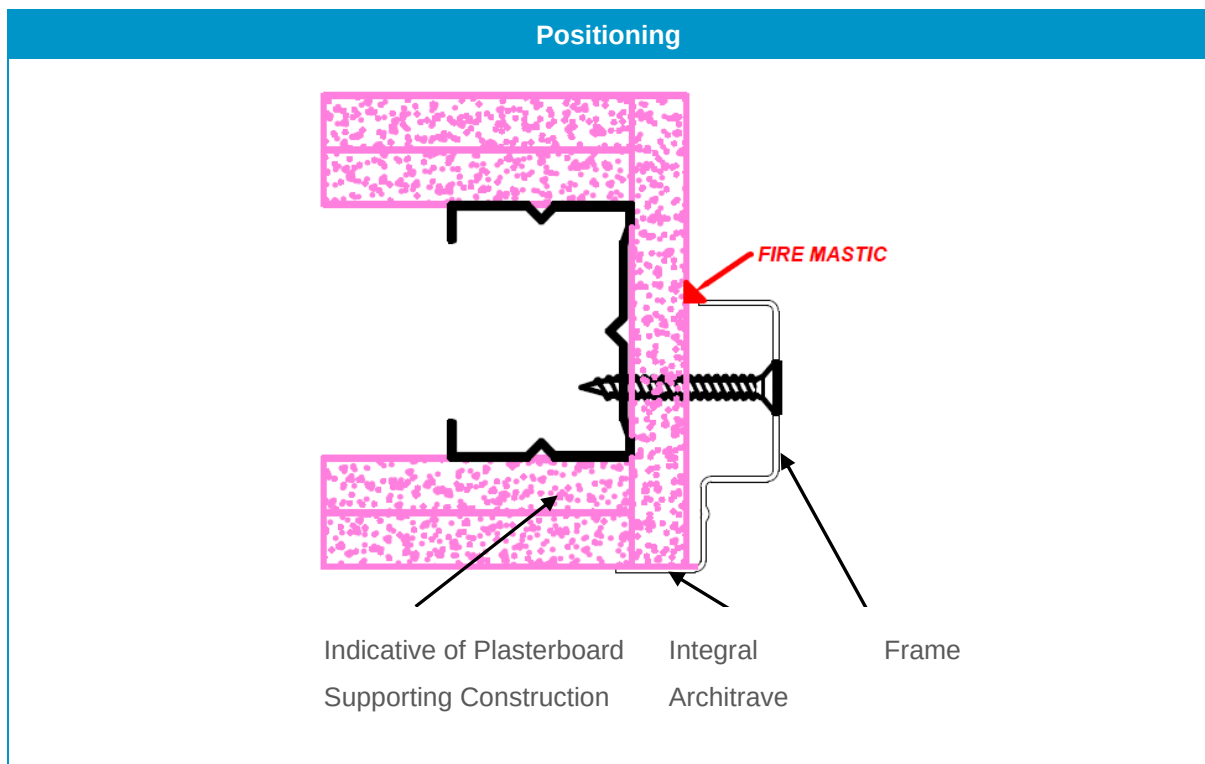
The frame must be installed as supported by the test evidence cited herein.

The frame incorporates an integral architrave that returns across the face of the supporting construction. Installation of the frame must ensure the architrave is a tight fit against the face of the supporting construction, leaving no gaps.

Fitting of the frame to the structural opening must be as tested with a maximum of 4mm gap between the rear of the frame and the lined aperture in the supporting construction (permitted gap is based on WF514070 Specimen A).

To ensure a suitable seal between the frame stop and the supporting construction a continuous bead of the successfully tested McGowan Pyromas A sealant is to be applied between the frame stop and the lined aperture all around the perimeter as shown in the figure below. Alternative sealants that have been previously fire tested to BS EN 1363-1 or BS EN 1634-1 for the required period of fire resistance and between the required substrates in this application, with a gap size up to 4mm are permitted

The figure below shows an example details of the tested installation using screw fixing. For further detail, reference should be made to the test evidence cited in Appendix A.



Note:

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

9.3 Wall Types, Structural Opening & Fixity

9.3.1 Wall Types

The following wall types are approved for this doorset design:

- a) Plasterboard clad timber stud partitions (exposed studs are not covered by this report).
- b) Plasterboard clad steel stud partitions (exposed studs are not covered by this report).
- c) Shaftwall design as detailed in section 9.3.1.1

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, as a minimum, the required performance period of the doorset, (classified to BS EN 13501-2) supporting a doorset design. (See Appendix A, summary of test WF538009/R for justification).

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

Based on the testing cited in Appendix A, the structural opening must be lined with either 1No or 2No. layer(s) of 12.5mm or 15mm thick Type F plasterboard (EN520), and provide underlying studwork ("framed out") at the perimeter of the aperture to provide adequate fixity.

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 are not required to include a timber lining, such that the fixing for the door frame penetrates into solid timber, unless this is required by the supporting fire resistance test evidence for the wall type.

9.3.1.1 Shaftwall Design

The following shaftwall design was tested in WF547575/R and WF548600/R in conjunction with a double leaf doorset design which is not considered in this report. These tests demonstrate that the shaftwall can be fitted in either direction relative to the furnace test conditions, when the tested doorset design with a large aperture is fitted with the opening face of the doorset to the face of the shaftwall which includes the three layers of 15mm Fire Panel. On the basis of the tested doorset design and the tested configuration, the doorsets assessed herein may be fitted within the tested shaftwall design in the following applications only:

Leaf options: 1 and 2

Configurations: LSASD only

All details of the shaftwall design must be as tested in WF547575/R and WF548600/R and as an overview comprises:

- Knauf J channel (62 mm web x 60/30 flange, 0.92 gauge) screw fixed to the floor and soffit
- Knauf deep flange U channel (62mm web x 70mm flange, 0.70 gauge) screwed to the CT stud to form structural opening frame
- Knauf CT stud (60mm web x 38/39mm flange, 0.92 gauge) screwed to the U channel
- 100mm thick Knauf Rocksilks RS60 filling voids as tested
- Knauf Intumescent and acoustic mastic applied sealing all coreboard panels and fire panel boards
- 15mm Knauf Fire Panel – Type A to EN520. 3 layers to one face of the shaftwall and lining the structural opening.
- 19mm Coreboard – Type F to EN520. 1 layer retained by the shaftwall framework
- Knauf tape and fill applied to all plasterboard joints and screw heads..

Relative orientation of the doorset and the shaft wall:

- The opening face of the doorset and the integral architrave of the frame must be to the face of the shaftwall which includes the three layers of 15mm Fire Panel as tested. See below for example of tested arrangement:



9.3.2 Structural Opening

For all wall types the structural opening shall be square, plumb and provide a flat surface for installation of the doorset.

The structural opening must be prepared in line with the test evidence provided by the wall manufacturer.

Additionally, for flexible wall types a & b:

- The aperture must be lined as detailed in section 9.3.1. The lined aperture size shall be sized to ensure the permitted gap between the rear of the frame and the structural opening is not exceeded (see section 9.2).

For shaftwall type c:

- Lining of structural opening must be as detailed in section 9.3.1.1. The lined aperture size shall be sized to ensure the permitted gap between the rear of the frame and the structural opening is not exceeded (see section 9.2).

9.3.3 Fixity

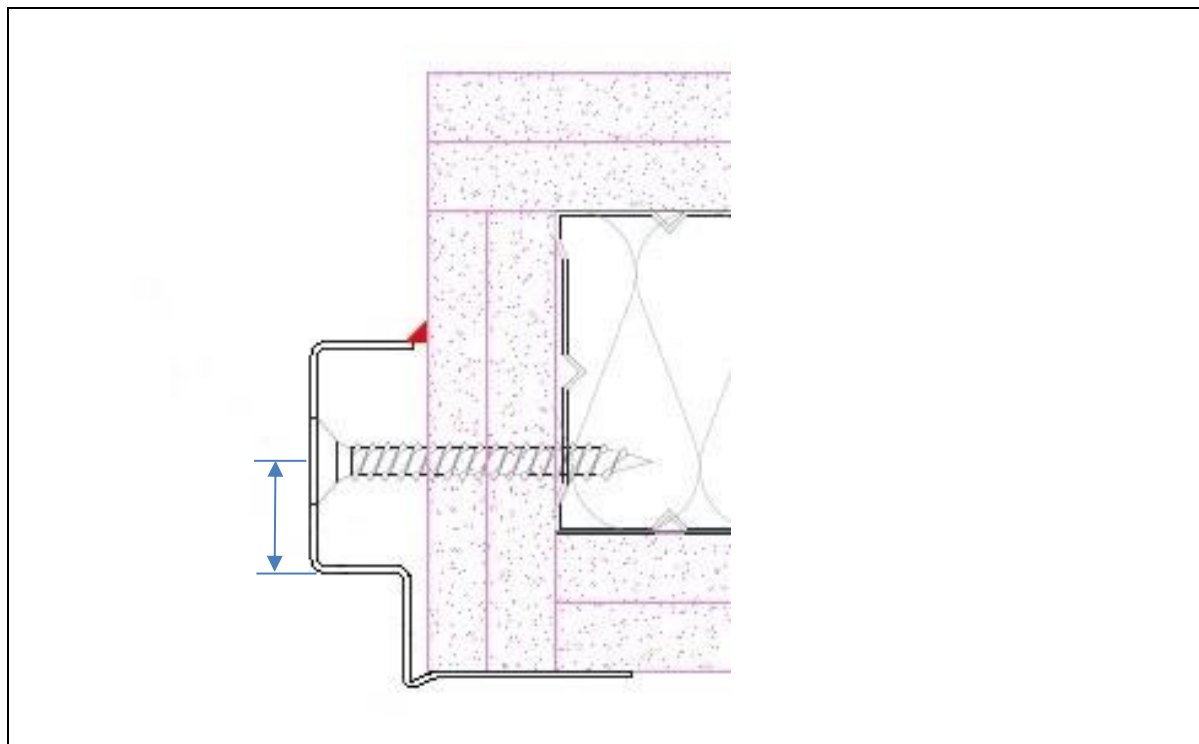
In all instances the fixing position must be such that it provides adequate restraint to the element of construction throughout the exposure to fire.

All four frame edges must be fixed as tested in the cited test evidence to the underlying studwork of the supporting construction using 5mm minimum diameter steel fixings at 300mm maximum centres and maximum of 100mm from corners. The fixings must be of the appropriate type for the supporting construction.

Fixings for shaftwalls, must be steel screws of a minimum 6mm diameter x 120mm long and installed at the maximum locations given above.

The minimum penetration of 50mm is required into the underlying steel or timber studs for partition walls.

Fixings for all wall types must be installed through the frame stop. Where the integral stop width has been increased from the tested dimensions the fixing positions are required to be at the same distance from edge of the stop adjacent to the leaf (see diagram below with an example with a beaded frame). The required distance from edge of the stop adjacent to the leaf is 25mm. It is optionally permitted to use additional fixings through the stop to create a twin row of fixings for wider stops.



Note:

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

9.4 Post Production (Onsite) Leaf Size Adjustment

Post production adjustment of the steel doorset assemblies is not permitted.

9.5 Leaf to frame Gaps

Based on the test evidence WF422106 Specimens A and B, WF514070 Specimen A and WF527424 Specimen B, the leaf edge to frame gaps on all edges must be controlled within the following limits:

Door Gap & Alignment Tolerance Specification		
Location	Dimension (mm)	Tolerance (mm)
Jambs	3.0	±1.0
Head	2.0	±1.0
Threshold	2.0	±1.0

If substantially different gaps are employed, the fire resistance performance of these doorset designs may change.

Notes:

- 1) Leaf must not be proud of the frame by more than 1mm.
- 2) If the width of the reveal is increased by increasing the set back of the stop (as detailed in section 6.2.2) or variation of leaf thickness is made (as detailed in section 5.2.1.1), then the face of the leaf must be positioned the same distance as tested relative to the stop.
- 3) The leaf must be flat (unbowed) and in contact with the frame all around the perimeter.

10. Insulation Performance

Insulation performance may not be claimed for doorsets to these designs

11. Conclusions

If the Panel Technologies Limited, 57 Range steel doorset design – Leaf 1 design, constructed in accordance with the specification documented in this field of application were to be fitted vertically within a wall (as given in section 9.3.1) and tested in accordance with BS EN 1634-1: 2014 +A1: 2018, it is our opinion that they would provide a minimum of 120 minutes integrity¹ performance, subject to the doorset being fitted opening into the fire conditions only.

If the Panel Technologies Limited, 57 Range steel doorset design – Leaf 2 design, constructed in accordance with the specification documented in this field of application were to be fitted vertically within a wall (as given in section 9.3.1) and tested in accordance with BS EN 1634-1: 2014 +A1: 2018, it is our opinion that they would provide a minimum of 90 minutes integrity¹ performance, with fire exposure direction from either side.

In both cases the central lock and top and bottom rods must all be engaged with the doorset in the closed position.

Note:

1. Although this report does not establish a formal classification against EN13501-2, the guidance within EN13501-2:2023 has been followed as the doorsets considered herein are for integrity only performance (and not insulation performance). Therefore, integrity has been determined on the basis of the two aspects of sustained flaming and gap gauges only.

12. Declaration

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

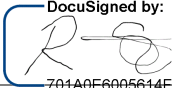
We confirm that any changes to a component or element of structure which are the subject of this assessment have not to our knowledge been tested to the standard against which this assessment has been made.

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.

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.

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: 
701A0E6005614F7...

Name: Ross Stokes

Position: Technical Manager

Date: 01-Aug-2025

For and on behalf of: **Panel Technologies Limited**

13. Limitations

This assessment report:

- Does not provide an endorsement by Warringtonfire of actual products supplied.
- Has been prepared based on information provided by the Applicant. Warringtonfire has not verified the accuracy or completeness of that information and will not be responsible for any errors or omissions that might be incorporated into this report as a result.
- Any figures included in this report are provided for illustrative purposes only and may not fully reflect the actual scope being assessed. Warringtonfire cannot guarantee the accuracy of the drawings against the scope being assessed. The scope of this report is limited to assessments of the modifications to the tested systems as described herein.
- This report 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.
- This 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 should be re-evaluated if the assessed construction is subsequently tested since actual test data is deemed to take precedence.
- This assessment has been carried out in accordance with Fire Test Study Group Resolution No. 82: 2001.
- Opinions and interpretation expressed herein are outside the scope of UKAS accreditation.
- This assessment report relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions that are 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 assessment, the element is suitable for its intended purpose.
- This report represents our opinion as to the performance likely to be demonstrated on a test in accordance with the standard to which this assessment concludes, on the basis of the test evidence referred to in this report. We express no opinion as to whether that evidence, and/or this report would be regarded by any Building Control authorities or any other third parties as sufficient for that or any other purpose.
- 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.
- Previous versions of the report(s), if applicable, are withdrawn from the date of the up-issued assessment report with immediate effect. That means that they may no longer be relied upon in support of any products being placed on the market (or for the stated project/address where applicable) from the issue date stated on the front cover of this report. The withdrawal of an assessment report does not affect any reliance placed on the report up to the issue date stated on the front cover of this assessment; however, going forward, the up-issued report must be referenced in any literature or product specifications in place of the previous versions of the assessment.

14. Validity

This assessment report is not valid unless signed by all signatories identified within the Signatories and Revision History section of this report.

This assessment report is not valid unless it incorporates the declaration given in Section 12 duly signed by the applicant.

The assessment validity is as stated on the front cover of this report, after which time it is recommended that it be submitted to the assessing authority for re-evaluation.

Appendix A

Summary of supporting 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.

Some 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.

Note:

1. Dimensions are in mm unless otherwise stated.
2. Abbreviations: (h) = height; (w) = width; (t) = thickness; (d) = deep; (l) = long.

A.1 Primary Evidence

Test Report Reference WF422106 Version 2 (Specimen A)	
Report sponsor	Panel Technologies Limited
Test laboratory	Warringtonfire Testing and Certification Limited (High Wycombe). UKAS No. 1762
Test date	10 December 2019
Test standard	BS EN 1634-1: 2014 + A1: 2018 & BS EN 1363-1: 2012
Sampling information	None stated in test report
Tested Orientation	Opening in towards heating condition.
Specimen summary & tested configuration	<u>Doorset:</u> Latched, Single-acting, Single leaf, Un-insulated steel access panel - LSASD <u>Leaf:</u> Overall Size: 1897 (h) x 649 (w) Facing/Skin: Zintec coated mild steel tray profile, 0.9 thick x 24 deep Stiles: Zintec coated mild steel profile, 0.9 thick x 21.5 high x 76 wide. Core: empty/none. <u>Frame:</u> Material: Zintec coated mild steel profile Head, Jamb & Threshold dimensions: 77 deep x 45 wide x 1.5 thick overall, with 19 deep x 44 wide integral stop and a 25 wide x 1.5 thick integral architrave oversailing the supporting construction. Fire Stopping: Mann McGowan Pyromas A intumescent acrylic sealant. Frame Fixing: M3.5 x 50 long screws. <u>Intumescent & Sealing Material:</u> None fitted <u>Hardware:</u> Hinges: HINGE-RF-R51, electroplated fast fit spring hinges Lock/Latch: 3WL, 3 point lock system with top & bottom shoot bolts Lock Status: Engaged at all points Closer: none fitted <u>Supporting Construction:</u> Steel stud partition with plasterboard cladding, 132 thick wall overall.
Test results	Integrity: 132 minutes Insulation: 2 minutes
Reason for use	Primary Evidence to support Leaf 1 opening towards the furnace test conditions

Test Report Reference WF422106 Version 2 (Specimen B)	
Report sponsor	Panel Technologies Limited
Test laboratory	Warringtonfire Testing and Certification Limited (High Wycombe). UKAS No. 1762
Test date	10 December 2019
Test standard	BS EN 1634-1: 2014 + A1: 2018 & BS EN 1363-1: 2012
Sampling information	None stated in test report
Tested Orientation	Opening in towards heating condition.
Specimen summary & tested configuration	<u>Doorset: Latched, Single-acting, Single leaf, Un-insulated steel access panel - LSASD</u> <u>Leaf:</u> Overall Size: 1897 (h) x 649 (w) Facing/Skin: Zintec coated mild steel tray profile, 0.9 thick x 24 deep Stiles: Zintec coated mild steel profile, 0.9 thick x 21.5 high x 76 wide. Core/Facing: 2No 12.5 thick Siniat GTECH DB Board plasterboard. Board Retaining Clamps: Zintec coated mild steel profile, 0.9 thick x 6 high x 40 wide at full height of the stile. <u>Frame:</u> Material: Zintec coated mild steel profile Head, Jamb & Threshold dimensions: 77 deep x 45 wide x 1.5 thick overall, with 19 deep x 44 wide integral stop and a 25 wide x 1.5 thick integral architrave oversailing the supporting construction. Fire Stopping: Mann McGowan Pyromas A intumescent acrylic sealant. Frame Fixing: M3.5 x 50 long screws. <u>Intumescent & Sealing Material:</u> Leaf Edge: Norseal FS1000, foam buffer seal. Fitted around the leaf face perimeter on the unexposed face. <u>Hardware:</u> Hinges: HINGE-RF-R51, electroplated fast fit spring hinges Lock/Latch: 3WL, 3 point lock system with top & bottom shoot bolts Lock Status: Engaged at all points. Closer: none fitted <u>Supporting Construction:</u> Steel stud partition with plasterboard cladding, 132 thick wall overall.
Test results	Integrity: 117 minutes Insulation: 8 minutes
Reason for use	Primary Evidence to support Leaf 2 for up to 90 minutes integrity performance opening towards the furnace test conditions.

Test Report Reference WF527424/R Issue 3 (Specimen B)	
Report sponsor	Panel Technologies Limited
Test laboratory	Warringtonfire Testing and Certification Limited (High Wycombe). UKAS No. 0249
Test date	15 April 2023
Test standard	BS EN 1634-1: 2014 + A1: 2018
Sampling information	None stated in test report
Tested Orientation	Opening in towards heating condition.
Specimen summary & tested configuration	Steel stud partition including 3 doorsets fitted. Specimen B: Latched, Single Acting, Single Leaf, Uninsulated Steel access panel. Overall Leaf size: 1900mm (h) x 643mm (w). Beaded <u>Frame</u>: Material: Zintec coated mild steel profile Head, Jamb & Threshold dimensions: 75 deep x 69 wide x 1.2 thick overall, with 19 deep integral stop and a 50 wide x 1.2 thick integral architrave oversailing the supporting construction. Fixed with 6mm x 100mm steel screws to partition
Test results	Integrity: Cotton Pad: 26 minutes Continuous Flaming: 132 minutes Gap Gauge: 132 minutes
Reason for use	Primary Evidence to support Beaded Frames.
Failure Mode	Initial Failure: Cotton Pad Test at Specimen B at 26 minutes. No further failures at test termination of 132 minutes. Although this report does not establish a formal classification against EN13501-2, the guidance within EN13501-2:2023 has been followed as the doorsets considered herein are for integrity only performance (and not insulation performance). Therefore, integrity has been determined on the basis of the two aspects of sustained flaming and gap gauges only.

Test Report Reference WF514070/R Issue 3 (Specimen A)	
Report sponsor	Panel Technologies Limited
Test laboratory	Warringtonfire Testing and Certification Limited (High Wycombe). UKAS No. 1762
Test date	15 July 2022
Test standard	BS EN 1634-1: 2014 + A1: 2018
Sampling information	None stated in test report
Tested Orientation	Opening out away from heating condition.
Specimen summary & tested configuration	Steel stud partition including 2 doorsets fitted. Specimen A: Latched, Single Acting, Single Leaf, Uninsulated Steel access panel, including 2No layers 12.5mm Siniat GTech dB inserts within leaf. Overall Leaf size: 1900mm (h) x 650mm (w). Frame included 20mm RW3 Semi Rigid Slab insulation Fixed with 5mm x 100mm steel screws.
Test results	Integrity: Cotton Pad: 91 minutes Continuous Flaming: 183 minutes Gap Gauge: 183 minutes Insulation (I1): 3 minutes
Reason for use	Primary Evidence to support Leaf 2 opening away from furnace test conditions.
Failure Mode	Initial Failure: Cotton Pad Test at Specimen B at 91 minutes. No further failures at test termination of 132 minutes. Although this report does not establish a formal classification against EN13501-2, the guidance within EN13501-2:2023 has been followed as the doorsets considered herein are for integrity only performance (and not insulation performance). Therefore, integrity has been determined on the basis of the two aspects of sustained flaming and gap gauges only.

Test Report Reference WF538009/R			
Report sponsor	Panel Technologies Limited		
Test laboratory	Warringtonfire Testing and Certification Ltd. UKAS No. 0249		
Test date	11 Mar 2024		
Test standard	BS EN 1634-1: 2014 + A1: 2018		
Sampling information	None stated in test report		
Tested Orientation	Specimen A and B: Opening in towards heating condition		
Specimen summary & tested configuration	An EI60 steel stud partition meeting the specification of Group A within table 1 of EN1363-1:2020, with lined structural openings of 910mm wide x 2410mm high and 610mm wide x 2010mm high and fitted with 2 doorsets. Frame profile for both doorsets being single rebate frame constructions of different dimensions but comparable to the Frame 1 design assessed herein. Frames were of 1.2 and 1.5mm thick. Leaves were steel and one with and one without rails and stiles		
Test results	Integrity: Cotton Pad: Continuous Flaming: Gap Gauge: Insulation:	Specimen A: 18 minutes 18 minutes 69 minutes 1 minute	Specimen B: 23 minutes 69 minutes 69 minutes 0 minutes
Reason for use	Test Evidence to support the use of lower performance partitions with lower performance doorsets, with the testing having demonstrated that for similar doorsets of similar size, that the lower performance partition has not contributed to a failure at the leaf edge or at the frame to supporting construction junction prior to the lower performance period required.		
Failure Mode	Initial Failure: Cotton Pad Test and Continuous Flaming at Specimen A at 18 minutes and Cotton Pad Test at Specimen B at 23 minutes. No further failures at test termination of 69 minutes. The Continuous flaming failure observed on Specimen A was on a door leaf design which included rails and stiles and located at the corner junction of the bottom rail and closing stile, i.e. remote from the leaf edge/frame junction. It is the opinion of Warringtonfire that this failure can be ignored for the purpose of the assessment herein, due to the differences in leaf design. Although this report does not establish a formal classification against EN13501-2, the guidance within EN13501-2:2023 has been followed as the doorsets considered herein are for integrity only performance (and not insulation performance). Therefore, integrity has been determined on the basis of the two aspects of sustained flaming and gap gauges only.		

Test Report Reference WF547575/R Version 5			
Report sponsor	Panel Technologies Limited		
Test laboratory	Warringtonfire Testing and Certification Limited. UKAS No. 0249		
Test date	13 November 2024		
Test standard	BS EN1634-1:2014 + A1:2018		
Sampling information	None stated in test reports		
Tested Orientation	Doorset: Opening away from the heating condition. Shaftwall: Orientation with the Coreboard towards the heating condition.		
Specimen summary & tested configuration	Doorset: LSADD – Locked, Single Acting Double Doorset Double leaf - Leaf dimensions: 2397(l) x 895.5/895.5(w) Frame profile being a single rebate frame construction of different dimensions but comparable to Frame 1 design assessed herein. Leaf design being steel with rails and stiles, with all parts of the leaf being different dimensions to the leaves assessed herein.		
Associated supporting construction	A Knauf shaftwall design including 1x19mm coreboard to one face and 3x15mm Knauf Fire Panel to the other face with a lined structural opening of 1820mm wide x 2420mm high.		
Test results	Doorset	Integrity – Sustained Flaming:	180 minutes
		Integrity – Gap Gauges:	180 minutes
		Integrity – Cotton Pad:	20 minutes
		Insulation:	<1 minute
Reason for use	Test Evidence referenced to support the use of the tested Shaftwall design with the Coreboard to the fire side. This being on the basis that the test demonstrates the shaftwall design fitted in conjunction with larger steel doorsets of similar designs.		

Test Report Reference WF548600/R Version 5			
Report sponsor	Panel Technologies Limited		
Test laboratory	Warringtonfire Testing and Certification Limited. UKAS No. 0249		
Test date	13 December 2024		
Test standard	BS EN 1634-1: 2014 + A1: 2018		
Sampling information	None stated in test report		
Tested Orientation	Doorset: Opening in towards heating condition. Shaftwall: Orientation with the Coreboard away from the heating condition.		
Specimen summary & tested configuration	Doorset: LSADD – Locked, Single Acting Double Doorset Double leaf - Leaf dimensions: 2397(l) x 895.5/895.5(w) Frame profile being a single rebate frame construction of different dimensions but comparable to Frame 1 design assessed herein. Leaf design being steel with rails and stiles, with all parts of the leaf being different dimensions to the leaves assessed herein.		
Associated supporting construction	A Knauf shaftwall design including 1x19mm coreboard to one face and 3x15mm Knauf Fire Panel to the other face with a lined structural opening of 1820mm wide x 2420mm high.		
Test results	Doorset	Integrity – Sustained Flaming:	153 minutes
		Integrity – Gap Gauges	153 minutes
		Integrity – Cotton Pad:	16 minutes
		Insulation	<1 minute
Reason for use	Test Evidence referenced to support the use of the tested Shaftwall design with the Fire Panel board to the fire side. This being on the basis that the test demonstrates the shaftwall design fitted in conjunction with larger steel doorsets of similar designs.		