High Wycombe Office:
Chiltern House, Stocking Lane,
High Wycombe,
HP14 4ND,
United Kingdom
T: +44 (0)1494 569750
W: www.warringtonfire.com

Title

Field of Application for:

Uninsulated steel access panel designs

For minimum 60 minutes Fire Resistance (integrity only)

Report No.:

WF380206 Revision B

Issue Date:

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Valid Until:

18th May 2027

Job Reference:

WF532890

Prepared for:

Panel Technologies Ltd.
49-91 Jodrell Street,
Nuneaton,
Warwickshire,
CV11 5EG,
United Kingdom

The version/revision stated on the front of this Field of Application supersedes all previous versions/revisions and must be used to manufacture access panels 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.

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Contents

1 Foreword

This Field of Application report has been commissioned by Panel Technologies Ltd and relates to uninsulated steel access panels for 60 minute integrity only fire resistance.

The report is for National Application and has been written in accordance with the general principles outlined in BS EN 15725: 2010; *Extended application reports on the fire performance of construction products and building elements*.

This Field of Application (scope) uses established empirical methods of extrapolation and experience of fire testing similar steel access panel designs, 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:

- fitted horizontally as part of a proven suspended ceiling system that has fire resistance test evidence to BS EN 1364-2:2018 or;
- fitted in the vertical to BS EN 1634-1: 2014 +A1: 2018.

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 steel access panel designs and is summarised in section 3.

The scope presented in this report relates to the behaviour of the proposed steel access panel 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 steel access panel design 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 uninsulated steel access panel designs, for 60 minutes fire resistance integrity performance, if the access panel designs were to be tested:

- As part of a proven suspended ceiling system (see section 9.3.1) to the requirements of BS EN 1364-2:2018, Fire resistance tests for non-loadbearing elements - Ceilings or;
- In the vertical to EN 1634-1:2014 +A1: 2018, Fire resistance test for door and shutter assemblies and openable windows.

The field of application defined in this report is based on the fire resistance test evidence for the access panel 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.

The testing of the access panel designs was conducted with the panel fitted with the leaf opening towards the fire risk side of the supporting ceiling construction. The arrangement was not symmetrical, so this assessment only considers the performance of the access panel fixed with the leaf opening towards the fire risk side.

As the testing of this access panel was conducted without a closing device fitted, this assessment only considers the performance of the access panel when locked in the closed position.

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 steel access panel designs contained herein is to be subject to a separate analysis.

2.1 Assumptions

- It is assumed that unless otherwise documented in the field of application sections of this report, the steel access panel subject to this report will be constructed in accordance with the test evidence referred to herein.
- Where steel is referred to within this document it is assumed that the steel element is made from a continuous 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.

3 Test Data

The test evidence summarised below has been generated to support the fire resistance performance of the access panel designs that are the subject of this field of application. The summary details are considered to be the key aspects of the design tested.

Appendix A (Performance Data) also shows a table of all supporting evidence considered in this assessment.

Note:

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

The test evidence has been generated across a range of access panel designs fitted in a horizontal orientation installation setup as a latched, single acting, single leaf steel access panel.

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.

Cotton pads were not applied as an evaluation method within the test evidence summarised in sections 3.1.1 to 3.1.4. For elements classified without an insulation classification the value of integrity is that determined by the time to failure of only the cracks / openings or sustained flaming aspects as detailed in EN13501-2 section 7.5.5.3.1. It should be noted that this field of application report does not establish a formal classification against EN13501-2, however as this field of application does not consider insulation performance, it is deemed by Warringtonfire that the test evidence is suitable for use within this field of application.

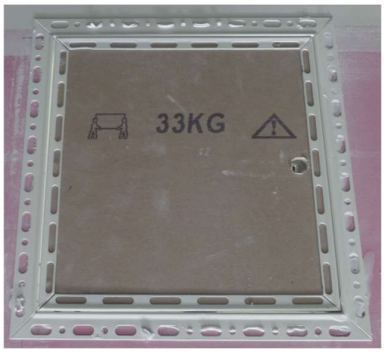
3.1 Primary Test Evidence

3.1.1 Test Report FEI/F14056 (Hatch A)

The referenced test report, the essential details of which are summarised below, is the primary data for a latched, single acting, single leaf steel access panel.

Date of Test:	29.MAY.2014
Identification of Test Body:	Chiltern International Fire Ltd, now trading as Warringtonfire Testing and Certification Ltd, UKAS ref: 1762
Sponsor:	Panel Technologies Ltd
Tested Product:	Latched, Single Acting, Single Leaf, Uninsulated steel access panel – LSASD
Tested Orientation:	Horizontal - Opening in towards heating condition
Sampling information:	None detailed
Summary of Test Specimen:	**Metal Faced Flipfix**   Leaf: Overall Size: 300 (l) x 300 (w). Facing/Skin: Powder coated mild steel tray profile, 0.9mm thick x 12mm deep, welded at corners. Core: empty/none. Frame: Material: Powder coated steel Frame dimensions (4 sided): 54mm high x 25mm wide x 1.0 thick overall Fire Stopping of Hatch frame to soffit of Supporting Construction: Mann McGowan Acrylic mastic Frame Fixing: 2No “flip clip” adjustable fixings fitted centrally on opposite sides. Intumescent & Sealing Material: None fitted within Access Hatch design Hardware: Tab Hinge: 28mm wide steel strip central to the edge Lock/Latch: Budget type latch (79mm x 22mm) central to the edge. Lock Status: Engaged Closer: none fitted Supporting Construction: Overall size: 1500mm x 1500mm Ceiling construction comprised British Gypsum CasoLine MF 60 minute system ref. C106003, which was clad with 2No. layers of 12.5mm thick BG Gyproc FireLine board, and included no insulation. Aperture for test specimen: 305mm x 305mm
Test Standard:	To temperature and pressure conditions of BS EN 1363-1:2012 and generally in accordance with BS EN 1364-2:1999
Performance:	**Integrity:** 60 minutes **Insulation:** 0 minutes (not measured)

3.1.2 Test Report FEI/F14064 Revision A (Hatch A)

Date of Test:	20.JUN.2014
Identification of Test Body:	Chiltern International Fire Ltd, now trading as Warringtonfire Testing and Certification Ltd, UKAS ref: 1762
Sponsor:	Panel Technologies Ltd
Tested Product:	Latched, Single Acting, Single Leaf, Uninsulated steel access panel – LSASD
Tested Orientation:	Horizontal - Opening in towards heating condition
Sampling information:	None detailed
Summary of Test Specimen:	**Plasterboard Faced Flipfix**   Leaf: Overall Size: 290 (l) x 290 (w). Facing/Skin: Powder coated mild steel tray profile, 1.0mm thick x 15.5mm deep, welded at corners. Core: 12.5mm thick Siniat/GTEC Megadeco plasterboard core, fitted within 1mm thick perforated profiled steel returns at the edges of the tray and exposed to the underside of the access hatch. Frame: Material: Profiled powder coated steel, 1.0mm thick. Frame dimensions (overall): 300mm x 300mm x 60mm high including a 25mm wide architrave from perforated powder coated steel, 1mm thick. Fire Stopping of Hatch frame to soffit of Supporting Construction: Mann McGowan Acrylic mastic Frame Fixing: 2No “flip clip” adjustable fixings fitted centrally on opposite sides. Intumescent & Sealing Material: None fitted within Access Hatch design Hardware: Rapid Fit (pivot) Hinge: 4mm diameter steel bar Lock/Latch: Budget type latch (79mm x 22mm) central to the edge opposite to the hinge Lock Status: Engaged Closer: none fitted Supporting Construction: Overall size: 1500mm x 1500mm Ceiling construction comprised British Gypsum CasoLine MF 60 minute system ref. C106003, which was clad with 2No. layers of 12.5mm thick BG Gyproc FireLine board, and included no insulation. Aperture for test specimen: 305mm x 305mm
Test Standard:	To temperature and pressure conditions of BS EN 1363-1:2012 and generally in accordance with BS EN 1364-2:1999
Performance:	**Integrity:** 66 minutes **Insulation:** 0 minutes (not measured)

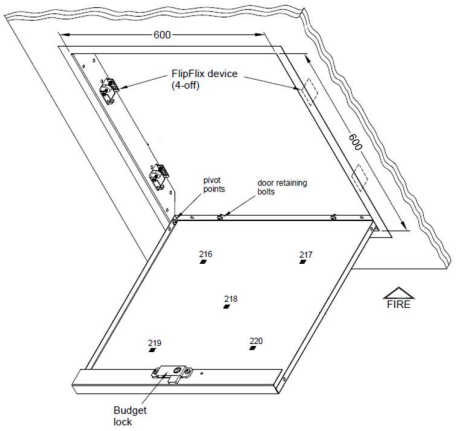
3.1.3 Test Report FEI/ F14064 Revision A (Hatch B)

Date of Test:	20.JUN.2014
Identification of Test Body:	Chiltern International Fire Ltd, now trading as Warringtonfire Testing and Certification Ltd, UKAS ref: 1762
Sponsor:	Panel Technologies Ltd
Tested Product:	Latched, Single Acting, Single Leaf, Uninsulated steel access panel – LSASD
Tested Orientation:	Horizontal - Opening in towards heating condition
Sampling information:	None detailed
Summary of Test Specimen:	**Metal Faced Flipfix**   Leaf: Overall Size: 598 (l) x 598 (w). Facing/Skin: Powder coated mild steel tray profile, 0.9 thick x 13mm deep, welded at corners. Core: empty/none. Frame: Material: Powder coated steel Frame dimensions (overall): 600mm x 600mm x 55mm high including a 25mm wide architrave, 0.9mm thick Fire Stopping of Hatch frame to soffit of Supporting Construction: Mann McGowan Acrylic mastic Frame Fixing: 4No “flip clip” adjustable fixings. 2No fixings on 2 opposite edges, 120mm from corners Intumescent & Sealing Material: None fitted within Access Hatch design Hardware: Tab Hinges: 2No 5mm diameter steel bolts on one edge Lock/Latch: Budget type latch (79mm x 22mm) central to the edge opposite to the hinge Lock Status: Engaged Closer: none fitted Supporting Construction: Overall size: 1500mm x 1500mm Ceiling construction comprised British Gypsum CasoLine MF 60 minute system ref. C106003, which was clad with 2No. layers of 12.5mm thick BG Gyproc FireLine board, and included no insulation. Aperture for test specimen: 605mm x 605mm
Test Standard:	To temperature and pressure conditions of BS EN 1363-1:2012 and generally in accordance with BS EN 1364-2:1999
Performance:	**Integrity:** 66 minutes **Insulation:** 0 minutes (not measured)

3.1.4 Test Report FEI/F14107 Revision A

Date of Test:	11.SEP.2014
Identification of Test Body:	Warringtonfire Testing and Certification Ltd, UKAS ref: 1762
Sponsor:	Panel Technologies Ltd
Tested Product:	Latched, Single Acting, Single Leaf, Uninsulated steel access panel – LSASD
Tested Orientation:	Horizontal - Opening in towards heating condition
Sampling information:	None detailed
Summary of Test Specimen:	**Reinforced Plasterboard Faced Flipfix**   Leaf: Overall Size: 588 (l) x 588 (w). Facing/Skin: Powder coated mild steel tray profile, 0.9mm thick x 15.5mm deep plus a 4 sided reinforcement channel to the upper face of 38mm wide x 18mm high, welded at corners. Core: 12.5mm thick Siniat/GTEC Megadeco plasterboard core, fitted within 0.9mm thick perforated profiled steel returns at the edges of the tray and exposed to the underside of the access hatch. Frame: Material: Profiled powder coated Zintec steel Frame dimensions (4 sided): 600mm x 600mm x 59mm high, including a 25mm integral architrave from perforated powder coated steel, 0.9mm thick Fire Stopping of Hatch frame to soffit of Supporting Construction: Mann McGowan Acrylic mastic Frame Fixing: 4No “flip clip” adjustable fixings. 2No fixings on 2 opposite edges, 120mm from corners Intumescent & Sealing Material: None fitted within Access Hatch design Hardware: Rapid Fit (pivot) Hinges: 2No. pivot points enclosed in the reinforcement channel Lock/Latch: Budget type latch central to the edge opposite to the hinge Lock Status: Engaged Closer: none fitted Supporting Construction: Overall size: 1500mm x 1500mm Ceiling construction comprised British Gypsum CasoLine MF 60 minute system ref. C106003, which was clad with 2No. layers of 12.5mm thick BG Gyproc FireLine board, and included no insulation. Aperture for test specimen: 605mm x 605mm
Test Standard:	To temperature and pressure conditions of BS EN 1363-1:2012 and generally in accordance with BS EN 1364-2:1999
Performance:	**Integrity:** 64 minutes **Insulation:** 0 minutes (not measured)

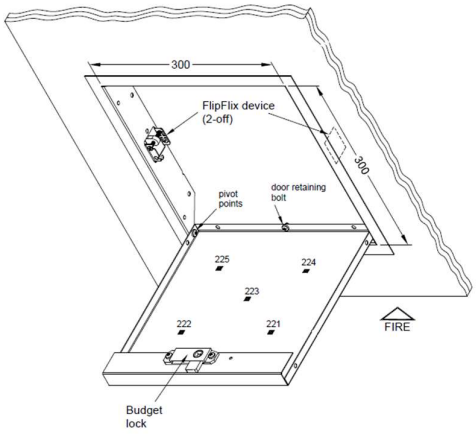
3.1.5 Test Report WF390808 Hatch A

Date of Test:	3.FEB.2018
Identification of Test Body:	Exova Warringtonfire Ltd, now trading as Warringtonfire Testing and Certification Ltd, UKAS ref: 0249
Sponsor:	Panel Technologies Ltd
Tested Product:	Latched, Single Acting, Single Leaf, Uninsulated steel access panel – LSASD
Tested Orientation:	Horizontal - Opening in towards heating condition
Sampling information:	None detailed
Summary of Test Specimen:	**Mitreless frame Metal Faced Flipfix**  Leaf: Overall Size: 595 (l) x 595 (w). Facing/Skin: Zintec mild steel, powder coated tray profile, 0.9mm thick x 12 to 22mm deep folded construction. Core: empty/none Frame: Material: Zintec mild steel, powder coated steel, folded construction. Frame dimensions (4 sided): 640mm x 640mm x 50mm high, including a 20mm integral architrave and 15mm stop to meet the leading edge of the leaf, from powder coated steel, 0.9mm thick. Fire Stopping of Hatch frame to soffit of Supporting Construction: none reported Frame Fixing: 4No "FlipFix" adjustable fixings. 2No fixings on 2 opposite edges, nominally 150mm from corners Intumescent & Sealing Material: None fitted within Access Hatch design Hardware: Pivots: 2No. pivot points Door retaining bolt: 2No. on the pivot edge of the tray Lock/Latch: Budget type lock central to the edge opposite to the hinge, with plastic grommet cover. Lock Status: Engaged Closer: none fitted Supporting Construction: Overall size: 3000mm x 4000mm Ceiling construction comprised British Gypsum suspended ceiling configuration G100038, which was clad with 2No. layers of 10mm thick Glasroc F Multiboard to the lower face only, and included no insulation. Aperture for test specimen: 605mm x 605mm
Test Standard:	Generally in accordance with BS EN 1634-1:2014
Performance:	**Integrity:** Sustained Flaming: 66 minutes Gap Gauge: 65 minutes Cotton Pad: 10 minutes[1] **Insulation:** 1 minute

Note:

1. See section 3 for more information

3.1.6 Test Report WF390808 Hatch B

Date of Test:	3.FEB.2018
Identification of Test Body:	Exova Warringtonfire Ltd, now trading as Warringtonfire Testing and Certification Ltd, UKAS ref: 0249
Sponsor:	Panel Technologies Ltd
Tested Product:	Latched, Single Acting, Single Leaf, Uninsulated steel access panel – LSASD
Tested Orientation:	Horizontal - Opening in towards heating condition
Sampling information:	None detailed
Summary of Test Specimen:	**Mitreless frame Metal Faced Flipfix**  <u>Leaf:</u> Overall Size: 297 (l) x 297 (w). Facing/Skin: Zintec mild steel, powder coated tray profile, 0.9mm thick x 12 to 22mm deep, folded construction. Core: empty/none <u>Frame:</u> Material: Zintec mild steel, powder coated steel, folded construction. Frame dimensions (4 sided): 340mm x 340mm x 50mm high, including a 20mm integral architrave and 15mm stop to meet the leading edge of the leaf, from powder coated steel, 0.9mm thick Fire Stopping of Hatch frame to soffit of Supporting Construction: none reported Frame Fixing: 2No “FlipFix” adjustable fixings fitted centrally on opposite sides. <u>Intumescent & Sealing Material:</u> None fitted within Access Hatch design <u>Hardware:</u> <u>P</u>ivots: 2No. pivot points Door retaining bolt: 1No. centrally on the pivot edge of the tray Lock/Latch: Budget type lock central to the edge opposite to the hinge, with plastic grommet cover. Lock Status: Engaged Closer: none fitted <u>Supporting Construction:</u> Overall size: 3000mm x 4000mm Ceiling construction comprised British Gypsum suspended ceiling configuration G100038, which was clad with 2No. layers of 10mm thick Glasroc F Multiboard to the lower face only, and included no insulation. Aperture for test specimen: 305mm x 305mm
Test Standard:	Generally in accordance with BS EN 1634-1:2014
Performance:	**Integrity:** Sustained Flaming: 66 minutes Gap Gauge: 66 minutes Cotton Pad: 13 minutes[1] **Insulation:** 2 minute

Note:

1. See section 3 for more information

4 Technical Specification

4.1 General

The technical specification for the proposed access panel assembly is given in the following sections and is based on the test evidence for the steel access panel designs, summarised in section 3.

4.2 Intended Use

The intended use of the proposed steel access panel assembly is summarised below:

An access panel 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 Access Panel Leaf

Leaves to this access panel design comprise four types of leaf construction, referred to as Leaf 1, 2, 3 and 4, as listed below and in subsequent sections, and include variations of core material and additional leaf stiffeners.

Access panels 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 the constructional details of each leaf type.

4.3.1 Leaf 1 – Metal Faced Flipfix – 13 mm thick

The basic construction of this leaf comprises of a 0.9mm thick mild steel sheet folded to form a 13mm deep tray (corners welded). See section 5 for further constructional detail.

This leaf design can include the following design features:

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

4.3.2 Leaf 2 – Plasterboard Faced Flipfix – 15.5mm thick

The basic construction of this leaf comprises of a 1.0mm thick mild steel sheet folded to form a 15.5mm deep tray (corners welded) and a plasterboard core. See section 5 for further constructional detail.

This leaf design can include the following design features:

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

4.3.3 Leaf 3 – Reinforced Plasterboard Faced Flipfix – 33.5mm thick

The basic construction of this leaf comprises of a 1.0mm thick mild steel sheet folded to form a 15.5mm deep tray (corners welded) with leaf stiffeners and a plasterboard core. See section 5 for further constructional detail.

This leaf design can include the following design features:

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

4.3.4 Leaf 4 – Mitreless frame Metal Faced Flipfix – 12 to 22 mm thick

The basic construction of this leaf comprises of a 0.9mm thick mild steel sheet folded to form a 12 to 22mm deep tray. This leaf is constructed without welds. See section 5 for further constructional detail.

This leaf design can include the following design features:

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

4.4 Access Panel Frame

Frames to this access panel design comprises of three types of frame construction, referred to as Frame 1, 2 and 4 in subsequent sections.

Frame 1 is used with the Metal Faced Flipfix design and Frame 2 is used with the Plasterboard Faced Flipfix designs. The mitreless frame (Frame 4), is used with the Metal Faced Flipfix (Leaf 1) design.

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

4.4.1 Frame 1 – for use with Leaf 1

This frame construction must be manufactured from 0.9 – 1.0mm thick mild steel sheet which comprises a single rebate profile with a 25mm wide integral architrave and returns in the profile to accommodate the Flipfix fixings, latch/lock and hinge fixings.

See section 6.1.1 for further constructional detail.

4.4.2 Frame 2 – for use with Leaf 2 and 3

This frame construction must be manufactured from 0.9 – 1.0mm thick mild steel sheet which comprises a single rebate profile with a 25mm wide integral architrave and returns in the profile to accommodate the Flipfix fixings, latch/lock and rapid fit hinge fixings.

See section 6.1.2 for further constructional detail.

4.4.3 Frame 4 – for use with Leaf 4

This frame construction must be manufactured from 0.9 – 1.0mm thick mild steel sheet comprising a single rebate profile with a 20mm wide integral architrave and returns in the profile to accommodate the Flipfix fixings, latch/lock, and pivots.

See section 6.1.3 for further constructional detail.

4.5 Access Panel Installation setup and Maximum Leaf Sizes

4.5.1 General

The evaluation of the access panel size is based on the tests listed in Section 3 and takes into account:

1. The margin of over performance above 60 minutes integrity for the design(s)
2. The characteristics exhibited during test and
3. The access panel installation setup tested

The following section details the maximum leaf size for each access panel design option based on test results.

Access panels with reduced length and width dimensions from those tested are deemed to be less onerous, within limitations due to the steel construction of the design. Therefore, Flipfix access panels with dimensions as shown in section 4.5.4, for the relevant leaf type, are covered and may be manufactured.

4.5.2 Installation Setup

The tests were carried out with the access panel designs fitted with a single leaf and latched in position, which is the permitted installation setup.

The following sections detail the assessed maximum and minimum leaf sizes for the access panel designs.

4.5.3 Orientation

The fire resistance tests for these designs were conducted with the Access Panel fitted in a horizontal orientation such that the leaf opened towards the fire.

For access panels installed in a horizontal orientation, fire resistance may only be claimed for fire risk from below with the access panels hinged or pivoted such that they open towards the fire risk face.

Based on this testing, assessment is made that Access Panels to these designs may be hung in a vertical orientation. The rationale behind this being that when tested in the horizontal orientation the panel would drop, sag and bow, and thus be likely to separate between leaf and frame. When hung in a vertical orientation the leaf would not have the weight effect causing the leaf to sag so much compared to when in the horizontal orientation, so would be expected to be less likely to separate between leaf and frame. For access panels installed in a vertical orientation, fire resistance may only be claimed for fire risk with the access panels hinged or pivoted such that they open towards the fire risk face.

4.5.4 Leaf Sizes

The following sections detail the permitted leaf sizes based on the leaf option.

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

4.5.4.1 Leaf 1 – 60 Minutes Integrity Performance

Based on the performance obtained in the successful test references FEI/14056 and FEI/F14064 (Hatch B), as summarised in section 3, and the methodology adopted within BS EN 15269-2: 2012, leaf size increase above that tested is not permitted. This is based on the overrun performance demonstrated by the test, which did not achieve Category B performance.

The leaf size of the access panel design for Leaf 1 may be reduced in size by a maximum of 50% compared to the tested size.

Leaf size may be varied within the following range as specified in the table below, for square or rectangular access panels. When fitted in the vertical orientation the permitted minimum and maximum leaf dimensions apply to both the height and width.

Access Panel Design	**Leaf Dimensions** (mm)	
	Minimum	**Maximum**
Leaf 1 - Metal Faced Flipfix	150	598

4.5.4.2 Leaf 2 – 60 Minutes Integrity Performance

Based on the performance obtained in the successful test reference FEI/F14064 (Hatch A), as summarised in section 3, which had not exhibited a failure when the test was stopped at 66 minutes, it is the opinion of Warringtonfire that the required fire resistance performance of the access panel would continue to be achieved for access panels constructed with the following variations to tested leaf dimensions. Due to the overrun in performance and that there was no evidence that increasing the leaf size, to the sizes given below, would adversely affect performance during the test, this permits the increase in leaf size.

It is permitted to increase the leaf size by 8mm compared to the tested size. The leaf size of access panel design for Leaf 2 may be reduced in size by a maximum of 50% compared to the tested size.

Leaf size may be varied within the following range as specified in the table below, for square or rectangular access panels. When fitted in the vertical orientation the permitted minimum and maximum leaf dimensions apply to both the height and width.

Access Panel Design	**Leaf Dimensions** (mm)	
	Minimum	**Maximum**
Leaf 2 - Plasterboard Faced Flipfix	145	298

4.5.4.3 Leaf 3 – 60 Minutes Integrity Performance

Based on the performance obtained in the successful test reference FEI/14107, as summarised in section 3, which had not exhibited a failure when the test was stopped at 64 minutes, it is the opinion of Warringtonfire that the required fire resistance performance of the access panel would continue to be achieved for access panels constructed with the following variations to tested leaf dimensions. Due to the overrun in performance and that there was no evidence that increasing the leaf size, to the sizes given below, would adversely affect performance during the test, this permits the increase in leaf size.

It is permitted to increase the leaf size by 10mm compared to the tested size. The leaf size of the access panel design for Leaf 3 may be reduced in size by a maximum of 50% compared to the tested size.

Leaf size may be varied within the following range as specified in the table below, for square or rectangular access panels. When fitted in the vertical orientation the permitted minimum and maximum leaf dimensions apply to both the height and width.

Access Panel Design	**Leaf Dimensions** (mm)	
	Minimum	**Maximum**
Leaf 3 - Reinforced Plasterboard Faced Flipfix	294	598

4.5.4.4 Leaf 4 – 60 Minutes Integrity Performance

Test reference WF390808 (Hatch A), as summarised in section 3, has a leaf of 595mm x 595mm and achieved 65 minutes integrity fire resistance performance (by Continuous Flaming and Gap Gauge only). On the basis of the stability of the construction during the test, it is the opinion of Warringtonfire that leaf size increase above that tested can be permitted to that shown below.

The leaf size of the access panel design for Leaf 4 may be reduced in size by a maximum of 50% compared to the tested size in test reference WF390808 (Hatch B).

It is permitted to increase the leaf size by 48mm compared to the tested size.

Leaf size may be varied within the following range as specified in the table below, for square or rectangular access panels. When fitted in the vertical orientation the permitted minimum and maximum leaf dimensions apply to both the height and width.

Access Panel Design	**Leaf Dimensions** (mm)	
	Minimum	**Maximum**
Leaf 4 – Mitreless frame, Metal Faced Flipfix	149	643

5 General Description of Leaf Construction

5.1 Tested Leaf Construction

The four leaf options detailed below are approved by this assessment.

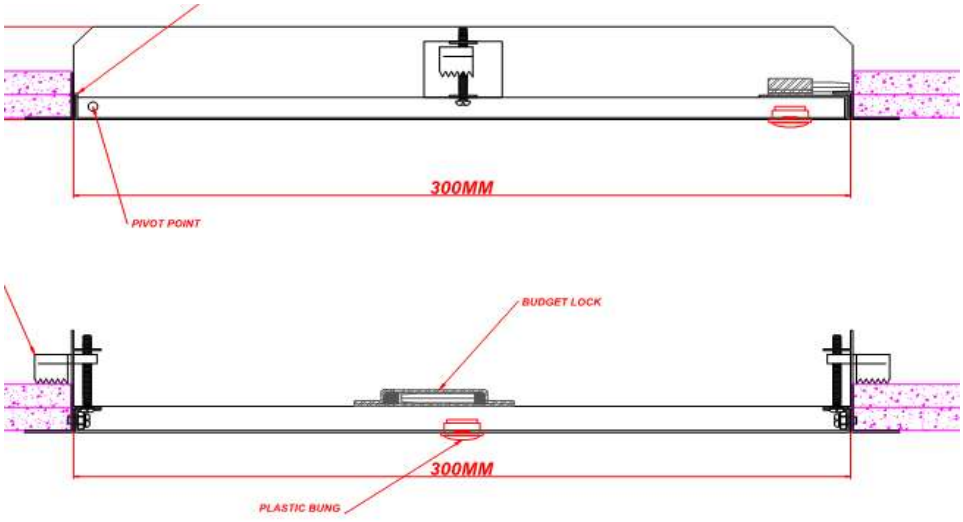
Fabrication of the access panel leaf must be as tested. The table in the following sections summarises the main components of the tested access panel leaf design. For full construction details, reference should be made to the full test reports which are summarised in section 3.

5.1.1 Leaf Type 1 – (Metal Faced Flipfix) – 13mm thick (tested)

Leaf 1 was successfully tested in test references FEI/14056 and FEI/F14064 (Hatch B) and the basic tested construction of this leaf design comprises the following:

Element	Product or Material	Dimensions (mm)
Panel Tray	Profiled powder coated Zintec mild steel tray, welded at the corners.	0.9 thick x 13 deep. (see section 5.2 for assessed maximum & minimum thicknesses)
Core	None	-
Leaf Stiffeners	None	-
Facing	None	-

The figure below shows an example detail of Leaf 1. For full construction details, reference should be made to the full test reports which are summarised in section 3.



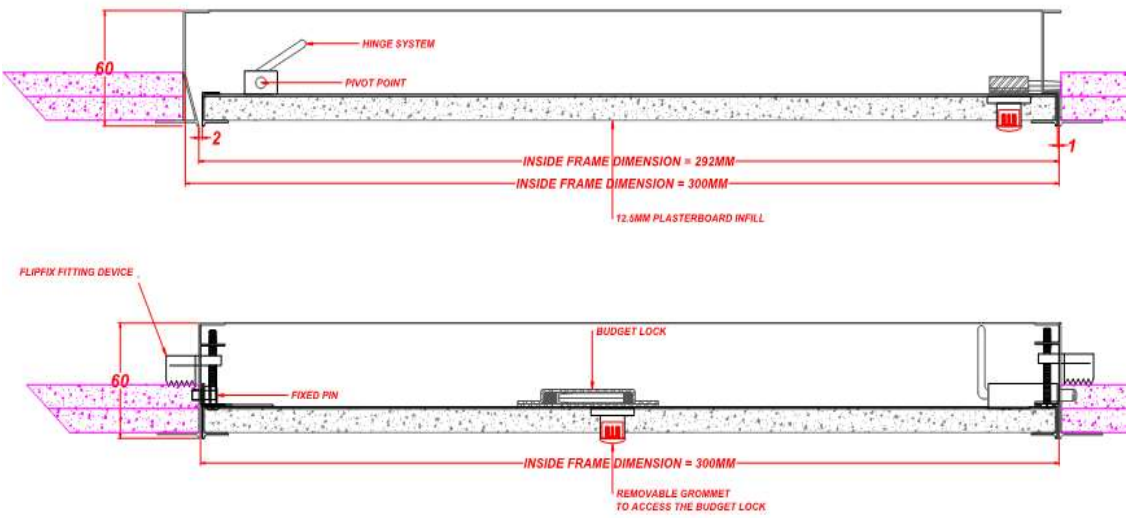
Example drawing of Leaf 1, extracted from test report FEI/14056

5.1.2 Leaf Type 2 – (Plasterboard Faced Flipfix) – 15.5mm thick (tested)

Leaf 2 was successfully tested in test reference FEI/F14064 (Hatch A) and the basic tested construction of this leaf design comprises the following:

Element	Product or Material	Dimensions (mm)
Panel Tray	Profiled powder coated mild steel tray, welded at the corners.	1.0 thick x 15.5 deep. (see section 5.2 for assessed maximum & minimum thicknesses)
Core	Siniat/GTEC Megadeco board (see section 5.2.4 for assessed alternative)	12.5
Leaf Stiffeners	None	-
Facing	None	-

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 section 3.



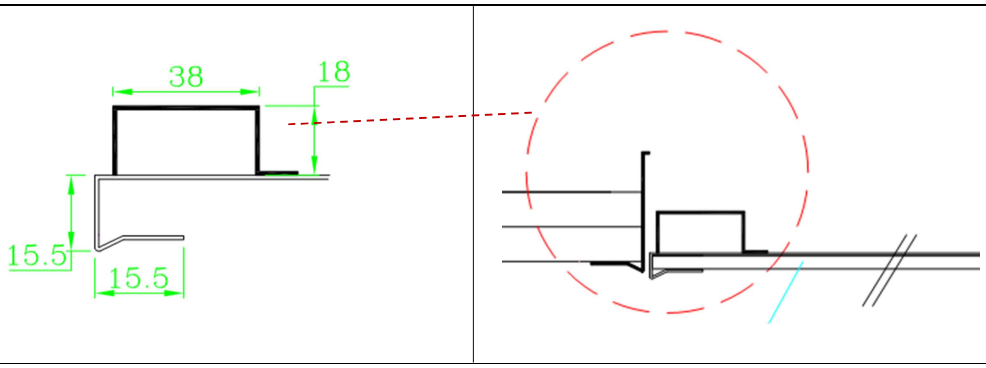
Example drawing of Leaf 2, extracted from test report FEI/F14064 (Hatch A)

5.1.3 Leaf Type 3 – (Reinforced Plasterboard Faced Flipfix) – 33.5mm thick (tested)

Leaf 3 was successfully tested in test reference FEI/14107 and the basic tested construction of this leaf design comprises the following:

Element	Product or Material	Dimensions (mm)
Panel Tray	Profiled powder coated mild steel tray, welded at the corners.	1.0 thick x 15.5 deep. (see section 5.2 for assessed maximum & minimum thicknesses)
Core	Siniat/GTEC Megadeco board (see section 5.2.4 for assessed alternative)	12.5
Leaf Stiffeners	Folded mild steel sheet welded to back face of tray to all 4 leaf edges.	18mm high x 38mm wide x 1.0mm thick
Facing	None	-

The design for Leaf 3 is as per Leaf 2 with additional reinforcement which must be fitted to all 4 leaf edges as shown in the figure below. For full construction details, reference should be made to the full test report which is summarised in section 3.



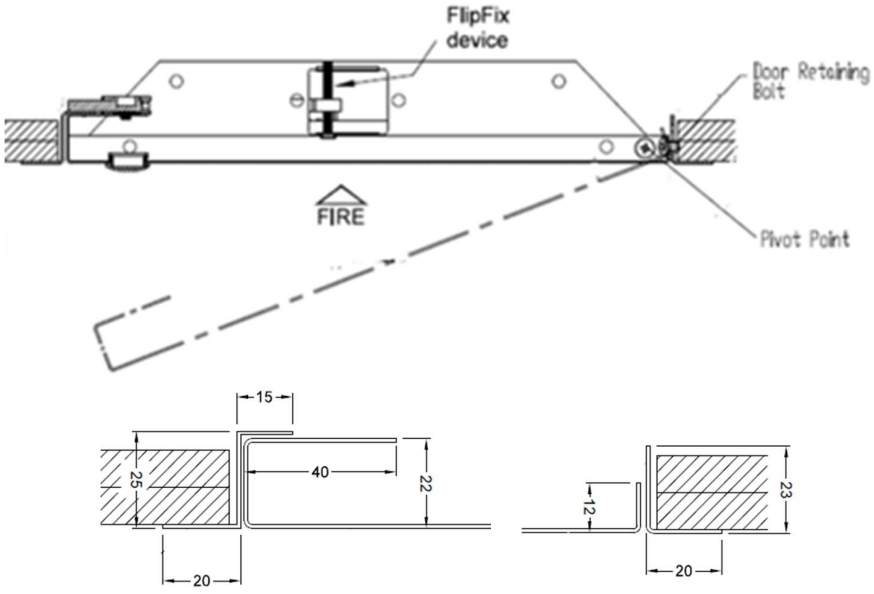
Diagrams showing required reinforcement for Leaf 3, extracted from test report FEI/14107

5.1.4 Leaf Type 4 – (Mitreless frame, Metal Faced Flipfix) –12 to 22mm thick (tested)

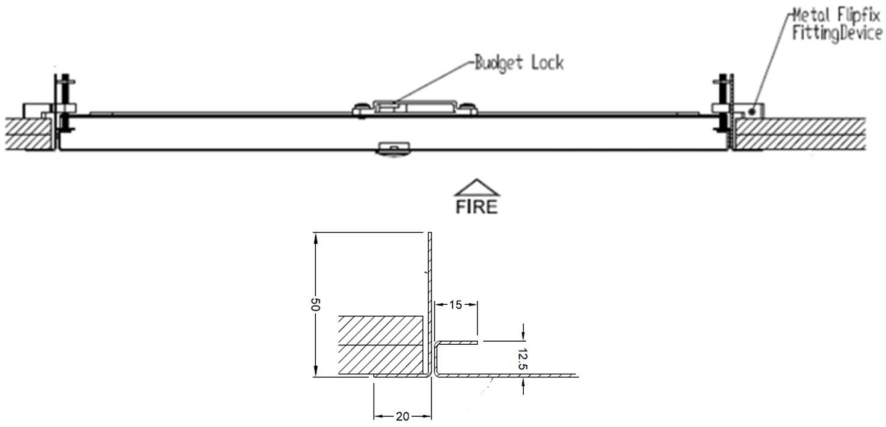
Leaf 4 was successfully tested in test reference WF390808 (Hatch A) and the basic tested construction of this leaf design comprises the following:

Element	Product or Material	Dimensions (mm)
Panel Tray	Profiled powder coated Zintec mild steel tray (folded construction, no welds)	0.9 thick x 12 to 22 deep. (see section 5.2 for assessed maximum & minimum thicknesses)
Core	None	-
Leaf Stiffeners	None	-
Facing	None	-

The figures below show an example detail of Leaf 4. For full construction details, reference should be made to the full test report which is summarised in section 3.



Example section of Leaf 4, through closing edge and hanging edge, extracted from test report WF390808 (Hatch A)



Example section of Leaf 4, extracted from test report WF390808 (Hatch A)

5.2 Variations to Tested Leaf Construction

5.2.1 Leaf Thickness

The tests were not conducted in the vertical to EN 1634-1, however it is considered acceptable to use the principles of parameter A.2.6 of BS EN 15269-2: 2012 (for steel doorsets) and the permitted leaf thickness is therefore, as follows:

5.2.1.1 Leaf 1 Thickness

Maximum leaf thickness (without finishes) = 13mm

Minimum leaf thickness (without finishes) = 11.7mm

5.2.1.2 Leaf 2 Thickness

This leaf incorporates 1No layer of 12.5mm 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.

5.2.1.3 Leaf 3 Thickness

This leaf incorporates 1No layer of 12.5mm 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.

5.2.1.4 Leaf 4 Thickness

This leaf design has different thicknesses at different edges (as detailed in section 5.1.4). The following range of leaf thicknesses are permitted:

- Leaf thickness at pivoted edge (without finishes) = 10.4 to 12mm
- Leaf thickness at lock edge (without finishes) = 11.2 to 12.5
- Leaf thickness at the other two edges (without finishes) = 19.8 to 22mm

Size increases or decreases must be applied proportionally to all edges.

5.2.2 Leaf Facing / Skin Thickness

The testing conducted on this design evaluated powder coated mild steel facing/skin, and it is considered (taking into account published guidance in parameter A.3.21 of BS EN 15269-2: 2012 for steel doorsets) 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:

5.2.2.1 Leaf 1 Facing/Skin Thickness

Maximum facing/skin thickness (without finishes) = 1.0mm

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

5.2.2.2 Leaf 2 and 3 Facing/Skin Thickness

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

Maximum facing/skin thickness (without finishes) = 1.1mm

Minimum facing/skin thickness (without finishes) = 1.0mm (as tested in FEI/F14064 Hatch A)

5.2.2.3 Leaf 4 Facing/Skin Thickness

Maximum facing/skin thickness (without finishes) = 1.0mm

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

5.2.3 Alternative Leaf Facing/Skin Material

The leaf facing/skin material must remain as tested.

5.2.4 Core Material and optional plaster skim – Leaf 2 and 3 only

The tested core material was 12.5mm Siniat/GTEC Megadeco board, and is held in position enclosed within the edges of the tray.

Siniat's published Declaration of Performance (UKSI-00520-009), covers both Megadeco and GTEC Universal Board, and the published board weights on their Technical Datasheets are identical, please see Appendix C. On the basis of this it is assessed that using 12.5mm GTEC Universal Board as an alternative to the Megadeco board would not be expected to have an adverse effect on the fire resistance performance of the access panel and is therefore permitted herein.

The following optional additional finish is permitted to the plasterboard face of Leaf 2 and 3 access panel designs since it would be expected to remain inert under test conditions without significant effect to the fire resistance performance of the access panel.

Facing Material	Maximum Permitted Thickness (mm)
Plaster skim	3.0

5.2.5 Decorative and Protective Finishes

The following additional finishes are permitted for these access panel design since they would either degrade rapidly or remain inert under test conditions without significant effect to the fire resistance performance of the access panel.

Facing Material	Maximum Permitted Thickness (mm)
Paint	0.2
Vitreous Enamel	1.0
Stove Enamelling	0.1
Epoxy Powder Coating	0.4

5.2.6 Galvanisation Process

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

- Hot dip
- Electro-galvanisation
- Aluzinc.

6 Access Panel Frame Construction

6.1 Tested Frame Construction

The frame must be manufactured from 0.9 – 1.0m thick powder coated mild steel sheet, to the design as tested.

Variations to the tested frame constructions are not permitted.

The following section details the tested frame profiles, for full construction details reference should be made to the full test reports summarised in section 3.

6.1.1 Frame 1 – For use with Leaf Type 1

This is a four-sided single rebate frame construction based on the referenced test evidence FEI/F14056 (Hatch A) and FEI/F14064 (Hatch B).

Element	Material or Product	Dimensions (mm)
4 sided frame	Powder coated profiled steel section, featuring an integral stop to the lock side.	54 high x 25 wide x 0.9 to 1.0 thick overall.
Architrave	Integral	25 wide x 0.9 to 1.0 thick lip section oversailing the supporting construction.

The frame profile must include a 25mm wide architrave and returns in the profile to accommodate the Flipfix fixings, latch/lock and hinge fixings as tested.

The figure in section 5.1.1 includes example detail of the tested frame profile.

6.1.2 Frame 2 – For use with Leaf Type 2 or 3

This is a four-sided single rebate frame construction based on the referenced test evidence FEI/F14064 (Hatch A) and FEI/F14107.

Element	Material or Product	Dimensions (mm)
4 sided frame	Powder coated profiled steel section, featuring an integral architrave.	59 to 60 high x 25 wide x 0.9 to 1.0 thick overall.
Architrave	Integral architrave from perforated powder coated steel	25 wide x 0.9 to 1.0 thick lip section oversailing the supporting construction.

The frame profile must include a 25mm wide architrave, stiffening returns and returns in the profile to accommodate the Flipfix fixings, latch/lock and rapid fit hinge fixings as tested.

The figure in section 5.1.2 includes example detail of the tested frame profile.

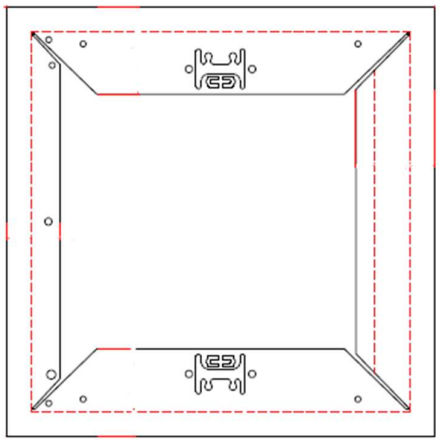
6.1.3 Frame 4 – For use with Leaf Type 4

This is a four-sided single rebate frame construction based on the referenced test evidence WF390808 (Hatch A and B).

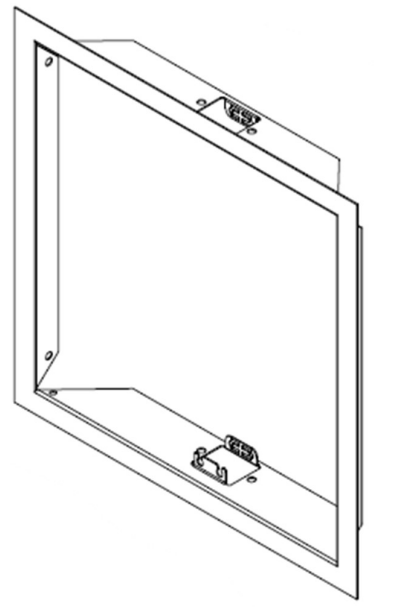
Element	Material or Product	Dimensions (mm)
4 sided frame	Powder coated profiled steel section, featuring an integral architrave.	50 high x 20 to 35 wide x 0.9 to 1.0 thick overall.
Architrave	Integral architrave from perforated powder coated steel	20 wide x 0.9 to 1.0 section oversailing the supporting construction.
Stop	Integral stop to meet the leading edge of the leaf	15 wide x 0.9 to 1.0

The frame profile must include a 20mm wide architrave, and returns in the profile to accommodate the Flipfix fixings, latch/lock and pivot fixings as tested.

The figures in section 5.1.4 include example details of the tested frame profile, and the figures below shows the method of construction.



Example of Frame 4, Flat Pattern



Example of Frame 4

6.2 Frame Joint

6.2.1 Frame Joint for Frame 1 and 2

The four frame corner joints must be a welded type construction as tested. Joints must be tight and secure with no gaps. For further details reference should be made to the full test reports summarised in section 3.

6.2.2 Frame Joint for Frame 4

Frame joints are not applicable to Frame 4, as it is constructed from a single sheet of steel.

7 Intumescent & Sealing Materials

No intumescents were tested for this design and they are therefore not required or permitted.

8 Hardware

8.1 General

The following sections detail the permitted scope and constraints for fitting hardware to the Flipfix access panel designs, and consider what tested items of essential and non-essential hardware can be used on the access panel range.

Each section will consider the named item of hardware and detail if there are any limitations associated with leaf or frame option.

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.

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 that are required in this assessment.

Essential Hardware
• Latch/Lock • Hinges/pivots • Door Retaining bolts (for Frame 4 with Leaf 4 only) • Fire Door Keep Locked Shut sign

Note:

1. Closer – the access panels do not require self-closing devices since they must be kept locked shut when not in use. A metal 'Fire Door Keep Locked Shut' sign must therefore be fixed to the access panel face.
2. Lock – all leaves must be fitted with the latch/lock system as tested or assessed, which must be engaged when the access panel is in the closed position.
3. No other hardware is approved for use with this steel access panel design.

8.4 Latch/Lock - Single Point Engagement

The permitted options for a latch/lock are as detailed below in sections 8.4.1 and 8.4.2. No other options for a latch/lock are permitted.

The latch/lock must be engaged when the access panel is in the closed position.

8.4.1 Budget latch

This item, as tested in all test references in section 3, is suitable in the following applications only:

Leaf options: 1, 2, 3 and 4

Frame options: 1, 2 and 4

The table below details the tested latch/lock that is approved.

Element	Product Information
Latch/Lock	Budget type latch (79mm x 22mm) central to the edge opposite to the hinge or pivoted edge, engaging over the frame profile.  The plastic grommet cover to the fire risk side is optional as this would be expected to melt or burn away in the early stages of the test (no integrity failures have been seen in the tested arrangements related to this component).

The latch/lock must be engaged when the access panel is in the closed position.

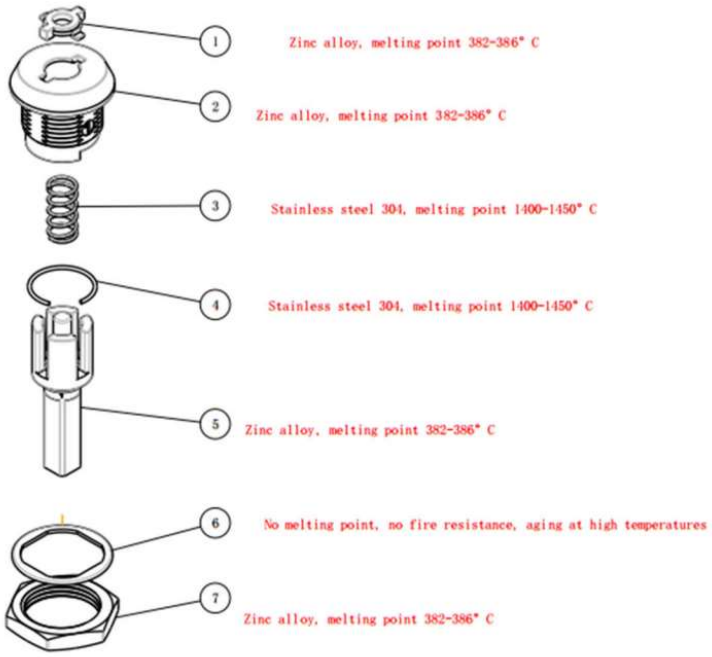
8.4.2 Budget latch lock inserts

The budget latch was tested in all test references in section 3 with a standard lock mechanism as detailed in section 8.4.1.

The following alternate lock inserts for use with the budget latch have been assessed.

8.4.2.1 Key Retaining Lock (KRL) insert for budget latch

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

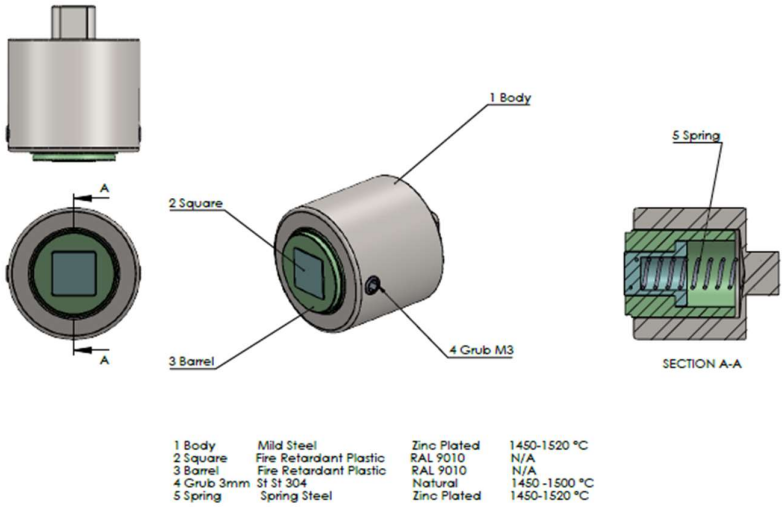


Key Retaining Lock (KRL)

The KRL is proposed to be fitted to the fire risk side of the budget latch and has been declared to be constructed from metallic components. The positioning is instead of the plastic grommet cover with the shaft engaging into the budget latch. The zinc alloy of the KRL, with a stated melting point of 382 to 386^{0}C, would be expected to remain in position for longer than the plastic grommet cover, therefore plugging the hole for a longer period of time. Should the KRL melt and fall away during the test, the engagement of the budget latch with the frame would not be expected to change. It is the opinion of Warringtonfire that this modification is acceptable, when fitted to the fire risk side of the budget latch.

8.4.2.2 Flush Lock (FL) insert for budget latch

The below illustration, supplied by Panel Technologies Ltd, details the components of the FL lock insert.



Flush Lock (FL)

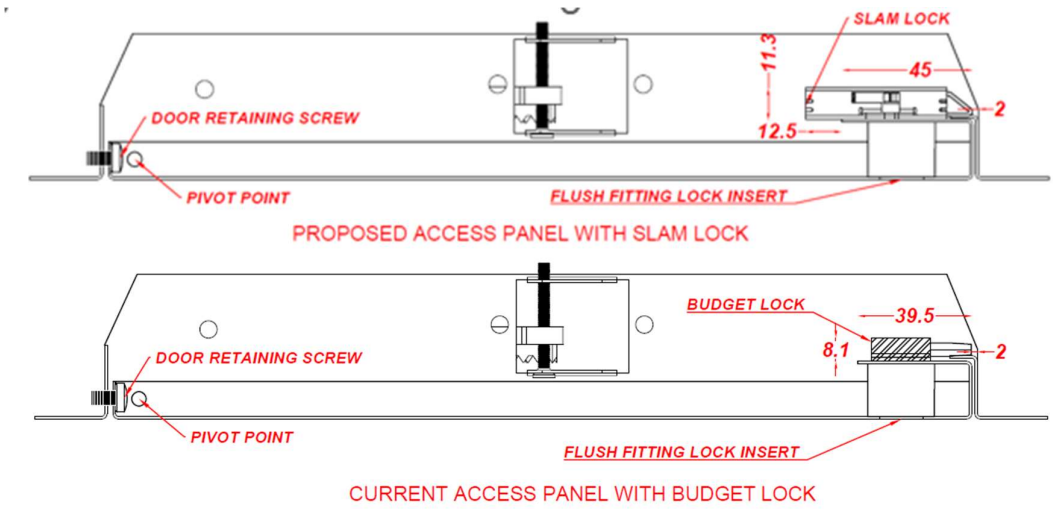
The FL is proposed to be fitted to the fire risk side of the budget latch and has been declared to be constructed from metallic and plastic components. The positioning is instead of the plastic grommet cover with the shaft engaging into the budget latch.

The steel parts of the FL, have stated melting points in excess of 1450^0C. The specified heating regime of EN 1634-1 test method reaches 945^0C at 60 minutes. The steel parts of the FL would be expected to remain in position for the duration of the test and the engagement of the budget latch with the frame would not be expected to change.

The performance of the plastic square and barrel components have not been declared. On the basis that the plastic components are to the fire risk side, any melting or burning would be expected to be isolated from the non-fire risk side by the mild steel body. It is the opinion of Warringtonfire that this modification is acceptable, when fitted to the fire risk side of the budget latch.

8.4.3 Slam Lock (SL)

The SL is proposed to be fitted to the non-fire risk side of the leaf instead of the tested budget latch. The below snip from a drawing supplied by Panel Technologies Ltd, shows an example with the differences in fitting between the proposed slam lock and the tested budget lock.



The below illustration, supplied by Panel Technologies Ltd, details the components of the SL lock insert. The SL is stated to be constructed of steel plate or steel cast with stated melting points in excess of 1425^{0}C. The slammer of the Slam Lock is engaged by the action of the spring and unlatched by use of the key. An engaged slammer would not be expected to disengage without the use of a key if the lock included in an access panel design was subject to a fire resistance test. The above illustration shows that the engagement distance of the SL with the frame is similar to the budget lock.

It is the opinion of Warringtonfire that this alternative to the tested budget latch, when fitted to the non-fire risk side of the leaf, is permitted and is suitable in the following applications only:

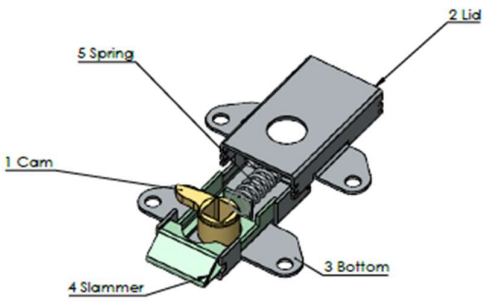
Leaf options: 1, 2, 3 and 4

Frame options: 1, 2 and 4

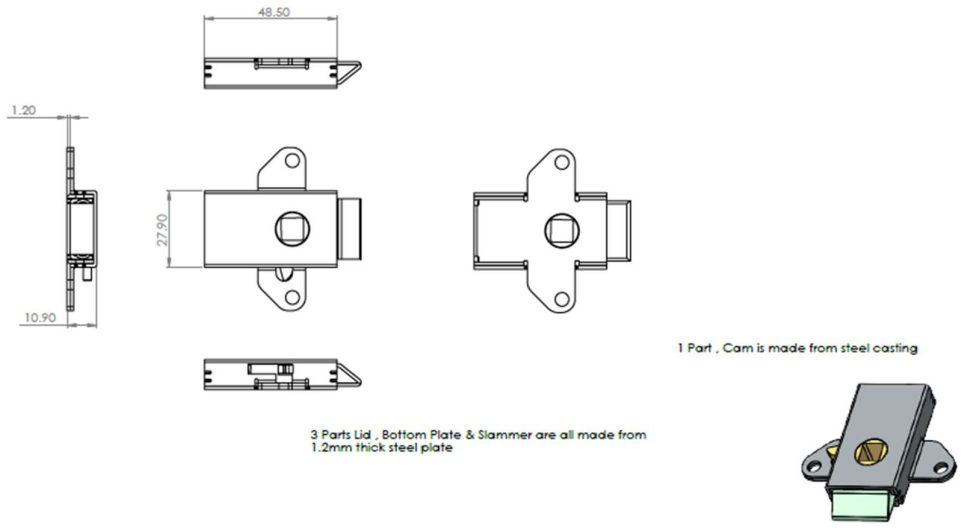
The table below details the assessed alternative latch/lock that is approved.

Slam Lock (48.5mm x 28mm) central to the edge opposite to the hinge or pivoted edge, engaging over the frame profile. Must be fitted so the engagement over the frame profile is at least as much as was tested with the budget lock.

The return on the leaf to accommodate the fixings for the lock must be increased from the tested dimension to 45mm as proposed when using the Slam Lock.



1 Cam	Cast Steel	Zinc Plated	1426-1540 °C
2 Lid	1.2mm Cold rolled	Zinc Plated	1500 °C
3 Bottom	1.2mm Cold rolled	Zinc Plated	1500 °C
4 Slammer	1.2mm Cold rolled	Zinc Plated	1500 °C
5 Spring	Spring Steel	Zinc Plated	1425-1500 °C



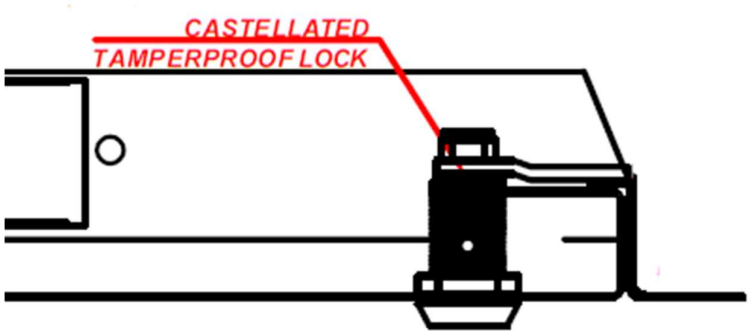
Slam Lock (SL)

The latch/lock must be engaged when the access panel is in the closed position.

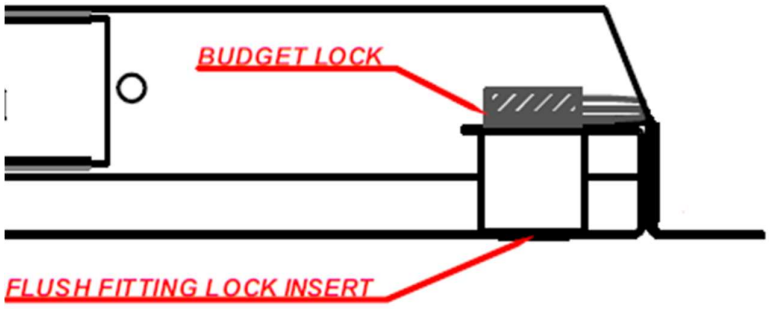
8.4.4 Castellated Key Lock (CKL)

The CKL is proposed to be fitted, through the leaf with the key side to the fire risk side instead of fitting the tested budget latch and plastic grommet cover. It has been declared to be constructed from metallic components.

The below snip from a drawing supplied by Panel Technologies Ltd, shows an example with the differences in fitting between the proposed Castellated Key Lock and the tested budget lock.



Proposed Access Panel with Castellated Key Lock



Access Panel with Budget Latch

The below illustration, supplied by Panel Technologies Ltd, details the components of the CKL lock insert. The CKL is stated to be constructed of brass and steel with stated melting points of 1193^{0}C and 1500^{0}C respectively. The specified heating regime of EN 1634-1 test method reaches 945^{0}C at 60 minutes. The steel and brass components of the CKL, have melting points in excess of those reached during test at 60 minutes.

The CKL is positioned with the lock body though a hole in the risk side face of the leaf and held in position with a nut. The proposed hole dimensions are shown in the below illustration. It is the opinion of Warringtonfire that this hole is a sufficiently tight fit and that with a tightly fitted nut, that this lock would be expected to remain in position if the lock included in an access panel design was subject to a fire resistance test for 60 minutes. It is also the opinion of Warringtonfire that as the hole is a sufficiently tight fit that this would not permit the passage of flames.

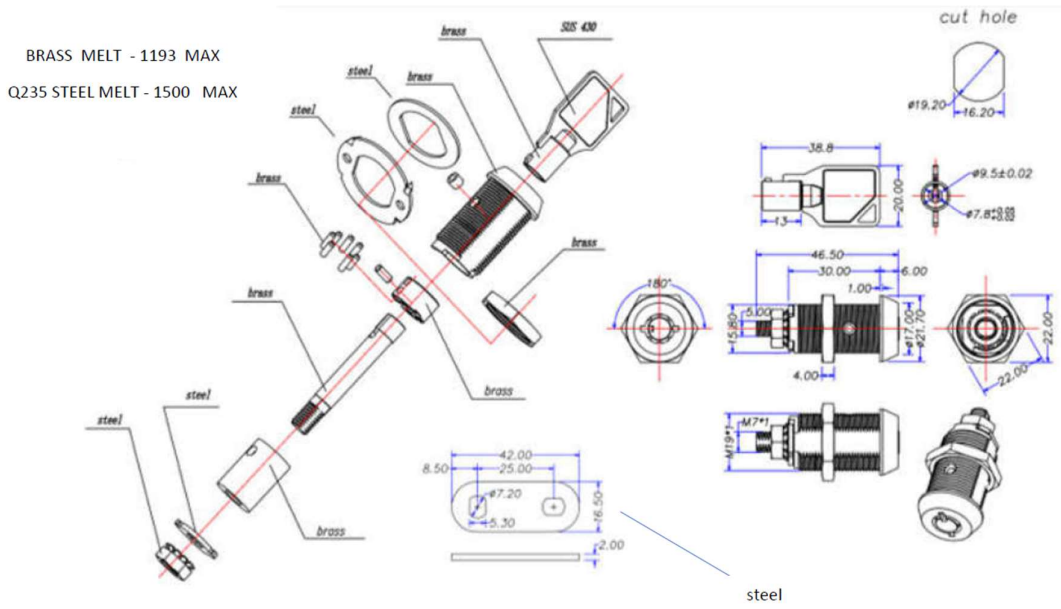
The above illustration shows that the engagement distance of the CKL with the frame is similar to the budget lock. The engagement of the CKL would not be expected to change if the lock included in an access panel design was subject to a fire resistance test for 60 minutes.

It is the opinion of Warringtonfire that this alternative to the tested budget latch, when fitted with the key to the fire risk side of the leaf, is permitted and is suitable in the following applications only:

Leaf options: 1, 2, 3 and 4

Frame options: 1, 2 and 4

The table below details the assessed alternative latch/lock that is approved.



Castellated Key Lock, central to the edge opposite to the hinge or pivoted edge, engaging over the frame profile. Must be fitted so the engagement over the frame profile is at least as much as was tested with the budget lock.

The hole through the leaf must be no greater than the dimensions as shown in this illustration and the nut holding the CKL in position to the leaf must be tight.

Castellated Key Lock (CKL)

The latch/lock must be engaged when the access panel is in the closed position.

8.5 Hinges/Pivots

8.5.1 Tab Hinges

These items are suitable in the following application only:

Leaf option: 1

Frame option: 1

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

Element	Product Information
Hinges	• Tab Hinges. The tab must be welded to the leaf to engage with a 6mm diameter steel rod welded to the rear of the frame as tested. 

In all instances, the hinge positioning must be as follows:

Element		Specification
Hinge positions:	Horizontal Leaf, hinged side having a dimension of 150 to 300mm	1 hinge tab is required, Central to edge opposite latch
	Horizontal Leaf, hinged side having a dimension of greater than 300mm	2 hinge tabs are required, top and bottom of edge opposite latch, at 100-150mm from corners.
	Vertical Leaf, hinged side having a dimension of 150 to 300mm	2 hinge tabs are required, top and bottom of edge opposite latch, at 50-100mm from corners.
	Vertical Leaf, hinged side having a dimension of greater than 300mm	2 hinge tabs are required, top and bottom of edge opposite latch, at 100-150mm from corners.

8.5.2 Rapid Fit Hinges

These items are suitable in the following application only:

Leaf option: 2 and 3

Frame option: 2

The table below details the tested rapid fit hinges (pivots) that are approved.

Element	Product Information
Hinges	• Rapid Fit Hinge, comprising 2 pivot points, with positioning as tested. The housings/tabs must be welded to the leaf to fully support the hinge bars which must be engaged through the frame as tested. When the leaf is fitted in a vertical orientation the rapid fit hinges must be fitted to the top and bottom of one leaf edge. • For Leaf 3 the pivot points are enclosed within the leaf stiffeners.  

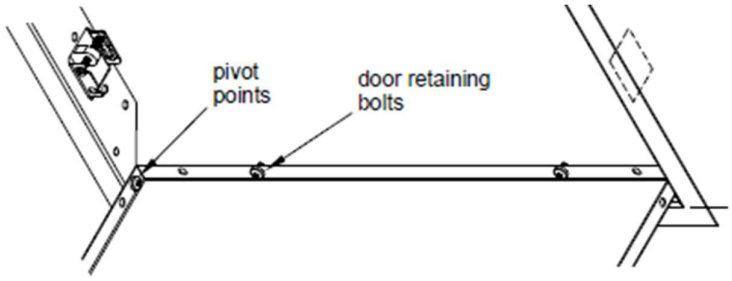
8.5.3 Pivot Points

These items are suitable in the following application only:

Leaf option: 4

Frame option: 4

The table below details the tested pivot arrangement that is approved.

Element	Product Information
Pivots	• Pivot, comprising 2 pivot points, which must be fitted as tested in WF390808. The figure below shows an example detail of one of the tested arrangements. For further detail, reference should be made to the full test reports summarised in section 3. 

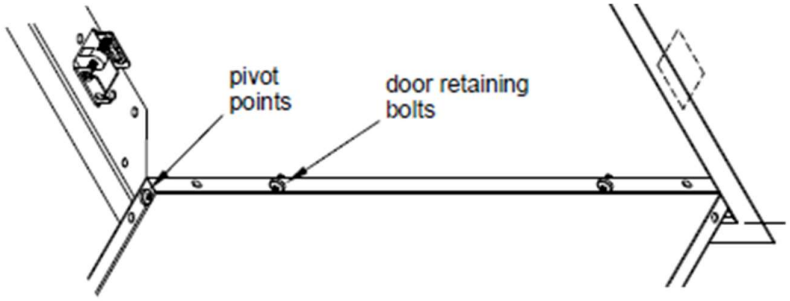
8.6 Door retaining bolt(s)

These items are suitable in the following application only:

Leaf option: 4

Frame option: 4

The table below details the tested door retaining bolt arrangement that is approved.

Element	Product Information
Door retaining bolts	The figure below shows an example detail of one of the tested arrangements. For further detail, reference should be made to the full test reports summarised in section 3. 

In all instances, the door retaining bolt positioning must be as follows:

Element		Specification
Door retaining bolt positions:	Horizontal or Vertical Leaf, hinged side having a dimension of 149 to 300mm	1 door retaining bolt is required, Central to edge opposite latch
	Horizontal Leaf, hinged side having a dimension of greater than 300mm	2 door retaining bolts are required, top and bottom of edge opposite latch, at 50-100mm from corners.
	Vertical Leaf, hinged side having a dimension of greater than 300mm	2 door retaining bolts are required, top and bottom of edge opposite latch, at 100-150mm from corners.

8.7 Signage

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

These items are suitable in the following applications only:

Leaf options: 1, 2, 3 and 4

Frame options: 1, 2 and 4

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 access panel 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 access panel assembly and therefore cause adverse deflection under test conditions.

Approved specification:

- Steel, stainless steel, aluminium or bronze signage may be fitted 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.
    - Bolted through the leaf with maximum of M5 steel or stainless steel bolts. If bolted, there must be no more than 1mm clearance between the hole and stud.
    - Steel signage of the above may be welded to the face of the leaf.

9 Installation

9.1 General

The steel access panel must be installed opening into the fire risk side as tested.

The following sections detail the installation for the access panel designs and consider:

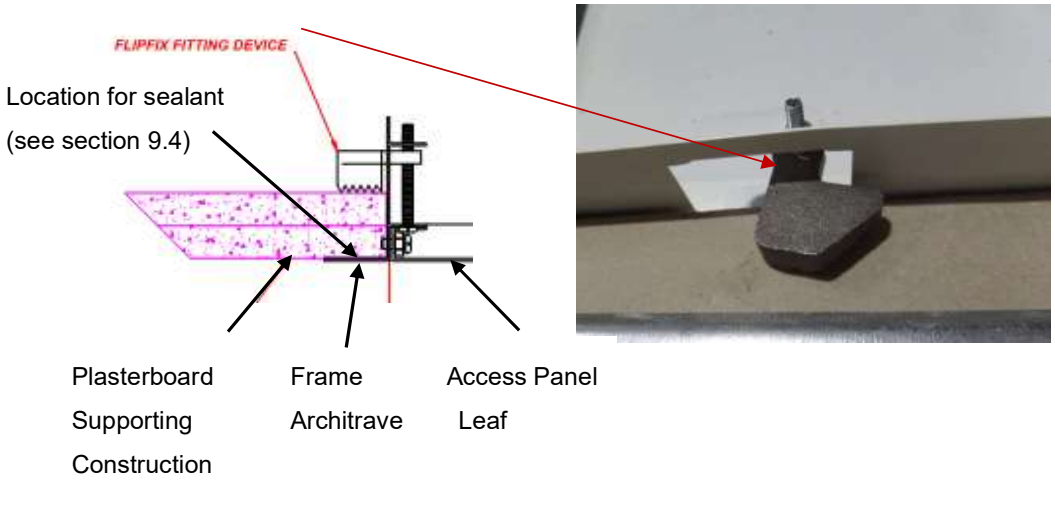
- the frame installation
- the requirements for the supporting construction
- fire stopping between the frame and the supporting construction
- the fixing requirements
- the requirements for leaf edge gaps

9.2 Installation Detail

Access Panel frames must be retained in place using Flipfix Fixings as detailed in the following section.

9.2.1 Tested installation detail - Flipfix Fixings

The figure below shows an example detail of the tested installation using Flipfix fixings. For further detail, reference should be made to the full test reports summarised in section 3.



Flipfix fixings

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

For leaf sizes up to 300mm on a side, 2No Flipfix fixings must be used to retain the access panel frame. The Flipfix fixings must be fitted, one each on opposite edges, on the access panel frame sides which do not incorporate the latch.

For leaf sizes greater than 300mm on a side, 4No Flipfix fixings must be used to retain the access panel frame. The Flipfix fixings must be fitted, two each on opposite edges, on the access panel frame sides which do not incorporate the latch.

All vertically oriented access panels must have the Flipfix fixings at the head and threshold.

9.3 Wall Types, Structural Opening & Fixity

9.3.1 Ceiling Types

On the basis of the tests summarised in section 3, and for fixing by FlipFix it is assessed that steel access panel designs using Frame 1, 2 or 4 are approved for use with the following ceiling types:

a) Plasterboard clad non-loadbearing suspended ceilings, utilising 2No 12.5mm Type F boards (as defined within EN520).
b) Board clad non-loadbearing suspended ceilings, utilising 2No layers of 10mm thick Glasroc F Multiboard.

The above ceiling types must have supporting fire resistance test evidence which demonstrates that it is capable of staying in place and intact for a minimum of 60 minutes fire resistance, classified to EI 60 to BS EN 13501- 2. This supporting test evidence must show that the ceiling can tolerate access panels or penetration designs fitted to the boards/plasterboards in a similar manner. The steel access panel design to be fitted must require no larger an aperture and be no heavier than the tested fitting supported by the supporting test evidence for the ceiling.

The ceiling type must provide one of the two boarding options required to permit adequate fixity using Flipfix fixings, which is to the boards and not any underlying studwork.

9.3.2 Wall Types

Assessment is made that Access Panels to these designs may be fixed in a vertical orientation. The rationale behind this being that when tested in the horizontal orientation the access panel would drop, sag and bow under its own weight, and thus be more likely to separate between the frame and ceiling than the following. When fixed in a vertical orientation the access panel would not have the weight effect causing the assembly to sag as much compared to when in the horizontal orientation, so would be expected to be less likely to separate between the frame and the wall.

On the basis of the tests summarised in section 3, for fixing by FlipFix it is therefore assessed that steel access panel designs using Frame 1, 2 or 4 are approved for use with the following wall types:

a) Plasterboard clad shaft walls, utilising 2No 12.5mm Type F boards (as defined within EN520).
b) Board clad shaft walls, utilising 2No layers of 10mm thick Glasroc F Multiboard.

The above wall types must have supporting fire resistance test evidence which demonstrates that it is capable of staying in place and intact for a minimum of 60 minutes fire resistance, classified to E 60 or EI 60 to BS EN 13501-2. This supporting test evidence must show that the wall can tolerate access panels or doorset designs fitted to the boards/plasterboards in a similar manner. The steel access panel design to be fitted must require no larger an aperture than the tested fitting supported by the supporting test evidence for the wall.

The wall type must provide one of the two boarding options required to permit adequate fixity using Flipfix fixings, which is to the boards and not any underlying studwork.

9.3.3 Structural Opening

For all ceiling and wall types the structural opening shall be square, plumb and provide the essential tested specification, as reported in the tests cited in section 3, which utilised 2No 12.5mm Type F boards (as defined within EN520) or 2No 10mm Glasroc F Multiboard to facilitate installation of the doorset.

For Frames 1 and 2 the aperture must provide a tight sliding fit to the edges of the access panel frame.

For Frame 4 it is permitted for the aperture to be a maximum of 5mm larger than the distance across the upstands of the Frame, as tested.

For plasterboard clad wall and ceiling types the structural opening must be prepared in line with the test evidence provided by the wall/ceiling manufacturer.

9.3.4 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.

The required number of Flipfix fixings is detailed in section 9.2.1.

9.4 Sealing to Structural Opening

For Frames 1 and 2 the aperture must provide a tight sliding fit to the edges of the access panel frame.

For Frame 4 the structural opening aperture size is permitted to be up to 5mm larger in dimension than the frame dimension, as tested.

The access panel frame for the Panel Technologies Ltd, Flipfix access panels incorporate either a 20mm or a 25mm wide architrave. Installation of the access panel must ensure the architrave is a tight fit against the underside of the ceiling or against the face of the supporting partition, leaving no gaps.

For Frame 1 and 2, a continuous bead of intumescent acrylic sealant must be applied sealing the frame to the face of the supporting construction (see installation drawing above in section 9.2.1). Sealant should be Mann McGowan Acrylic mastic, as tested, or must have been previously fire tested to BS 476: Part 20 or Part 22: 1987 or BS EN 1363-1: 1999 or BS EN 1634-1 for the required period of fire resistance and between the required substrates.

For Frame 4, no sealant is required. On the basis that similar frames have been tested with the use of sealants it is assessed that Mann McGowan Acrylic mastic (as tested with Frame 1 and 2), or a sealant that has been previously fire tested to BS 476: Part 20 or Part 22: 1987 or BS EN 1363-1: 1999 or BS EN 1634-1 for the required period of fire resistance and between the required substrates, is permitted.

9.5 Post Production (Onsite) Size Adjustment

Post production adjustment of the steel access panel assemblies is not permitted.

9.6 Leaf to Frame Gaps

Leaf to frame gaps on all edges must be controlled to a maximum of 2.5mm.

Note: Leaf must not be proud of the access panel frame by more than 1mm.

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

10 Insulation Performance

Insulation performance may not be claimed for access panels to these designs.

11 Conclusion

If the Panel Technologies steel access panel constructions, constructed in accordance with the specification documented in this field of application report were to be tested horizontally as part of a proven suspended ceiling system (as given in section 9.3.1) in accordance with BS EN 1364-2:2018, it is our opinion that they would provide a minimum of 60 minutes integrity performance by the failure criteria of continuous flaming and gap gauges only, subject to the access panel being fitted opening into the fire risk side.

If the Panel Technologies steel access panel constructions, constructed in accordance with the specification documented in this field of application report were to be fitted vertically and tested in accordance with BSEN 1634: 2014 +A1: 2018, it is our opinion that they would provide a minimum of 60 minutes integrity performance by the failure criteria of continuous flaming and gap gauges only, subject to the access panel being fitted opening into the fire risk side.

In both cases the latch/lock must be engaged with the access panel in the closed position.

12 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: R Carter

Name: Rob Carter

Position: Technical

Date: 19-06-23

For and on behalf of: Panel Technologies Ltd.

13 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 EN 1364-2:2018 or BSEN 1634: 2014 +A1: 2018, 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 access panels 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.

14 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 12 duly signed by the applicant.

Position:	Assessor	Co-author	Reviewer
Signature:			
Name:	***Emma L Wilson**	***Andrew Winning**	***Liam Dunk**
Title:	Senior Product Assessor	Senior Product Assessor	Senior Product Assessor

* For and on behalf of Warringtonfire

Appendix A: Summary of Supporting Test Evidence

Report No	Installation Setup	Leaf Size (mm)	Test Standard	Performance (mins)	
FEI/F14056	A: LSASD[1]	300 (h) 300 (w) 12 (t)	BS EN 1364-2: 1999 and BS EN 1363-1: 2012	Integrity	60
				Insulation	0
FEI/F14064	A: LSASD[2]	290 (h) 290 (w) 15.5 (t)		Integrity	66
				Insulation	0
	B: LSASD[1]	598 (h) 598 (w) 13 (t)		Integrity	66
				Insulation	0
FEI/F14107	LSASD[2]	588 (h) 588 (w) 15.5 (t)		Integrity	64
				Insulation	0
WF390808	A: LSASD[3]	595 (h) 595 (w) 12 to 22 (t)	Generally in accordance with BS EN 1634-1:2014	Integrity Sustained Flaming Gap Gauge Cotton Pad	 66 65 (10)[4]
				Insulation	1
	B: LSASD[3]	297 (h) 297 (w) 12 to 22 (t)		Integrity Sustained Flaming Gap Gauge Cotton Pad	 66 66 (13)[4]
				Insulation	2

1. Metal Faced Flipfix
2. Plasterboard Faced Flipfix.
3. Mitreless Frame, metal Faced Flipfix
4. Although this field of application report does not constitute a classification report, the Integrity section 7.5.5.3.1 of BS EN 13501-2 (*Fire Classification of construction products and building elements – Classification using data from fire resistance tests, excluding ventilation services*) states “Where an element is classified without an insulation classification, the value of integrity is that determined by the time to failure of only the cracks/openings or sustained flaming aspects, whichever fails first”. Therefore the cotton pad failure may be ignored for integrity only purposes.

Appendix B: Revisions

Rev.	WF Ref.	Date	Description
A	WF510619	18/05/2022	Technical review, update & revalidation for a further 5 years. Alternative plasterboard for the Plasterboard Flipfix products and rapid fit hinges included.
B	WF532890	19/06/2023	Inclusion of folded design tested in WF390808 (A and B), inclusion of lock inserts KRL and FL for Budget Lock, inclusion of alternative SL and CKL Locks. Validity to 18th May 2027 retained.

Appendix C: Published Siniat documentation

siniat

DECLARATION OF PERFORMANCE
Megadeco, GTEC Universal Board

No. UKSI-00520-009

1. Unique identification code of the product-type:
Megadeco and GTEC Universal Board (Gypsum Plasterboard Type D, F, I, R)

2. Intended use/es:
General building construction

3. Manufacturer:
Etex Building Performance Limited, Marsh Lane, Easton-in-Gordano, Bristol, BS20 0NE, UK

4. Not applicable

5. System/s of AVCP:
Systems 4

6a. Harmonised standard: **BS EN 520:2004+A1:2009**

6b. Not applicable

7. Declared performance/s:

Essential characteristics	Performance		Harmonised Technical Specification
Flexural strength	Transverse:	Longitudinal:	EN 520:2004+A1:2009
12.5mm	≥300N	≥725N	
15mm	≥360N	≥870N	
Shear Strength	NPD		
Reaction to fire	Euroclass A2-s1,d0		EN 520:2004+A1:2009
Airborne Sound Insulation	see literature		
Acoustic Absorption	see literature		
Water vapour permeability (μ)	10		EN 12524:2000
Thermal resistance	0.25 W/m.K		EN 12524:2000
Impact Resistance	see literature		

8. Appropriate Technical Documentation and/or Specific Technical Documentation:
The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

ORIGINAL DECLARATION:
Signed for and on behalf of Siniat Limited by:
Jean-Michel Desmoutier, Managing Director
Bristol, 01/07/2013

REVIEWED DECLARATION:
Signed for and on behalf of Etex Building Performance Limited by:
Nigel Morrey, Technical Director
Bristol, UK, 15/04/2019

ETEX BUILDING PERFORMANCE LIMITED
Gordano House, Marsh Lane, Easton-in-Gordano, Bristol, BS20 0NE
Technical Services | T: +44 (0)800 145 6033 or +44 (0)1275 377 789
E: technical.siniat@etexbp.co.uk
www.siniat.co.uk

etex building performance

siniat

TECHNICAL DATASHEET
Siniat Megadeco

Description
Siniat Megadeco is a pre-sealed dense plasterboard for use in areas where high technical performance and easy decoration (due to elimination of a need for priming prior to decoration) is required. The board is stronger, harder and heavier than Standard plasterboard and has superior fire resistance, sound insulation and impact resistance. Board is not suitable for skimming.

Appearance
Siniat Megadeco is coloured white on the front and grey on the back, and has tapers down the long edges.

Composition
Aerated Calcium sulphate di-hydrate with fillers and fibres enclosed inside liners made from recycled waste paper with bound edges. Core and papers are bonded with starch. Edge glue is PVA.

Compliance
Siniat Megadeco complies with BS EN 520:2004+A1:2009 Type D, F, I & R.

Physical Properties
Flexural Strength to BS EN 520:
12.5 mm board
Longitudinal breaking load ≥ 725 N
Transverse breaking load ≥ 300 N
15.0 mm board
Longitudinal breaking load ≥ 870 N
Transverse breaking load ≥ 360 N

Fire, acoustic & duty performance dependent on the whole system. See Siniat Drywall Manual for Siniat system performances.

Reaction to fire:
Euroclass A2-s1, d0

Moisture Content:
< 2%

Mass:
11.0 kg/m² for 12.5 mm board
13.0 kg/m² for 15.0 mm board

Board weight:
31.7 kg for 2400 mm x 1200 mm x 12.5 mm board
37.4 kg for 2400 mm x 1200 mm x 15.0 mm board

Thermal Conductivity, λ_R:
0.25 W/mK to BS EN 12524:2000

Thermal Resistance, R:
12.5 mm = 0.050 m²K/W
15.0 mm = 0.060 m²K/W

Mean Water vapour resistance factor:
μ = 10 to BS EN 12524

Handling & Fixing
Siniat Megadeco may be cut using the 'score and snap' method. No power tools are required.
Fixings must be suitable for the intended substrate:
GTEC Performance Self Tapping Screws for attaching plasterboard to thin gauge metal (up to 0.7 mm);
GTEC Self Drilling Screws for attaching plasterboard to thick gauge metal (up to 2.5 mm);
GTEC High Thread Screws for attaching plasterboard to timber.

Jointing Finishing & Painting
Siniat Megadeco should be jointed and finished with GTEC Deco jointing systems only. The boards require no primer prior to decorating. The board is not suitable for skim plaster finish.

GTEC Megadeco V Board
GTEC Megadeco Vapour Board has the same physical properties as GTEC Megadeco Board (except Reaction to fire, see GTEC Fire V Board) but has a silver metallised polyester film back liner which enhances the vapour resistance of the product.

Health & Safety
Please refer to the Plasterboard Health and Safety Datasheet available on our website.

Individual board weight values may occasionally exceed nominal weights published in this datasheet.

09/12/2019 RC

ETEX BUILDING PERFORMANCE LIMITED
Gordano House, Marsh Lane, Easton-in-Gordano, Bristol, BS20 0NE
Technical Services | T: +44 (0)800 145 6033 or +44 (0)1275 377 789
E: technical.siniat@etexbp.co.uk
www.siniat.co.uk

08/2020

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TECHNICAL DATASHEET
GTEC Universal Board

Description
GTEC Universal Board is dense plasterboard for use in areas where high technical performance is required. The board is stronger, harder and heavier than Standard plasterboard and has superior fire resistance, sound insulation and impact resistance in GTEC Drywall Systems.

Appearance
GTEC Universal Board is coloured yellow on the front and on the back, and has tapers down the long edges.
Name and batch number of the board is written at the back and on the long edges of the board.

Composition
Aerated calcium sulphate di-hydrate with fillers and fibres enclosed inside liners made from recycled waste paper with bound edges. Core and papers are bonded with starch. Edge glue is PVA.

Compliance Authority
GTEC Universal Board complies with BS EN 520:2004+A1:2009 Type D, F, I & R.

Physical Properties
Flexural Strength to BS EN 520:
12.5 mm board
Longitudinal breaking load ≥ 725 N
Transverse breaking load ≥ 300 N
15.0 mm board
Longitudinal breaking load ≥ 870 N
Transverse breaking load ≥ 360 N

Fire, acoustic & duty performance dependent on the whole system. See Siniat Drywall Manual for Siniat system performances.

Reaction to Fire:
Euroclass A2-s1, d0

Moisture Content:
< 2%

Mass:
11.0 kg/m² for 12.5 mm board
13.0 kg/m² for 15.0 mm board

Board weight:
31.7 kg for 2400 mm x 1200 mm x 12.5 mm board
37.4 kg for 2400 mm x 1200 mm x 15.0 mm board

Thermal Conductivity, λ_R:
0.25 W/mK to BS EN 12524:2000

Thermal Resistance, R:
12.5 mm = 0.050 m²K/W
15.0 mm = 0.060 m²K/W

Mean Water vapour resistance factor:
μ = 10 to BS EN 12524

Handling & Fixing
GTEC Universal Board may be cut using the 'score and snap' method. No power tools are required.
Fixings must be suitable for the intended substrate:
GTEC Performance Self Tapping Screws for attaching plasterboard to thin gauge metal (up to 0.7 mm);
GTEC Self Drilling Screws for attaching plasterboard to thick gauge metal (up to 2.5 mm);
GTEC High Thread Screws for attaching plasterboard to timber.

Jointing Finishing & Painting
GTEC Universal Board should be jointed and finished with any of the GTEC Jointing systems. Boards are suitable for gypsum finishing plasters manufactured to BS EN 13279-1:2008. The boards require priming with GTEC Universal Sealer prior to decorating.

GTEC Universal V Board
GTEC Universal Vapour Board has the same physical properties as GTEC Universal Board (except Reaction to fire, see GTEC Fire V Board) but has a silver metallised polyester film back liner which enhances the vapour resistance of the product.

Health & Safety
Please refer to the Plasterboard Health and Safety Datasheet available on our website.

Individual board weight values may occasionally exceed nominal weights published in this datasheet.

09/12/2019 RC

ETEX BUILDING PERFORMANCE LIMITED
Gordano House, Marsh Lane, Easton-in-Gordano, Bristol, BS20 0NE
Technical Services | T: +44 (0)800 145 6033 or +44 (0)1275 377 789
E: technical.siniat@etexbp.co.uk
www.siniat.co.uk

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