

**Title:**

Extended Application Report for  
Falcon Panel Products, Strebord  
44 EI30,  
30 Minute (integrity and  
insulation) Fire Resisting  
Doorsets to  
BS EN 15269-3: 2012

**WF Report:**

BMT/CNA/F14053 Revision A

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**Prepared for:**

Falcon Panel Products Ltd  
Clock House  
Station Approach  
Shepperton  
TW17 8AN

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

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## 1 Foreword

This Extended Field of Application (EXAP) report has been commissioned by Falcon Panel Products Ltd and relates to the fire resistance of the Strebord EI30 product family, which comprises a 30 minute fire resisting timber based doorset design.

This EXAP report concerns test results obtained in accordance with test methods BS EN 1634-1: 2008 and BS EN 1634-1: 2014 + A1: 2018; *Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware - Part 1: Fire resistance test for door and shutter assemblies and openable windows.*

The extended application process is carried out in conformity with the following standards, as appropriate:

- BS EN 15269-1: 2019; *Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware – Part 1: General Requirements*
- BS EN 15269-3: 2012; *Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware – Part 3: Fire resistance of hinged and pivoted timber doorsets and openable timber framed windows*

The report is to be used for extending the field of application for the Strebord 44 EI30 product family and has been written in accordance with the principles outlined in BS EN 15725: 2010; *Extended application reports on the fire performance of construction products and building elements.*

The report is to be used to support the formal fire resistance classification for the Strebord 44 EI30 product family against BS EN 13501-2: 2016; *Fire classification of construction products and building elements Part 2: Classification using data from fire resistance tests, excluding ventilation services.*

The scope presented in this report relates to the behaviour of the proposed door design variations with associated hardware 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.

To prepare this EXAP, in accordance with Annex A of BS EN 15269-3: 2012, the EXAP rules given in table A.1 and table A.2 of BS EN 15269-3: 2012 have been applied by experts competent in the field of fire resistance testing of hinged or pivoted doorsets with timber based leaves.

## 2 Details of the Product

### 2.1 Product Technical Specification

The technical specification for the Strebord 44 EI30 doorset construction being considered within this EXAP report is summarised as follows:

- The door leaf comprises a particleboard core<sup>1</sup> and is lipped with hardwood on the vertical edges and may additionally be lipped on the horizontal edges.
- The door leaf density range is Min 520kg/m<sup>3</sup> – Max 630kg/m<sup>3</sup>
- The door leaf thickness is nominally 44mm thick
- The doorset is hung within a timber door frame.
- The doorset design incorporates hardware, intumescent seals and non-intumescent seals (i.e. smoke and weather seals). The door design has been tested against the relevant EN standard for fire resisting door assemblies, BS EN 1634-1 (evidence to BS EN 1634-1: 2008, BS EN 1634-1: 2014 and BS EN 1634-1: 2014 + A1: 2018 has been used to support the scope of the EXAP. The evidence has been reviewed and deemed acceptable to support the fire resistance of the product family against the requirements of the BS EN 1634-1: 2014 + A1: 2018 test standard).

The scope of application for the Strebord 44 EI30 product family contained in this EXAP report is intended for 30 minute fire resisting applications with integrity and insulation performance (i.e. normal procedure for maximum temperature rise (I2) in accordance with 11.2.4 in BS EN 1634-1: 2008)

#### Notes:

1. The extended application presented in this report is relevant to Strebord 44 EI30 doorsets constructed using the Strebord door blanks tested and referenced in section 3 of this EXAP report (particleboard to be supplied by Falcon Panel Products from mills referenced F1, F3, F5. NB: the address of each mill is held in confidence by Falcon Panel Products Ltd and Warringtonfire (file ref: WF 431343). According to rule A.4.11 in BS EN 15269-3: 2012 it is possible to change the manufacturer of the core if the composition remains as tested otherwise a further test is to be conducted on the specific manufacturer of core material. There are variances in composition between the particleboard produced by the three different mills (Falcon ref: F1, F3 and F5), however, each of the board types have been tested as documented in the evidence in section 3. The scope is presented on the basis that the composition of each of the particleboard cores remains the same as originally tested.

## 2.2 Product Family

The product family is referenced as Strebord 44 EI30 and the field of application defined in this report is based on the fire resistance test evidence for the doorset design, which is summarised in section 3. Analysis of specific construction details that require assessment using the rules given in BS EN 15269-3: 2012 are given within this report against the relevant element of construction, as appropriate.

The scope of application for the Strebord 44 EI30 product family is summarised below:

- Latched, single acting, single and double leaf doorsets opening towards and away from fire test conditions
- Alternative doorset dimensions (smaller and larger than that tested)
- The doorset has various decorative and protective face options to suit end use application and aesthetic requirements
- Alternative door frame timbers can be offered for the Strebord 44 EI30 product family
- The Strebord 44 EI30 product family can be provided with or without fire rated glazing
- Hardware options: hinges, multi-point locking system, single point locks/latches, handles, lock cylinders, jamb mounted closer, overhead face fixed closer, door viewers, letter plates, door knockers, panic devices, numerals, door chain, push/kick plates, bolts

## 2.3 Intended Use

The intended use of the doorset 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) which form the assembly.

### 3 Test Evidence

The test evidence summarised below has been generated to support the fire resistance performance of the door design that is the subject of this EXAP report.

Note: dimensions are in mm unless otherwise stated.

Abbreviations: (h) = height; (w) = width; (t) = thickness; (d) = depth, (l) = long.

Latches fitted but disengaged for the test, are reported as 'unlatched'

#### 3.1 Test Chilt/RF11121

The referenced test report, the essential details of which are summarised below, is primary data for the Strebord 44 EI30 design for 30 minute integrity and insulation performance and supports the inclusion of: Pyroplex Limited seals and different items of hardware for single and double leaf configurations

<b>Date of Test:</b>	18 <sup>th</sup> August 2011
<b>Identification of Test Body:</b>	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
<b>Sponsor:</b>	Falcon Panel Products Ltd
<b>Tested Product:</b>	1No. Unlatched, single-acting, double-leaf doorsets with glazing - ULSADD
<b>Tested Orientation:</b>	Door leaves hung to open in towards heating condition.
<b>Summary of Test Specimen:</b>	<p><u>LEAVES:</u>          Overall Size (both leaves): 2055mm (h) x 927mm (w) x 44mm (t).          Core:  <ul style="list-style-type: none"> <li>• Falcon Panel Products Strebord 44mm (t).             <ul style="list-style-type: none"> <li>○ Lab measured density- 591kg/m<sup>3</sup></li> </ul> </li> </ul>         Manufacturers stated Strebord mill reference: F3           Lipping (both leaves): Sapele (640kg/m<sup>3</sup>), 6mm thick to vertical edges only   <u>FRAME</u>          Head &amp; Jambs: European Redwood (570kg/m<sup>3</sup>), 70mm (w) x 32mm (t) with 20mm (w) x 12mm (t) planted stops.          Frame Fixing: 4No. Ø80 x 100mm (l) steel woodscrews per jamb.          Threshold: Non-combustible.          Architrave: European Redwood 45mm (w) x 18mm (t).</p>

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<b>Summary of Test Specimen continued:</b>	<p><b><u>INTUMESCENT:</u></b> Frame Reveal: 1No. 15x4mm Pyroplex Rigid Box Seals FO8700. Leaf Edges (meeting edge of right leaf only): 1No. 15x4mm Pyroplex Rigid Box Seals FO8700.</p> <p><b><u>HARDWARE:</u></b> Hinges: 3No. Royde &amp; Tucker H105 lift off type hinges. Closer: Dorma (UK) Ltd TS71 overhead type closer. Lock/Latch: Eurospec steel mortice latch. Lock/Latch Size:<ul style="list-style-type: none"><li>• Forend: 235x24mm</li></ul>Lock/Latch Status: Disengaged for test. Furniture: Aluminium lever type handle &amp; Flush bolts</p> <p><b><u>HARDWARE PROTECTION:</u></b> Under Hinge: 1mm Interdens. Under Forend &amp; Keep: 1mm Interdens Encasing latch body: 1mm Interdens. Under flush bolts keep and lining flush bolts cut out: 1mm Interdens.</p> <p><b><u>GLAZING</u></b> Glass: Pilkington Pyrodur, 10mm (t). Sight Size:<ul style="list-style-type: none"><li>• Left Leaf-660mm (h) x 490mm (w)</li><li>• Right Leaf-490mm (h) x 291mm (w)</li></ul>Aperture Size:<ul style="list-style-type: none"><li>• Left Leaf-701mm (h) x 526mm (w)</li><li>• Right Leaf-526mm (h) x 333mm (w)</li></ul>Expansion Allowance:<ul style="list-style-type: none"><li>• 5mm all round</li></ul> Beading: Sapele (MC 9.3%), 20mm (h) x 20mm (w), chamfered &amp; bolected. Beading fixings: 50mm (l) steel pins, at 30-45°, 150mm centres.</p> <p><b><u>GLAZING SYSTEM:</u></b> Glazing perimeter: Pyroplex 30049 glazing system</p>
<b>Test Standard:</b>	BS EN 1634-1:2008 + BS EN 1363-1:1999

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### 3.1.1 Test Chilt/RF11121 Summary of Results

The following table summarises the results of the test and provides information on the performance of the doorsets in fire test conditions that is required to extend the scope of application for the design using the rules in BS EN 15269-3: 2012.

Doorset Reference	Result (minutes)			Radiation	Category of performance <sup>1</sup> (A or B)	Distortion <sup>2</sup> (Low, Med, High)
	Integrity	Insulation				
		(I <sub>1</sub> ) <sup>3</sup>	(I <sub>2</sub> ) <sup>4</sup>			
Doorset	38	N/A	19 <sup>5</sup>	26 <sup>5</sup>	B	Low

1. In accordance with clause 13.3.2 of BS EN 1634-1: 2008
2. In accordance with Annex A of BS EN 15269-3: 2012
3. Supplementary procedure for maximum temperature rise (I<sub>1</sub>) in accordance with 11.2.5 in BS EN 1634-1: 2008
4. Normal procedure for maximum temperature rise (I<sub>2</sub>) in accordance with 11.2.4 in BS EN 1634-1: 2008
5. The radiation and insulation performance recorded above is related to the glass type used in the testing, which is not being considered as part of this EXAP. The cited test evidence can therefore be used to support double and single leaf configurations, different leaf sizes and alternative hardware.

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### 3.2 Test Chilt/RF11170

The referenced test report, the essential details of which are summarised below, is primary data for the Strebord 44 EI30 door design and supports supporting the inclusion of 15mm Pyroguard EI30 glass, Lorient intumescent seals, different items of hardware and smoke seals for single and double leaf configurations

<b>Date of Test:</b>	29 <sup>th</sup> November 2011
<b>Identification of Test Body:</b>	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
<b>Sponsor:</b>	Falcon Panel Products Ltd
<b>Tested Product:</b>	1No. Unlatched, single-acting, double-leaf doorsets with glazing - ULSADD
<b>Tested Orientation:</b>	Door leaves hung to open in towards heating condition.
<b>Summary of Test Specimen:</b>	<p><u>LEAVES:</u>          Overall Size (both leaves): 2135mm (h) x 915mm (w) x 44mm (t).          Core:  <ul style="list-style-type: none"> <li>• Falcon Panel Products Strebord 44mm (t).             <ul style="list-style-type: none"> <li>○ Lab measured density -(520kg/m<sup>3</sup>)</li> </ul> </li> </ul>         Manufacturers stated Strebord mill reference: F5           Lipping (both leaves): Sapele (640kg/m<sup>3</sup>), 8mm thick to vertical edges only</p> <p><u>FRAME</u>          Head &amp; Jamb: European Redwood (480kg/m<sup>3</sup>), 70mm (w) x 32mm (t) with 20mm (w) x 12mm (t) planted stops.          Frame Fixing: 4No. 80mm (l) steel woodscrews per jamb.          Threshold: Non-combustible.          Architrave: European Redwood 45mm (w) x 18mm (t).</p> <p><u>INTUMESCENT:</u>          Frame Reveal: 1No. 15x4mm Lorient Polyproducts Ltd LP1504 type 617          Leaf Edges (closing edge of left leaf only): 1No. 15x4mm Lorient Polyproducts Ltd LP1504 type 617          Smoke Seal: 1No. 12x12mm Lorient Polyproducts Ltd IS1212 batwing seal.          Drop Down Seal: 1No. 60x22mm Lorient Polyproducts Ltd IS8010 seal.</p>

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<b>Summary of Test Specimen continued:</b>	<p><b><u>HARDWARE:</u></b> Hinges: 3No. Royde &amp; Tucker H105 lift off type hinges. Closer: Rutland TS3204 overhead type closer. Lock/Latch: Simplex steel mortice latch with Eurocylinder. Lock/Latch Size:<ul style="list-style-type: none"><li>• Forend: 235x24mm</li><li>• Centre Keep: 185x24mm</li></ul>Lock/Latch Status: Disengaged for test. Furniture: Steel lever type handle, Lock Escutcheon, Flush bolts.</p> <p><b><u>HARDWARE PROTECTION:</u></b> Under Hinge: 1mm Lorient Polyproducts Ltd MAP. Under Forend &amp; Keep: 1mm Lorient Polyproducts Ltd MAP. Lining flush bolts cut out: 1mm Lorient Polyproducts Ltd MAP. Under drop down seal: 1mm Lorient Polyproducts Ltd MAP.</p> <p><b><u>GLAZING</u></b> Glass: CGI International Ltd Pyroguard EI30, 15mm (t). Sight Size:<ul style="list-style-type: none"><li>• Left Leaf-627mm (h) x 450mm (w).</li><li>• Right Leaf-450mm (h) x 260mm (w).</li></ul>Glass Size:<ul style="list-style-type: none"><li>• Left Leaf-647mm (h) x 473mm (w).</li><li>• Right Leaf-472mm (h) x 280mm (w).</li></ul>Expansion Allowance:<ul style="list-style-type: none"><li>• 5mm all round.</li></ul>Beading: Sapele (MC 10.5%), 20mm (h) x 18mm (w), chamfered &amp; bolected. Beading fixings: 50mm (l) steel pins, at 30-45°, 150mm centres and 50mm from corners.</p> <p><b><u>GLAZING SYSTEM:</u></b> Glazing perimeter: Lorient Polyproducts Ltd Glazing gasket, nominally 3.5mm (w) x 13mm (h).</p>
<b>Test Standard:</b>	BS EN 1634-1:2008 + BS EN 1363-1:1999

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### 3.2.1 Chilt/RF11170 Summary of Results

The following table summarises the results of the test and provides information on the performance of the doorsets in fire test conditions that is required to extend the scope of application for the design using the rules in BS EN 15269-3: 2012.

Doorset Reference	Result (minutes)			Radiation	Category of performance <sup>1</sup> (A or B)	Distortion <sup>2</sup> (Low, Med, High)
	Integrity	Insulation				
		(I <sub>1</sub> ) <sup>3</sup>	(I <sub>2</sub> ) <sup>4</sup>			
Doorset	38	N/A	38	38	B	Low

1. In accordance with clause 13.3.2 of BS EN 1634-1: 2008
2. In accordance with Annex A of BS EN 15269-3: 2012
3. Supplementary procedure for maximum temperature rise (I<sub>1</sub>) in accordance with 11.2.5 in BS EN 1634-1: 2008
4. Normal procedure for maximum temperature rise (I<sub>2</sub>) in accordance with 11.2.4 in BS EN 1634-1: 2008

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### 3.3 Test Chilt/RF13132

The referenced test report, the essential details of which are summarised below, is primary data for the Strebord 44 EI30 door design and supports supporting the inclusion of 15mm Pyroguard EI30 glass, Pyroplex intumescent seals, different items of hardware and smoke seals for single and double leaf configurations

<b>Date of Test:</b>	12 <sup>th</sup> September 2013
<b>Identification of Test Body:</b>	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
<b>Sponsor:</b>	Pyroplex
<b>Tested Product:</b>	1No. Unlatched, single-acting, double-leaf doorset with glazing - ULSADD
<b>Tested Orientation:</b>	Door leaves hung to open in towards heating condition.
<b>Summary of Test Specimen:</b>	<p><u>LEAVES:</u>          Overall Size (both leaves): 2150mm (h) x 928mm (w) x 44mm (t).          Core:  <ul style="list-style-type: none"> <li>• Falcon Panel Products Strebord 44mm (t)             <ul style="list-style-type: none"> <li>○ Manufacturers stated density-630kg/m<sup>3</sup></li> </ul> </li> </ul>         Manufacturers stated Strebord mill reference: F3           Lipping (both leaves): Sapele (640kg/m<sup>3</sup>), 6mm thick to all four edges.</p> <p><u>FRAME</u>          Head &amp; Jamb: European Redwood (570kg/m<sup>3</sup>), 70mm (w) x 32mm (t) with 20mm (w) x 12mm (t) planted stops.          Frame Fixing: 4No. Ø80 x 100mm (l) steel woodscrews per jamb.          Threshold: Non-combustible.          Architrave: MDF 45mm (w) x 18mm (t).</p> <p><u>INTUMESCENT:</u>          Frame Reveal: Right Jamb &amp; Right half of frame head          15x4mm Pyroplex Pile Rigid Box Seals PO8712          Left Jamb &amp; Left half of frame head 15x4mm Pyroplex Rigid Box Seals FO8700.          Left leaf closing edge only: 10x4mm Pyroplex Pile Rigid Box Seals PO8512 &amp; 10x4mm Pyroplex Rigid Box Seals FO8500.</p>

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<b>Summary of Test Specimen continued:</b>	<p><b><u>HARDWARE:</u></b> Hinges: 3No. Royde &amp; Tucker H101 lift off type hinges. Closer: Rutland TS3204 overhead type closer. Lock/Latch: Easi-T steel mortice latch and Eurospec Eurocylinder lock. Lock/Latch Size:<ul style="list-style-type: none"><li>• Forend: 235x24mm</li><li>• Centre keep: 175x22mm</li><li>• Centre case: 150x85mm</li></ul>Lock/Latch Status: Disengaged for test. Furniture: Stainless steel lever type handle. Ref. Ovation, Stainless steel escutcheon plate. Ref. Ovation (Ø52 Rose size).</p> <p><b><u>HARDWARE PROTECTION:</u></b> Under Hinge: 1mm Interdens. Under Forend &amp; Keep: 1mm Interdens Encasing latch body: 1mm Interdens.</p> <p><b><u>GLAZING:</u></b> Glass: CGI International Pyroguard EI30, 15mm (t). Sight Size:<ul style="list-style-type: none"><li>• Left Leaf-170mm (h) x 170mm (w)</li><li>• Right Leaf-770mm (h) x 520mm (w)</li></ul>Glass Size:<ul style="list-style-type: none"><li>• Left Leaf-200mm (h) x 200mm (w)</li><li>• Right Leaf-800mm (h) x 550mm (w)</li></ul>Expansion Allowance:<ul style="list-style-type: none"><li>• 5mm all round</li></ul>Beading: Sapele (MC 10.3-10.6%), 18mm (h) x 18mm (w), chamfered &amp; bolected. Beading fixings: 50mm (l) steel pins, at 45°, 140mm centres, 50mm from corners.</p> <p><b><u>GLAZING SYSTEM:</u></b> Glazing perimeter: Pyroplex FG30 Ref.30049, 12x7mm</p>
<b>Test Standard:</b>	BS EN 1634-1:2008 + BS EN 1363-1:1999

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### 3.3.1 Test Chilt/RF13132 Summary of Results

The following table summarises the results of the test and provides information on the performance of the doorsets in fire test conditions that is required to extend the scope of application for the design using the rules in BS EN 15269-3: 2012.

Doorset Reference	Result (minutes)				Category of performance <sup>1</sup> (A or B)	Distortion <sup>2</sup> (Low, Med, High)
	Integrity	Insulation		Radiation		
		(I <sub>1</sub> ) <sup>3</sup>	(I <sub>2</sub> ) <sup>4</sup>			
Doorset	36	36	36	36	B	Low

1. In accordance with clause 13.3.2 of BS EN 1634-1: 2008
2. In accordance with Annex A of BS EN 15269-3: 2012
3. Supplementary procedure for maximum temperature rise (I<sub>1</sub>) in accordance with 11.2.5 in BS EN 1634-1: 2008
4. Normal procedure for maximum temperature rise (I<sub>2</sub>) in accordance with 11.2.4 in BS EN 1634-1: 2008

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### 3.4 Test Chilt/RF13176

The referenced test report, the essential details of which are summarised below, is primary data for the Strebord 44 EI30 door design and supports single leaf configurations, Pyroplex intumescent seals, different items of hardware and smoke seals

<b>Date of Test:</b>	13 <sup>th</sup> September 2013
<b>Identification of Test Body:</b>	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
<b>Sponsor:</b>	Pyroplex
<b>Tested Product:</b>	1No. latched, single-acting, single-leaf doorset- LSASD
<b>Tested Orientation:</b>	Door leaf hung opening in towards heating condition.
<b>Summary of Test Specimen:</b>	<p><u>LEAVES:</u>          Overall Size: 2148mm (h) x 928mm (w) x 44mm (t).          Doorset Core:</p> <ul style="list-style-type: none"> <li>• Falcon Panel Products Strebord 44mm (t)             <ul style="list-style-type: none"> <li>○ Manufacturers stated density- 630kg/m<sup>3</sup></li> </ul> </li> </ul> <p>Manufacturers stated Strebord mill reference: F3</p> <p>Lipping: Sapele (640kg/m<sup>3</sup>), 6mm thick to all four edges.</p> <p><u>FRAME</u>          Head &amp; Jambs: European Redwood (570kg/m<sup>3</sup>), 70mm (w) x 32mm (t) with 20mm (w) x 12mm (t) planted stops.          Frame Fixing: 4No. Ø80 x 100mm (l) steel woodscrews per jamb.          Threshold: Non-combustible.          Architrave: European Redwood 45mm (w) x 18mm (t).</p>

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<b>Summary of Test Specimen continued:</b>	<p><b><u>INTUMESCENT:</u></b> Frame Reveal: 15x4mm Pyroplex Rigid Box Seals FO8700.</p> <p><b><u>HARDWARE:</u></b> Hinges: 3No. Royde &amp; Tucker H101 lift off type hinges. Closer: Rutland TS3204 overhead type closer. Lock/Latch: Easi-T steel mortice latch and Eurospec Eurocylinder lock. Lock/Latch Size:<ul style="list-style-type: none"><li>• Forend: 235x24mm</li><li>• Centre keep: 175x22mm</li><li>• Centre case: 150x85mm</li></ul>Lock/Latch Status: Disengaged for test. Furniture: Stainless steel lever type handle, Stainless steel escutcheon plate. (Ø52 Rose size).</p> <p><b><u>HARDWARE PROTECTION:</u></b> Under Hinge: 1mm Interdens. Under Forend &amp; Keep: 1mm Interdens</p>
<b>Test Standard:</b>	BS EN 1634-1:2008 + BS EN 1363-1:1999

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### 3.4.1 Test RF13176 Summary of Results

The following table summarises the results of the test and provides information on the performance of the doorsets in fire test conditions that is required to extend the scope of application for the design using the rules in BS EN 15269-3: 2012.

Doorset Reference	Result (minutes)			Radiation	Category of performance <sup>1</sup> (A or B)	Distortion <sup>2</sup> (Low, Med, High)
	Integrity	Insulation				
		(I <sub>1</sub> ) <sup>3</sup>	(I <sub>2</sub> ) <sup>4</sup>			
Doorset	32	32	32	32	A	Medium

1. In accordance with clause 13.3.2 of BS EN 1634-1: 2008
2. In accordance with Annex A of BS EN 15269-3: 2012
3. Supplementary procedure for maximum temperature rise (I<sub>1</sub>) in accordance with 11.2.5 in BS EN 1634-1: 2008
4. Normal procedure for maximum temperature rise (I<sub>2</sub>) in accordance with 11.2.4 in BS EN 1634-1: 2008

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### 3.5 Test BMT/FER/F13263

The referenced test report, the essential details of which are summarised below, is primary data for the Strebord 44 EI30 door design and supports single leaf configurations with rebated lippings, the inclusion of Pyroplex intumescent seals, different items of hardware, MDF and softwood door frames and smoke seals

<b>Date of Test:</b>	3 <sup>rd</sup> January 2014
<b>Identification of Test Body:</b>	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
<b>Sponsor:</b>	Falcon Panel Products Ltd
<b>Tested Product:</b>	2No. Unlatched, single-acting, single-leaf doorsets - ULSASD
<b>Tested Orientation:</b>	Doorset A: door leaf hung opening in towards heating condition. Doorset B: door leaf hung opening in towards heating condition.
<b>Summary of Test Specimen:</b>	<p><u>LEAF:</u>          Overall Size (both leaves): 2155mm (h) x 995mm (w) x 44mm (t).          Doorset A Core:</p> <ul style="list-style-type: none"> <li>• Falcon Panel Products Strebord 44mm             <ul style="list-style-type: none"> <li>○ Manufacturers stated density 535 (+/- 15) kg/m<sup>3</sup></li> </ul> </li> </ul> <p>Doorset B Core:</p> <ul style="list-style-type: none"> <li>• Falcon Panel Products Strebord- 44mm            Manufacturers stated density 535 (+/- 15) kg/m<sup>3</sup></li> </ul> <p>Notified body sampled Strebord mill reference: F5</p> <p>Lipping (both leaves): Sapele (640kg/m<sup>3</sup>), 20mm thick to all four edges including a 34mm (w) x 13mm (h) rebate.          Lipping (bottom of the leaf): Sapele (640kg/m<sup>3</sup>), 6mm thick.</p> <p><u>FRAME (Doorset A):</u>          Head &amp; Jambs: European Redwood (510kg/m<sup>3</sup>), 90mm (w) x 32mm (t) with 32mm (w) x 12mm (t) planted stops.          Frame Fixing: 4No. Ø80 x 100mm (l) steel woodscrews per jamb.          Threshold: Non-combustible.          Architrave: European redwood 45mm (w) x 18mm (t).</p>

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<b>Summary of Test Specimen continued:</b>	<p><u>FRAME (Doorset B):</u> Head &amp; Jambs: MDF (700kg/m<sup>3</sup>),90mm (w) x 30mm (t) with 32mm (w) x 12mm (t) planted stops. Frame Fixing: 4No. Ø80 x 100mm (l) steel woodscrews per jamb. Threshold: Non-combustible. Architrave: MDF 45mm (w) x 18mm (t).</p> <p><u>INTUMESCENT (Both Doorsets):</u> Frame Reveal: 2no 10x4mm Pyroplex Rigid Box Seals FO8500 5.5mm apart, 4mm from the unexposed face.</p> <p><u>SMOKE/ACOUSTIC SEALS (Both Doorsets):</u> Head and Jambs: 1no 14x35mm Norsound 710 fitted in the frame reveal up to the upstand of the stop. Leaf bottom edge: 14x35mm Norsound 810 Dropdown seal centrally rebated into the bottom edge of the leaf.</p> <p><u>HARDWARE (Both Doorsets):</u> Hinges: 2No. Eclipse cranked bearing butt hinges. Closer: Turentek TSS225 overhead type closer. Lock/Latch: Union/ASSA Abloy steel mortice latch door lock with Eurocylinder lock with thumbturn on exposed face. Lock/Latch Size:<ul style="list-style-type: none"><li>• Forend: 235x55mm</li><li>• Centre keep: 175x37mm</li><li>• Centre case: 153x90mm</li></ul>Lock/Latch Status: Disengaged for test.</p> <p><u>HARDWARE PROTECTION:</u> Under Hinge: 1mm Interdens. Furniture: Stainless steel lever type handle. Ref. Ovation, Stainless steel escutcheon plate. Ref. Ovation (Ø52 Rose size).</p>
<b>Test Standard:</b>	BS EN 1634-1:2008 + BS EN 1363-1:1999

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### 3.5.1 Test BMT/FER/F13263 Summary of Results

The following table summarises the results of the test and provides information on the performance of the doorsets in fire test conditions that is required to extend the scope of application for the design using the rules in BS EN 15269-3: 2012.

Doorset Reference	Result (minutes)			Radiation	Category of performance <sup>1</sup> (A or B)	Distortion <sup>2</sup> (Low, Med, High)
	Integrity	Insulation				
		(I <sub>1</sub> ) <sup>3</sup>	(I <sub>2</sub> ) <sup>4</sup>			
Doorset A	41	38	41	41	B	Low
Doorset B	32	32	32	32	A	Low

1. In accordance with clause 13.3.2 of BS EN 1634-1: 2008
2. In accordance with Annex A of BS EN 15269-3: 2012
3. Supplementary procedure for maximum temperature rise (I<sub>1</sub>) in accordance with 11.2.5 in BS EN 1634-1: 2008
4. Normal procedure for maximum temperature rise (I<sub>2</sub>) in accordance with 11.2.4 in BS EN 1634-1: 2008

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### 3.6 Test WF 416689

The referenced test report, the essential details of which are summarised below, is primary data for the Strebord 44 EI30 door design and supports single leaf configurations in both directions with respect to exposure to fire test conditions and the inclusion of Pyroplex intumescent seals, different items of hardware (including full height locking), restraining hardware in both directions with respect to exposure to fire test conditions, hardwood door frames and smoke seals (including a drop down seal)

<b>Date of Test:</b>	7 <sup>th</sup> August 2019
<b>Identification of Test Body:</b>	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
<b>Sponsor:</b>	Falcon Panel Products Ltd
<b>Tested Product:</b>	2No. latched, single-acting, single-leaf doorsets - LSASD
<b>Tested Orientation:</b>	Doorset A: door leaf hung opening out away from heating condition. Doorset B: door leaf hung opening in towards heating condition.
<b>Summary of Test Specimen:</b>	<p><u>LEAF:</u>          Overall Size (both leaves): 2200mm (h) x 949mm (w) x 44mm (t).          Core:</p> <ul style="list-style-type: none"> <li>• Falcon Panel Products Strebord- 44mm             <ul style="list-style-type: none"> <li>○ Manufacturers stated density- 609-615kg/m<sup>3</sup></li> </ul> </li> </ul> <p>Manufacturers stated Strebord mill reference: F3</p> <p>Lipping (both leaves): American White Ash (587-644kg/m<sup>3</sup>), 8mm thick to all four edges.</p> <p><u>FRAME:</u>          Head &amp; Jamb: American White Ash (697-703kg/m<sup>3</sup>), 95mm (d) x 44mm (w) with 47mm (w) x 12mm (h) integral stop.          Frame Fixing: 4No. 5Ø x 100mm (l) steel woodscrews per jamb.          Threshold: Non-combustible.          Architrave: MDF 45mm (w) x 18mm (t).</p>

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<b>Summary of Test Specimen continued:</b>	<p><u>INTUMESCENT (Both Doorsets):</u> Frame Reveal: 2no 10x4mm Pyroplex Rigid Box Seals FO8500 10mm apart, 8.5mm from the opening face in the frame reveal.</p> <p><u>SMOKE/ACOUSTIC SEALS (Both Doorsets):</u> Leaf bottom edge: 13x20mm Norsound NOR810S Dropdown seal centrally rebated into the bottom edge of the leaf. Weather/acoustic seal: Raven Seals product ref RP120, 12x12mm.</p> <p><u>HARDWARE (Both Doorsets):</u> Hinges: 3No. Arrone bearing butt hinges AR8182. Closer: Arrow overhead type closer Ref. 324BP. Lock/Latch: Winkhaus AV2-3Point lock fitted with a ERA Fortress Eurocylinder Lock/Latch Size:<ul style="list-style-type: none"><li>• Forend: 1770x20mm</li><li>• Centre keep: 255x24mm</li><li>• Centre case: 185x78x16.5mm</li><li>• Top and bottom case: 113x48mm</li><li>• Top and bottom keep: 155x24mm</li></ul>Lock/Latch Status: Engaged Furniture: Eurospec lever type handle Ref.CSL-1194* and Eurospec escutcheon ref. CSE1006. Eye viewer: D&amp;E Architectural Hardware Ltd ref D &amp; E 3850 Ultra scope-brass. Ø42 (footprint).</p> <p><u>HARDWARE PROTECTION:</u> Under Hinge: Sealed Tight Solutions Graphite 1mm (t). Under Forend: Exitex Exi-Fire graphite pad 0.8mm (t). Under Latch Keep: Lorient Polyproducts Ltd AV2 Kit 1mm (t). Encasing latch body: Lorient Polyproducts Ltd AV2 Kit 1mm (t). Eye Viewer: Sealed Tight Solutions Graphite 1mm (t).</p>
<b>Test Standard:</b>	BS EN 1634-1:2014+A1:2018 + BS EN 1363-1:2012

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### 3.6.1 Test WF 416689 Summary of Results

The following table summarises the results of the test and provides information on the performance of the doorsets in fire test conditions that is required to extend the scope of application for the design using the rules in BS EN 15269-3: 2012.

Doorset Reference	Result (minutes)			Radiation	Category of performance <sup>1</sup> (A or B)	Distortion <sup>2</sup> (Low, Med, High)
	Integrity	Insulation				
		(I <sub>1</sub> ) <sup>3</sup>	(I <sub>2</sub> ) <sup>4</sup>			
Doorset A	46	N/A	46	47	B	Low
Doorset B	47	N/A	47	47	B	Low

1. In accordance with clause 13.3.2 of BS EN 1634-1: 2014 + A1: 2018
2. In accordance with Annex A of BS EN 15269-3: 2012
3. Supplementary procedure for maximum temperature rise (I<sub>1</sub>) in accordance with 11.2.5 in BS EN 1634-1: 2014 + A1: 2018
4. Normal procedure for maximum temperature rise (I<sub>2</sub>) in accordance with 11.2.4 in BS EN 1634-1: 2014 + A1: 2018

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### 3.7 Test WF 421795

The referenced test report, the essential details of which are summarised below, is primary data for the Strebord 44 EI30 door design and supports single leaf configurations in both directions with respect to exposure to fire test conditions and the inclusion of STS intumescent seals, different items of hardware (including full height locking), restraining hardware in both directions with respect to exposure to fire test conditions, hardwood door frames and smoke seals (including a drop down seal):

<b>Date of Test:</b>	21 <sup>st</sup> November 2019
<b>Identification of Test Body:</b>	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
<b>Sponsor:</b>	Falcon Panel Products Ltd
<b>Tested Product:</b>	2No. latched, single-leaf, single acting doorsets - LSASD
<b>Tested Orientation:</b>	Doorset A: leaf hung opening in towards heating condition Doorset B: leaf hung opening out away from heating condition
<b>Summary of Test Specimen:</b>	<p><u>LEAF:</u>          Overall Size: 2100mm(h) x 950(w) x 44mm(t)          Core:</p> <ul style="list-style-type: none"> <li>• Falcon Panel Products Strebord 44mm             <ul style="list-style-type: none"> <li>○ manufacturers stated density 590kg/m<sup>3</sup></li> </ul> </li> </ul> <p>Manufacturers stated Strebord mill reference: F3</p> <p>Lipping: Sapele (640kg/m<sup>3</sup>), 8mm thick to all four edges</p> <p><u>FRAME:</u>          Head &amp; Jambs: Poplar (510kg/m<sup>3</sup>), 100mm(d) x 47mm(w), with 53mm(w) x 15mm(d) integral stop.          Frame Fixing: 4No. Ø5 x 100 steel woodscrews, 600mm centres          Threshold: Non-combustible</p> <p><u>INTUMESCENT:</u>          Frame Reveal/Leaf Edges: 2no 10x4mm Sealed Tight Solutions Limited STS 104FO fitted 10mm apart and 7mm from the exposed face.</p> <p><u>SMOKE/ACOUSTIC SEALS:</u>          Head and Jambs: 1no 11x5mm Sealed Tight Solutions Limited ST1009 acoustic/smoke seal self-adhered to the upstand of the stop.          Leaf bottom edge: 12x20mm Sealed Tight Solutions Limited ST422 drop seal fitted centrally rebated into the bottom edge of the leaf.</p>

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<b>Summary of Test Specimen continued:</b>	<p><b><u>HARDWARE:</u></b></p> <p>Hinges: 3no. Consort bearing butt hinge Ref CF5511 Closer: Dormakaba TS93 overhead closer Lock/Latch: Winkhaus AV3 3-point lock/latch fitted with a 70mm ERA fortress 3* thumbturn cylinder Lock/Latch Size:</p> <ul style="list-style-type: none"><li>• Forend: 1770x20mm</li><li>• Top/bottom keep: 160x22mm</li><li>• Top/bottom case: 113x44mm</li><li>• Centre keep: 245x22mm</li><li>• Centre case: 185x63mm</li></ul> <p>Lock/Latch Status: Engaged for test Handle: Consort CH100/G4 lever type handle and Consort CH311/8/316 escutcheon. Eye viewer: DESWLAF EI30 Barrel: Ø14mm, Footprint: Ø27mm fitted 1500mm from the bottom of the leaf Letterplate: Royde &amp; Tucker LP08 letterplate with TS008 cowell fitted 900mm from the bottom of the leaf.</p> <p><b><u>HARDWARE PROTECTION:</u></b></p> <p>Under Hinge: Sealed Tight Solutions Limited 1mm thick graphite based intumescent Encasing latch bodies: 1mm interdens supplied as kit with lock Under keeps: 1mm interdens supplied as kit with lock Eye viewer: Sealed Tight Solutions Limited 1mm thick raw graphite</p>
<b>Test Standard:</b>	BS EN 1634-1:2014+A1:2018

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### 3.7.1 Test WF 421795 Summary of Results

The following table summarises the results of the test and provides information on the performance of the doorsets in fire test conditions that is required to extend the scope of application for the design using the rules in BS EN 15269-3: 2012.

Doorset Reference	Result (minutes)			Radiation	Category of performance <sup>1</sup> (A or B)	Distortion <sup>2</sup> (Low, Med, High)
	Integrity	Insulation				
		(I <sub>1</sub> ) <sup>3</sup>	(I <sub>2</sub> ) <sup>4</sup>			
Doorset A	35	28	35	38	A	Low
Doorset B	38	38	38	38	B	Low

1. In accordance with clause 13.3.2 of BS EN 1634-1: 2014 + A1: 2018
2. In accordance with Annex A of BS EN 15269-3: 2012
3. Supplementary procedure for maximum temperature rise (I<sub>1</sub>) in accordance with 11.2.5 in BS EN 1634-1: 2014 + A1: 2018
4. Normal procedure for maximum temperature rise (I<sub>2</sub>) in accordance with 11.2.4 in BS EN 1634-1: 2014 + A1: 2018

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### 3.8 Test WF421964

The referenced test report, the essential details of which are summarised below, is primary data for the Strebord 44 EI30 door design and supports single leaf configurations in both directions with respect to exposure to fire test conditions and the inclusion of Pyroplex intumescent seals, different items of hardware (including digital lockset), restraining hardware in both directions with respect to exposure to fire test conditions, hardwood door frames and smoke seals (including a drop down seal):

<b>Date of Test:</b>	27 <sup>th</sup> November 2019
<b>Identification of Test Body:</b>	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
<b>Sponsor:</b>	Falcon Panel Products Ltd
<b>Tested Product:</b>	2No. latched, single-acting, single-leaf doorsets - LSASD
<b>Tested Orientation:</b>	Doorset A: door leaf hung opening out away from heating condition. Doorset B: door leaf hung opening in towards heating condition.
<b>Summary of Test Specimen:</b>	<p><u>LEAF:</u>          Overall Size (both leaves): 2042mm (h) x 926mm (w) x 44mm (t).          Core:</p> <ul style="list-style-type: none"> <li>• Falcon Panel Products Strebord- 44mm             <ul style="list-style-type: none"> <li>○ Manufacturers stated density -Nominally 570kg/m<sup>3</sup></li> </ul> </li> </ul> <p>Manufacturers stated Strebord mill reference: F1</p> <p>Lipping (both leaves): Sapele (640kg/m<sup>3</sup>), 8mm thick to all four edges.</p> <p><u>FRAME:</u>          Head &amp; Jambs: CND Beech (720kg/m<sup>3</sup>), 78mm (d) x 44.5mm (w) with 31mm (w) x 12.5mm (h) integral stop.          Frame Fixing: 4No. 5Ø x 100mm (l) steel woodscrews per jamb.          Threshold: Sapele (640kg/m<sup>3</sup>) 15mm (h) x 78mm (w).          Architrave: MDF 45mm (w) x 18mm (t).</p>

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<b>Summary of Test Specimen continued:</b>	<p><u>INTUMESCENT (Both Doorsets):</u> Frame Reveal: 1no 15x4mm Pyroplex Rigid Box Seals FO8700 15mm from the opening face in the frame reveal.</p> <p><u>SMOKE/ACOUSTIC SEALS (Both Doorsets):</u> Leaf bottom edge: 12x20mm Fire and Acoustic Seals FAS45 drop down seal centrally rebated into the bottom edge of the leaf. Weather/acoustic seal: 11.7x5mm Fire and Acoustic Seals FAS35.</p> <p><u>HARDWARE (Both Doorsets):</u> Hinges: 3No. Nico Load Pro Security lift off type hinges. Closer: Rutland TS3704 overhead type closer. Lock/Latch: NSP Security SMF 614 Digital Lockset with NSP brass lock cylinder. Lock/Latch Size:<ul style="list-style-type: none"><li>• Forend: 203.5x29mm</li><li>• Centre keep: 130x45mm</li><li>• Centre case: 153x103mm</li></ul>Lock/Latch Status: Engaged for test. Furniture: NSP Security SMF 613/614 Mifare Card Lockset-Lever type handle and card reader including associated batteries. Eye viewer: UAP CVPLCH polished chrome eye viewer.</p> <p><u>HARDWARE PROTECTION:</u> Under Hinge: 1mm (t) Interdens. Under Forend &amp; Keep: 2mm (t) Interdens. Encasing latch body: 2mm (t) Interdens. Eye Viewer: Fire and Acoustic Seal fire rated acrylic sealant. Drop Seal: Fire and Acoustic Seal fire rated acrylic sealant.</p>
<b>Test Standard:</b>	BS EN 1634-1:2014+A1:2018

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### 3.8.1 Test WF 421964 Summary of Results

The following table summarises the results of the test and provides information on the performance of the doorsets in fire test conditions that is required to extend the scope of application for the design using the rules in BS EN 15269-3: 2012.

Doorset Reference	Result (minutes)			Radiation	Category of performance <sup>1</sup> (A or B)	Distortion <sup>2</sup> (Low, Med, High)
	Integrity	Insulation				
		(I <sub>1</sub> ) <sup>3</sup>	(I <sub>2</sub> ) <sup>4</sup>			
Doorset A	35	35	35	35	A	Low
Doorset B	33	33	33	33	A	Med

1. In accordance with clause 13.3.2 of BS EN 1634-1: 2014 + A1: 2018
2. In accordance with Annex A of BS EN 15269-3: 2012
3. Supplementary procedure for maximum temperature rise (I<sub>1</sub>) in accordance with 11.2.5 in BS EN 1634-1: 2014 + A1: 2018
4. Normal procedure for maximum temperature rise (I<sub>2</sub>) in accordance with 11.2.4 in BS EN 1634-1: 2014 + A1: 2018

**NB:** The insulation performance recorded above is related to the glazed areas and the tested glass type is not being considered as part of this EXAP. The cited test evidence can therefore be used to support the alternative hardware.

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### 3.9 Test WF 416690 – Issue 2

The referenced test report, the essential details of which are summarised below, is secondary data for supporting the inclusion of various items of hardware and STS hardware protection into the Strebord 44 EI30 design. The data also provides evidence for the restraining and supporting hardware exposed to test conditions in both directions. The test evidence has been deemed acceptable as secondary data for supporting the hardware on the Strebord 44 EI30 door design based on using a door core that is considered fundamentally the same for the purpose of adding the alternative hardware (Clause A.2 in Annex A of BS EN 15269-1: 2019 + AC: 2020 gives further explanation on the phrase ‘fundamentally the same’ or ‘similar’ and its use within the EN 15269 series of EXAP standards):

<b>Date of Test:</b>	8 <sup>th</sup> August 2019
<b>Identification of Test Body:</b>	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
<b>Sponsor:</b>	Falcon Panel Products Ltd
<b>Tested Product:</b>	2No. latched, single-acting, single-leaf doorsets - LSASD
<b>Tested Orientation:</b>	Doorset A hung opening out away from heating condition Doorset B hung opening in towards heating condition
<b>Summary of Test Specimen:</b>	<p><u>LEAF:</u>          Overall Size (both leaves): 2153mm(h) x 933(w) x 44mm(t)          Core:</p> <ul style="list-style-type: none"> <li>• Falcon Panel Products Stredor 44mm Type A           <ul style="list-style-type: none"> <li>○ (Inner Core Layer) – 4mm poplar ply (510kg/m<sup>3</sup>)</li> <li>○ (Outer Core Layers) – 15mm pine lamels (480kg/m<sup>3</sup>)</li> <li>○ (Surface Core Layer) – 4.6mm poplar ply (510kg/m<sup>3</sup>)</li> <li>○ Facing: 0.4mm EV (600kg/m<sup>3</sup>)</li> </ul> </li> </ul> <p>Lipping: Sapele (640kg/m<sup>3</sup>), 8mm thick to all four edges</p> <p><u>FRAME:</u>          Head &amp; Jambs: Sapele (621kg/m<sup>3</sup>), 80mm(d) x 44mm(w), with 33mm(w) x 12mm(d) integral stop.          Frame Fixing: 4No. Ø10 x 100 steel woodscrews, 400-500mm centres          Threshold: Non-combustible</p> <p><u>INTUMESCENT:</u>          Frame Reveal: 2no 10x4mm Pyroplex 8500 separated by 5mm either side of the centre line of the frame reveal</p>

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<p><b>Summary of Test Specimen continued:</b></p>	<p><u>GLAZING:</u> Glass: Fireglass Pyrobelite 9EG, 11mm thick Overall Size:<ul style="list-style-type: none"><li>• Top: 984x224mm</li><li>• Bottom: 632x224mm</li></ul>Aperture Size:<ul style="list-style-type: none"><li>• Top: 990x230mm</li><li>• Bottom: 638x230mm</li></ul>Sight Size:<ul style="list-style-type: none"><li>• Top: 960x205mm</li><li>• Bottom: 610x205mm</li></ul>Beading: Sapele (685kg/m<sup>3</sup>), 19mm(w) x 21mm(h) with 15° chamfer and a 13mm(w) x 6mm(hh) rebate forming a 6x6mm bolection return Bead Fixing: 1.6g x 50mm long steel pins at 25-35°, 150mm centres &amp; 45mm from corners.</p> <p><u>GLAZING SYSTEM:</u> Glazing Perimeter: 10x4mm Sealmaster Black Glazing Tape (BGT)</p> <p><u>SMOKE/ACOUSTIC SEALS:</u> Head and Jambs: 1no 11x10mm Norseal NOR710 self-adhered to the corner of the stop and frame reveal. Leaf bottom edge: 12x20mm Norseal NOR810S drop seal centrally rebated into the bottom edge of the leaf.</p> <p><u>HARDWARE:</u> Hinges: 4no. Zoo ZHSS243RS butt hinge Closer: Hoppe AR1500 Lock/Latch: ERA SureFire Classic 2 hook multi-point door lock with 70mm ERA Fortress 3* thumbturn cylinder Lock/Latch Size:<ul style="list-style-type: none"><li>• Forend: 1634x20mm</li><li>• Top/bottom keep: 136x24mm</li><li>• Top/bottom case: 150x41mm</li><li>• Centre keep: 170x24mm</li><li>• Centre case: 214x60mm</li></ul>Lock/Latch Status: Engaged for test (auto firing multi-point latches but with the central deadbolt withdrawn) Handle: ERA 1X000 lever type handle. Eye viewer: ERA Fab&amp;Fix Barrel: Ø12mm, Footprint: Ø16mm fitted 1500mm from the bottom of the leaf</p>
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<b>Summary of Test Specimen continued:</b>	<p>Letterplate: ERA Fab&amp;Fix Numail door letterplate with security cowell fitted 850mm from the bottom of the leaf.</p> <p>Security Chain: ERA PVCu/Timber Door Chain 791-65 fitted 400mm down from the top of the leaf</p> <p>Numerals: ERA Fab&amp;Fix Door Numerals FFNUM8BC</p> <p>Knocker: ERA Ingot Door Knocker – 4A550</p> <p><u>HARDWARE PROTECTION:</u></p> <p>Under Hinge: 1mm thick MAP</p> <p>Lock/Latch:</p> <ul style="list-style-type: none"><li>• Forend plate: Sealed Tight Solutions Limited 1mm graphite based intumescent</li><li>• Top/bottom keep: Sealed Tight Solutions Limited 1mm graphite based intumescent</li><li>• Top/bottom case: Sealed Tight Solutions Limited 1mm graphite based intumescent</li><li>• Centre keep: Sealed Tight Solutions Limited 1mm graphite based intumescent</li><li>• Centre case: Sealed Tight Solutions Limited 1mm graphite based intumescent</li></ul> <p>Eye viewer: 0.5mm graphite wrap supplied with viewer</p> <p>Letterplate: 40x2mm Sealed tight solutions Limited graphite based intumescent, wrapped twice around letterplate channel</p>
<b>Test Standard:</b>	BS EN 1634-1:2014+A1:2018

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### 3.9.1 Test WF 416690 - Issue 2 Summary of Results

The following table summarises the results of the test and provides information on the performance of the doorsets in fire test conditions that is required to extend the scope of application for the design using the rules in BS EN 15269-3: 2012.

Doorset Reference	Result (minutes)			Radiation	Category of performance <sup>1</sup> (A or B)	Distortion <sup>2</sup> (Low, Med, High)
	Integrity	Insulation				
		(I <sub>1</sub> ) <sup>3</sup>	(I <sub>2</sub> ) <sup>4</sup>			
Doorset A	34	N/A	33	50	A	Low
Doorset B	50	N/A	29	50	B	Low

1. In accordance with clause 13.3.2 of BS EN 1634-1: 2014 + A1: 2018
2. In accordance with Annex A of BS EN 15269-3: 2012
3. Supplementary procedure for maximum temperature rise (I<sub>1</sub>) in accordance with 11.2.5 in BS EN 1634-1: 2014 + A1: 2018
4. Normal procedure for maximum temperature rise (I<sub>2</sub>) in accordance with 11.2.4 in BS EN 1634-1: 2014 + A1: 2018

**NB:** The insulation performance recorded above is related to the glazed areas and the glass type is not being considered as part of this EXAP. The cited test evidence can therefore be used to support the alternative hardware.

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### 3.10 Test EFR-18-H-003671

The referenced test report, the essential details of which are summarised below, is secondary data for supporting the inclusion of various items of hardware and STS hardware protection into the Strebord 44 EI30 design. The data also provides evidence for the restraining and supporting hardware exposed to test conditions in both directions. The test evidence has been deemed acceptable as secondary data for supporting the hardware on the Strebord 44 EI30 door design based on using a door core that is considered fundamentally the same for the purpose of adding the alternative hardware (Clause A.2 in Annex A of BS EN 15269-1: 2019 + AC: 2020 gives further explanation on the phrase 'fundamentally the same' or 'similar' and its use within the EN 15269 series of EXAP standards):

<b>Date of Test:</b>	15 <sup>th</sup> November 2018
<b>Identification of Test Body:</b>	Efectis France - COFRAC No. 1-1762
<b>Sponsor:</b>	Falcon Panel Products Ltd
<b>Tested Product:</b>	2No. latched, single-acting, single-leaf doorsets - LSASD
<b>Tested Orientation:</b>	Doorset A: opening in towards heating condition Doorset B: opening out away from heating condition
<b>Summary of Test Specimen:</b>	<p><u>LEAF:</u>          Overall Size (both leaves): 2402mm(h) x 1047(w) x 44mm(t)          Core (Both Doorsets):</p> <ul style="list-style-type: none"> <li>• Falcon Panel Products Stredor 44mm Type B           <ul style="list-style-type: none"> <li>○ (Inner Core Layer) – 2.1mm poplar ply (510kg/m<sup>3</sup>)</li> <li>○ (Outer Core Layers) – 19.5mm pine lamels (480kg/m<sup>3</sup>)</li> <li>○ (Surface Core Layer) – 1.4mm poplar ply (510kg/m<sup>3</sup>)</li> <li>○ Facing: 0.4mm beech veneer (600kg/m<sup>3</sup>)</li> </ul> </li> </ul> <p>Lipping (both leaves): Sapele (640kg/m<sup>3</sup>), 8mm thick to all four edges</p> <p><u>FRAME:</u>          Head &amp; Jambs: European Redwood (510kg/m<sup>3</sup>), 90mm(d) x 44mm(w), with 43mm(w) x 15mm(d) integral stop.          Frame Fixing: 4No. Ø5 x 80 steel woodscrews, 500-600mm centres          Threshold: Non-Combustible</p> <p><u>INTUMESCENT:</u>          Frame Reveal: 2no 10x4mm Sealed Tight Solutions Limited ST104FO 10mm apart, 7mm from the opening face.</p>

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<b>Summary of Test Specimen continued:</b>	<p><b><u>GLAZING:</u></b> Glass: Pyrobelite 9EG 12mm thick Overall Size: 394x1534mm Aperture Size: 400x1540mm Sight Size: 370x1410mm Beading: Sapele (640kg/m<sup>3</sup>), 19.5mm(w) x 23mm(h) with a 15° chamfer and a 8x6mm bolection Bead Fixing: Ø3.5 x 50mm long steel pins at 25-35°, 150mm centres &amp; 50mm from corners.</p> <p><b><u>GLAZING SYSTEM:</u></b> Glazing Perimeter: 10x3mm Sealed Tight Solutions Limited STS ST105-3 GT closed-cell foam tape</p> <p><b><u>SMOKE/ACOUSTIC SEALS:</u></b> Head and Jambs: 1no 10x9mm Sealed Tight Solutions Limited ST1009 self-adhered to the corner of the stop and frame reveal. Leaf bottom edge: 12x20mm Sealed Tight Solutions Limited ST422 drop seal centrally rebated into the bottom edge of the leaf.</p> <p><b><u>HARDWARE:</u></b> Hinges: 3no Royde &amp; Tucker H207 Closer: Astra 4000 jamb-mounted concealed closer Lock/Latch: ERA SureFire Classic 2 hook multi-point door lock with 75mm ERA Fortress 3* thumbturn cylinder* Lock/Latch Size:<ul style="list-style-type: none"><li>• Forend: 1634x20mm</li><li>• Top/bottom keep: 151x24mm</li><li>• Top/bottom case: 150x42mm</li><li>• Centre keep: 170x24mm</li><li>• Centre case: 213x61mm</li></ul>Lock/Latch Status: Engaged for test (auto firing multi-point latches but with the central deadbolt withdrawn) Handle: Stanza ZPZ090SC Eye viewer: Sealed Tight Solutions Limited 4008 Barrel: Ø14mm, Footprint: Ø16mm fitted 1540mm from the bottom of the leaf</p>
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<b>Summary of Test Specimen continued:</b>	<p><b><u>HARDWARE PROTECTION:</u></b></p> <p>Under Hinge: 1mm Sealed Tight Solutions Limited raw graphite</p> <p>Lock/Latch:</p> <ul style="list-style-type: none"><li>• Forend plate: Sealed Tight Solutions Limited 1mm graphite based intumescent, interrupted where necessary to allow for free movement of mechanical parts.</li><li>• Top/bottom keep: Sealed Tight Solutions Limited 1mm graphite based intumescent</li><li>• Top/bottom case: Sealed Tight Solutions Limited 1mm graphite based intumescent</li><li>• Centre keep: Sealed Tight Solutions Limited 1mm graphite based intumescent</li><li>• Centre case: Sealed Tight Solutions Limited 1mm graphite based intumescent</li></ul> <p>Eye viewer: Sealed Tight Solutions Limited 1mm graphite based intumescent</p> <p>Closer forend and body: Sealed Tight Solutions Limited 1mm graphite based intumescent</p>
<b>Test Standard:</b>	EN 1634-1:2014 + A1: 2018

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### 3.10.1 Test EFR-18-H-003671 Summary of Results

The following table summarises the results of the test and provides information on the performance of the doorsets in fire test conditions that is required to extend the scope of application for the design using the rules in BS EN 15269-3: 2012.

Doorset Reference	Result (minutes)			Radiation	Category of performance <sup>1</sup> (A or B)	Distortion <sup>2</sup> (Low, Med, High)
	Integrity	Insulation				
		(I <sub>1</sub> ) <sup>3</sup>	(I <sub>2</sub> ) <sup>4</sup>			
Doorset A	36	21	21	N/A	B	Low
Doorset B	36	32	32	N/A	B	Low

1. In accordance with clause 13.3.2 of BS EN 1634-1: 2014 + A1: 2018
2. In accordance with Annex A of BS EN 15269-3: 2012
3. Supplementary procedure for maximum temperature rise (I<sub>1</sub>) in accordance with 11.2.5 in BS EN 1634-1: 2014 + A1: 2018
4. Normal procedure for maximum temperature rise (I<sub>2</sub>) in accordance with 11.2.4 in BS EN 1634-1: 2014 + A1: 2018

**NB:** The insulation performance recorded above is related to the glazed areas and the glass type is not being considered as part of this EXAP. The cited test evidence can therefore be used to support the alternative hardware.

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#### 4 Test Samples

The following table provides a summary of the test specimens:

Test Report Ref.	Sampling Procedure	Conditioning and Ageing	Pre-Fire Tests
Chilt/RF11121	Prototype specimen for test purposes. No factory sampling process available. Verification of components carried out by laboratory where possible <sup>1</sup>	The ambient temperature of the test area at commencement of test was 19°C. The specimen was stored prior to test in similar conditions	Conducted in accordance with appropriate mechanical test in BS EN 14600 (pre-cycling). Closer forces measured in accordance with BS EN 1634-1: 2008 Section 10.1.3 See individual test reports for details
Chilt/RF11170	Prototype specimen for test purposes. No factory sampling process available. Verification of components carried out by laboratory where possible <sup>1</sup>	The ambient temperature of the test area at commencement of test was 17°C. The specimen was stored prior to test in similar conditions	Conducted in accordance with appropriate mechanical test in BS EN 14600 (pre-cycling). Closer forces measured in accordance with BS EN 1634-1: 2008 Section 10.1.3 See individual test reports for details
Chilt/RF13132	The intumescent and sealing products were sampled BM TRADA Certification on 2 <sup>nd</sup> July 2013 (see appendix 3 of test report). These products were then delivered to BM TRADA for use in the test. The other elements used in the construction of the test specimen were bought by BM TRADA from distributor's group stock <sup>1</sup>	The ambient temperature of the test area at commencement of test was 16°C. The specimen was stored prior to test in similar conditions	Conducted in accordance with appropriate mechanical test in BS EN 14600 (pre-cycling). Closer forces measured in accordance with BS EN 1634-1: 2008 Section 10.1.3 See individual test reports for details

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Test Report Ref.	Sampling Procedure	Conditioning and Ageing	Pre-Fire Tests
Chilt/RF13176	<p>The intumescent and sealing products were sampled by BM TRADA Certification on 2nd July 2013 (see appendix 3). These products were then delivered to BM TRADA for use in the test.</p> <p>The other elements used in the construction of the test specimen were bought by BM TRADA from distributor's group stock<sup>1</sup>.</p>	<p>The ambient temperature of the test area at commencement of test was 18°C. The specimen was stored prior to test in similar conditions</p>	<p>Conducted in accordance with appropriate mechanical test in BS EN 14600 (pre-cycling). Closer forces measured in accordance with BS EN 1634-1: 2008 Section 10.1.3</p> <p>See individual test reports for details</p>
BMT/FER/F13263	<p>The door blanks were sampled by BM TRADA on 11th September 2013. These products were then delivered to BM TRADA for use in the test.</p> <p>The other elements used in the construction of the test specimen were bought by BM TRADA from distributor's group stock.</p> <p>All details held on file in confidence by BM TRADA<sup>1</sup></p>	<p>The ambient temperature of the test area at commencement of test was 10°C. The specimen was stored prior to test in similar conditions</p>	<p>Conducted in accordance with appropriate mechanical test in BS EN 14600 (pre-cycling). Closer forces measured in accordance with BS EN 1634-1: 2008 Section 10.1.3</p> <p>See individual test reports for details</p>

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Test Report Ref.	Sampling Procedure	Conditioning and Ageing	Pre-Fire Tests
WF 416689	The doorset and components were sampled by Warringtonfire Testing and Certification Ltd (Notified Body: 1121) on the 1 <sup>st</sup> August 2019. Sample report no. FM416657	Prior to test, the doorset was stored in climatic conditions approximate to those in normal service. The ambient air temperature was 22°C at the start of the test	Prior to testing, the doorsets were subjected to appropriate mechanical pre-test conditioning in accordance with the requirement of BS EN 16034. Closer forces measured in accordance with BS EN 1634-1: 2014 Section 10.1.3 See individual test reports for details
WF 416690	The doorset and components (apart from the 3 point latch on doorset B) were sampled by Warringtonfire Testing and Certification Ltd (Notified Body: 1121) on the 31 <sup>st</sup> July 2019. Sample report no. FM416656	Prior to test, the doorset was stored in climatic conditions approximate to those in normal service. The ambient air temperature was 23°C at the start of the test with a maximum variation of ±0°C during the test	Prior to testing, the doorsets were subjected to appropriate mechanical pre-test conditioning in accordance with the requirement of BS EN 16034. Closer forces measured in accordance with BS EN 1634-1: 2014 Section 10.1.3 See individual test reports for details
EFR-18-H-003671	The doorset and components were sampled by EXOVA (Notified Body: 1124) on the 1 <sup>st</sup> November 2018. Sample report no: PS 18 1001	The ambient air temperature was 17°C at the start of the test	In accordance with EN 14600: 2015, suitability, 'proper operation' and self-closing tests were carried out before the fire test. Closer forces measured in accordance with BS EN 1634-1: 2014 Section 10.1.3 See individual test reports for details

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Test Report Ref.	Sampling Procedure	Conditioning and Ageing	Pre-Fire Tests
WF 421795	No information on sampling is available. The component parts of the doorsets were identified based on information provided by the client and verified and agreed by the laboratory insofar as reasonably practicable <sup>1</sup>	Prior to test, the doorset was stored in climatic conditions approximate to those in normal service. The ambient air temperature was 8°C at the start of the test	Prior to testing, the doorsets were subjected to appropriate mechanical pre-test conditioning in accordance with the requirement of BS EN 16034. Closer forces measured in accordance with BS EN 1634-1: 2014 Section 10.1.3 See individual test reports for details
WF 421964	No information on sampling is available. The component parts of the doorsets were identified based on information provided by the client and verified and agreed by the laboratory insofar as reasonably practicable <sup>1</sup>	Prior to test, the doorset was stored in climatic conditions approximate to those in normal service. The ambient air temperature was 13°C at the start of the test	Prior to testing, the doorsets were subjected to appropriate mechanical pre-test conditioning in accordance with the requirement of BS EN 16034. Closer forces measured in accordance with BS EN 1634-1: 2014 Section 10.1.3 See individual test reports for details

Notes:

1. The approved guidance on the use of historic data, issued by the Fire and Doors and Windows Sector Groups (SH02 and SG06 respectively) of the GNB CPR, document referenced NB-CPR/SH02/SG06-18/001r1, has been used to permit the use of this test report for the purpose of including the specific alternative items of hardware into the Strebord 44 EI30 design considered in this EXAP report.

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## 5 General Description of Construction

### 5.1 Door Leaf Construction

#### 5.1.1 Strebord 44

The construction of door leaves to this design constructed using Strebord 44 EI30 must be to the following specification:

Element		Material	Dimensions (mm)	Density (kg/m <sup>3</sup> )
Core		Particleboard (graduated density chipboard) <sup>1</sup>	44 (t)	Min 520 to Max 630
Adhesive	Lippings	Kaberdeck D4 PU	-	-
		Kleiberit Reactive PUR hotmelt 707.9	-	-
		PVA	-	-
Lippings		Hardwood	See section 5.2	See section 5.2

**Notes:**

1. Door blank types as tested and cited in section 3 of this report (see section 2.1 for further information)

### 5.2 Lipping Material

The following specification must be followed when applying lipping material to the door leaf:

1. The door leaf must be lipped on the vertical edges with the option to additionally lip the top and bottom of the door leaf as required (EXAP rule A.5.17).
2. Based on the submitted test evidence it is permitted to use the following adhesives and gluing applications for the lippings. Both types of adhesive and application methods have been tested with Strebord 44 door cores:
  - a. Kleiberit Reactive PUR hotmelt 707.9 (applied by hot melt edge bander)
  - b. Kaberdeck D4 PU (hand applied and clamped in position)
  - c. PVA (hand applied and clamped in position)
3. EXAP rule A.5.15 states that lippings tested between 3mm and 12mm can be increased by 25% in thickness up to a maximum of 12mm thick and can be reduced by a maximum of 25% providing the lipping is not reduced below 3mm thick. The tested lipping thickness permits a lipping thickness between a minimum of 4.5mm and a maximum of 10mm thick.

4. The lipping can be constructed using alternative hardwood timber meeting or exceeding  $590\text{kg/m}^3$  (excluding beech – *fagus sylvatica*) in accordance with EXAP rule A.5.14.
5. The test conducted under RF13263 demonstrated that single leaf doorsets can be fitted a rebated lipping that over sails the door frame at the jambs and head (see section 5.3 for details).

### 5.3 Edge Condition

The following edge conditions have been approved for this doorset design:

#### 5.3.1 Leaf Edge Rebates (not at meeting edges)

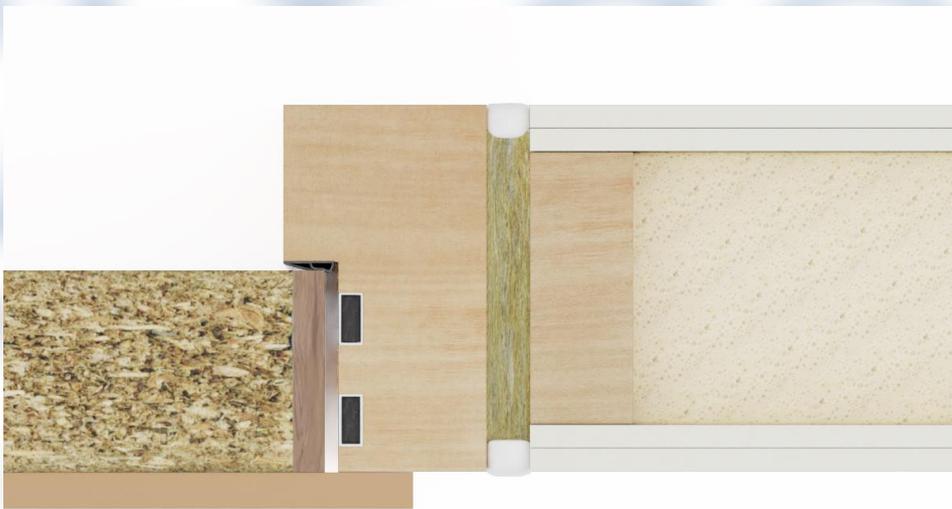


Fig 1. - Option A

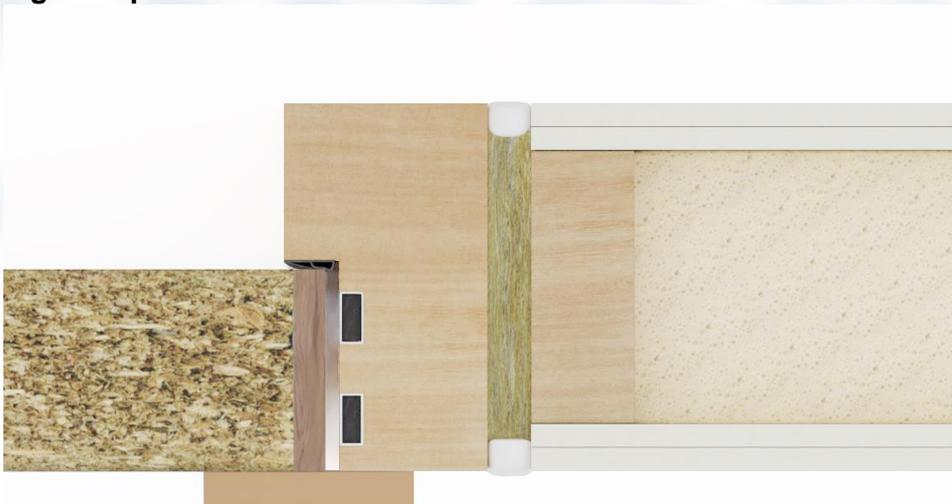
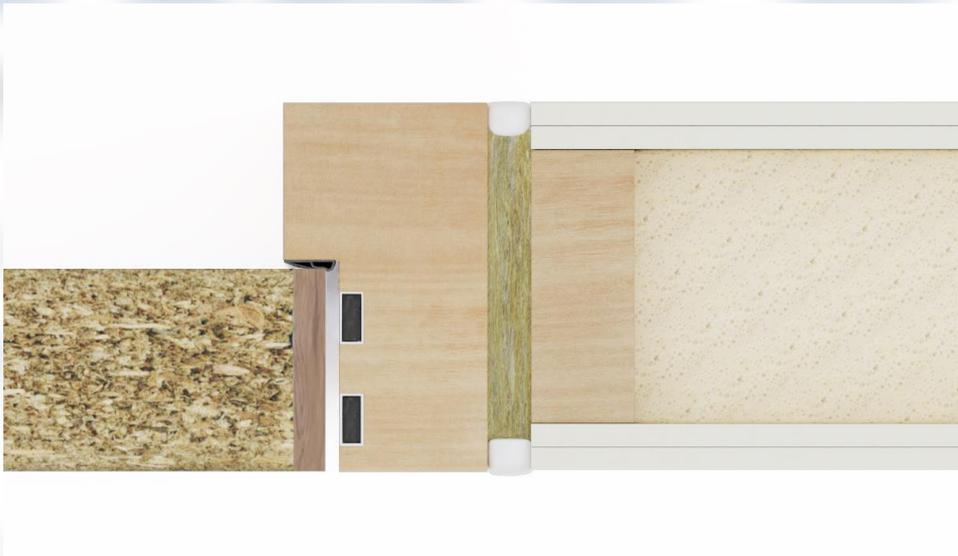


Fig 2. - Option B

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**Fig. 3 - Option C**



**Fig. 4 - Standard detail (i.e. no material applied to face of leaf)**

The shaded material in the diagrams above is to be added to the door leaf in order to create the rebate. The following limitations apply:

1. The additional material may be timber with maximum 30mm overlap with the adjacent door frame.
2. The additional material shown in the diagrams labelled **a** and **c** may be applied to the full face of the leaf. If the material is applied to the full face of the leaf, the material must **not** exceed 13.5mm thick (i.e. 25% of the thickness of the door leaf).
3. For the construction shown in drawing **b** the rebate may be constructed from materials with a melting point <450°C if the leaf thickness is increased by adding a 'profile' or 'astragal' and all hardware, intumescent seals and door leaf remain unaltered.

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4. The leaf symmetry must be maintained.
5. For double leaf doorsets, both leaves will include the same rebate detail (i.e. it is **not** permitted to add a rebate to one leaf only).
6. The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for leaf edge rebates: A.1.19.

### 5.3.2 Rebated Edges (single leaf doors only)

The test conducted under RF13263 demonstrated that single leaf doorsets can be fitted with a rebated lipping that over sails the door frame at the jambs and head.

Rebated lippings dimensions = 20mm (t) including a 34mm (w) x 13mm (h) rebate

The lipping can be constructed using alternative hardwood timber meeting or exceeding 640kg/m<sup>3</sup> (excluding beech – fagus sylvatica) in accordance with EXAP rule A.5.14

The detail is permitted for both MDF and timber door frames meeting the relevant door frame specification in section 8.

The maximum permitted leaf sizes for timber door frames and rebated edges is given in section 7.4.3

The maximum permitted leaf sizes for MDF door frames and rebated edges is given in section 7.4.4

The required intumescent specification for rebated edges is given in section 11.1

All other details for a doorset with rebated edges must remain as specified in this EXAP report.



**Fig. 5 – Over rebated edge detail**

Rebated leaf edge machined to over sail the door frame. The lipping may be fitted at both jambs and across the head

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### 5.3.3 Meeting Edge Detail



Fig. 6 – Option c) unrebated (plain or square edges)



Fig. 7 – Option e) unrebated (slanted)



Fig 8. – Option f) closing strip (applied astragal)

**NB:** The letter referencing for each option has been taken from Figure A6 in BS EN 15269-3: 2012

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In addition to the tested plain meeting edge detail (depicted in diagram **c**) it is possible to provide a slanted meeting edge detail (diagram **e**) and to fit an astragal (diagram **f**), subject to the following limitations:

1. Due to the CAT B performance of the double doors tested the slanted meeting edge detail may have a maximum chamfer of 5° (slant must be applied to both leaves)
2. The astragal detail must be created by the addition of a timber based or low melt material of <450°C melting point and the intumescent seal arrangement must remain as tested

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for meeting edges of door leaves: A.2.2, A.2.3.

## 6 Configurations and Orientation

### 6.1 Door Leaf Configurations

The Strebord 44 EI30 design has been tested in single and double leaf configurations and with different latching arrangements (latches engaged and disengaged). The following doorset configuration is therefore permitted for the design covered by this EXAP report:

Abbreviation	Description
LSASD	Latched, single acting, single leaf doorsets <sup>1,2</sup>
ULSASD	Unlatched, single acting, single leaf doorsets <sup>3</sup>
LSADD	Latched, single acting, single leaf doorsets <sup>2</sup>
ULSADD	Unlatched, single acting, double leaf doorsets <sup>3</sup>

#### Notes:

1. Doorsets tested with multi-point latches were conducted using auto firing multi-point latches but with the central deadbolt withdrawn. Doorsets fitted with multi-point latches must therefore be configured with all three latching points of the multi-point lock engaged when the door is in the closed position but it is not necessary to engage the central deadbolt to maintain the fire resistance performance of the doorset
2. Approved locksets/latches must be fitted as detailed in this document
3. It is permitted to construct doorsets without a lockset/latch fitted

### 6.2 Door Leaf Orientation

The primary fire resistance test for this design included doorsets where the door leaves opened both towards and away from the fire. Based on this testing, the extended scope presented in this EXAP report is applicable to doorsets with leaves that are hung to open either away from or towards the fire risk side of the doorset, making the Strebord 44 EI30 product family bi-directional with respect to the fire risk.

The orientation of the door leaves also takes into consideration the testing of the restraining hardware in both directions with respect to exposure to fire test conditions as outlined in DIAP rule 13.4 in BS EN 1634-1: 2014 + A1:2018.

## 7 Leaf Sizes

### 7.1 Adjustment

The door leaf can be reduced in height and width from any edge prior to fitting the hardwood lipping, as required (in line with EXAP rule A.3.1 – refers to DIAP rules in BS EN 1634-1: 2014+A1: 2018). The following limitations apply:

1. No restriction in leaf height reduction for single, unequal pairs and equal pairs (see 7.3 for height restriction related to doorsets fitted with multi-point locksets)
2. No restriction in leaf width reduction for single and equal pairs
3. The width of the smaller leaf of the unequal pair must fall within the parameters stated in section 7.5

### 7.2 Increase

The approval for increased leaf dimensions (all hardware options other than the multipoint lock – see section 7.3) is based on the Category (A or B) performance of the doorset and distortion characteristics (low or medium).

The following leaf sizes are approved for the doorset design. The leaf size envelopes are depicted in the graphs shown in appendix B. The calculations for the leaf size envelopes are contained in appendix C.

Further information on intumescent seal location requirements is given in section 11.

### 7.3 Doorsets fitted with Winkhaus AV2 and AV3 Locksets

The Strebord 44 EI30 product family has been tested with the Winkhaus AV2 (test WF 416689) and Winkhaus AV3 (WF 421795) locksets in both directions with respect to exposure to fire test conditions.

The locksets can therefore be used with the Strebord 44 EI30 door design on single leaf doorsets only.

Based on the test evidence, it is necessary to provide two leaf size envelopes, linked to the density of the hardwood door frame tested and the perimeter intumescent seal specification.

The approved leaf dimensions, based on the test evidence, are given below.

#### 7.3.1 Maximum Leaf Size – hardwood door frames >510kg/m<sup>3</sup>

The leaf size increase rules given in EXAP rule A.3.2 have been used to calculate the maximum leaf size envelope for doorsets fitted with the Winkhaus AV2 and AV3 locksets.

The performance of doorset A tested in WF 421795 has been used to calculate the leaf size envelope for the Strebord 44 EI30 doorset design fitted with Winkhaus AV2 and AV3 locksets in hardwood door frames (excluding beech) of minimum density 510kg/m<sup>3</sup> and with STS perimeter intumescent seals.

The Strebord 44 EI30 product family can include door leaves of the following dimensions when fitted with the Winkhaus AV2 and AV3 locksets in hardwood frames of minimum density 510kg/m<sup>3</sup> with STS perimeter intumescent seals:

Maximum leaf height (mm): 2275

Maximum leaf width (mm): 1029

The STS intumescent specification that must be used for doorsets fitted with Winkhaus locksets is given in section 11.2.1

### 7.3.2 Maximum Leaf Size – hardwood door frames >697kg/m<sup>3</sup>

The leaf size increase rules given in EXAP rule A.3.2 have been used to calculate the maximum leaf size envelope for doorsets fitted with the Winkhaus AV2 and AV3 locksets.

The performance of doorset A tested in WF 416689 has been used to calculate the leaf size envelope for the Strebord 44 EI30 doorset design fitted with Winkhaus AV2 and AV3 locksets in hardwood door frames (excluding beech) of minimum density 697kg/m<sup>3</sup> and with Pyroplex perimeter intumescent seals.

The Strebord 44 EI30 product family can include door leaves of the following dimensions when fitted with the Winkhaus AV2 and AV3 locksets in hardwood frames of minimum density 697kg/m<sup>3</sup> with Pyroplex perimeter intumescent seals:

Maximum leaf height (mm): 2786

Maximum leaf width (mm): 1202

The Pyroplex intumescent specification that must be used for doorsets fitted with Winkhaus locksets is given in section 11.2.2

### 7.3.3 Minimum Leaf Size

Size reduction is permitted in width without restriction according to the direct application rule in table B1 in BS EN 1634-1: 2014 + A1: 2018 (in line with EXAP rule A.3.1.)

Reduction in leaf height for doorsets fitted with the Winkhaus AV2 and AV3 is restricted based on the height of the multi-point lock (forend plate of the Winkhaus AV2 and AV3 = 1770mm (h)).

It has been deemed necessary to maintain at least 50mm distance from the top and the bottom of the forend of the locking system to maintain intumescent sealing at the top and bottom corners of the closing edge of the doorset. This will provide in excess of 100mm of perimeter intumescent sealing at the top and bottom of the closing edge frame reveal which is consistent with the rule regarding hinge repositioning (rule C.1.36 in BS EN 15269-3: 2012).

It has been necessary to use rule C.1.36 as there is no rule directly related to the reduction of leaf height and the reduced distance between the top/bottom of the forend or keeps of multi-point locks and rule C.1.36 best represents the situation of reducing the distance between the keeps of the multi-point lock and the top and bottom corners of the doorset).

Minimum height permitted:

Doorsets fitted with Winkhaus AV2 and Winkhaus AV3 locksets = 1870mm (h)

There must be a minimum of 50mm distance above and below the forend plate of the full height lock (i.e. in excess of 100mm between the top of the top keep and between the bottom of the bottom keep).

## **7.4 Single leaf doors**

The following maximum leaf dimensions are permitted for single leaf doorsets (without multipoint locksets fitted)

### **7.4.1 Pyroplex Intumescent Specification (section 11.3.1)**

Maximum leaf height (mm): 2329  
Maximum leaf width (mm): 1050

### **7.4.2 Lorient Intumescent Specification (section 11.3.2)**

Maximum leaf height (mm): 2419  
Maximum leaf width (mm): 1037

### **7.4.3 Pyroplex Intumescent Specification – over rebated leaf edge (section 11.1)**

Maximum leaf height (mm): 2550  
Maximum leaf width (mm): 1130

### **7.4.4 Pyroplex Intumescent Specification with MDF door frames (section 11.3.3)**

Maximum leaf height (mm): 2220  
Maximum leaf width (mm): 986

## **7.5 Unequal leaf pairs**

The following maximum leaf dimensions are permitted for double doorsets with unequal leaves (multipoint locks not permitted)

### **7.5.1 Pyroplex Intumescent Specification (section 11.4.1)**

Maximum leaf height (mm): 2329  
Maximum full leaf width (mm): 1050  
Minimum unequal leaf width (mm): 463

### **7.5.2 Lorient Intumescent Specification (section 11.4.2)**

Maximum leaf height (mm): 2419  
Maximum full leaf width (mm): 1037  
Minimum unequal leaf width (mm): 457

### **7.5.3 Pyroplex Intumescent Specification (section 11.4.3)**

Maximum leaf height (mm): 2365  
Maximum full leaf width (mm): 1020  
Minimum unequal leaf width (mm): 464

## 7.6 Equal pairs

The following maximum leaf dimensions are permitted for double doorsets with equal leaves (multipoint locks not permitted).

### 7.6.1 Pyroplex Intumescent Specification (section 11.4.1)

Maximum leaf height (mm): 2329  
 Maximum leaf width (mm): 1050

### 7.6.2 Lorient Intumescent Specification (section 11.4.2)

Maximum leaf height (mm): 2419  
 Maximum leaf width (mm): 1037

### 7.6.3 Pyroplex Intumescent Specification (section 11.4.3)

Maximum leaf height (mm): 2365  
 Maximum leaf width (mm): 1020

## 7.7 Relevant Clauses

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for leaf sizes:

A.3.1, A.3.2, A.3.3, A.3.4

The restriction on unequal leaf pair widths has been determined from the width proportions given underneath table B1 in the direct field of application rules listed in BS EN 1634-1: 2014+A1: 2018.

## 8 Door Frames

### 8.1 Timber Door Frames

Timber based door frames for the Strebord 44 EI30 product family must be constructed to meet the following specification based on the test evidence.

Material	Minimum Section Size (mm)		Min. Density (kg/m <sup>3</sup> )
Softwood or Hardwood (excluding beech – fagus sylvatica) <sup>2</sup>	Jambs & Head	70 (w) x 32 (t) (excluding the stop)	480
MDF <sup>3</sup>	Jambs & Head	70 (w) x 30 (t) (excluding the stop)	700

**Notes:**

1. Alternative softwood and hardwood timber (excluding beech) is permitted in accordance with EXAP rule B.2.3, providing the timber has a density equal to or greater than 480kg/m<sup>3</sup>. See note 2 below for restrictions when using multipoint locksets.
2. When fitting multi point locks, the door frame must be constructed using hardwood (excluding beech – fagus sylvatica) of:
  - a. minimum density 510kg/m<sup>3</sup> for the leaf sizes given in section 7.3.1 and
  - b. minimum density 697kg/m<sup>3</sup> for the leaf sizes given in section 7.3.2
3. MDF is only permitted for use with single leaf, single acting doorsets only. See section 7.4.4 for leaf size restrictions when using MDF as a door frame material
4. All door frame timber must be meet or exceed class J30 as specified in BS EN 942: 2007 (subject to adequate repair of any defects).
5. The door frame is to include a minimum 12mm deep x minimum 20mm wide planted or solid rebated stop (see diagram below). The frame reveal is to be maintained at a minimum of 47mm wide to accommodate the leaf width.
6. Frame joints must be mortise and tenon, as tested and with no gaps. Joints require mechanical fixing with 4 No. 80mm long x 5mm diameter screws. EXAP rule B.2.11 from BS EN 15269-3: 2012 has been used to consider the possible extended scope of application for jointing technique
7. It is possible to protect the door frame members providing the protection does not extend into the leaf to frame gap. There is no restriction on the type of material that can be used for protecting the door frame members when fitted at the above location. EXAP rule B.3.1 from BS EN 15269-3: 2012 has been used to consider the possible extended scope of application for protection of door frames
8. It is possible to vary the tested position of the door frame within the supporting construction providing the door frame does not project beyond the supporting construction. EXAP rule B.1.4 from BS EN 15269-3: 2012 has been used to consider the possible extended scope of application for position of door frame

The following diagram (Figure 9) depicts the required mortise and tenon door frame joint. The joints required mechanical fixing as specified in point 6 above:



**Fig 9. – Drawing of mortise and tenon joint**

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The following diagram (Figure 10) depicts the frame profile and minimum dimensions for door designs without over rebated leaf edges (see section 5.3.2 for details on over-rebated leaf edges):

- A = Min. 70mm
- B = Min. 44mm
- C = Min. 12mm
- D = Min. 20mm
- E = Min 47mm
- F = Min. 32mm (timber), Min. 30mm (MDF)

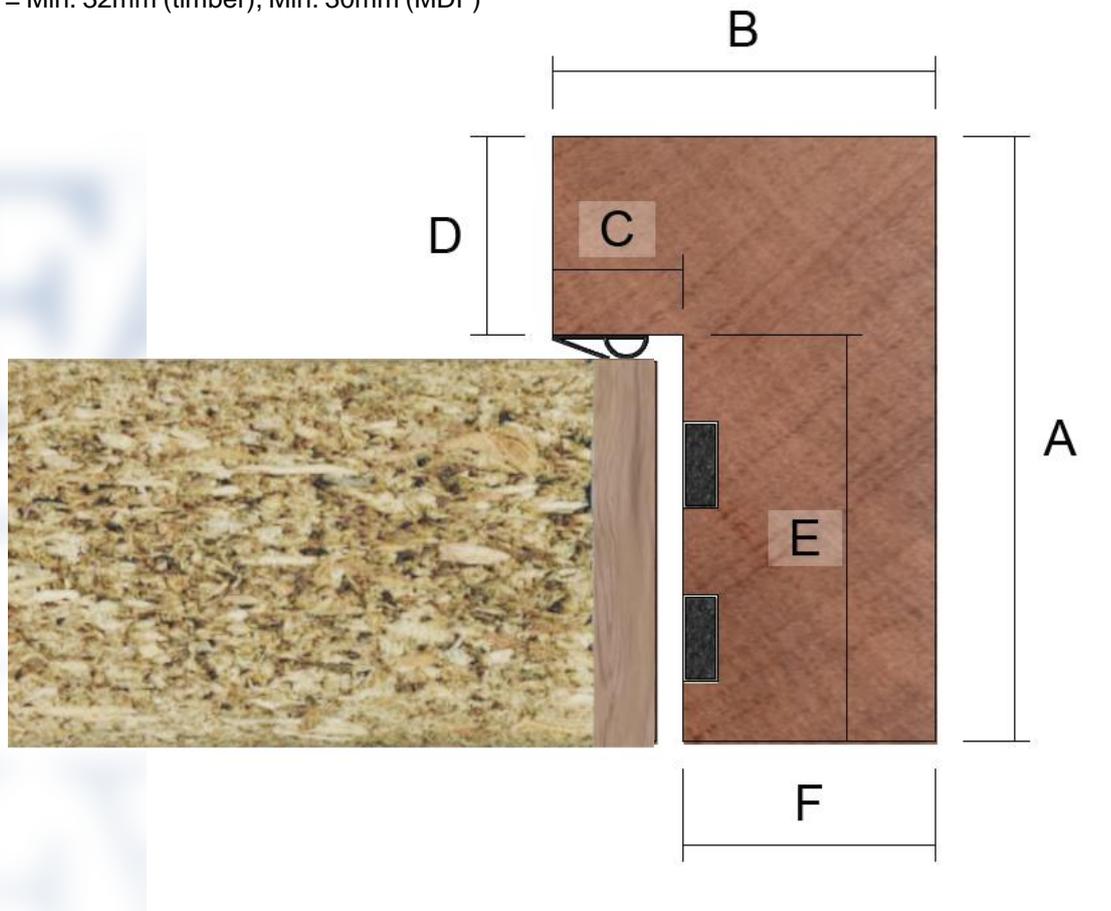


Fig. 10 – Door frame profile

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## 8.2 Thresholds

The following threshold details can be used with the Strebord 44 EI30 product family based on the test evidence cited in section 3 and the applicable EXAP rules in BS EN 15269-3: 2012; B.1.1, B,1.2.

### 8.2.1 Timber Thresholds

The following timber threshold has been tested with the Strebord 44 EI30 product family covered by this field of application.

The threshold must be fitted on to a non-combustible flooring with a minimum Reaction to Fire class A2,fl,s1 as tested.

The threshold can be rebated to overlap the door leaf by at least 9mm (additional to the minimum dimensions stated below). The bottom of the leaf must remain unrebated.

The gap between the bottom of the door and the threshold cannot exceed 4mm.

Element	Type	Dimensions (mm)	Location
Threshold	Hardwood (excluding beech – fagus sylvatica), minimum density 600kg/m <sup>3</sup>	15 high x 78 deep (overall)	The threshold is to be screwed to the jambs using 2No. 4mmØ x 50mm long woodscrews

### 8.2.2 Metallic Thresholds

A metallic threshold is acceptable for use with the Strebord 44 EI30 product family meeting the following specification:

- Threshold must be rebated to overlap the door leaf by at least 9mm. The bottom of the leaf must remain un-rebated.
- The metallic threshold must not extend by more than 20mm beyond the door leaf thickness
- The gap between the bottom of the door leaf and the threshold cannot exceed 4mm

### 8.2.3 Non-combustible thresholds

A non-combustible threshold (to reaction to fire class A2, fl, s1) is acceptable for use with the Strebord 44 EI30 product family meeting the following specification:

- Maximum 15mm thick (no limit on width)
- Threshold must be flat (i.e. not rebated)
- The gap between the bottom of the door leaf and the threshold cannot exceed 6mm

## 9 Door Leaf Glazing

### 9.1 General

The testing on the Strebord 44 EI30 door design included glazed apertures. The following sections detail the required glazing specification in terms of glazing systems, glass types, area permitted within the leaf, number of glazed apertures and position within the leaf.

The Strebord 44 EI30 door design has been tested with the glazed area <25% of the leaf of area. According to rule E.1.2 this permits the glazed panel to be removed from the leaf to allow for solid leaf designs (i.e. unglazed).

### 9.2 Glazing Configurations

- It is permitted to construct single leaf doorsets with and without glazing
- It is permitted to construct double leaf doors with and without glazing
- It is permitted to construct double leaf doors where only one leaf is glazed
- It is **not** permitted to fit more than one glazed aperture within any individual door leaf.

#### 9.2.1 Relevant Clauses

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for glazing configurations:  
E.1, E.1.2, E.1.11.

### 9.3 Glass Types

The following glass types have been tested and approved for use with the Strebord 44 EI30 design:

	Glass Type	Manufacturer	Thickness (mm)
1.	Pyroguard EI30	Pyroguard	15

#### 9.3.1 Relevant Clauses

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for glass types:  
E.1.3, E.1.4, E.1.7.

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## 9.4 Glazing Dimensions

### 9.4.1 Pyroguard EI30

Maximum glazed area = 0.52m<sup>2</sup>  
Maximum glazed height = 920mm  
Maximum glazed width = 632mm  
Minimum glazed area = 0.02m<sup>2</sup>

Proximity to leaf edges:

1. The glazing must **not** be located any closer than 95mm to any leaf edge
2. The distance between the edge of the glazing and the door leaf/panel may be increased subject to retaining the minimum glazed area stated above

### 9.4.2 Relevant Clauses

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for glazing dimensions:  
E.1.5, E.1.6, E.1.13, E1.14.

## 9.5 Materials and Geometry of Edge Fixing Technique

The following glazing systems (as tested), materials and edge fixing techniques must be used for glazing the Strebord 44 EI30 door design:

### 9.5.1 Pyroguard EI30

Glazing beads must be hardwood  $\geq 640\text{kg/m}^3$  (excluding beech). The timber must be straight grained, joinery quality, free from knots, splits and checks.

#### 9.5.1.1 Option 1 – Lorient

Glazing beads must be hardwood  $\geq 640\text{kg/m}^3$  (excluding beech). The timber must be straight grained joinery quality free from knots splits and checks

The glazing bead must have the following geometry:

- 20mm high x 18mm deep including a 5mm x 5mm bolection return and a 16° chamfer
- The beading must be fixed using 50mm long x 1.8mm diameter steel pins or 50mm long No. 6 or 8 steel screws
- The bead fixings must be fitted 50mm from corners and at 150mm centres and at 30 - 45° to the face of the glass
- A 13mm high x 3.5mm thick Lorient Polyproducts Ltd Flexible Figure 1 glazing seal must be fitted around the perimeter of the glass between the face of the bead and the glass.

### 9.5.1.2 Option 2 – Pyroplex

The glazing bead must have the following geometry:

- 18mm high x 18mm deep, including a 5mm x 5mm bolection return and a 11° chamfer.
- The beading must be fixed using 50mm long x 1.8mm diameter steel pins or 50mm long No. 6 or 8 steel screws
- The bead fixings must be fitted 50mm from corners and at 140mm centres and at 45° to the face of the glass.
- A 7mm wide x 12mm high Pyroplex FG30 (ref 30049) glazing gasket must be fitted between the glass and the glazing bead on both faces of the glass.

### 9.5.2 Relevant Clauses

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for materials and geometry of edge fixing technique:

E.1.8, E.1.9.

### 9.6 Geometry of Glazed Aperture

It is **not** possible to permit alternative shapes of glazing.

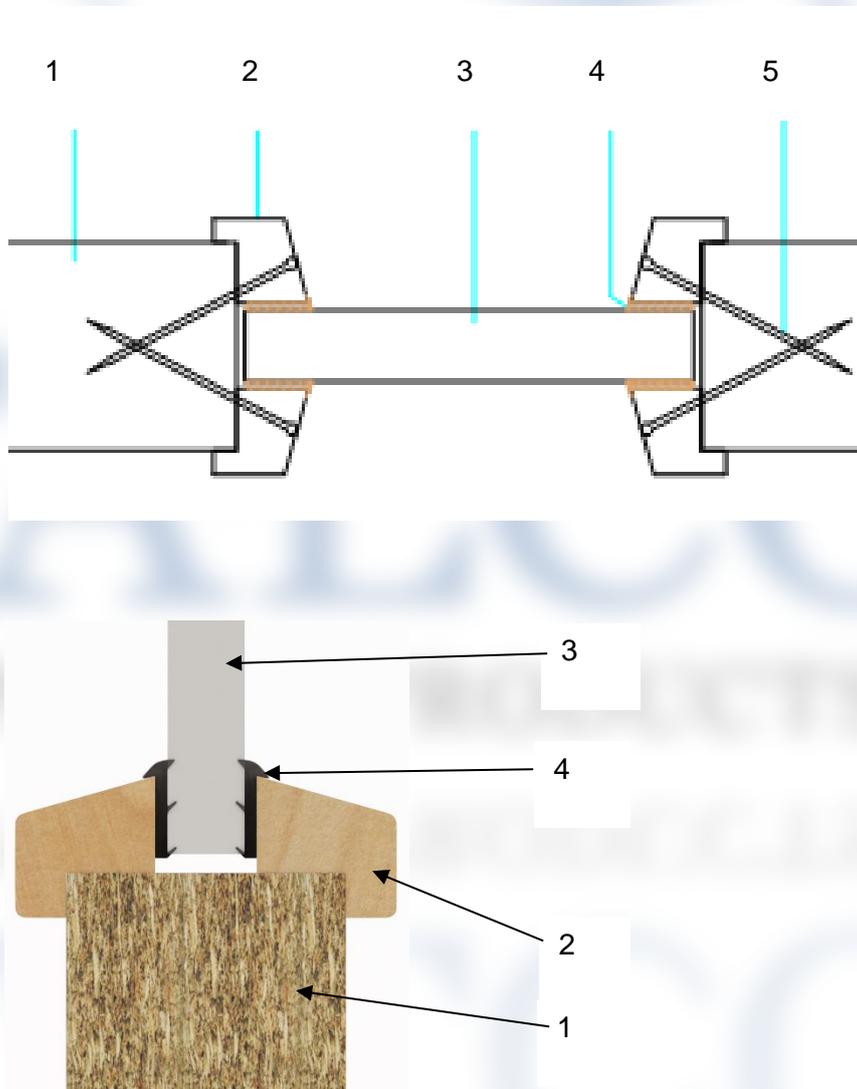
#### 9.6.1 Relevant Clause

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for geometry of glazed aperture:  
E.1.10.

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## 9.7 Diagram of Tested and Approved Glazing Systems

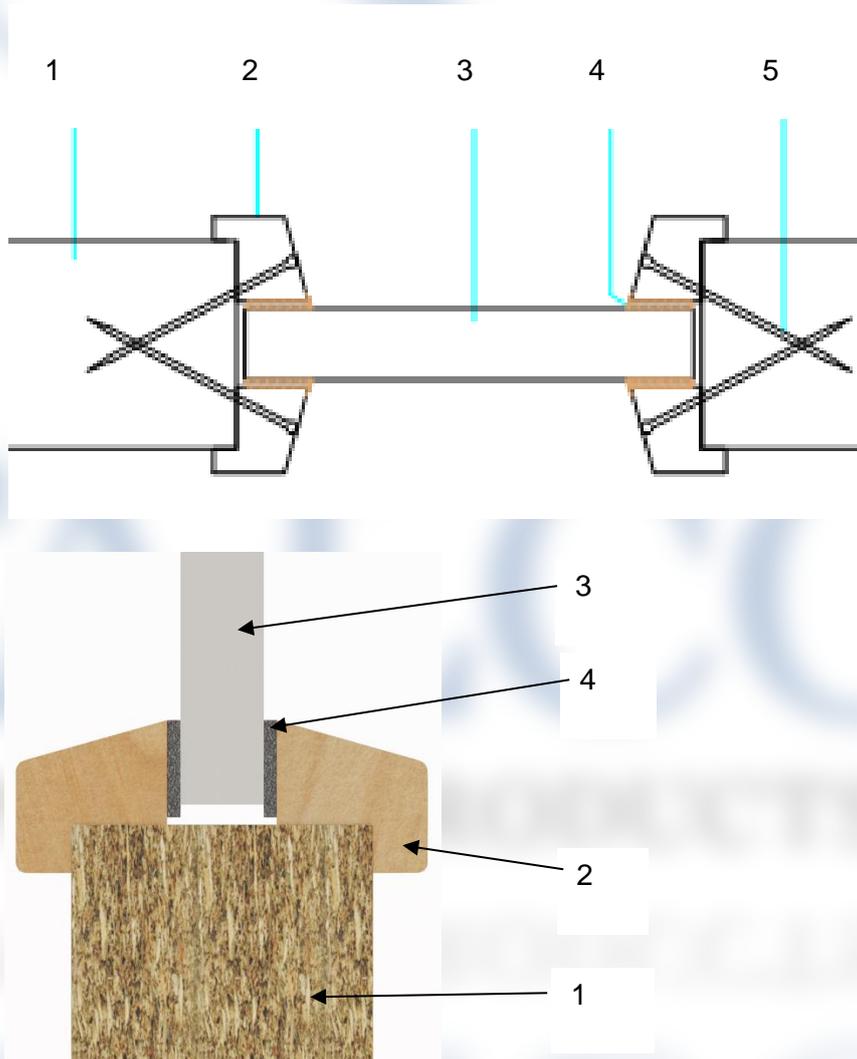
### 9.7.1 Pyroguard EI30



1. Strebord door core
2. Hardwood glazing bead
3. 15mm thick Pyroguard EI60
4. Lorient Polyproducts Figure 1 glazing gasket
5. 50mm long pin/screw fixings

**Fig. 11 – Cross section through Lorient Figure 1 glazing system**

### 9.7.2 Pyroguard EI60



1. Strebord door core
2. Hardwood glazing bead
3. 15mm thick Pyroguard EI60
4. Pyroplex FG30 (ref 30049) glazing gasket
5. 50mm long pin/screw fixings

**Fig. 12 – Cross section through Pyroplex FG30 (ref 30049) glazing gasket**

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## 10 Environmental Seals

The following smoke and environmental seals have been included in the fire tests cited in section 3 and are therefore approved for use with the Strebord 44 EI30 product family.

### 10.1 Frame mounted seals

Element	Product	Dimensions (mm)	Location
Smoke seal	Norseal Ltd – NOR710	11 x 10	Self-adhered in the corner of the stop and the frame reveal
	Sealed Tight Solutions Ltd – ST1009	11 x 5	
	Fire and Acoustic Seals – FAS 35	12 x 5	
	Raven Seals – RP120	12 x 12	
	Lorient Polyproducts Ltd – IS1212	12 x 12	

### 10.2 Meeting edge seals

Element	Product	Dimensions (mm)	Location
Smoke seal	Pyroplex Pile Rigid Box Seals (combined intumescent and smoke seal)	10 x 4	Located at the meeting edges of double doors as per the required intumescent specification in section 11.4.3
		15 x 4	

### 10.3 Threshold seals

Element	Product	Dimensions (mm)	Location
Smoke seal	Norseal Ltd – NOR810	14 x 35	Centrally rebated into the bottom edge of the leaf and screwed with 3 No. 20mm wood screws
	Sealed Tight Solutions Ltd – ST422	12 x 20	
	Norseal Ltd – NOR810S	12 x 20	
	Fire and Acoustic Seals – FAS45	12 x 20	
	Lorient Polyproducts Ltd – IS8010	14 x 35	

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for environmental seals materials:

- A.1.9, A.1.11, C.1.54.

## 11 Intumescent Materials

The intumescent materials required for the Strebord 44 EI30 product family are linked to leaf configurations, maximum approved leaf sizes and specific items of hardware, and are referred to throughout this report, as appropriate.

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for intumescent materials: A1.1, A.1.3, A.1.4, A.1.5, A.1.6.

Intumescent materials tested and approved for the Strebord 44 EI30 product family are as follows:

### 11.1 Single leaf with over-rebated leaf edges

The following specification is not approved with multi-point locksets. All other hardware items as specified in this EXAP report may be fitted:

**Test: RF13263**

Element	Product	Size (mm)	Location
Frame reveal – head and jambs	PVC encased Pyroplex Rigid Box seals F08500 – Pyroplex Limited	2 No. 10 x 4	Self-adhered into grooves 5.5mm apart within the frame reveal, with the first seal 4mm from the closing face of the door leaf

### 11.2 Single leaf with multi-point locksets

The following specification is approved with multi-point locksets and single point locksets. All other hardware items as specified in this EXAP report may be fitted:

#### 11.2.1 Hardwood door frames >510kg/m<sup>3</sup> density

**Test: WF 421795**

Element	Product	Size (mm)	Location
Frame reveal – head and jambs	PVC encased STS 104FO – Sealed Tight Solutions Ltd	2 No. 10 x 4	Self-adhered into grooves 10mm apart and centrally located within the frame reveal

#### 11.2.2 Hardwood door frames >700kg/m<sup>3</sup> density

**Test: WF 416689**

Element	Product	Size (mm)	Location
Frame reveal – head and jambs	PVC encased Pyroplex Rigid Box seals F08500 – Pyroplex Limited	2 No. 10 x 4	Self-adhered into grooves 10mm apart and centrally located within the frame reveal

### 11.3 Single leaf – single point latching or no latch fitted

#### 11.3.1 Pyroplex – timber door frames

The following specification is not approved with multi-point locksets. All other hardware items as specified in this EXAP report may be fitted:

**Test: RF11121**

Element	Product	Size (mm)	Location
Frame reveal – head and jambs	PVC encased Pyroplex Rigid Box seals F08700 – Pyroplex Limited	1 No. 15 x 4	Centrally fitted within the frame reveal

#### 11.3.2 Lorient Polyproducts – timber door frames

The following specification is not approved with multi-point locksets. All other hardware items as specified in this EXAP report may be fitted:

**Test: RF11170**

Element	Product	Size (mm)	Location
Frame reveal – head and jambs	PVC encased Type 617 LP1504 – Lorient Polyproducts Ltd	1 No. 15 x 4	Centrally fitted within the frame reveal

#### 11.3.3 Pyroplex – MDF door frames

The following specification is not approved with multi-point locksets. All other hardware items as specified in this EXAP report may be fitted:

**Test: RF13263**

Element	Product	Size (mm)	Location
Frame reveal – head and jambs	PVC encased Pyroplex Rigid Box seals F08500 – Pyroplex Limited	2 No. 10 x 4	Self-adhered into grooves 5.5mm apart within the frame reveal, with the first seal 4mm from the closing face of the door leaf

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#### 11.4 Double leaf – single point latching or no latch fitted

##### 11.4.1 Pyroplex – timber door frames (reduced height lockset)

The following specification is not approved with multi-point locksets and may only be used with locksets with max dimensions: Forend 155mm (h) x 22mm (w). All other hardware items as specified in this EXAP report may be fitted:

**Test: RF11121**

Element	Product	Size (mm)	Location
Frame reveal – head and jambs	PVC encased Pyroplex Rigid Box seals F08700 – Pyroplex Limited	1 No. 15 x 4	Centrally fitted within the frame reveal
Meeting Edges	PVC encased Pyroplex Rigid Box seals F08700 – Pyroplex Limited	1 No. 15 x 4	Centrally within the meeting edge of one of the leaves

##### 11.4.2 Lorient Polyproducts – timber door frames

The following specification is not approved with multi-point locksets. All other hardware items as specified in this EXAP report may be fitted:

**Test: RF11170**

Element	Product	Size (mm)	Location
Frame reveal – head and jambs	PVC encased Type 617 LP1504 – Lorient Polyproducts Ltd	1 No. 15 x 4	Centrally fitted within the frame reveal
Meeting Edges	PVC encased Type 617 LP1504 – Lorient Polyproducts Ltd	1 No. 15 x 4	Centrally within the meeting edge of one of the leaves

##### 11.4.3 Pyroplex – timber door frames (combined intumescent and smoke seal)

The following specification is not approved with multi-point locksets. All other hardware items as specified in this EXAP report may be fitted:

**Test: RF13132**

Element	Product	Size (mm)	Location
Frame reveal – head and jambs	PVC encased Pyroplex Pile Rigid Box seals P08712 – Pyroplex Limited	1 No. 15 x 4	Centrally fitted within the frame reveal
Meeting Edges	PVC encased Pyroplex Rigid Box seals F08500 – Pyroplex Limited	1 No. 10 x 4	Self-adhered into grooves 10mm apart and centrally located within the frame reveal in the meeting edge of one leaf
	PVC encased Pyroplex Pile Rigid Box seals F08512 – Pyroplex Limited	1 No. 10 x 4	

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### 11.5 Hardware Protection

The following table lists the required intumescent protection for the different items of hardware and other ancillary components:

Element	Product	Size (mm)	Location
Hinges	Raw graphite – Sealed Tight Solutions Limited	1 thick	Both hinge blades bedded onto a minimum of one layer of gasket
	Interdens – BASF Wolman	1 thick	
	MAP – Lorient Polyproducts	1 thick	
Locks/latches (single point)	Interdens – BASF Wolman	1 thick	One layer of gasket fitted around the body of the latch, under the latch forend and keep
	MAP – Lorient Polyproducts	1 thick	One layer of gasket fitted under the latch forend and keep
Locks/latches (NSP Security SMF 614 digital lockset)	Interdens – BASF Wolman	2 thick (2 x 1 layers)	2mm thick gasket fitted around the body of the latch, under the latch forend and keep
Locks/latches (multi-point)	Exitex Exi-Fire graphite pad	0.8 (t)	Fitted under the forend
	AV2/AV3 Kit – Lorient Polyproducts	1 thick	Fitted under latch keeps and encasing latch body
Flush Bolts	Interdens – BASF Wolman	1 thick	Fitted lining the flush bolt cut outs and under the flush bolt keep in the frame head
	MAP – Lorient Polyproducts	1 thick	Fitted lining the flush bolt cut outs in the leaf edge

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Element	Product	Size (mm)	Location
Under drop down seal	MAP – Lorient Polyproducts	1 thick	Fitted around the drop down seal and under the end cover plate
	Fire rated acrylic sealant – Fire and Acoustic Seals	Nominal 1-2 thick	Drop down seal to be bedded onto acrylic sealant
Eye viewer	Graphite based intumescent – Sealed Tight Solutions Limited	1 thick	Wrapped around the eye viewer body
	Fire rated acrylic sealant – Fire and Acoustic Seals	Nominal 1 thick	Eye viewer to be bedded onto acrylic sealant
Door closer (Astra 4003 jamb mounted closer)	Raw graphite – Sealed Tight Solutions Limited	1 thick	Intumescent gasket to line the cut out for the closer
Letter plate (Royde and Tucker LP08 and ERA Fab&Fix Numail)	Graphite based intumescent – Sealed Tight Solutions Limited	2 thick x 40 wide (4mm total thickness)	Fitted lining the letter plate aperture – 2mm intumescent to be wrapped twice around letter plate channel

## 12 Decorative and/or Protective Finishes

The following decorative and protective finishes may be used with the Strebord 44 EI30 doorset design:

### 12.1 Combustible Decorative Facings (on face of leaf)

Decorative facings meeting the following performance requirements are permitted on the face of the leaf because the door leaf satisfied the insulation criteria during test:

1. European reaction to fire class B - F.
2. Melting point of <660°C.

#### Notes:

1. Material must not return around the leaf edges
2. Timber veneer is permitted up to 3mm thick
3. All other materials must not exceed 2mm thick (e.g. laminate, plastic, cloth, leather, etc.).

The following rules from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for combustible decorative facings on leaves: A.5.1.

## 12.2 Paint Finish (face and edge of leaf)

According to the direct application (DIAP) rule 13.2.3.1 given in BS EN 1634-1: 2014 + A1: 2018 it is possible to add paint to the door, including the edges, providing the paint finish is not expected to contribute to the fire resistance of the door and providing the test specimens were tested unfinished.

The Strebord 44 EI30 door design was tested unfinished and can therefore be painted in accordance with the above DIAP rule.

The intumescent, smoke and weather seals must not be painted.

## 12.3 Applied Mouldings

According to rule A.5.28 in BS EN 15269-3, it is possible to add timber-based mouldings to leaves of the Strebord 44 EI30 door design, subject to the following:

1. The mouldings must be timber based
2. If mouldings are only applied to only one face of the leaf, the mouldings must not cover more than 25% of the surface of the leaf face
3. If mouldings are applied to both faces of the leaf, the mouldings must not cover more than 25% of the surface of each leaf face (as per the rule in clause 2 above) AND the mass of the leaf must not be increased by more than 25 %.
4. For double leaf doorsets the rules may be applied to each leaf separately
5. The mouldings may be fixed to the leaf using adhesive and/or mechanical fixings (fixings must not penetrate to the opposite side of the leaf)

## 12.4 Non-Combustible Decorative Facings (on face of leaf)

Decorative facings meeting the following performance requirements are permitted on the face of the leaf:

1. European reaction to fire class A1 or A2 (the A1 and A2 classification has been taken directly from the EXAP standard. No smoke (S) or droplet requirement (d) is given)
2. Melting point  $\geq 660^{\circ}\text{C}$ .

**NB:** This could include materials such as glass sheet, stone, marble, ceramic tile or steel.

### Notes:

1. The total increase in leaf weight must not exceed 25%.
2. The facings must be attached by adhesive only.
3. Items of hardware such as door handles must not act as a mechanical fixing for the facing material.
4. The facing must not be added to the area of the leaf behind the door frame rebates (i.e. door stop).
5. Any facing applied to the leaf must not wrap around the edges of the leaf to ensure that the perimeter seals are not affected by the application.

The following rules from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for non-combustible decorative facings on the face of leaves: A.5.5.

See section 13.14 for approved specification when fitting push plates and kick plates.

## 13 Tested Hardware

### 13.1 General

The following hardware is approved for use with the Strebord 44 EI30 door design based on the test evidence cited in section 3. Specific restrictions related to hardware are given below the table for each item of hardware as appropriate (sections 13.2 to 13.15). The hardware must remain as tested unless otherwise stated:

Element	Product	Dimensions (mm)
Hinges	Zoo ZHSS243RS butt hinge	102 (high) x 31 (wide) blade size
	Royde & Tucker H207	102 (high) x 30 (wide) blade size
	Arrone butt hinge AR8182	101 (high) x 30 (wide) blade size
	Consort bearing butt hinge CF5511	102 (high) x 34 (wide) blade size
	Nico Load Pro security lift off type hinges	98 (high) x 35 (wide) blade size
Locks and latches (single point)	Euro Spec steel mortice lock/latch	155 x 22 (forend size)
	Simplex steel mortice lock/latch with Eurocylinder	235 x 24 (forend size)
	Easi-T steel mortice latch	235 x 24 (forend size)
	Union/ASSA Abloy steel mortice latch	235 x 24 (forend size)
	NSP Security 614 Digital Lockset	203.5 x 29 (forend size)
Locks and latches (multi-point)	Winkhaus AV2 multi-point lock and Winkhaus steel keeps (F24-908W centre keep and hook keeps)	1770 x 20 (forend size) 185 x 78 (centre case size) 113 x 48 (top and bottom hook bolt case size)
	Winkhaus AV3 multi-point lock and Winkhaus steel keeps (F24-AV3 hook keeps and F24-908W AV3 centre keep)	1770 x 20 (forend size) 185 x 63 (centre case size) 113 x 44 (top and bottom hook bolt case size)

Element	Product	Dimensions (mm)
Handle	ERA 1X000 stainless steel lever handle	-
	Stanza ZPZ090SC	-
	Eurospec lever type handle RE: CSL-1194	-
	Consort CH100/G4 lever type handle	-
	NSP Security SMF 613/614 Mifare card lockset lever type handle and card reader including associated batteries used with NSP digital lockset	-
	Ovation stainless steel lever type handle	-
Escutcheon	Eurospec escutcheon CSE 1006	-
Lock Cylinder	ERA Fortress 3* T/Turn	75mm deep (barrel) x 17mm diameter
	NSP Brass lock cylinder used with NSP digital lockset	-
	Eurocylinder lock with thumb turn	-

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Element	Product	Dimensions (mm)
Surface Mounted Closer	Hoppe AR1500	248 wide x 45 high (footprint)
	Arrow 324BP	255 wide x 65 high (footprint)
	Dorma TS93	255 wide x 65 high (footprint)
	Dorma TS71	232 wide x 68 high (footprint)
	Rutland TS3704	220 wide x 60 high (footprint)
	Rutland TS3204	220 wide x 59 high (footprint)
	Turentek TSS 225	235 wide x 55 high (footprint)
Jamb Mounted Closer	Astra 4003 Jamb mounted closer	Body: 216 long x 28 high x 28 wide Fixing plate: 106 high x 32 wide
Letterplates	ERA Fab&Fix Numail Door letterplate with security cowell	310 x 75 (footprint)
	Royde & Tucker LP08 letterplate with TS008 cowell	320 x 80 (footprint)
Eye viewer	Sealed Tight Solutions Limited 4008	14Ø body 23Ø to external face
	ERA Fab&Fix Spyhole	12Ø body
	DESWLAF EI30	14Ø body 27Ø footprint
	UAP CVPLCH polished chrome eye viewer	-
	D&E Architectural Hardware Ltd ref D & E 3850 Ultra scope-brass.	Ø42 (footprint)
Door knocker	ERA Ingot Door Knocker – 4A550	140 high x 52.5 wide x 28 deep
Security Chain	ERA PVCu/Timber Door Chain 791-65	
Numerals	ERA Fab&Fix Door Numerals FFNUM8BC	80 high x 4.5 thick

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### 13.1.1 Notes

1. Hinges tested on the Stredor door type have been considered acceptable for use on the Strebord 44 EI30 design based on the following rules taken from BS EN 15269-3: 2012.
  - a. C.1.22 – increased hinge dimensions
  - b. C.1.23 – decreased hinge dimensions
  - c. C.1.24 – alternative fixings
  - d. C.1.29 – change of hinge manufacturer
  
2. Handles tested on the Stredor door type have been considered acceptable for use on the Strebord 44 EI30 design based on the following rules taken from BS EN 15269-3: 2012:
  - a. C.1.17 – alternative handles are permitted providing they are surface mounted
  
3. The ERA Fab & Fix letterplate tested on the Stredor door type has been considered acceptable for use on the Strebord 44 EI30 design based on the following rules taken from BS EN 15269-3: 2012.
  - a. C.1.57 – add a letter plate providing the evidence for the letter plate has been generated on a similarly constructed door leaf and of the same or thinner leaf thickness.
  
4. Consideration has also been given to using the supporting evidence on the Stredor door type to permit other alternative items of hardware for 30 minute fire resisting integrity and insulation performance, where appropriate. This is based on the Stredor design being considered fundamentally the same for the purpose of adding the alternative hardware (Clause A.2 in Annex A of BS EN 15269-1: 2019 + AC: 2020 gives further explanation on the phrase ‘fundamentally the same’ or ‘similar’ and its use within the EN 15269 series of EXAP standards).

## 13.2 Hinges

It is possible to vary the tested hinge specification within the following parameters:

### 13.2.1 Hinge Fixings

1. The hinges must be fixed with the steel screws supplied with the particular hinge type, as tested
2. All fixing points for the hinges must be utilised, as tested
3. The position of the fixings relative to width of the hinge leaves shall remain the same as tested.

The following rules from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for hinge fixings: C.1.22, C.1.24.

### 13.2.2 Number of Hinges

The door leaf must be fitted with a minimum of 3 hinges, which must meet the positioning requirements outlined in section 13.2.5.

It is possible to increase the number of hinges in accordance with direct application rule 13.2.5 in BS EN 1634-1: 2014 + A1: 2018.

### 13.2.3 Hinge Material

It is not permitted to change the material of the tested hinge based on the test evidence listed in section 3 and considering rule C.1 and C.1.30 in BS EN 15269-3: 2012.

### 13.2.4 Alternative Hinges

Alternative hinges to those listed in section 13.1 are not permitted without additional test evidence.

The following rules from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for alternative hinges: C.1.29, C.1.30, C.1.31.

### 13.2.5 Hinge Positioning

It is possible to vary the hinge positioning for the Strebord 44 EI30 product family within the following parameters:

1. When using 3 or more hinges the position of the top hinge may be located between 100 to 150mm from the top of the door leaf (measured from the top of the hinge)
2. The bottom hinge may be located between 100mm and 180mm from the bottom of the leaf (measured from the bottom of the hinge)
3. The intermediate hinge was tested at 962 to 1000mm from the head of the leaf measured to the top of the hinge. The intermediate hinge may be moved by up to 300mm towards the top and bottom of the leaf due to the CAT B performance of the Strebord 44 EI30 door design (NB: where the design as shown to exhibit CAT A performance on single leaf doorsets, the failure mode was not attributed to the hinges, and it has therefore been deemed acceptable to move the hinges within the locations stated herein).
4. It is possible to include an additional hinge located equidistant between two existing hinges

The following rules from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for hinge positioning: C.1.35, C.1.36, C.1.37, C.1.38, C.1.39.



**Fig. 14 – Drawing showing approved hinge positions**

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### 13.3 Door Closers

#### 13.3.1 Alternative Door Closers

The Strebord 44 EI30 product family may be fitted with the tested closers listed in section 13.1.

#### 13.3.2 Door Closer Positioning

##### Surface mounted

Surface mounted door closers may be fitted on either face of the door (exposed or unexposed) due to the location of the tested door closers, the fully insulating door leaf and glazing that is to be used for the design and the fact the unlatched configurations tested the closer on the fire exposed side of the door leaf.

##### Jamb mounted

According to rule C.1.41 the position of the jamb mounted closer must remain as tested i.e. 849mm from the bottom of the door leaf to the centreline of the closer.

The following rules from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for door closers: C.1.40, C.1.41, C.1.43, C.1.44, C.1.45.

### 13.4 Door Signs

Door signs meeting the following performance requirements are permitted on the face of the leaf:

1. Reaction to fire class A1 or A2 (the A1 and A2 classification has been taken directly from the EXAP standard. No smoke (S) or droplet requirement (d) is given).
2. Melting point  $\geq 660^{\circ}\text{C}$ .

**NB:** This could include materials such as glass sheet, stone, marble, ceramic tile or steel.

##### Limitations:

1. The total increase in leaf weight must **not** exceed 25%.
2. The sign/s must be attached by adhesive only.
3. The sign/s must **not** be added to the area of the leaf behind the door frame rebates.
4. Consideration must be given to any non-combustible facings already fitted to the leaf in terms of total increase in leaf weight.

The following rules from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for door signs: A.5.5, A.5.15, C.1.51.

## 13.5 Locks/Latches

### 13.5.1 Alternatives

The locks and latches listed in section 13.1 are approved for use with the Strebord 44 EI30 door design.

It is not possible to provide for an alternative function for the latches/locks, i.e. to emergency/panic use.

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for latches/locks and strike plates: C.1.1, C.1.16, C.1.17, C.1.18.

### 13.5.2 Number of latches/locks and strike plates

It is possible to increase the number of latches and locks providing the additional latches and locks are fitted below the test height from the threshold of 1000mm

The tested intumescent specification as appropriate for the latches and locks being fitted must be replicated when fitting the additional latches

The additional latches must be of the same specification approved in this document

The number of additional latches/locks and strike plates meeting the above specification is not restricted

The distance between the additional latches/locks and strike plates is not restricted

It is possible to remove the latch from the door design for both single and double leaf configurations.

The following clauses from BS EN 15269-3: 2012 and BS EN 1634-1: 2014+A1: 2018 have been used to consider the possible extended scope of application for number of latches/locks and strike plates: C.1.5 (and 13.2.5 given in DIAP EN 1634-1), C.1.6.

### 13.5.3 Position/location of lock assembly

It is not possible to exchange the tested internally mounted latch/lock for externally mounted

It is possible to vary the latch/lock position of the Strebord 44 EI30 door design due to the CAT B performance achieved during the test. The permitted latch/lock position is given below (NB: where the design as shown to exhibit CAT A performance on single leaf doorsets, the failure mode was not attributed to the lock assemblies, and it has therefore been deemed acceptable to move the lock within the locations stated herein):

1. The centreline of the latch/lock may be fitted 1000mm from the threshold  $\pm 300$ mm

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for the position/location of the lock assembly: C.1.7, C.1.10.

### 13.5.4 Strike Plates

It is not possible to change the flat type of tested strike plate to a box type of strike plate.

It is possible to interchange between mild steel and stainless steel for the strike plate material. Other materials e.g. zinc alloy, are not permitted for use.

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for the strike plate material: C.1.9.

## 13.6 Lock Cylinders

### 13.6.1 Alternative Manufacturer

The following tested lock cylinder is permitted with the Strebord 44 EI30 product family:

- ERA Fortress 3\* T/Turn
- NSP Brass lock cylinder used with NSP digital lockset
- Eurocylinder lock with thumb turn

### 13.6.2 Cylinder Configuration

It is not permitted to exchange a double cylinder for a single cylinder or cylinder and thumb-turn/knob or omit the cylinder completely without additional test evidence

The following rules from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for lock cylinders: C.1.64, C.1.65.

## 13.7 Bolts

### 13.7.1 Surface Mounted

The Strebord 44 EI30 door design exhibited low distortion during test. It is therefore possible to add or remove surface mounted bolts without limit. The bolts must not remove any material from the door or frame.

### 13.7.2 Flush

The design has been tested with flush bolts mounted in the top and bottom of the meeting edge of the double door. It is therefore permitted to fit flush bolts to double doors meeting the following specification:

Maximum dimensions = 195mm (high) x 20mm (wide)

Flush bolt material must be steel or stainless steel

Flush bolts must be fitted in the leaf edge opposite the intumescent strips

The flush bolts may be fitted at the top and bottom of the meeting edge

The flush bolts must be protected using the relevant intumescent specification as detailed in section 11.5

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for bolts:

C.1.12, C.1.13, C.1.14.

## 13.8 Panic Devices

It is possible to add a panic device (to EN 1125) to the Strebord 44 EI30 design providing the panic device is fully surface mounted because the door leaf has been tested for an unlatched condition.

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for panic devices: C.1.19.

### 13.9 Door Knockers

It is permitted to fit the following door knockers to the Strebord 44 EI30 product family based on the test evidence generated in WF 416690 Issue 2:

- ERA Ingot Door Knocker – 4A550

The door knocker must be position at least 150mm from the edge of the door leaf and 125mm from any other apertures within the door leaf (i.e. glazing, letter plates, eye viewers etc.)

### 13.10 Letter Plates

The following letter plates are approved for use with the Strebord 44 EI30 product family. The letter plates must be fitted with the tested and approved intumescent specification detailed in section 11 of this report:

- ERA Fab&Fix Numail Door letterplate with security cowell
- Royde & Tucker LP08 letterplate with TS008 cowell

According to rule C.1.59 it is not possible to move the letter plate to an alternative height from that tested (EXAP requires a minimum and maximum height to be tested to allow variability in letter plate positioning). The letter plate must therefore be fitted between 850mm to 900mm from the threshold. According to rule C.1.60 the letter plate can be fitted to the side of the tested position but must be no closer than 145mm to the edge of the door leaf.

Additionally the cut out for the letter plate must be at least 125mm form any other apertures within the leaf (i.e. glazing, letter plates, eye viewers etc.)

### 13.11 Numerals

Numerals are approved for use with the Strebord 44 EI30 product family based on the testing conducted on a fundamentally similar door design in WF 416690 Issue 2 and are approved with the following specification:

	Make/type	Size (mm)
Numerals	ERA Fab&Fix Door Numerals FFNUM8BC	Maximum permitted - 80 high x 4.5 thick

### 13.12 Door Chain

The ERA PVCu/Timber Door Chain 791-65 has been tested with the Stredor design but is approved for use with the Strebord 44 EI30 design based on the tested design being fundamentally similar. Fixings must not be inserted into the lipping of the door leaf

### 13.13 Eye Viewer

The following eye viewers are permitted with the Strebord 44 EI30 product family and are approved for use:

- Sealed Tight Solutions Limited 4008
- ERA Fab&Fix Spyhole
- DESWLAF EI30
- UAP CVPLCH polished chrome eye viewer
- D&E Architectural Hardware Ltd ref D & E 3850 Ultra scope-brass

The eye viewers must be protected with intumescent as detailed in section 11.

Eye viewers must be positioned at least 150mm from the edge of the door leaf and 125mm from any other apertures within the door leaf (e.g. glazing, letter plate etc.)

It is only permitted to fit one eye viewer in the leaf.

### 13.14 Push Plates and Kick Plates

According to rules A.5.20 and A.5.21 in BS EN 15269-3: 2012 it is possible to add push plates and kick plates to the door leaf meeting the following requirements:

#### 13.14.1 Screw Fixed

Possible for horizontal plates across the full opening width of the closing face and full leaf width of the opening face to a maximum of 500 mm high. Vertical plates no more than 200 mm wide running the clear opening height on the closing face and full height of the leaf on the opening face.

Maximum area permitted to be covered by plates/signs is 40 % of the clear opening area or 1 m<sup>2</sup>, whichever is the smaller. Plate thickness to be limited to 2 mm and fixed with maximum 25 mm long screws and a minimum of 200 mm centres along the length of the plates.

#### 13.14.2 Glue fixed

Possible for plates across the full opening size of the closing face and full leaf size of the opening face and up to a maximum of 2 mm thick and not restrained by mechanical means, e.g. by building hardware. Maximum area permitted to be covered by plates is 40 % of the clear opening area. May be applied to the face of the leaf only, i.e. not the edge of the leaf.

### 13.15 Door Co-ordinators

It is not permitted to fit door co-ordinators to the Strebord 44 EI30 door design.

Guidance note: Section 5.3.1 within this EXAP report allows the use of an astragal fitted to one leaf at the meeting edge of a double leaf doorset. It is important, therefore, that in the absence of a door co-ordinator fitted to the doorset, the leaves are fitted with door closers that provide for sequential closing to ensure the leaves fully close within their frame reveal.

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for door co-ordinators: C.1.63.

## 14 Leaf/Frame Gaps

Leaf/frame gaps and alignment tolerances must fall within the following range:

Location		Dimension
Leaf/frame edge gaps		A minimum of 2mm and a maximum of 4mm
Threshold	Hardwood minimum density 600kg/m <sup>3</sup> (excluding beech)	Maximum gap of 4mm
	Metallic	Maximum gap of 4mm
	Non-combustible threshold (to Reaction to Fire Class A2, fl, s1)	Maximum gap of 6mm between bottom of door leaf and threshold

The following clauses from BS EN 1634-1 and BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for leaf/frame gaps: Section 7.3 in BS EN 1634-1 direct field of application, B.1.1, B.1.2.

## 15 Supporting Construction and Attachment (Technique) of Door Frame

The Strebord 44 EI30 doorset design must be mounted in the following supporting constructions and using approved attachment techniques:

### 15.1 Supporting Construction

The supporting construction in which the doorset is mounted must have a fire resistance equal to or greater than the fire resistance of the doorset.

The fire resistance of the supporting construction shall have been established separately in a previous test.

According to EXAP rules B.1.4 it is possible to vary the position of the door frame within the supporting construction providing the door frame does not project beyond the supporting construction.

According to EXAP rules F.1.1 and F.1.2 the doorset may be hung in a rigid standard supporting construction or a flexible standard supporting construction meeting the following requirements:

- The doorset can be installed in a rigid standard supporting construction as specified in EN 1363-1 (min thickness and density as EN 1363-1)
- The doorset has been tested in one of the flexible standard supporting constructions specified in EN 1363-1 and can therefore be mounted in the same manner in a wall or partition which is of the board covered type with studs made from metal or timber (min thickness and layers of board as EN 1363-1)

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## 15.2 Fixings

The door frame is to be fixed to the supporting construction using a minimum of 4No. x 80mm x 5mm Ø steel screw fixings per jamb. The screws are to be appropriate for the substrate of the supporting construction.

The top and bottom screw fixings are to be located at 100-180mm from the top and bottom corners of the door frame with the remaining screws spaced at approx. 400-500mm centres.

It is permitted to increase the size and number of fixings but not decrease.

The following rules from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for the supporting construction: F.1.3, F.1.4, F.1.5.

## 15.3 Sealing to Structural Opening

The gap between the rear of the door frame and the structural opening must be between 4mm and 20mm to accommodate the sealing material.

It is not permitted to install the door frame without the tested sealing material between the door frame and the supporting construction.

Approved sealing materials as tested for the Strebord 44 EI30 product family are as follows:

### 15.3.1 Approved Sealing Method

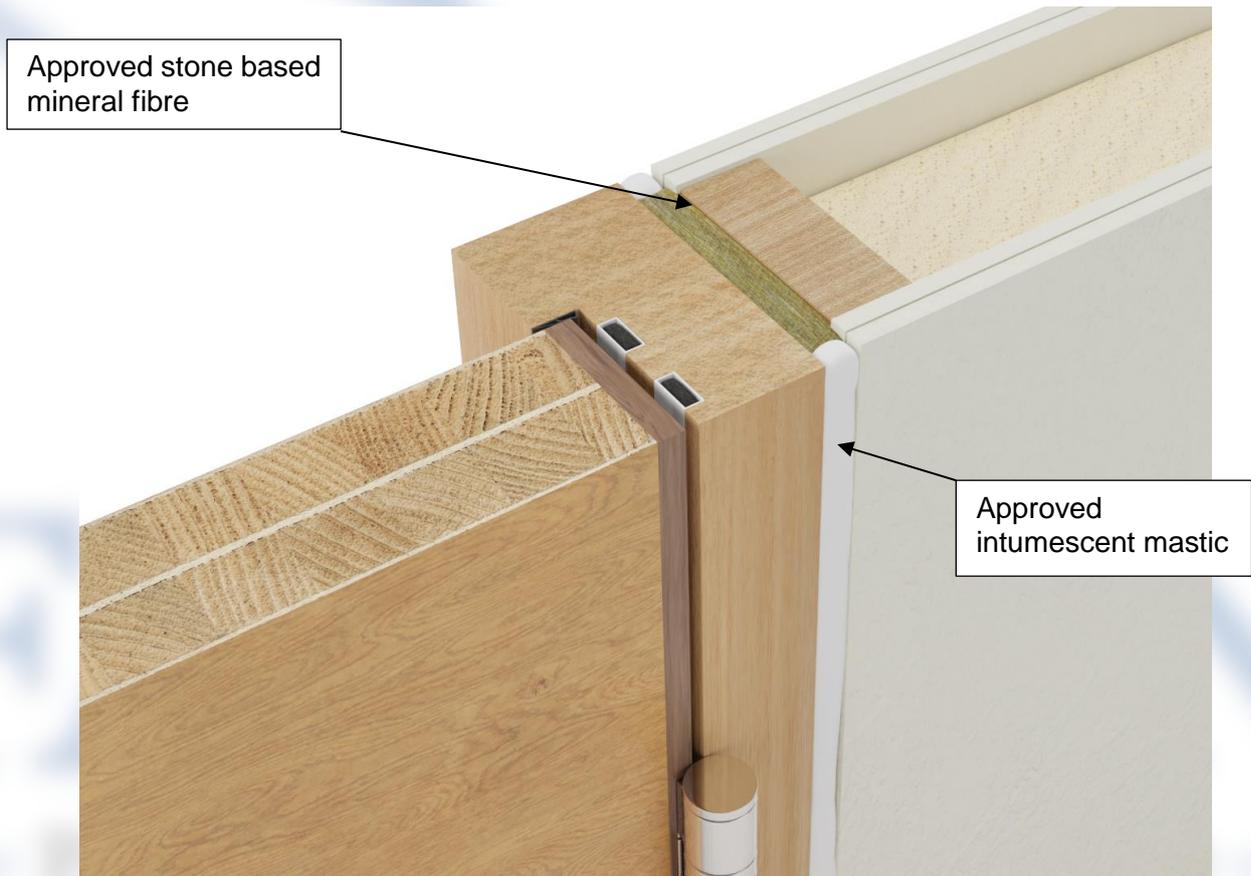
**Gap between rear of frame and structural opening:** Min 4mm to Max 20mm

**Sealing method:**

A minimum of 60mm deep infill of Rockwool RWA 45 or Rockwool FLEXI stone based mineral fibre tightly packed and friction fitted between the rear of the frame and structural opening.

The mineral fibre is to be capped with a nominally 10mm deep (minimum) bead of intumescent mastic on both sides of the rockfibre to finish level with the face of the door frame. The mastic must be one of the following tested and approved types:

- Pyromas A – Mann McGowan
- Fire Sealant 300 – Everbuild
- ST88 Acrylic Mastic – Sealed Tight Solutions Ltd



**Fig. 15 – Drawing indicating the location of the rock mineral fibre and mastic for the approved sealing method (Note that the depiction of the leaf is for illustration purposes only)**

**Approved architraves:**

The gap between the rear of the door frame and the structural opening must be sealed using one of the methods described above. It has been established in test WF 421795 that architraves are not necessary in addition to the fire stopping materials described above. However, where architraves are required, they must meet the following specification:

- Timber or MDF architraves measuring a minimum of 45mm (w) x 18mm (t) and overlapping the gap by a minimum 10mm on the face of the door frame and the wall. The architrave may be pin fixed in position.

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## 16 Application Range – Product Family

The precise scope and design options for the Strebord 44 EI30 product family with 30 minutes integrity and insulation performance, which provide the boundaries for the product family, are defined within this EXAP document.

## 17 Fire Performance Parameters

The fire performance parameters for the range of designs covered in this extended field of application report for the Strebord 44 EI30 product family is tabulated below:

<b>Integrity</b>	
Cotton pad	30 (Thirty) minutes
Continuous flaming	30 (Thirty) minutes
Gap gauges	30 (Thirty) minutes
<b>Insulation</b>	
Average	30 (Thirty) minutes
Maximum temperature rise (normal procedure for insulation 2)	30 (Thirty) minutes
Maximum temperature rise (supplementary procedure for insulation 1)	N/A
<b>Radiation</b>	30 (Thirty) minutes

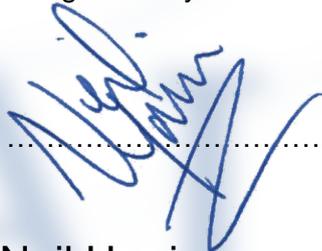
The Falcon Panel Products, Strebord 44 EI30 doorset designs detailed in this EXAP report are defined in clause 7.5.5 of BSEN 13501-2 as fire doorset assemblies. Their function is to resist fire in respect of the fire performance characteristics given in clause 5 of BS EN 13501-2: 2016.

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## 18 Declaration by the Applicant

1. We confirm that the component or element of structure, which is the subject of this extended field of application document, has not to our knowledge been subjected to a fire test to the Standard against which this assessment is being made.
2. We agree to withdraw this extended field of application document from circulation should the component or element of structure be the subject of a fire test to the Standard against which this extended field of application is being made.
3. We are not aware of any information that could adversely affect the conclusions of this extended field of application.
4. If we subsequently become aware of any such information we agree to ask the assessing authority to withdraw the extended field of application.

Signed: .....



Name: **Neil Harrison** .....

For and on behalf of: Falcon Panel Products Ltd

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## 19 Limitations

The following limitations apply to this assessment:

1. This extended field of application document does not represent type approval or certification of the product.
2. This extended field of application document addresses itself solely to the elements and subjects discussed and do not cover any other criteria. All other details not specifically referred to should remain as tested or assessed.
3. This extended field of application document is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available, Warringtonfire reserves the right to withdraw the assessment unconditionally but not retrospectively.
4. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.
5. This extended field of application document relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions. 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.
6. This extended field of application considers the performance likely to be demonstrated by the Strebord 44 EI30 product if it were to be tested in accordance with BS EN 1634-1: 2014 + A1: 2018, on the basis of the test evidence referred to in this report and the relevant EXAP rules taken from BS EN 15269-3: 2012. We express no opinion as to whether that evidence, and/or this extended field of application, would be regarded by any Building Control authority as sufficient for that or any other purpose. This field of application has been written for the purpose of classifying the fire resistance of the Strebord 44 EI30 product family to BS EN 13501-2: 2016 and we cannot opine on whether it will be accepted by Building Control authorities or any other third parties for any 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 extended field of application supersedes all previous versions/revisions and must be used to manufacture doorsets from the stated validity date on this front cover. Previous revisions of the extended field of application cannot be used once an updated extended field of application has been issued under a new revision.

## 20 Validity

1. This extended field of application report is not valid unless it incorporates the declaration given in Section 18 duly signed by the applicant.

<b>Signature:</b>			
<b>Name:</b>	<b>P Barker</b>	<b>N Whitelock</b>	<b>R Axe</b>
<b>Title:</b>	Technical Manager	Trainee Product Assessor	Technical Manager

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## Appendix A

### Revisions

Revision	Warringtonfire Reference	Date	Description
A	WF 431343	8/10/2020	<p>To review and update the Extended Application (EXAP) report for the Strebord 44 EI30 product family referenced BMT/CNA/F14053 to include the following test evidence:</p> <p>WF 421795 – primary test evidence to support EI<sub>2</sub>30 performance for the Strebord 44 EI30 product family with Consort Bearing butt hinges, Winkhaus AV3 3-point locking system, DESWALF eye viewer, Royde &amp; Tucker LP08 letterplate, Dorma TS93 over head closer</p> <p>WF 416689– primary test evidence to support EI<sub>2</sub>30 performance for the Strebord 44 EI30 product family with Arrone bearing butt hinges, Arrow overhead closer, Winkhaus AV2 3-point locking system, D&amp;E eye viewer</p> <p>WF 421964 - primary test evidence to support EI<sub>2</sub>30 performance for the Strebord 44 EI30 product family with Nico Load Pro Security hinges, Rutland TS3704 closer, NSP Security SMF 614 Digital lockset with NSP security card lockset with Mifare card reader, UAP CVPLCH eye viewer</p> <p>WF 416690 – secondary test evidence to support Zoo butt hinges</p> <p>EFR-18-H-003671 – secondary test evidence to support Royde &amp; Tucker H207 butt hinges</p> <p>The EXAP document has been updated into the latest Warringtonfire format and issued as BMT/CNA/F14053 Revision A.</p> <p>The option to use Pyrodur 60-10 glass has been removed from the EXAP in order to maintain the EI<sub>2</sub>30 performance for the Strebord 44 EI30 product family.</p>

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## Appendix B

Datasheets for:

Falcon Panel Products Ltd.

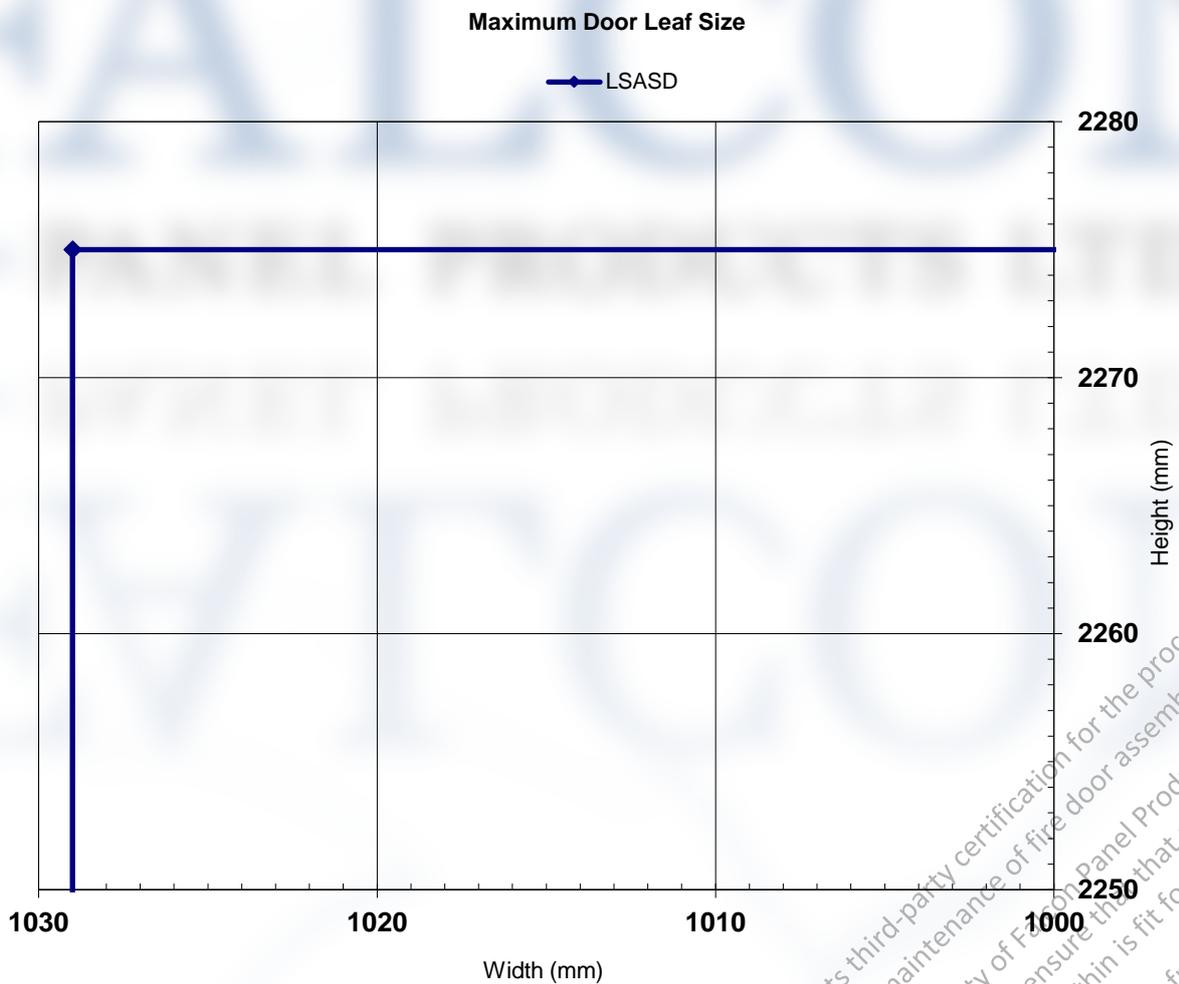
Strebord 44 EI30 Design

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**Falcon Panel Products Strebord – 30 Minutes Fire Resistance**  
**Latched Single Acting Single Doorsets with Multi-point locks – STS Intumescent Specification**  
**(section 7.3.1)**

Configuration	Maximum leaf sizes	
	Height (mm)	Width (mm)
LSASD	2275	x 1029

**Note:** Any combination of leaf height and width dimensions below the line depicted in the graph is acceptable, however there is a minimum permissible height when fitting multi-point locksets (see section 7.3.3)

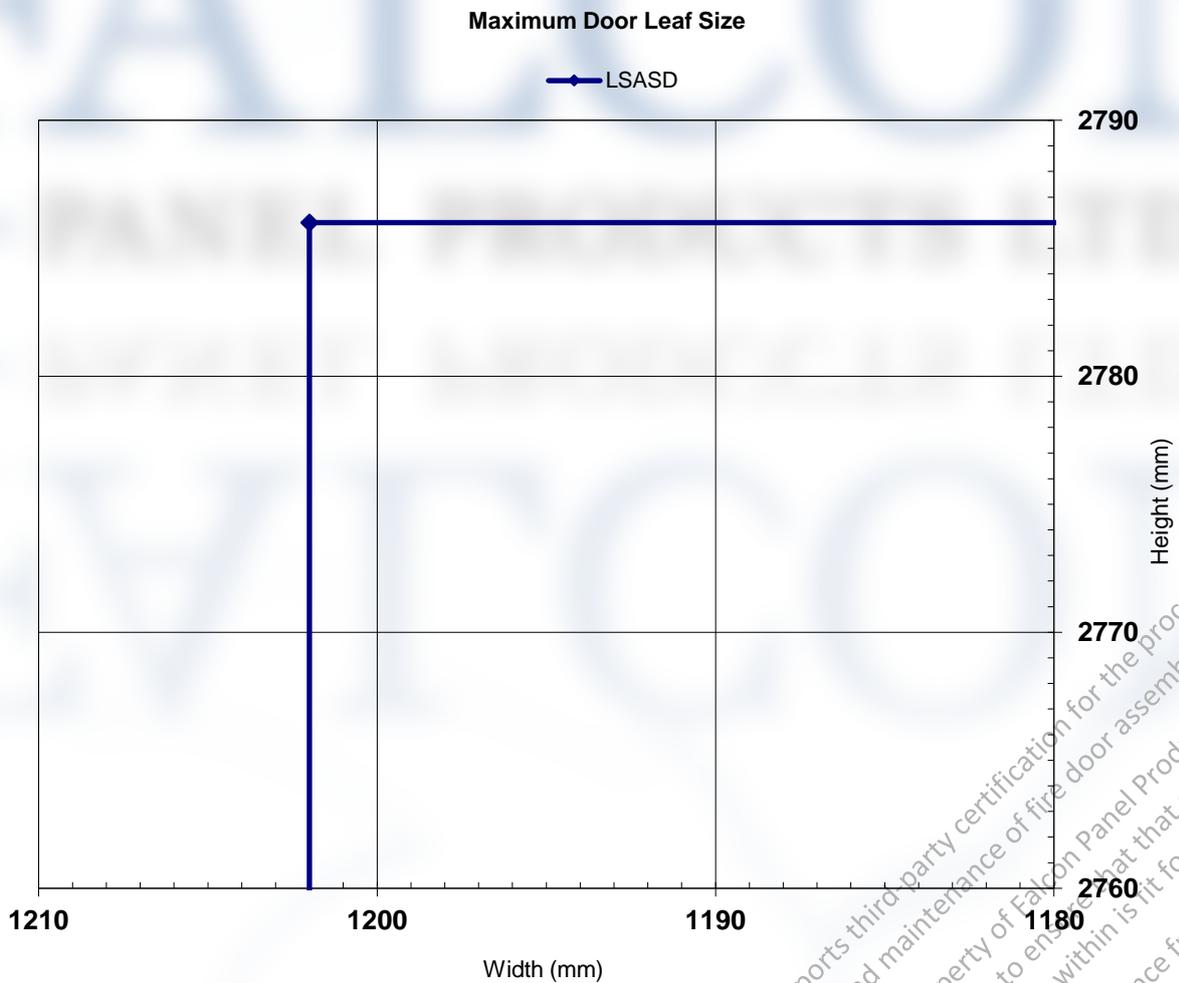


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**Falcon Panel Products Strebord – 30 Minutes Fire Resistance**  
**Latched Single Acting Single Doorsets with Multi-point locks – Pyroplex Intumescent**  
**Specification**  
**(section 7.3.2)**

Configuration	Maximum leaf sizes	
	Height (mm)	Width (mm)
LSASD	2786	x 1202

**Note:** Any combination of leaf height and width dimensions below the line depicted in the graph is acceptable, however there is a minimum permissible height when fitting multi-point locksets (see section 7.3.3)

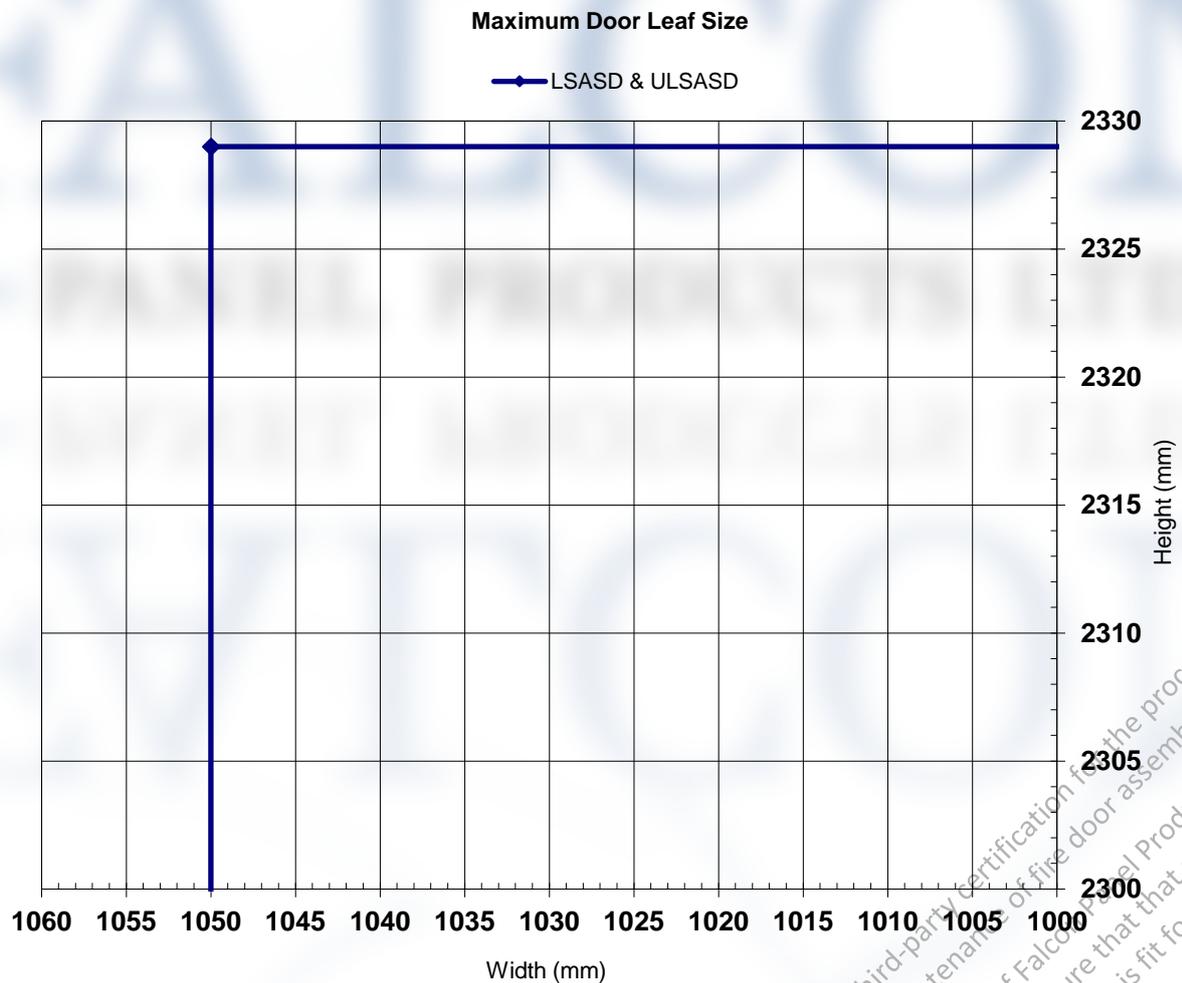


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**Falcon Panel Products Strebord – 30 Minutes Fire Resistance**  
**Latched and Unlatched Single Acting Single Doorsets – Pyroplex Intumescent Specification**  
**(section 7.4.1)**

Configuration	Maximum leaf sizes	
	Height (mm)	Width (mm)
LSASD & ULSASD	2329	x 10507

**Note:** Any combination of leaf height and width dimensions below the line depicted in the graph is acceptable

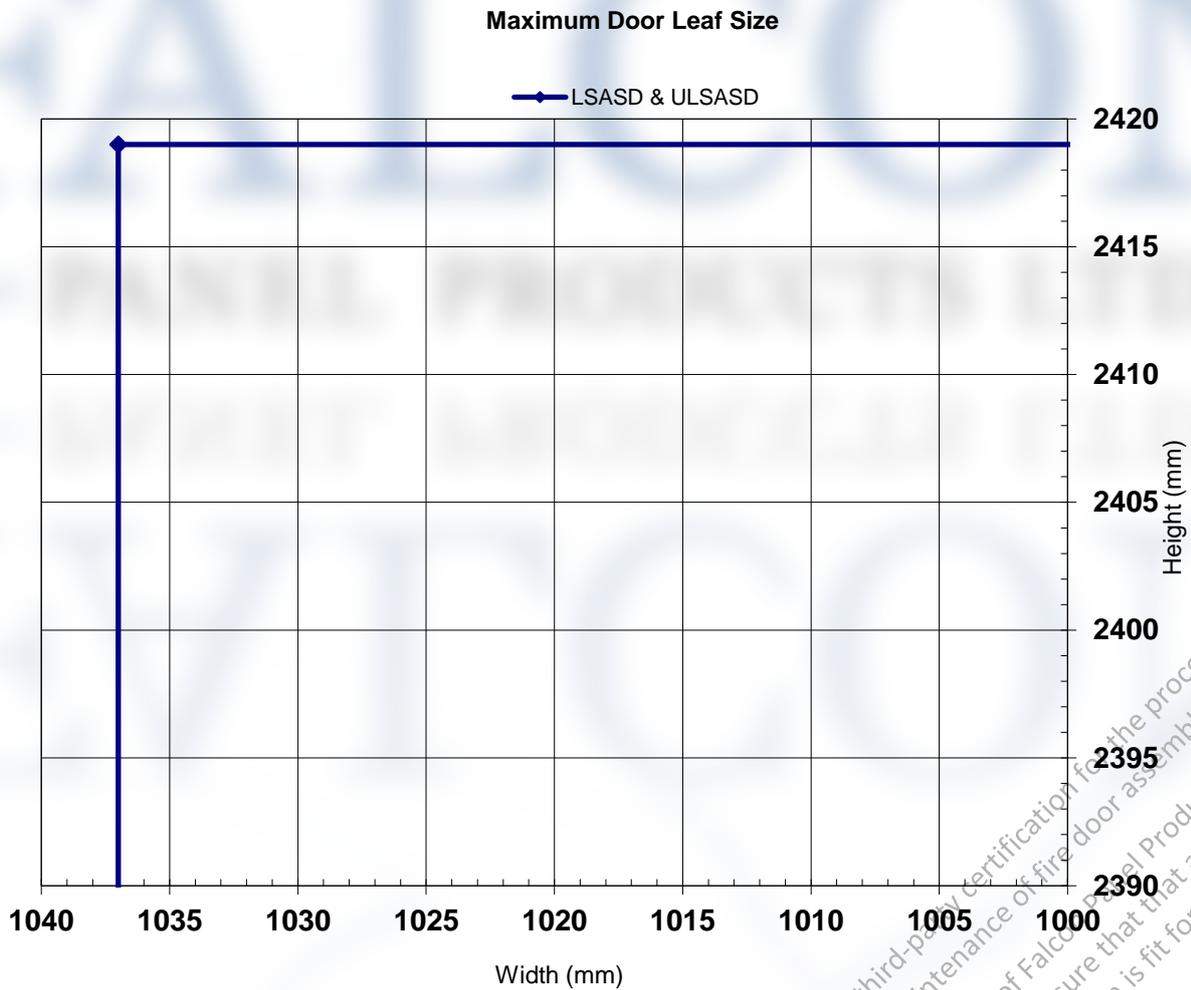


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**Falcon Panel Products Strebord – 30 Minutes Fire Resistance**  
**Latched and Unlatched Single Acting Single Doorsets – Lorient Intumescent Specification**  
**(section 7.4.2)**

Configuration	Maximum leaf sizes	
	Height (mm)	Width (mm)
LSASD & ULSASD	2419	x 1037

**Note:** Any combination of leaf height and width dimensions below the line depicted in the graph is acceptable

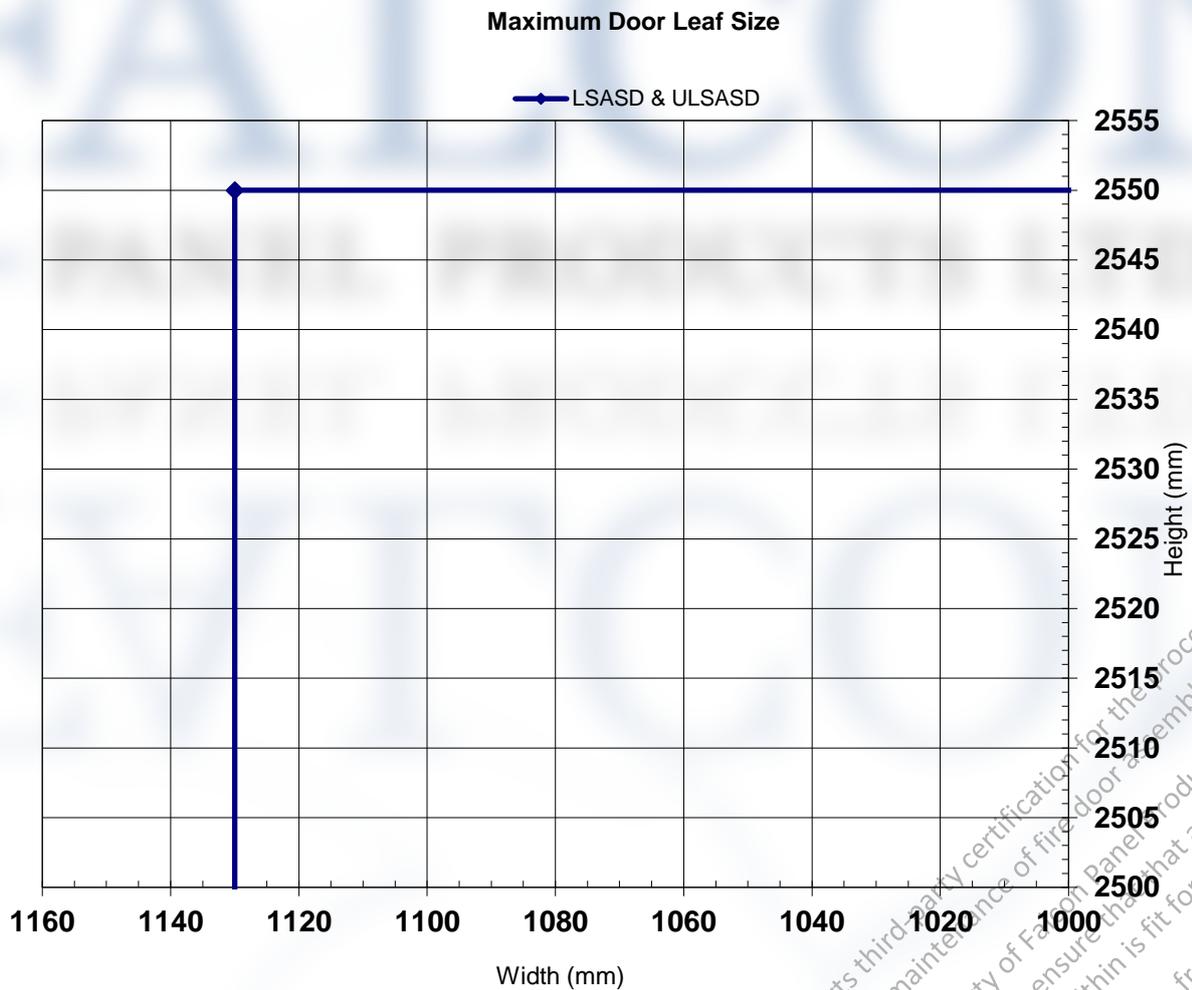


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**Falcon Panel Products Strebord – 30 Minutes Fire Resistance**  
**Latched and Unlatched Single Acting Single Doorsets with over-rebated leaf edges –**  
**Pyroplex Intumescent Specification**  
 (section 7.4.3)

Configuration	Maximum leaf sizes	
	Height (mm)	Width (mm)
LSASD & ULSASD	2550	1130

**Note:** Any combination of leaf height and width dimensions below the line depicted in the graph is acceptable



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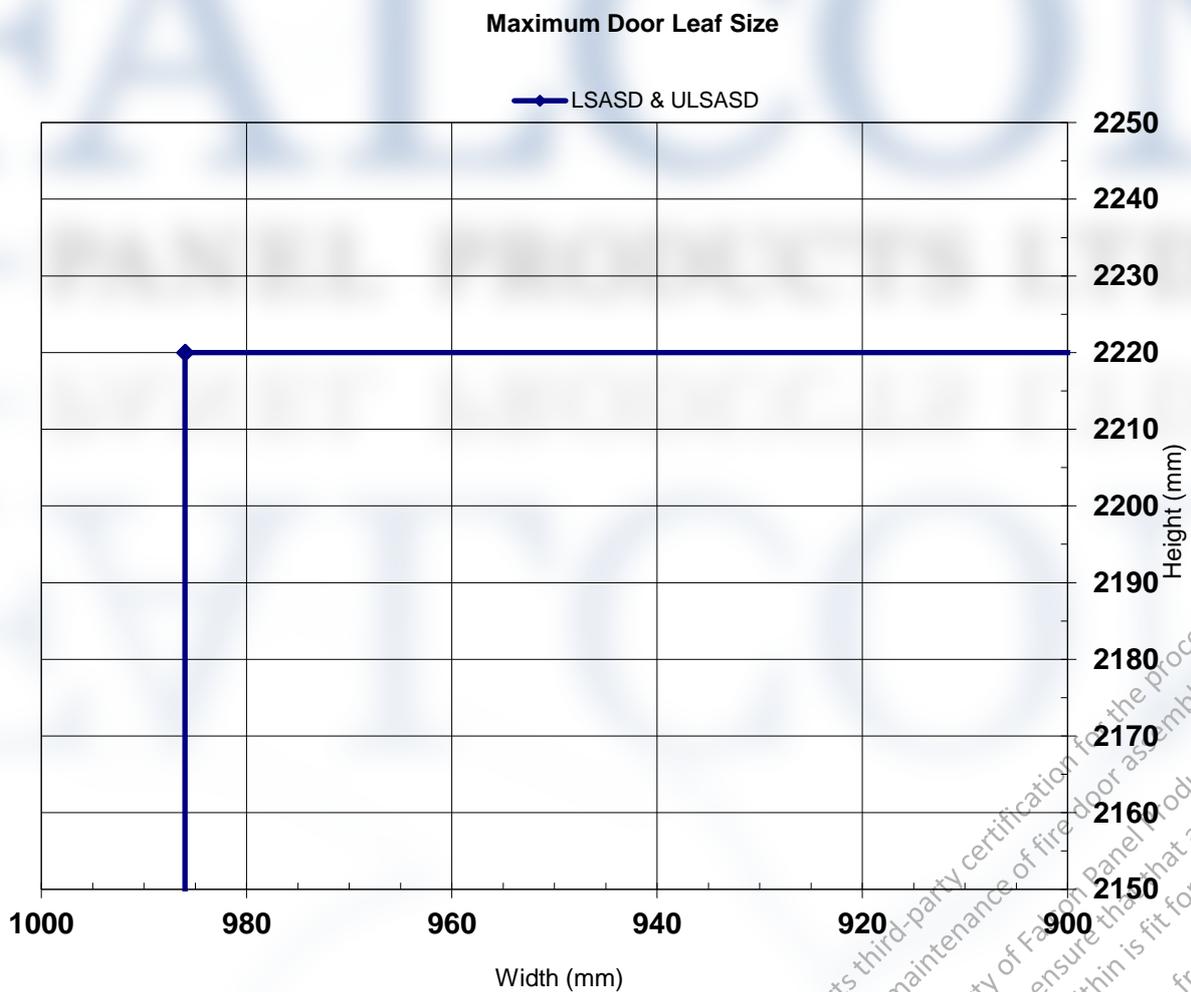
### Falcon Panel Products Strebord – 30 Minutes Fire Resistance

Latched and Unlatched Single Acting Single Doorsets – Pyroplex Intumescent Specification with MDF door frames

(section 7.4.4)

Configuration	Maximum leaf sizes	
	Height (mm)	Width (mm)
LSASD & ULSASD	2220	x 986

**Note:** Any combination of leaf height and width dimensions below the line depicted in the graph is acceptable

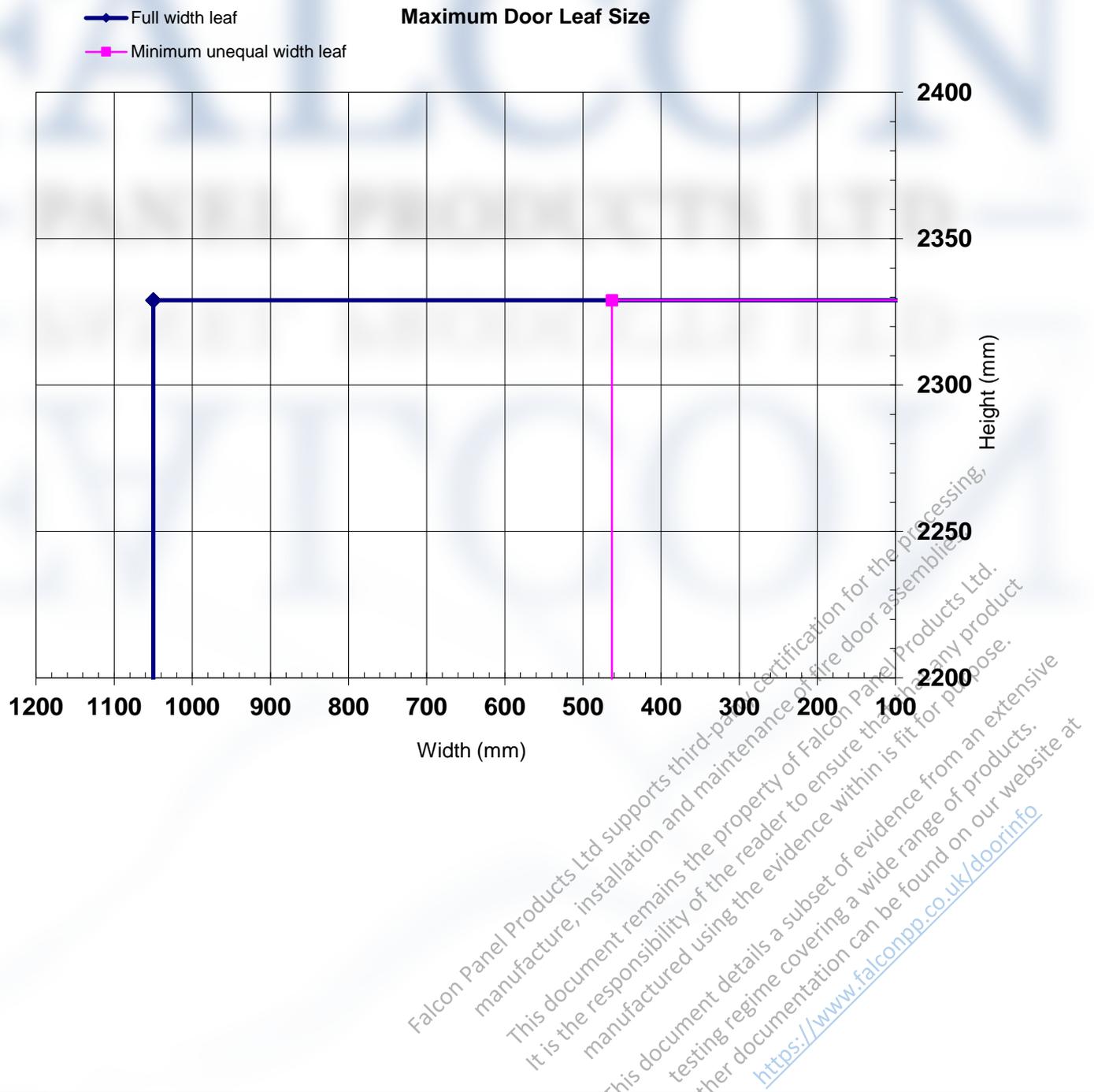


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**Falcon Panel Products Strebord – 30 Minutes Fire Resistance**  
**Latched and Unlatched Unequal Leaf Single Acting Double Doorsets –**  
**Pyroplex Intumescent Specification**  
 (see section 7.5.1)

Configuration	Maximum leaf sizes		
		Height (mm)	Width (mm)
LSADD & ULSADD (Unequal leaves)	Full width leaf	2329	x 1050
	Unequal leaf minimum	2329	x 463

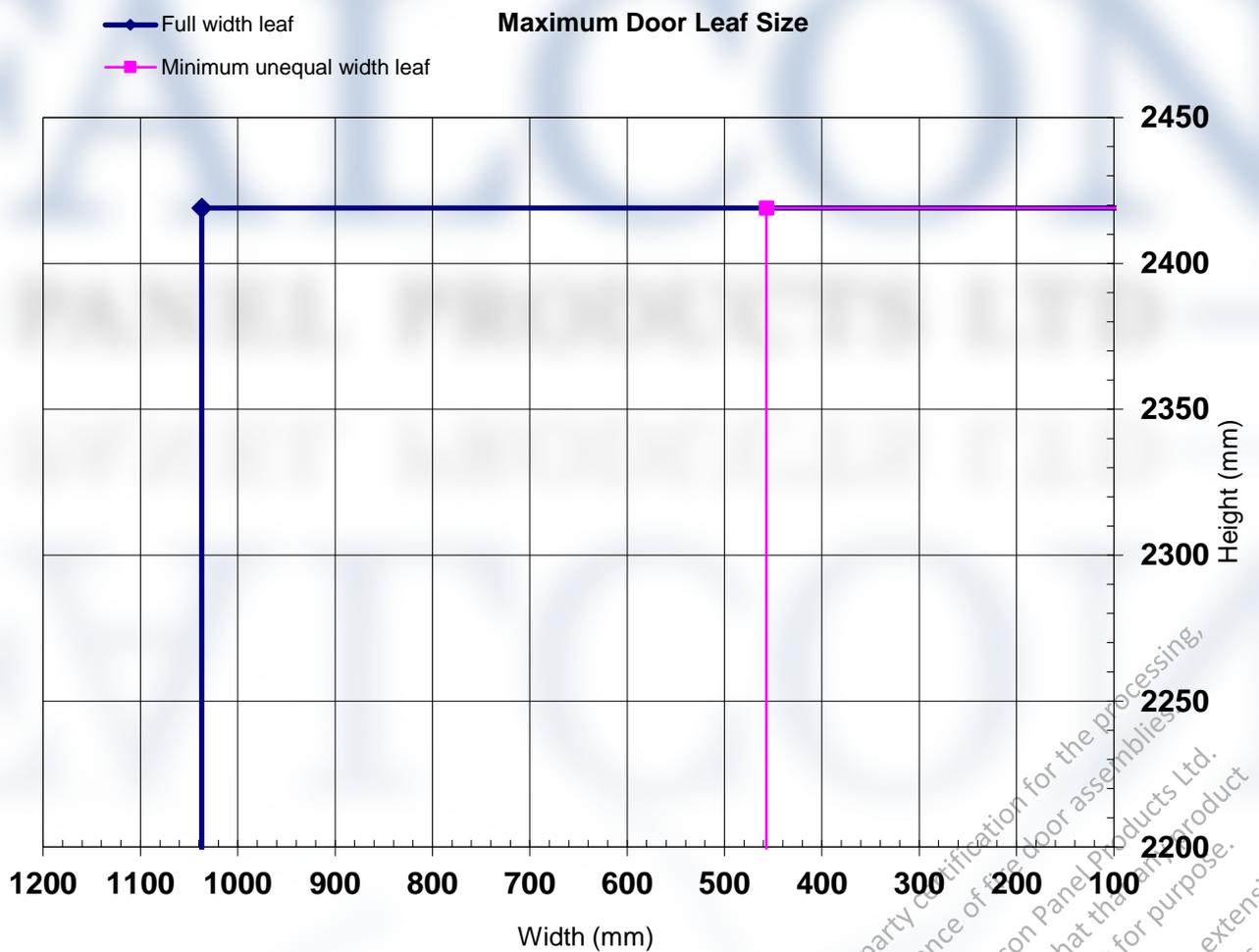
**Note:** Any combination of leaf height and width dimensions below the lines depicted in the graph is acceptable, subject to the unequal leaf not being narrower than 463mm



**Falcon Panel Products Strebord – 30 Minutes Fire Resistance**  
**Latched and Unlatched Unequal Leaf Single Acting Double Doorsets –**  
**Lorient Intumescent Specification**  
 (see section 7.5.2)

Configuration	Maximum leaf sizes		
		Height (mm)	Width (mm)
LSADD & ULSADD (Unequal leaves)	Full width leaf	2419	x 1037
	Unequal leaf minimum	2419	x 457

**Note:** Any combination of leaf height and width dimensions below the lines depicted in the graph is acceptable, subject to the unequal leaf not being narrower than 457mm

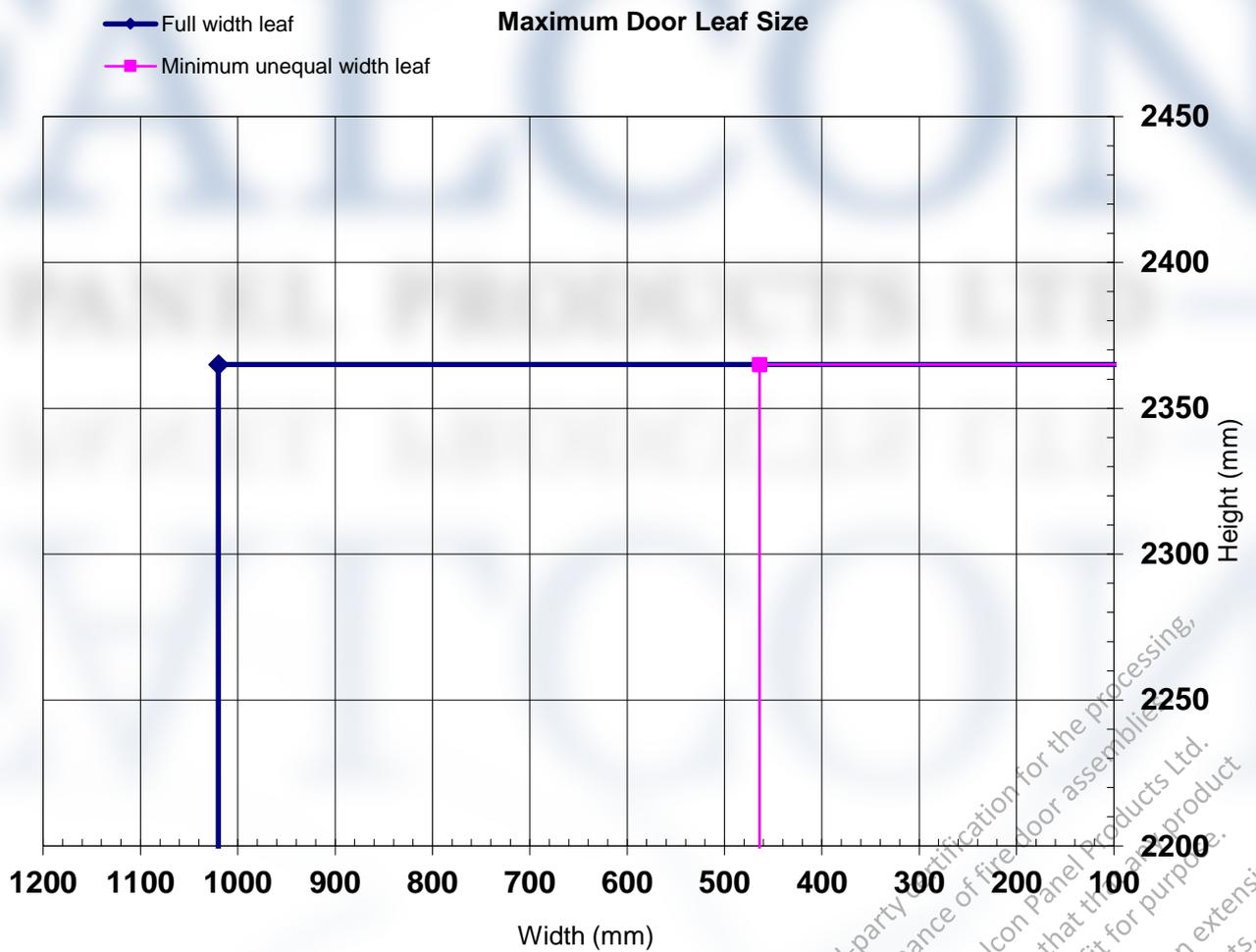


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**Falcon Panel Products Strebord – 30 Minutes Fire Resistance**  
**Latched and Unlatched Unequal Leaf Single Acting Double Doorsets –**  
**Pyroplex Intumescent Specification**  
 (see section 7.5.3)

Configuration	Maximum leaf sizes		
		Height (mm)	Width (mm)
LSADD & ULSADD (Unequal leaves)	Full width leaf	2365	x 1020
	Unequal leaf minimum	2365	x 464

**Note:** Any combination of leaf height and width dimensions below the lines depicted in the graph is acceptable, subject to the unequal leaf not being narrower than 464mm



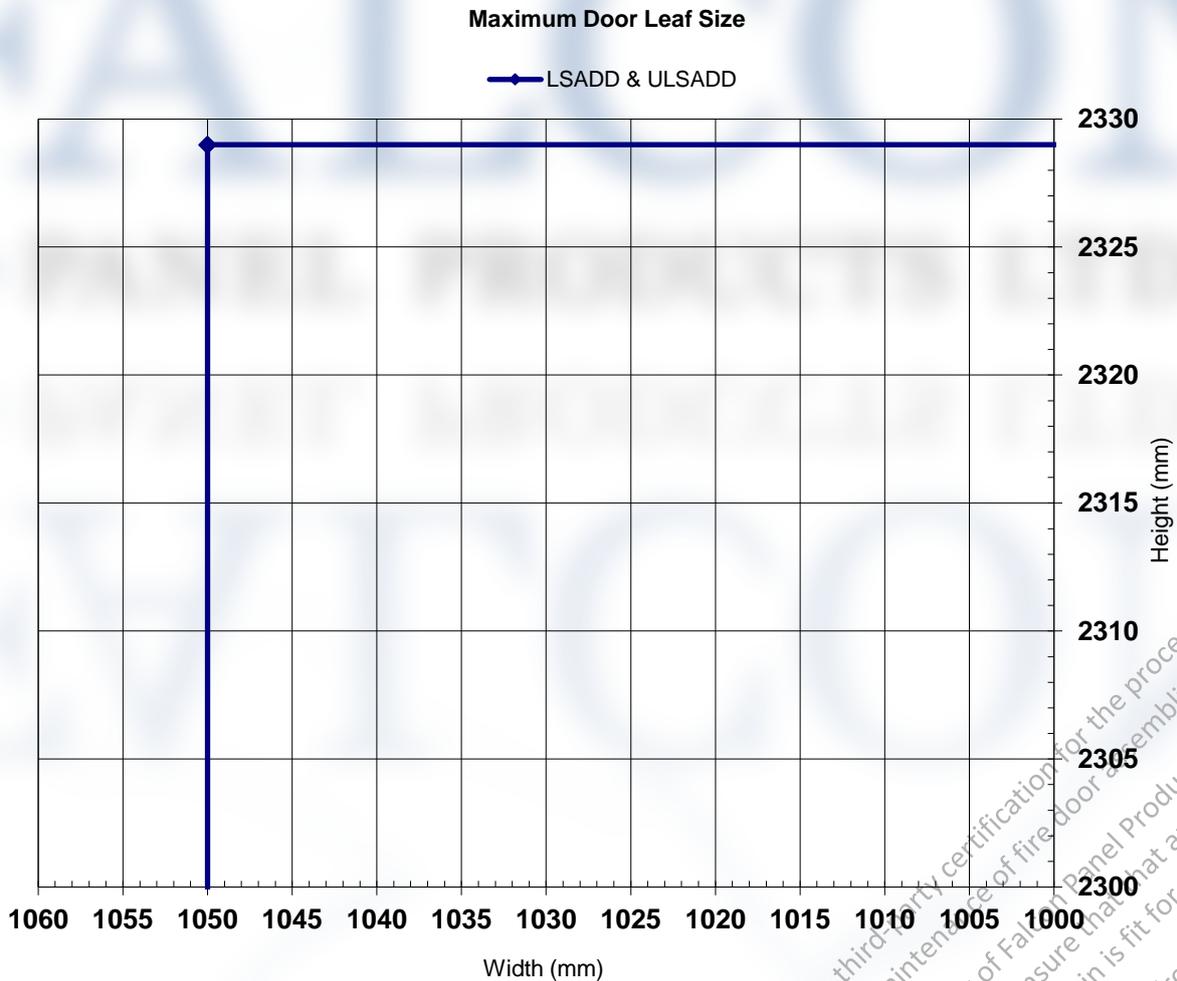
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**Falcon Panel Products Strebord – 30 Minutes Fire Resistance**  
**Latched and Unlatched Equal Leaf Single Acting Double Doorsets –**  
**Pyroplex Intumescent Specification**

(see section 7.6.1)

Configuration	Maximum leaf sizes	
	Height (mm)	Width (mm)
LSADD & ULSADD	2329	1050

**Note:** Any combination of leaf height and width dimensions below the line depicted in the graph is acceptable, subject to the width of the leaves remaining equal

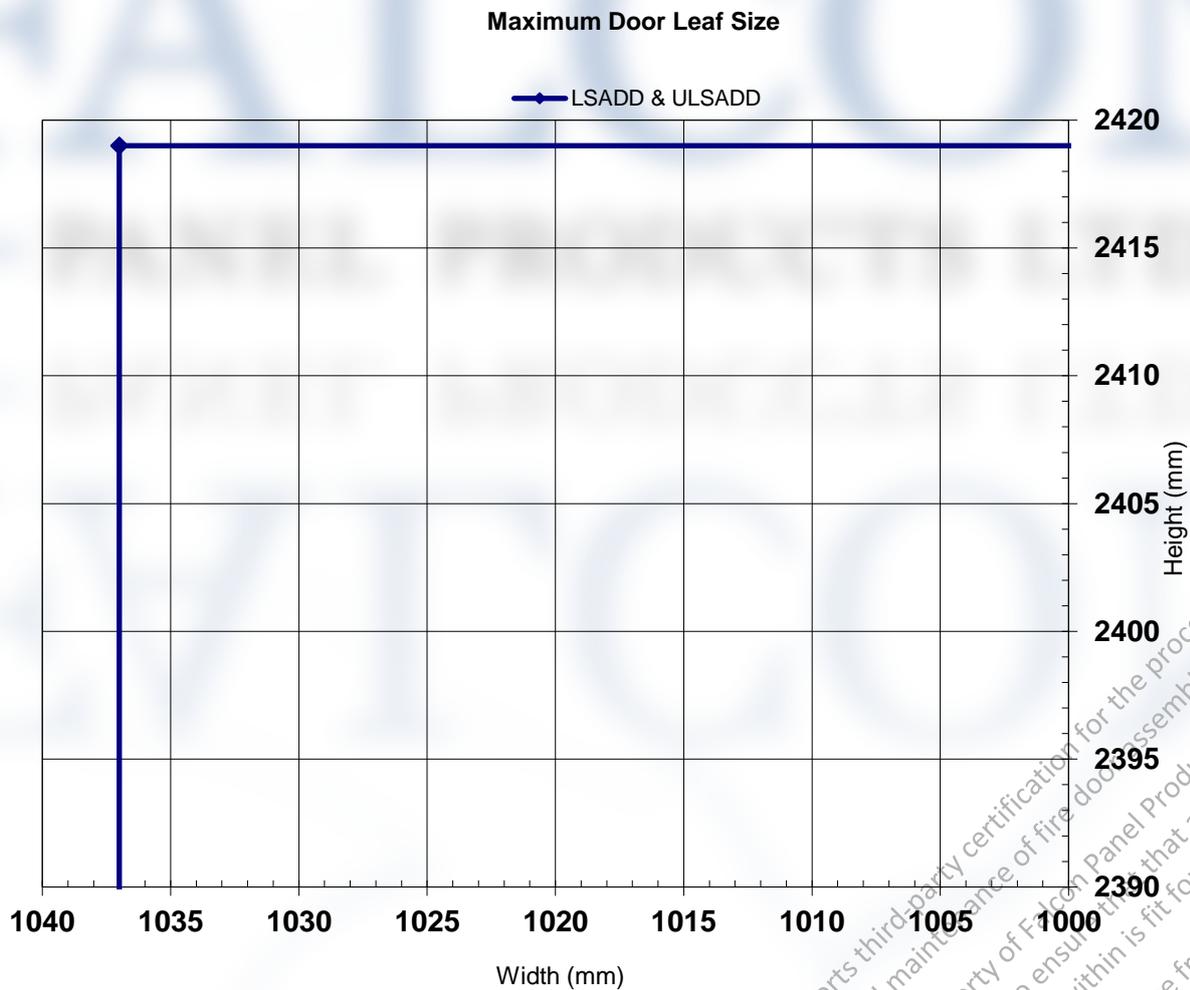


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**Falcon Panel Products Strebord – 30 Minutes Fire Resistance**  
**Latched and Unlatched Equal Leaf Single Acting Double Doorsets –**  
**Lorient Intumescent Specification**  
 (section 7.6.2)

Configuration	Maximum leaf sizes	
	Height (mm)	Width (mm)
LSADD & ULSADD	2419	1037

**Note:** Any combination of leaf height and width dimensions below the line depicted in the graph is acceptable, subject to the width of the leaves remaining equal

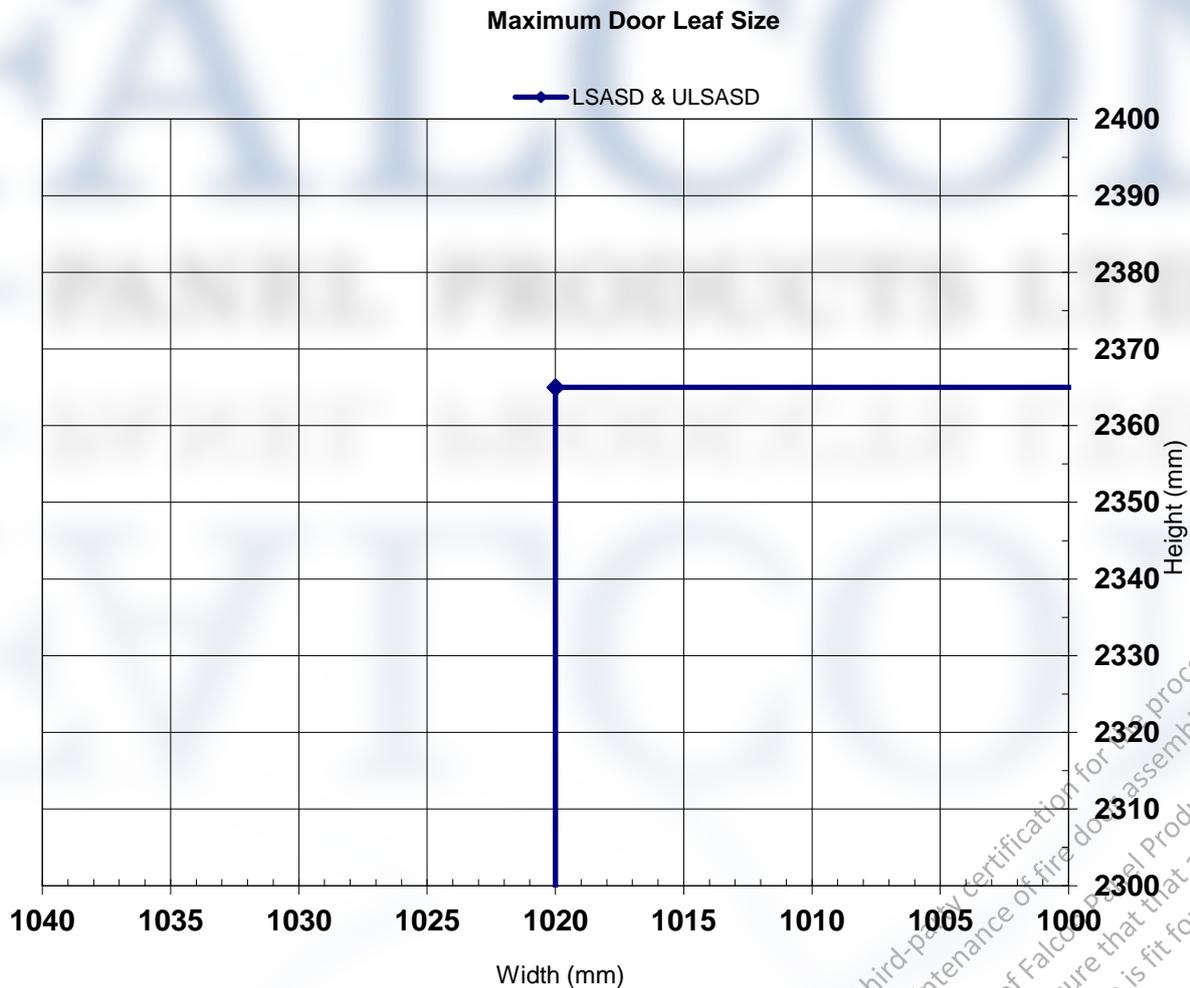


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**Falcon Panel Products Strebord – 30 Minutes Fire Resistance**  
**Latched and Unlatched Equal Leaf Single Acting Double Doorsets –**  
**Pyroplex Intumescent Specification (section 7.6.3)**

Configuration	Maximum leaf sizes	
	Height (mm)	Width (mm)
LSADD & ULSADD	2365	1020

**Note:** Any combination of leaf height and width dimensions below the line depicted in the graph is acceptable, subject to the width of the leaves remaining equal



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## Appendix C

### Calculations

This appendix contains the calculations as required by a particular rule given within BS EN 15269-3: 2012

Section	Clause	Calculation (RF11121 – Pyroplex specification)
7	A.3.2, A.3.3, A.3.4	<p>Distortion = Low (&lt;40% of movement relative to leaf or depth of frame reveal)</p> <p>Max distortion = Point C = 10mm distortion against frame towards furnace at 30mins. Partition 1mm distortion away from furnace at 30mins</p> <p><math>(11/44) \times 100 = 25\%</math></p> <p>Leaf size increase</p> <p>8minutes over run and low distortion</p> <p>Increase leaf height and width by achieved over run factored by 0.5 for low distortion leaf</p> <p><math>((8/30) \times 0.5 + 1) \times 2055</math> (mm height) = 2329mm max height</p> <p><math>((8/30) \times 0.5 + 1) \times 927</math> (mm width) = 1050mm max width</p> <p>Above dimensions are for the leaves for single and double leaf doorsets</p> <p>The unequal leaf has a minimum width permitted due to maintaining an acceptable leaf width ratio to the full width leaf</p> <p>50% reduction of tested equal leaf =</p> <p><math>927 \times 0.5 = 463</math>mm min width</p>

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Section	Clause	Calculation (RF11170 – Lorient specification)
7	A.3.2, A.3.3, A.3.4	Distortion = Low (<40% of movement relative to leaf or depth of frame reveal) Max distortion = Point A = 13mm distortion against frame towards furnace at 30mins. Partition 1mm distortion towards furnace at 30mins $(12/44) \times 100 = 27\%$ Leaf size increase 8minutes over run and low distortion Increase leaf height and width by achieved over run factored by 0.5 for low distortion leaf $((8/30) \times 0.5 + 1) \times 2135 \text{ (mm height)} = 2419\text{mm max height}$ $((8/30) \times 0.5 + 1) \times 915 \text{ (mm width)} = 1037\text{mm max width}$ Above dimensions are for the leaves for single and double leaf doorsets The unequal leaf has a minimum width permitted due to maintaining an acceptable leaf width ratio to the full width leaf 50% reduction of tested equal leaf = $915 \times 0.5 = 457\text{mm min width}$

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Section	Clause	Calculation (RF13132 – Pyroplex specification)
7	A.3.2, A.3.3, A.3.4	Distortion = Low (<40% of movement relative to leaf or depth of frame reveal) Max distortion = Point C (right hand leaf) = 12mm distortion against frame towards furnace at 10mins. $(12/44) \times 100 = 27\%$ Leaf size increase 6minutes over run and low distortion Increase leaf height and width by achieved over run factored by 0.5 for low distortion leaf $((6/30) \times 0.5 + 1) \times 2150$ (mm height) = 2365mm max height $((6/30) \times 0.5 + 1) \times 928$ (mm width) = 1020mm max width Above dimensions are for the leaves for double leaf doorsets The unequal leaf has a minimum width permitted due to maintaining an acceptable leaf width ratio to the full width leaf 50% reduction of tested equal leaf = $928 \times 0.5 = 464$ mm min width

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Section	Clause	Calculation (RF13263 Doorset A – Pyroplex specification with rebated edges and timber door frame)
7	A.3.2, A.3.3, A.3.4	Distortion = Low (<40% of movement relative to leaf or depth of frame reveal) Max distortion = Point C = 9mm distortion against frame towards furnace at 30mins. $(9/44) \times 100 = 20\%$ Leaf size increase 11 minutes over run and low distortion Increase leaf height and width by achieved over run factored by 0.5 for low distortion leaf $((11/30) \times 0.5 + 1) \times 2155$ (mm height) = 2550mm max height $((11/30) \times 0.5 + 1) \times 955$ (mm width) = 1130mm max width Above dimensions are for the leaves for single leaf doorsets

Section	Clause	Calculation (RF13263 Doorset B – Pyroplex specification with rebated edges and MDF door frame)
7	A.3.2, A.3.3, A.3.4	Distortion = Low (<40% of movement relative to leaf or depth of frame reveal) Max distortion = Point C = 11mm distortion against frame towards furnace at 10mins. $(11/44) \times 100 = 25\%$ Leaf size increase 2 minutes over run and low distortion Increase leaf height and width by achieved over run factored by 0.5 for low distortion leaf $((2/30) \times 0.5 + 1) \times 2155$ (mm height) = 2226mm max height $((2/30) \times 0.5 + 1) \times 955$ (mm width) = 983mm max width Above dimensions are for the leaves for single leaf doorsets

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Section	Clause	Calculation (WF416689 – Pyroplex specification – multi-point locks Doorset A)
7	A.3.2, A.3.3, A.3.4	Distortion = Low (<40% of movement relative to leaf or depth of frame reveal) Max distortion = Point L = 8mm distortion against frame towards furnace at 30mins. 46mins (tested performance) – 30mins (required performance) = 16mins over run $((16/30) \times 0.5) + 1 \times 2200$ (mm height) = 2786mm max height $((16/30) \times 0.5) + 1 \times 949$ (mm width) = 1202mm max width Above dimensions are for the leaves for single leaf doorsets

Section	Clause	Calculation (WF421795– STS specification – multi point locks Doorset A)
7	A.3.2, A.3.3, A.3.4	Distortion = Low (<40% of movement relative to leaf or depth of frame reveal) Max distortion = Point I = 8mm distortion against frame towards furnace at 20mins. 35mins (tested performance) – 30mins (required performance) = 5mins over run $((5/30) \times 0.5) + 1 \times 2100$ (mm height) = 2275mm max $((5/30) \times 0.5) + 1 \times 950$ (mm height) = 1029mm max Above dimensions are for the leaves for single doorsets Increased (maximum) width: 950 x 1.08 (i.e. 8% increase) = 1026mm

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