

## Extended Application Report

**CONFIDENTIAL**



**Prepared for:**

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

**Report:** BMT/CNA/F14054 Revision A

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Fire Performance of Construction Products and Building Elements  
in accordance with BS EN 15269-3: 2012

**Valid From:** 6 May 2014

**Notified Body No.** 1314 - Chiltern International Fire Ltd trading as BM TRADA

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This report is a revision to that issued as BMT/CNA/F14054 and dated 15/11/2016. The details of the report BMT/CNA/F14054 are held on file by Chiltern International Fire Ltd trading as BM TRADA. The original report and any previous revisions are replaced by this revised report BMT/CNA/F14054 Revision A



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## **1 Introduction**

This extended application report concerns test results obtained in accordance with test method BS EN 1634-1: 2008. The extended application process is carried out in conformity with the following standards: BS EN 15269-1: 2010, BS EN 15269-3: 2012 and BS EN 15725: 2010.

This extended application is issued on the basis of test data and the content of the relevant parts of EN 15269 at the time of issue.

## **2 Details of the Product**

### **2.1 Nature**

#### **Product Technical Specifications**

The technical specification for the Falcon Panel Products Strebord doorset construction being considered within this EXAP report is summarised as follows:

The door leaf comprises a particleboard core and is lipped with hardwood on the vertical edges and may additionally be lipped on the horizontal edges.

The door leaf thickness is 54mm thick and is hung within a timber door lining.

The doorset design incorporates glazing, hardware, intumescent seals and non-intumescent seals.

The door design has been tested against the relevant EN standard for fire resisting door assemblies, BS EN 1634-1.

### **2.2 Product Family**

The Falcon Panel Products Strebord product family has been defined within the following parameters:

The doorset can be provided with different leaf configurations (i.e. single or double leaf) and as unlatched and latched doorsets.

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 doorset design.

The Strebord design can be provided with or without fire rated glazing and various options of hardware are available to be fitted to the door leaf.

The precise scope and design options for the Strebord doorset design, which provide the boundaries for the product family, are defined within this EXAP document.

### **2.3 Intended Use**

The intended use of the doorset is summarised below:

A pedestrian doorset or industrial type 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.

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## 2.4 End Use Application

The end use application of this building element is an internal, openable door assembly within fire resisting compartment walls, for use in accordance with the building regulations of the relevant member state, where the doorset is to be installed.

## 3 Description

### 3.1 General

The doorset design being considered for the purpose of this extended application report is described below. The description is given for the design as tested, variations to which are allowed in this EXAP document.

The construction of the doorset must meet the specification in the description of construction below, unless otherwise specified in the scope of this extended field of application report.

### 3.2 Description of Construction

#### 3.2.1 Leaves

##### 3.2.1.1 Test Reference RF11143

##### Tested leaf configuration:

Unlatched double leaf single acting doorset with glazing

##### Tested leaf dimensions:

Left leaf - 2054mm high x 928mm wide x 54mm thick

Right leaf - 2054mm high x 928mm wide x 54mm thick

	Species/Type	Dimensions (mm)	Density (kg/m <sup>3</sup> )	Moisture (% w/w)
Stiles	None fitted	-	-	-
Rails	None fitted	-	-	-
Core	Strebord particleboard	54 thick	643–645*	8.1-8.3
Facings	None fitted	-	-	-
Adhesive	Lippings	PVA	-	-
Lippings – vertical edges	Sapele	8 thick	782**	11–11.3

\* Determined by CIFL

\*\* Nominal density

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### 3.2.1.2 Test Reference RF11171 Revision A

#### Tested leaf configuration:

Unlatched double leaf single acting doorset with glazing

#### Tested leaf dimensions:

Left leaf - 2135mm high x 915mm wide x 54mm thick

Right leaf - 2135mm high x 915mm wide x 54mm thick

		Species/Type	Dimensions (mm)	Density (kg/m <sup>3</sup> )	Moisture (% w/w)
Stiles		None fitted	-	-	-
Rails		None fitted	-	-	-
Core		Strebord particleboard	54 thick	514*	9.3
Facings		None fitted	-	-	-
Adhesive	Lippings	PU	-	-	-
Lippings – vertical edges		Sapele	8 thick	640**	9.1

\* Determined by CIFL      \*\* Nominal density

### 3.2.1.3 Test Reference RF12068 Revision A

#### Tested leaf configuration:

Unlatched single leaf single acting doorset with glazing

#### Tested leaf dimensions:

2442mm high x 917mm wide x 54mm thick

		Species/Type	Dimensions (mm)	Density (kg/m <sup>3</sup> )	Moisture (% w/w)
Stiles		None fitted	-	-	-
Rails		None fitted	-	-	-
Core		Strebord particleboard	54 thick	514*	9.3
Facings		None fitted	-	-	-
Adhesive	Lippings	PU	-	-	-
Lippings – all edges		Sapele	8 thick	640**	8.8

\* Determined by CIFL      \*\* Nominal density

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### 3.2.2 Door Frame

#### 3.2.2.1 Test Reference RF11143

	Species/Type	Dimensions (mm)	Density (kg/m <sup>3</sup> )	Moisture (% w/w)
Head & jambs	Sapele	32 thick x 70 deep	782*	11.4
Stops – planted	Sapele	12 thick x 15 wide	782*	11.5-11.6
Architrave	Sapele	18 thick	782*	-
Threshold	Non combustible	-	-	-
Frame fixings	4No. steel wood screws per jamb	No. 10 x 80 long at nominally 600-800 centres	-	-
Frame fire stopping	Mineral fibre capped with intumescent acrylic mastic on both faces	Nominally 5-10mm wide x 20-30 deep	-	-

\* Determined by CIFL

#### 3.2.2.2 Test Reference RF11171 Revision A

	Species/Type	Dimensions (mm)	Density (kg/m <sup>3</sup> )	Moisture (% w/w)
Head & jambs	Sapele	32 thick x 70 deep	670*	8.2
Stops – planted	Sapele	12 thick x 15 wide	670*	-
Architrave	Sapele	18 thick	670*	-
Threshold	Non combustible	-	-	-
Frame fixings	4No. steel wood screws per jamb	No. 10 x 80 long at nominally 600-800 centres	-	-
Frame fire stopping	Mineral fibre capped with intumescent acrylic mastic on both faces	Nominally 5-10mm wide x 20-30 deep	-	-

\* Determined by CIFL

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### 3.2.2.3 Test Reference RF12068 Revision A

	Species/Type	Dimensions (mm)	Density (kg/m <sup>3</sup> )	Moisture (% w/w)
Head & jambs	Sapele	32 thick x 70 deep	670*	8.2
Stops – planted	Sapele	12 thick x 16 wide	670*	-
Architrave	Sapele	18 thick x 50 wide	670*	-
Threshold	Non combustible	-	-	-
Frame fixings	5No. steel wood screws per jamb	No. 10 x 80 long at nominally 600 - 800 centres	-	-
Frame fire stopping	Mineral fibre capped with intumescent acrylic mastic on both faces	Nominally 5 - 10mm wide x 20 - 30 deep	-	-

\* Determined by CIFL

### 3.2.3 Intumescent and Sealing Materials

#### 3.2.3.1 Test Reference RF11143

	Make/Type	Size (mm)	Location
Door edges – closing edge of left leaf only	Pyroplex Rigid Box Seal FO8700	15 x 4	Fitted 7mm from the exposed face
	Pyroplex Rigid Box Seal FO8700	15 x 4	Fitted 32mm from the exposed face
Frame reveal – head and jambs	Pyroplex Rigid Box Seal FO8700	15 x 4	Fitted 8mm from the exposed face
	Pyroplex Rigid Box Seal FO8700	15 x 4	Fitted 35mm from the exposed face
Glazing perimeter – Pyroplex FG60 glazing system	Pyroplex 30096 glazing liner	54 x 2	Fitted lining the glazing aperture
	Pyroplex 30095 glazing strip	25 x 4	Fitted between the glass and bead on both faces

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### 3.2.3.2 Test Reference RF11171 Revision A

	Make/Type	Size (mm)	Location
Door edges – closing edge of left leaf only	2No. Lorient Polyproducts Ltd. LP1504 Type 617. Batch: L/1 26.09.11 17.31	15 x 4	Fitted 10mm apart, 7mm from the exposed face in the meeting edge of the left leaf only
Frame reveal – head and jambs	2No. Lorient Polyproducts Ltd. LP1504 Type 617	15 x 4	Fitted 10mm apart, 7mm from the exposed face in the frame reveal
Glazing perimeter	Lorient Polyproducts Ltd. 'Flexible Figure 1' glazing gasket	Nominally 3.5 wide x 13 high	Fitted between the glass and bead on both faces
	Lorient Polyproducts Ltd. LX5402 glazing liner	54 x 2	Fitted lining the glazing aperture
Smoke seal	Lorient Polyproducts Ltd. IS1212 batwing seal	12 x 12	Fitted against the upstand of the stop in the right frame jamb reveal only
Drop down seal – left leaf only	Lorient Polyproducts Ltd. IS8010 drop down seal	60 high x 22 wide (end cover plate size)	Fitted in the threshold of the left leaf only

### 3.2.3.3 Test Reference RF12068 Revision A

	Make/Type	Size (mm)	Location
Frame reveal – head and jambs	2No. Pyroplex Rigid Box Seal FO8700	15 x 4	Fitted 10mm apart, 8mm from the exposed face in the frame reveal
Glazing perimeter	Pyroglaze 500PSA	Nominally 4 wide x 25 high	Fitted between the glass and bead on both faces
	Pyroglaze 300 glazing liner	54 x 2	Fitted lining the glazing aperture
Smoke seal	Norsound NOR710	10 x 11	Fitted against the upstand of the stop

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### 3.2.4 Intumescent Interruptions and Additional Protection

#### 3.2.4.1 Test Reference RF11143

	Make/Type	Size (mm)	Location
Around hinges - frame	Partially interrupted	-	Hinge blade fully interrupts 1 <sup>st</sup> seal and partially interrupts 2 <sup>nd</sup> seal in the frame reveal
Under hinge blade	Interdens	2 thick	Fitted under the hinge blade on frame and leaf
Encasing latch body	Interdens	1 thick	Fitted around the body of the latch
Around latch forend	Partially interrupted	-	Latch forend partially interrupts both seals in the closing edge of the left leaf with 9mm continuous
Under latch forend	Interdens	2 thick	Fitted under the latch forend
Under latch keep	Interdens	2 thick	Fitted under the latch keep
Around flush bolt keep	Partially interrupted	-	Flushbolt keep partially interrupts both seals in frame head with 9mm of each remaining continuous
Under flush bolt keep	Interdens	2 thick	Fitted under flushbolt keep in the frame head
Lining flushbolt cut out	Interdens	1 thick	Fitted lining the flushbolt cut outs in the leaf edge

#### 3.2.4.2 Test Reference RF11171 Revision A

	Make/Type	Size (mm)	Location
Around hinges - frame	Partially interrupted	-	Hinge blade fully interrupts the 1 <sup>st</sup> seal and partially interrupts the 2 <sup>nd</sup> seal leaving 12mm continuous in the frame reveal
Under hinge blade	Lorient Polyproducts Ltd. MAP	2 thick	Fitted under the hinge blade on frame and leaf
Encasing latch body	Lorient Polyproducts Ltd. MAP	1 thick	Fitted around the body of the latch
Around latch forend	Partially interrupted	-	Latch forend partially interrupts both seals in the closing edge of the left leaf with 8mm of each seal remaining continuous
Under latch forend	Lorient Polyproducts Ltd. MAP	2 thick	Fitted under the latch forend
Under latch keep	Lorient Polyproducts Ltd. MAP	2 thick	Fitted under the latch keep
Lining flush bolt cut out	Lorient Polyproducts Ltd. MAP	1 thick	Fitted lining the flush bolt cut outs in the leaf edge
Around drop down seal	Fully interrupted	-	Drop down seal partially interrupts both seals in left leaf hanging edge with 8mm of each remaining continuous
Under drop down seal	Lorient Polyproducts Ltd. MAP	1 thick	Fitted around the drop down seal and under the end cover plate

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### 3.2.4.3 Test Reference RF12068 Revision A

	Make/Type	Size (mm)	Location
Around hinges - frame	Partially interrupted	-	Hinge blade fully interrupts the 1 <sup>st</sup> seal and partially interrupts the 2 <sup>nd</sup> seal leaving 10mm continuous in the frame reveal
Under hinge blade	Interdens	1 thick	Fitted under the hinge blade on frame and leaf
Encasing latch body	Interdens	1 thick	Fitted around the body of the latch
Under latch forend	Interdens	1 thick	Fitted under the latch forend
Under latch keep	Interdens	1 thick	Fitted under the latch keep
Around latch keep	Partially interrupted	-	Latch keep fully interrupts the 1 <sup>st</sup> seal and partially interrupts the 2 <sup>nd</sup> seal leaving 10mm continuous in the frame reveal

### 3.2.5 Hardware

#### 3.2.5.1 Test Reference RF11143

	Make/Type	Size (mm)	Location
Hinges	3No. Royde and Tucker H101 lift off type hinge	100 x 35 (blade size)	Fitted 150mm, 960mm and 1779mm from the head of the leaf
Closer	Dorma (UK) Ltd. TS83 overhead type closer	293 x 60 (footprint size)	Fitted on the exposed face as per the manufacturers' instructions
Latch – disengaged	Euro Spec tubular steel mortice latch	57 x 26 (forend size)	Fitted 1000mm from the threshold of the leaf
		57 x 26 (keep size)	
Furniture	Aluminium lever type handle	100 x 38 (footprint size)	Fitted appropriate to the latch
	Flush bolts - disengaged	150 x 34 (forend size)	Fitted top and bottom in the edge of the right leaf

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### 3.2.5.2 Test Reference RF11171 Revision A

	Make/Type	Size (mm)	Location
Hinges	3No. Royde and Tucker H101 lift off type hinge	100 x 35 (blade size)	Fitted 150mm, 1000mm and 1855mm from the head of the leaf
Closer	Rutland TS3204 overhead type closer	220 x 59 (footprint size)	Fitted on the exposed face as per the manufacturers' instructions
Latch – disengaged	Simplex steel mortice lock/latch with Eurocylinder	235 x 25 (forend size)	Fitted 1050mm from the threshold of the leaf
		185 x 24 (keep size)	
Furniture	Steel lever type handle	Ø52 (rose size)	Fitted appropriate to the lock/latch
	Lock escutcheon	Ø52 (rose size)	Fitted appropriate to the lock/latch
	Flush bolts - disengaged	195 x 20 (forend size)	Fitted top and bottom of the meeting edge of the right leaf

### 3.2.5.3 Test Reference RF12068 Revision A

	Make/Type	Size (mm)	Location
Hinges	4No. Royde and Tucker H101 lift off type hinge	100 x 35 (blade size)	Fitted 148mm, 818mm, 1488mm and 2159mm from the head of the leaf
Closer	Rutland TS3204 overhead type closer	220 x 59 (footprint size)	Fitted on the exposed face as per the manufacturers' instructions
Latch – disengaged	Arrone 3 lever mortice sashlock	155 x 22 (forend size)	Fitted 982mm from the threshold of the leaf
		125 x 24 (keep size)	
Furniture	Aluminium lever type handle	Ø 52 (rose size)	Fitted appropriate to the latch

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### 3.2.6 Glazing

#### 3.2.6.1 Test Reference RF11143

	Make/Type	Size (mm)	Location
Glass type	Pilkington Pyrostop EI60-101	23 thick	Fitted 97mm from the head of the leaf and 198mm from the hanging edge of the left leaf, 295mm from the hanging edge of the right leaf
Sight size	Left leaf	647 high x 473 wide	-
	Right leaf	472 high x 280 wide	-
Overall aperture size	Left leaf	700 high x 525 wide	-
	Right leaf	524 high x 332 wide	-
Expansion allowance	-	5 all edges	-
Beading	Sapele (MC 11%)	30 high x 17 deep including a 5 x 5 bolection return and 19° chamfer	Fitted around the perimeter of the glass on both faces
Beading fixings	Steel wood screws	70 long	Fitted 50mm from the corners and at 150 centres and at 30° - 45° to the glass

#### 3.2.6.2 Test reference RF11171 Revision A

	Make/Type	Size (mm)	Location
Glass type	CGI International Ltd. Pyroguard EI60	23 thick	Fitted 95mm from the head of the leaf and 210mm from the meeting edge of the left leaf, 305mm from the meeting edge of the right leaf
Sight size	Left leaf	615 high x 442 wide	-
	Right leaf	440 high x 250 wide	-
Glass size	Left leaf	647 high x 473 wide	-
	Right leaf	472 high x 280 wide	-
Expansion allowance	-	5 all edges	-
Beading	Sapele (MC 10%)	25 high x 18 deep including a 5 x 5 bolection return and 16° chamfer	Fitted around the perimeter of the glass on both faces
Beading fixings	Steel wood screws	70 long	Fitted 50mm from corners at 150 centres and at 30° - 45° to the glass

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### 3.2.6.1 Test reference RF12068 Revision A

	Make/Type	Size (mm)	Location
Glass type	CGI International Ltd. Pyroguard EI60	23 thick	Fitted 97mm from the head of the leaf and 115mm from the closing edge of the leaf
Sight size	-	751 high x 625 wide	-
Glass size	-	790 high x 665 wide	-
Expansion allowance	-	5 all edges	-
Beading	Sapele (MC 10%)	30 high x 16.5 deep including a 5 x 5 bolection return and 20° chamfer	Fitted around the perimeter of the glass on both faces
Beading fixings	Steel wood screws	60 long x M4	Fitted 50mm from corners at 200 centres and at 30° - 45° to the glass

### 3.2.7 Substrate and Fixing Detail

The supporting construction comprised a British Gypsum steel stud partition built in accordance with Clause 7.2.2.4 of BS EN 1363: Part 1, for a flexible supporting construction.

The vertical studs surrounding the apertures created for the doorsets incorporated a 67mm x 29mm softwood timber infill to facilitate the fixings for the specimens.

The specimens tested are 60 minute products with an anticipated Category B performance, therefore intended fire resistance is 68 minutes and three layers of 12.5mm Gypsum plasterboard type F are required.

The supporting construction was fixed only on the horizontal edges, the vertical edges remained free.

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#### 4 Test Reports and Test Results in Support of this Extended Application Report

Name of Laboratory	Name of Sponsor	Test Report Ref.	Date
Chiltern International Fire Ltd.	Falcon Panel Products Ltd.	Chilt/RF11143	10/10/2011
Chiltern International Fire Ltd.	Falcon Panel Products Ltd.	Chilt/RF11171 Revision A	30/11/2011
Chiltern International Fire Ltd.	Falcon Panel Products Ltd.	Chilt/RF12068 Revision A	18/06/2012

#### 5 Test Samples

Test Report Ref.	Sampling Procedure	Conditioning and Ageing	Pre-Fire Tests
Chilt/RF11143	Prototype specimen for test purposes. No factory sampling process available. Verification of components carried out by laboratory where possible	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/RF11171 Revision A	Prototype specimen for test purposes. No factory sampling process available. Verification of components carried out by laboratory where possible	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
Chilt/RF12068 Revision A	Prototype specimen for test purposes. No factory sampling process available. Verification of components carried out by laboratory where possible	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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## 6 Test Results

Test Report Ref.	Result (minutes)					Category of performance* (A or B)	Distortion** (Low, Med, High)
	Integrity	Insulation			Radiation		
		Average	1	2			
Chilt/RF11143	61	61***	N/A	61***	61****	A	Low

\*In accordance with clause 13.3.2 of BS EN 1634-1: 2008

\*\*In accordance with Annex A of BS EN 15269-3: 2012

\*\*\*Time of insulation failure due to integrity

\*\*\*\*Time of radiation failure due to integrity

Test Report Ref.	Result (minutes)					Category of performance* (A or B)	Distortion** (Low, Med, High)
	Integrity	Insulation			Radiation		
		Average	1	2			
Chilt/RF11171 Revision A	60	60***	N/A	60***	60****	A	Low

\*In accordance with clause 13.3.2 of BS EN 1634-1: 2008

\*\*In accordance with Annex A of BS EN 15269-3: 2012

\*\*\*Time of insulation failure due to integrity

\*\*\*\*Time of radiation failure due to integrity

Test Report Ref.	Result (minutes)					Category of performance* (A or B)	Distortion** (Low, Med, High)
	Integrity	Insulation			Radiation		
		Average	1	2			
Chilt/RF12068 Revision A	66	66***	N/A	66***	66****	A	Low

\*In accordance with clause 13.3.2 of BS EN 1634-1: 2008

\*\*In accordance with Annex A of BS EN 15269-3: 2012

\*\*\*Time of insulation failure due to integrity

\*\*\*\*Time of radiation failure due to integrity

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## **7 Extended Application**

### **7.1 Principles Applied for the Extension of the Field of Application**

This extended application is based on:

Established influence(s) of product and end use parameters in accordance with BS EN 15269-3: 2012 (method 1).

The workings for all calculations are contained in appendix A of this EXAP document.

## **8 Leaf Construction**

The leaf comprises a graduated density chipboard construction meeting the specification stated in 3.2.1.1, 3.2.1.2 and 3.2.1.3 of this EXAP report.

Alterations to the materials and constructions of the leaf construction have not been evaluated within the scope of the EXAP report.

## **9 Leaf Sizes**

### **9.1 General**

The approval for increased leaf dimensions is based on the Category A performance of the doorset and low distortion characteristic.

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

### **9.2 Single Leaf Doors**

#### **9.2.1 Pyroplex Intumescent Specification (sections 3.2.3.1 and 3.2.3.3)**

Maximum leaf height (mm): 2442

Maximum leaf width (mm): 935

#### **9.2.2 Lorient Intumescent Specification (section 3.2.3.2)**

Maximum leaf height (mm): 2135

Maximum leaf width (mm): 915

### **9.3 Unequal Leaf Pairs**

#### **9.3.1 Pyroplex Intumescent Specification (section 3.2.3.1)**

Maximum leaf height (mm): 2071

Maximum full leaf width (mm): 935

Minimum unequal leaf width (mm): 464

#### **9.3.2 Lorient Intumescent Specification (section 3.2.3.2)**

Maximum leaf height (mm): 2135

Maximum full leaf width (mm): 915

Minimum unequal leaf width (mm): 457

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## 9.4 Equal Pairs

### 9.4.1 Pyroplex Intumescent Specification (section 3.2.3.1)

Maximum leaf height (mm): 2071

Maximum leaf width (mm): 935

### 9.4.2 Lorient Intumescent Specification (section 3.2.3.2)

Maximum leaf height (mm): 2135

Maximum leaf width (mm): 915

## 9.5 Leaf Size Reduction

1. No restriction in leaf height reduction for single, unequal pairs or equal pairs.
2. No restriction in leaf width reduction for single or equal pairs.
3. The minimum unequal leaf width of the unequal pair may be increased to the same maximum width of the full leaf width (i.e. the configuration of the leaves becomes increasingly symmetrical in leaf widths).

## 9.6 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.

## 10 Configurations

### 10.1 General

The approval for alternative configurations is based on the number of leaves tested, the exposed perimeter intumescent detail, and the low distortion characteristic of the tested door leaves.

The following leaf configurations have been approved for this doorset design:

Abbreviation	Description
LSASD & ULSASD	Latched & unlatched, single acting, single doorset
LSADD & ULSADD	Latched & unlatched, single acting, double doorset

#### Notes:

1. Approved locksets/latches must be fitted as detailed in this document
2. It is permitted to construct doorsets without a lockset/latch fitted.

## 10.2 Relevant Clauses

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

A.1.1, A.1.22, A.1.23, C.1.6.

## 11 Leaf Size Adjustment

It is permitted to adjust Strebord door leaves post-manufacture, as follows:

Element	Reduction
Leaf	The manufactured size of the leaf may be reduced in height or width without restriction
Lipping	The lipping may be reduced for fitting purposes but <b>not</b> below the minimum stated in section 15

### 11.1 Relevant Clause

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

A.5.15.

## 12 Side/Transom Panels and Flush Overpanels

### 12.1 General

Side/transom panels and flush overpanels are **not** permitted for this doorset design.

### 12.2 Relevant Clause

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for side/transom panels and flush over panels:

D.1.1.

## 13 Glazing

### 13.1 General

The testing conducted on the Strebord design demonstrated that the design is capable of tolerating glazed apertures. Glazing is therefore acceptable within the following parameters:

### 13.2 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.

*The legal validity of this report can only be claimed on presentation of the complete report.*

**13.2.1 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.

*The legal validity of this report can only be claimed on presentation of the complete report.*

### 13.3 Glass Types

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

Glass Type	Manufacturer	Thickness (mm)
1. Pyrostop EI60-101	Pilkington Group Ltd.	23
2. Pyroguard EI60	CGI Ltd.	23

#### 13.3.1 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.

### 13.4 Glazing Dimensions

#### 13.4.1 Pyrostop EI60-101

- Maximum glazed area = 0.36m<sup>2</sup>
- Maximum glazed height = 700mm
- Maximum glazed width = 525mm
- Minimum glazed area = 0.08m<sup>2</sup>

Proximity to leaf edges:

1. The glazing must **not** be located any closer than 97mm 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.

#### 13.4.2 Pyroguard EI60

- Maximum glazed area = 0.54m<sup>2</sup>
- Maximum glazed height = 801mm
- Maximum glazed width = 675mm
- Minimum glazed area = 0.06m<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.

#### 13.4.3 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, E.1.14.

### **13.5 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 door design:

#### **13.5.1 Pyrostop EI60-101**

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:

30mm high x 17mm deep, including a 5mm x 5mm bolection return and a 19° chamfer.

The beading must be fixed using 70mm 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 54mm wide x 2mm thick Pyroplex Ltd. 30096 glazing liner must be fitted lining the glazing aperture, and a 25mm wide x 4mm thick Pyroplex Ltd. 30095 glazing strip must be fitted between the glass and the glazing bead on both faces of the glass.

#### **13.5.2 Pyroguard EI60**

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.

##### **13.5.2.1 Option 1 - Lorient**

The glazing bead must have the following geometry:

25mm high x 18mm deep, including a 5mm x 5mm bolection return and a 16° chamfer.

The beading must be fixed using 70mm 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 54mm wide x 2mm thick Lorient Polyproducts Ltd LX5402 glazing liner must be fitted lining the glazing aperture, and a 3.5mm wide x 13mm high Lorient Polyproducts Ltd glazing gasket must be fitted between the glass and the glazing bead on both faces of the glass.

##### **13.5.2.2 Option 2 – Mann McGowan**

The glazing bead must have the following geometry:

30mm high x 16.5mm deep, including a 5mm x 5mm bolection return and a 20° chamfer.

The beading must be fixed using 60mm long x M4 steel screws.

The bead fixings must be fitted 50mm from corners and at 200mm centres and at 30 - 45° to the face of the glass.

A 54mm wide x 2mm thick Pyroglaze glazing liner must be fitted lining the glazing aperture, and a 4mm wide x 25mm high Pyroglaze 500PSA glazing gasket must be fitted between the glass and the glazing bead on both faces of the glass.

### 13.5.3 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.

### 13.6 Geometry of Glazed Aperture

It is **not** possible to permit alternative shapes of glazing unless supported by test evidence and subject to the rules in EN 15254-4.

The materials and geometry of edge fixing technique must remain as specified in section 13.5.

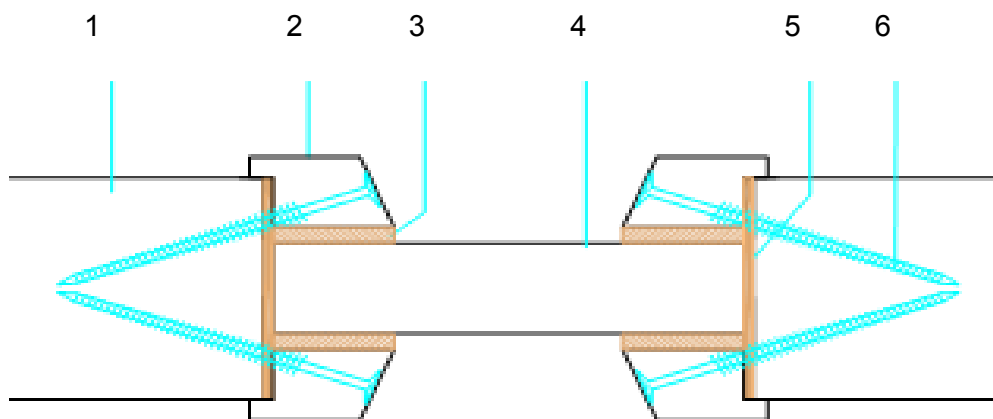
#### 13.6.1 Relevant Clause

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.

### 13.7 Diagram of Tested and Approved Glazing Systems

#### 13.7.1 Pyrostop EI60-101

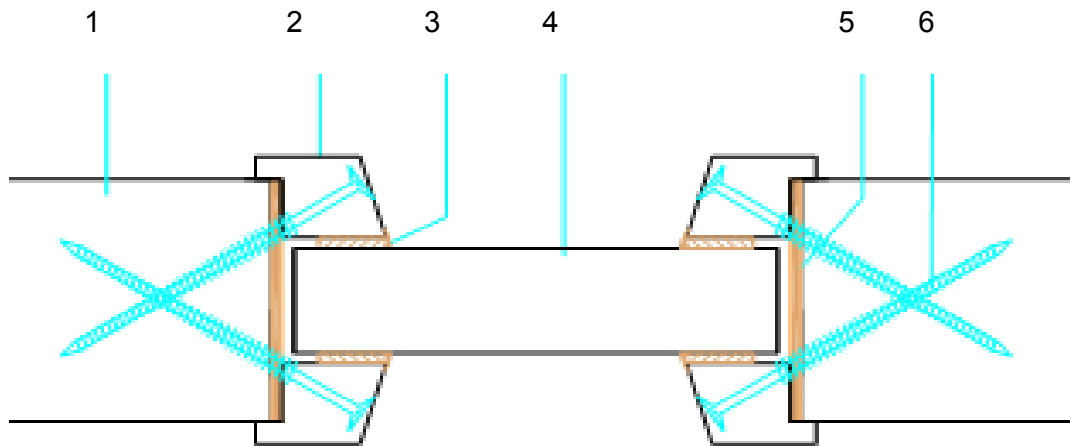


1. Strebor door core
2. Sapele glazing bead
3. Pyroplex 30095 glazing strip
4. 23mm thick Pyrostop EI60-101
5. Pyroplex 30096 glazing liner
6. 70mm long screw fixings

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### 13.7.2 Pyroguard EI60

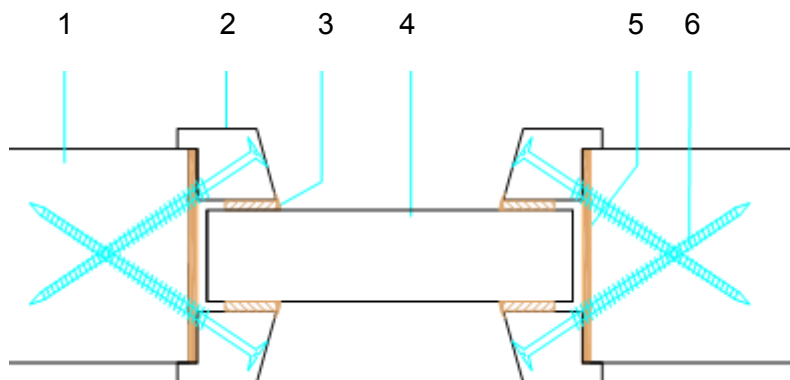
#### 13.7.2.1 Option 1 - Lorient



1. Strebord door core
2. Sapele glazing bead
3. Lorient Polyproducts Ltd. 'Flexible Figure 1' glazing gasket
4. 23mm thick Pyroguard EI60
5. Lorient Polyproducts Ltd. LX5402 glazing liner
6. 70mm long screw fixings

### 13.7.3 Pyroguard EI60

#### 13.7.3.1 Option 2 – Mann McGowan



1. Strebord door core
2. Sapele glazing bead
3. Pyroglaze 500PSA
4. 23mm thick Pyroguard EI60
5. Pyroglaze 300 glazing liner
6. 60 long x M4 steel screw fixings

*The legal validity of this report can only be claimed on presentation of the complete report.*

## **14 Door Frames**

The following door frame options are permitted for the Strebord door design:

### **14.1 Thresholds**

It is permitted to add a threshold to the bottom of the door frame meeting the following specification:

- Non-combustible threshold (to Reaction to Fire Class A2, fl, s1).
- The gap between the bottom of the door leaf and the threshold must **not** exceed 6mm.

#### **14.1.1 Relevant Clauses**

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

B.1.1, B.1.2.

### **14.2 Position of Door Frame**

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 more than tested.

#### **14.2.1 Relevant Clause**

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

B.1.4.

### **14.3 Door Frame Dimensions**

It is possible to increase the door frame dimensions.

It is **not** possible to decrease the tested dimensions of the door frame.

#### **14.3.1 Relevant Clauses**

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

B.2.1, B.2.2.

### **14.4 Door Frame Material**

It is possible to change the type of frame material meeting the following specification:

- Timber must be either solid timber or finger joint timber.
- The timber must be hardwood (excluding beech) with a density  $\geq 670 \text{ kg/m}^3$ .

#### **14.4.1 Relevant Clause**

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

B.2.3.

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## **14.5 Jointing Technique**

The following jointing technique is approved for this doorset design:

- Mortise and tenon with additional screw fixings.

### **14.5.1 Relevant Clause**

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

B.2.11.

## **14.6 Fixing of Door Frames**

It is possible to change the fixing locations for the door frame providing the fixings are no closer than 44mm from the opening and/or exposed face of the structural opening (minimum tested distance of the screw from the face of the frame).

**NB:** See section 23.2 for more details on fixing the frame to the supporting structure.

### **14.6.1 Relevant Clause**

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

B.2.13.

## **14.7 Protection of Door Frames**

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.

### **14.7.1 Relevant Clause**

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

B.3.1.

## **15 Lipping Materials**

The following options are permitted for the lipping material:

### **15.1 Timber Species**

The lipping must be a hardwood with a density  $\geq 640\text{kg/m}^3$ . The timber should be straight grained, joinery quality, free from knots, splits and defects.

#### **15.1.1 Relevant Clause**

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

A.5.14.

## 15.2 Lipping Dimensions

Maximum lipping thickness = 10mm

Minimum lipping thickness = 6mm

### 15.2.1 Relevant Clause

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

A.5.15.

## 15.3 Additional Information

1. Lipping must be fitted to the vertical edges of the leaf
2. Lipping may be fitted to the top and/or bottom edges of the leaf, however lippings are not required be fitted to the top and/or bottom edges of the leaf
3. It is **not** possible to add additional material(s) to the lippings.

### 15.3.1 Relevant Clauses

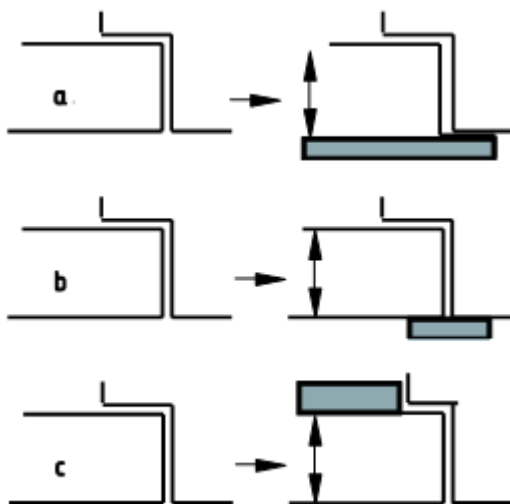
The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for lippings:

A.5.16, A.5.17.

## 16 Edge Condition

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

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



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.
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).

#### 16.1.1 Relevant Clause

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.

#### 16.2 Meeting Edge Detail



**c) unrebbated (plain or square edges)**



**f) closing strip (applied astragal)**

In addition to the tested plain meeting edge detail (depicted in diagram **c**) it is possible to fit an astragal (diagram **f**), subject to the following limitation:

1. 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.

#### 16.2.1 Relevant Clauses

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

A.2.2, A.2.3.

## **17 Decorative and/or Protective Finishes**

The following decorative and protective finishes may be used with the Falcon Panel Products Strebord design:

### **17.1 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. 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.).

#### **17.1.1 Relevant Clause**

The following clauses 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.

### **17.2 Combustible Decorative Facings (on edge of leaf)**

Decorative facings meeting the following performance requirements are permitted on the edges of the leaves because the doorset exhibited low distortion and intumescent seals were fitted:

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

#### **Notes:**

1. The leaf to frame gaps must **not** exceed 3.5mm (i.e. the maximum leaf to frame gap tested)
2. The perimeter intumescent seals are fitted as required
3. The thickness of an applied timber veneer/plastic edging must **not** exceed 3mm
4. The thickness of decorative laminates (such as laminate, cloth, leather, etc.) must **not** exceed 0.8mm
5. The leaf size must **not** be increased beyond that tested (see section 9).

#### **17.2.1 Relevant Clause**

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

A.5.3.

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

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

1. Reaction to fire class A1 or A2
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 (door stop).

#### 17.3.1 Relevant Clause

The following clauses 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.

### 17.4 Non-Combustible Decorative Facings (on edge of leaf)

Decorative facings meeting the following performance requirements are permitted on the edges of the leaves because the doorset exhibited low distortion:

1. Reaction to fire class A1 or A2.
2. Melting point of  $\geq 660^{\circ}\text{C}$ .

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

**Notes:**

1. The leaf to frame gaps must **not** exceed 3.5mm (i.e. the maximum leaf to frame gap tested)
2. The perimeter intumescent seals are fitted as required
3. The thickness of the applied edging must **not** exceed 0.8mm
4. The leaf size must **not** be increased beyond that tested (see section 9).

#### 17.4.1 Relevant Clause

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

A.5.7.

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## **17.5 Protective Plates**

### **17.5.1 Metal (screw fixed)**

Protective metal plates (e.g. kick plates, push plates) may be fixed to the faces of the Strebord door design meeting the following criteria:

1. Horizontal plates may be fixed across the full opening width of the closing face and full leaf width of the opening face up to a maximum of 500mm high
2. Vertical plates no wider than 200mm may run for the clear opening height on the closing face (i.e. not return around the face of the door stop) and may run for the full height of the leaf on the opening face
3. The maximum area of plates that may be fitted to the door design must **not** exceed 40% of the clear opening area or 1m<sup>2</sup>, whichever is smaller
4. Plate thickness is limited to 2mm.
5. Plates must be fixed with maximum 25mm long screws at a minimum of 200mm centres along the length of the plates
6. It is permitted to fit unequal areas of plates to each leaf of a double doorset
7. The allowable area of protective metal plates includes signage.

### **17.5.2 Metal (glued)**

Protective metal plates (e.g. kick plates, push plates) may be glue fixed to the faces of the Strebord door design meeting the following criteria:

1. Plates may be fixed across the full opening size of the closing face and full leaf size of the opening face
2. Plates must **not** be restrained by mechanical means, e.g. by building hardware
3. The maximum area of plates that may be fitted to the door design cannot exceed 40% of the clear opening area
4. The plates may be applied to the face of the leaf only, i.e. not the edge of the leaf
5. Plate thickness is limited to 2mm
6. It is permitted to apply these rules to each leaf of a double doorset
7. The allowable area of protective metal plates includes signage.

### **17.5.3 Composite/Plastic**

Protective composites and plastic elements may be face fixed on to the Strebord door design because the door achieved insulation performance:

1. The plates must be fitted within the clear opening width
2. The plates may be screwed or glued to the face of the leaf
3. For double doorsets, the fitting of protective composites and plastic elements may be applied to each leaf separately.

### **17.5.4 Relevant Clauses**

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for protective plates on the face of leaves:

A.5.20, A.5.21, A.5.25.

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## **17.6 Decorative Mouldings**

Additional decorative timber mouldings may be applied to the Strebord door design subject to the following provisos:

1. The mouldings must be timber based
2. One face (i.e. opening or closing) must **not** be covered in mouldings by more than 25% of the leaf area
3. If two faces (i.e. opening and closing) are covered by mouldings, the total surface area of mouldings must **not** exceed 25% on each leaf face
4. In all cases the total mass of the leaf must **not** be increased by more than 25%
5. For double leaf doorsets, the rule may be applied to each leaf separately.

### **17.6.1 Relevant Clause**

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for decorative mouldings on the face of leaves:

A.5.28.

## **18 Intumescent Materials**

### **18.1 General**

The type, location and dimensions of the perimeter intumescent seals must remain as tested for the Strebord door design unless otherwise specified below. See sections 3.2.3.1 and 3.2.3.3 for Pyroplex perimeter intumescent specification and 3.2.3.2 for Lorient perimeter intumescent specification.

### **18.2 Single Leaf Doorsets (closing edge)**

#### **18.2.1 Lorient Intumescent seals**

For single leaf doorsets, the intumescent seals may be fitted in the closing edge of the leaf as per the requirement for the intumescent seals at the meeting edge of the double leaf door in section 3.2.3.2; or the intumescent seals may be fitted in the frame reveal as tested in section 3.2.3.2.

All other details (hanging jamb and head) to remain as specified in section 3.2.3.2.

#### **18.2.2 Pyroplex Intumescent Seals**

For single leaf doorsets, the intumescent seals may be fitted in the closing edge of the leaf as per the requirement for the intumescent seals at the meeting edge of the double leaf door in section 3.2.3.1; or the intumescent seals may be fitted in the frame reveal as tested in section 3.2.3.1 and 3.2.3.3.

All other details (hanging jamb and head) to remain as specified in section 3.2.3.1, and 3.2.3.3 as appropriate.

### 18.3 Double Leaf Doorsets (meeting edge)

It is permitted to change the tested intumescent seal arrangement from the leaf in which it was tested to the opposite leaf because the leaves of the doorset exhibited low distortion. All other details to remain as required for the meeting edge specification in 3.2.3.1 and 3.2.3.2 as appropriate.

### 18.4 Relevant Clauses

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

A.1.3, A.1.4, A.1.5, A.1.6.

## 19 Non-Intumescent Seals

### 19.1 Non-Intumescent Seal Options

1. It is possible to add a non-intumescent seal (draught/smoke/acoustic, etc.) to the Strebor door design providing the seal has a reaction to fire classification of A1 or A2. The seal can be fitted in the leaf, frame or threshold. The door leaf to frame gap must be no larger than 3.5mm and must **not** affect the expansion of the perimeter intumescent seal.
2. It is possible to fit the following tested non-intumescent seals to the perimeter of the Strebor door design:
  - a) Norsound – NOR710 fitted against the stop around the frame reveal (head and jambs)
  - b) Lorient – Batwing fitted against the stop around the frame reveal (head and jambs)
  - c) Pyroplex - Twin Flipper combined intumescent and smoke seal can be fitted around the perimeter of the door leaves as approved for the Pyroplex intumescent seals (see section 3.2.3.1 and 3.2.3.3)

Other than those listed above (a-c) it is **not** possible to fit non-intumescent seals (draught/smoke/acoustic, etc.) to the perimeter of the Strebor door design with a reaction to fire class of B - F.

3. It is possible to fit the following threshold seal to single and double leaf doorsets:
  - Lorient Polyproducts Ltd. IS8010 centrally fitted in the bottom of single or double leaves. The drop seal must be protected with 1mm thick MAP from Lorient Polyproducts Ltd. underneath the drop seal body in the leaf.

#### 19.1.1 Relevant Clauses

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

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

## 20 Adhesives

### 20.1 General

It is possible to substitute the type of adhesive tested in the Strebord design for a different supplier/manufacturer providing the adhesive is of identical composition.

#### 20.1.1 Relevant Clause

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

A.4.17.

## 21 Hardware

### 21.1 General

It is permitted to provide the option for fitting certain items of alternative hardware to the Falcon Panel Products Strebord doorset design and to provide variation to the items tested. The extended scope for the hardware tested and listed in section 3.2.5, is summarised below.

As stated in section C.1 of BS EN 15269-3: 2012, where the suitability of hardware for use on fire doorsets, is to be demonstrated by a successful full size fire test to EN 1634-1 or a small scale fire test to EN 1634-2, the test specimen shall be representative of the intended doorsets' construction and for the required classification period.

It is therefore only permitted to fit alternative items of hardware within the constraints of this EXAP document, unless further test evidence is supplied by the doorset manufacturer. Pending approval of the test evidence by the Notified Body responsible for preparing the EXAP document, the item of hardware may be included within the scope of the EXAP.

### 21.2 Latches/Locks and Strike Plates

The following latch/lock and strike plate arrangements are approved for the Strebord doorset design:

#### 21.2.1 Test Reference RF11143

	Make/Type	Size (mm)	Location	Required intumescent protection
Latch	Euro Spec tubular steel mortice latch	57 x 26 (forend size) 57 x 26 (keep size)	Fitted 1000mm from the threshold of the leaf	See section 3.2.4.1
Furniture	Aluminium lever type handle	100 x 38 (footprint size)	Fitted appropriate to the latch	See section 3.2.4.1
	Flush bolts	150 x 34 (forend size)	Fitted at the top & bottom of the right leaf edge	See section 3.2.4.1

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### 21.2.2 Test Reference RF11171 Revision A

	Make/Type	Size (mm)	Location	Required intumescent protection
Latch	Simplex steel mortice lock/latch with Euro cylinder	235 x 25 (forend size)	Fitted 1050mm from the threshold of the leaf	See section 3.2.4.2
		185 x 24 (keep size)		
Furniture	Steel lever type handle	Ø52 (rose size)	Fitted appropriate to the lock/latch	See section 3.2.4.2
	Lock escutcheon	Ø52 (rose size)	Fitted appropriate to the lock/latch	See section 3.2.4.2
	Flush bolts	195 x 20 (forend size)	Fitted at the top & bottom of the meeting edge of the right leaf	See section 3.2.4.2

### 21.2.3 Test Reference RF12068 Revision A

	Make/Type	Size (mm)	Location	Required intumescent protection
Latch	Arrone 3 lever mortice sashlock	155 x 22 (forend size)	Fitted 982mm from the threshold of the leaf	See section 3.2.4.3
		125 x 24 (keep size)		
Furniture	Aluminium lever type handle	Ø 52 (rose size)	Fitted appropriate to the latch	See section 3.2.4.3

#### Notes:

1. It is possible to change the door handles for alternative surface mounted handles of similar dimensions, but it is **not** possible to fit the latches/locks without a handle
2. It is **not** possible to provide for an alternative function for the latches/locks, i.e. to emergency/panic use.

### 21.2.4 Relevant Clauses

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.

### **21.3 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.

#### **21.3.1 Relevant Clauses**

The following clauses from BS EN 15269-3: 2012 and BS EN 1634-1: 2008 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.

### **21.4 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 door design by  $\pm 200\text{mm}$ , subject to the following proviso:

1. The leaf size must **not** be increased beyond what was tested (see section 9).

#### **21.4.1 Relevant Clauses**

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.

### **21.5 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.

#### **21.5.1 Relevant Clause**

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.

## **21.6 Bolts**

### **21.6.1 Surface Mounted**

The Strebord 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.

### **21.6.2 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 34mm (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 3.2.4.1 or 3.2.4.2

### **21.6.3 Relevant Clauses**

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.

## **21.7 Panic Devices**

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

### **21.7.1 Relevant Clause**

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.

## **21.8 Hinges**

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

### **21.8.1 Tested Hinge Specification**

The following hinge type has been tested and approved for the Strebord door design and forms the basis of the hinge scope given in this Field of Application report.

- Royde and Tucker H101 lift-off hinge – 100mm (h) x 35mm (w) x 3mm (t)

#### **21.8.1.1 Relevant Clauses**

C.1.22, C.1.23

### **21.8.2 Hinge Fixings**

1. The hinges must be fixed with minimum 5No. steel screws
2. All fixing points must be utilised
3. The position of the fixings relative to width of the hinge leaves shall remain the same as tested.

#### **21.8.2.1 Relevant Clauses**

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

C.1.22, C.1.24.

### **21.8.3 Number of Hinges**

It is possible to increase the number of hinges fitted to the door in line with the direct field of application given in BS EN 1634-1.

The direct field of application rules allow an increase in the number of hinges without limitation but do **not** allow a decrease.

The leaves must be fitted with a minimum number of 3 hinges per leaf, which must meet the positioning requirements outlined in section 21.8.6.

#### **21.8.3.1 Relevant Clauses**

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

C.1.27, C.1.28.

### **21.8.4 Hinge Material**

It is **not** permitted to change the material of the tested hinge

#### **21.8.4.1 Relevant Clause**

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for hinge material:  
C.1.30.

## **21.8.5 Alternative Hinges**

### **21.8.5.1 General**

Alternative hinges are **not** permitted without additional test evidence (see section 21.1)

### **21.8.5.2 Relevant Clauses**

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

C.1.29, C.1.30, C.1.31.

## **21.8.6 Hinge Positioning**

It is possible to vary the hinge positioning for the Strebord door design within the following parameters:

1. The position of the top hinge must be no further than 150mm from the top of the door leaf (measured from the top of the hinge)
2. The top hinge may be located between 100mm and 150mm from the top of the leaf (measured from the top of the hinge)
3. The bottom hinge must be no further than 180mm from the bottom of the leaf (measured to the bottom of the hinge)
4. The bottom hinge may be located between 100mm and 180mm from the bottom of the leaf (measured from the bottom of the hinge)
5. The intermediate hinge was tested at 960 - 1000mm from the head of the leaf measured to the top of the hinge. The intermediate hinge may be moved providing this tested distance is **not** increased
6. Door leaves in excess of 2135mm high require 4 hinges, parameters for the top and bottom hinge positions must remain as in points 1, 2, 3 and 4 above. The remaining 2 hinges must be equispaced between the top and bottom hinges
7. It is possible to include an additional hinge located equidistant between two existing hinges.

### **21.8.6.1 Relevant Clauses**

The following clauses 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.

## **21.9 Door Closers**

### **21.9.1 Alternative Door Closers**

Alternative door closers are **not** permitted without additional test evidence (see section 21.1)

### **21.9.2 Door Closer Positioning**

Door closers may be fitted on either face of the door (exposed or unexposed) due to the location of the tested door closers and the proximity to the approved glazed area and the tested unlatched configuration.

### **21.9.3 Relevant Clauses**

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

C.1.40, C.1.43, C.1.44, C.1.45.

## **21.10 Door Viewer**

It is possible to add a door viewer to the Strebor door design meeting the following specification:

1. The door viewer must have a glass lens
2. The diameter cut out for the viewer must **not** exceed 15mm
3. The door viewer may be manufactured from any metal
4. The viewer must be a tight fit within the leaf and fitted within a solid section of core.

### **21.10.1 Relevant Clause**

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

C.1.48.

## **21.11 Alarm Contacts and Proximity Switches**

It is possible to fit fully face fixed alarm contacts and proximity switches to the Strebor door design provided no material is removed from the door leaf or door frame.

### **21.11.1 Relevant Clause**

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for alarm contacts and proximity switches:

C.1.50.

## **21.12 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.
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.

### **21.12.1 Relevant Clauses**

The following clauses 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.

## **21.13 Threshold 'Drop' Seals**

See section 19.1 for threshold drop seal options.

### **21.13.1 Relevant Clause**

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

C.1.52.

## **21.14 Letter Plates**

It is **not** permitted to fit letter plates to the Strebord door design

### **21.14.1 Relevant Clause**

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

C.1.57.

## **21.15 Door Co-ordinators**

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

**Guidance note:** Section 16.2 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.

### **21.15.1 Relevant Clause**

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.

## **21.16 Lock Cylinders**

### **21.16.1 Alternative Manufacturer**

Alternative lock cylinders are **not** permitted without additional test evidence (see section 21.1)

### **21.16.2 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 (see section 21.1)

### **21.16.3 Relevant Clauses**

The following clauses 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.

## **21.17 Electrically Powered Hold Open Devices**

It is **not** permitted to fit electrically powered hold open devices to the Strebord door design. This includes both internal and surface mounted electrically powered hold open devices.

It is also **not** permitted to fit a metal contact on the door and attach the electrically powered hold open device to the wall.

### **21.17.1 Relevant Clause**

The following clauses from BS EN 15269-3: 2012 have been used to consider the possible extended scope of application for electrically powered hold open devices:

C.1.68.

## 22 Leaf/Frame Gaps

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

Location		Dimension
Leaf/frame edge gaps (including meeting edges)		A minimum of 2mm and a maximum of 4mm
Alignment tolerances		Leaves must <b>not</b> be proud of each other or from the door frame by more than 1mm
Threshold	Non combustible threshold (to Reaction to Fire Class A2, fl, s1)	Maximum gap of 6mm

### 22.1 Relevant Clauses

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.

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

The Falcon Panel Products Ltd. Strebord door design must be mounted in the following supporting constructions and using approved attachment techniques:

### 23.1 Supporting Construction

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

The doorset may be hung in a rigid standard supporting construction or a flexible standard supporting construction.

#### 23.1.1 Relevant Clauses

F.1.1, F.1.2

### 23.2 Fixings

The door frame is to be fixed to the supporting construction using a minimum of 4No. steel screws per jamb. The screws are to be appropriate for the substrate of the supporting construction.

The screws are to be minimum size No. 10 x 80mm long located at maximum 800mm centres.

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

#### 23.2.1 Relevant Clauses

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

F.1.3, F.1.4, F.1.5.

### 23.3 Sealing to Structural Opening

The gap between the rear of the door frame and the structural opening must be no wider than 10mm to accommodate the tested fire stopping material.

The gap between the rear of the door frame and the structural opening may be less than 10mm providing the gap is sealed using a previously tested solution at the required width and depth and between the same substrates. The fire stopping material must have been tested to BS EN 1634-1.

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

Approved fire stopping material as tested for the Strebord door design is:

- Rock mineral fibre capped with intumescent acrylic mastic. The fibre is to be inserted between the rear of the frame and tightly packed to leave sufficient depth to insert a 10-15mm deep bead of intumescent acrylic mastic on both faces.

#### 23.3.1 Relevant Clauses

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

F.1.12, F.1.13, F.1.14.

## 24 Application Range – Product Family

The precise scope and design options for the Falcon Panel Products Strebord doorset design, which provide the boundaries for the product family, are defined within this EXAP document.

## 25 Fire Performance Parameters

The fire performance parameters for the range of designs covered in this extended field of application report for the Falcon Panel Products Strebord door design are tabulated below:

<b>Integrity</b>	
Cotton pad	60 (Sixty) minutes
Continuous flaming	60 (Sixty) minutes
Gap gauges	60 (Sixty) minutes
<b>Insulation</b>	
Average	60 (Sixty) minutes
Maximum temperature rise (normal procedure for insulation 2)	60 (Sixty) minutes
Maximum temperature rise (supplementary procedure for insulation 1)	N/A
<b>Radiation</b>	60 (Sixty) minutes

The Falcon Panel Products Strebord door designs 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 BSEN 13501-2.

*The legal validity of this report can only be claimed on presentation of the complete report.*

**26 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:

Signed:

Name:

For and on behalf of: Falcon Panel Products Ltd.

*The legal validity of this report can only be claimed on presentation of the complete report.*



## 27 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, BM TRADA 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.

## 28 Validity

1. This extended field of application document is not valid unless it incorporates the declaration given in Section 26 duly signed by the applicant.

<b>Signature:</b>		
<b>Name:</b>	<b>P N Barker</b>	<b>R A Newman</b>
<b>Title:</b>	Senior Consultant	Principal Test Engineer

Revision A: November 2016. Page 46. Correction of misprints within the table of results.

I hereby confirm that the changes made in this revision are purely to correct a typographical error and no technical changes have been made. Mark Cummings 15<sup>th</sup> November 2016.



*The legal validity of this report can only be claimed on presentation of the complete report.*

## Appendix A

### Calculations

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

Section	Clause	Calculation (RF11143 – Pyroplex Specification)
9	A.3.1, 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 = 13mm distortion against frame towards furnace at 15mins.</p> <p><math>(13/54) \times 100 = 24\%</math></p> <p>Leaf size increase:</p> <p>1 minute 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>((1/60) \times 0.5) + 1 \times 2054 \text{ (mm height)} = 2071\text{mm max. height;}</math></p> <p><math>((1/60) \times 0.5) + 1 \times 928 \text{ (mm width)} = 935\text{mm max. width.}</math></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>928 \times 0.5 = 464\text{mm min. width.}</math></p>

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Section	Clause	Calculation (RF11171 Rev. A – Lorient Specification)
9	A.3.1, 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 I against Point G = 18mm distortion against frame away from furnace at 60mins.</p> <p><math>(18/54) \times 100 = 33\%</math>.</p> <p>No leaf size increase permitted due to no over run achieved during test.</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>915 \times 0.5 = 457\text{mm min. width.}</math></p>

Section	Clause	Calculation (RF12068 Rev. A – Lorient Specification)
9	A.3.1, 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 A against the door frame = 21mm distortion against frame away from furnace at 60mins.</p> <p><math>(21/54) \times 100 = 39\%</math>.</p> <p>No leaf size increase permitted due to category 'A' performance achieved during test.</p> <p>Above dimensions are for the leaves for single leaf doorsets.</p>

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**Appendix B**

**Datasheets for:**

**Falcon Panel Products Ltd.**

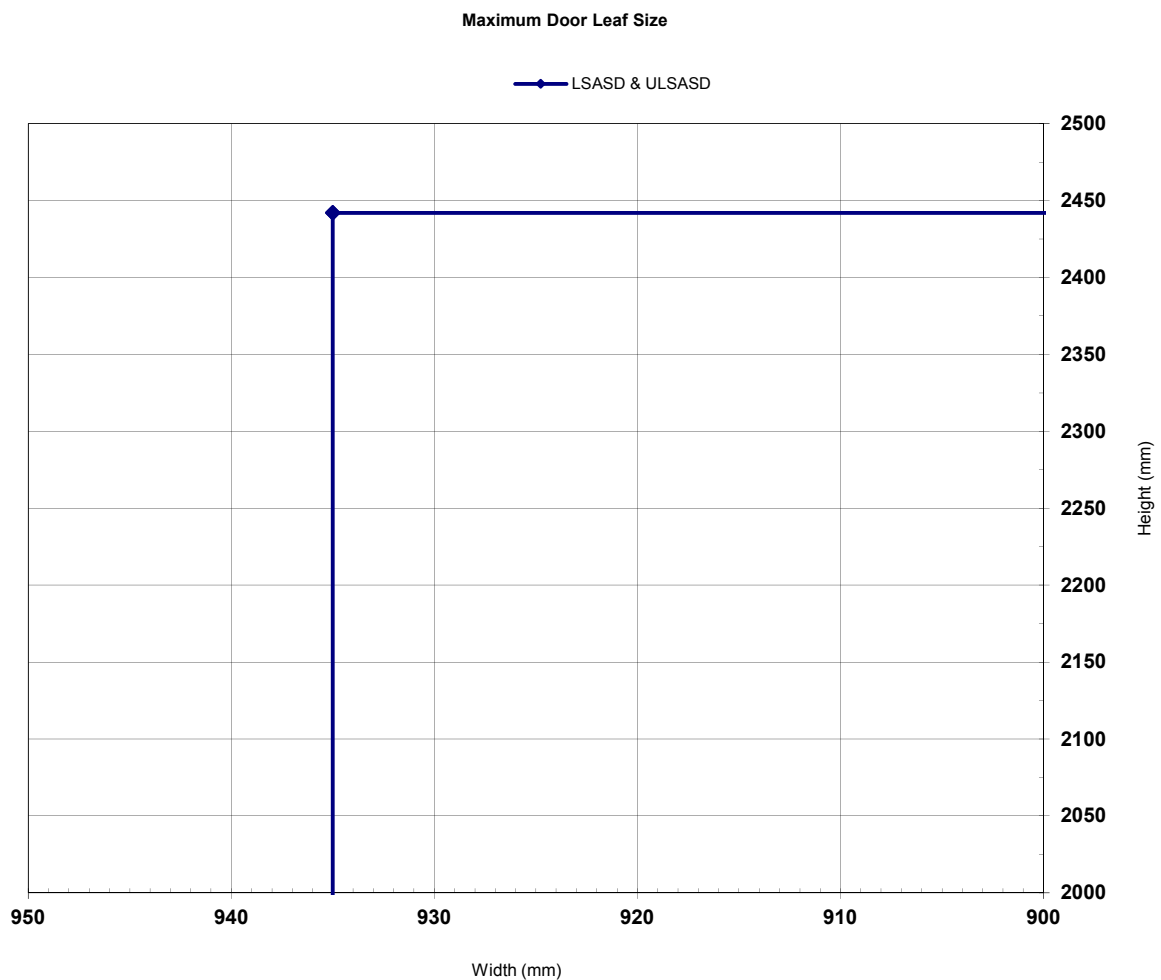
**Strebord Design**

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**Falcon Panel Products Strebord – 60 Minutes Fire Resistance**  
**Latched and Unlatched Single Acting Single Doorsets – Pyroplex Intumescent Specification**  
**(sections 3.2.3.1 and 3.2.3.3)**

Configuration	Maximum leaf sizes		
LSASD & ULSASD	Height (mm)	Width (mm)	
	2442	x	935

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

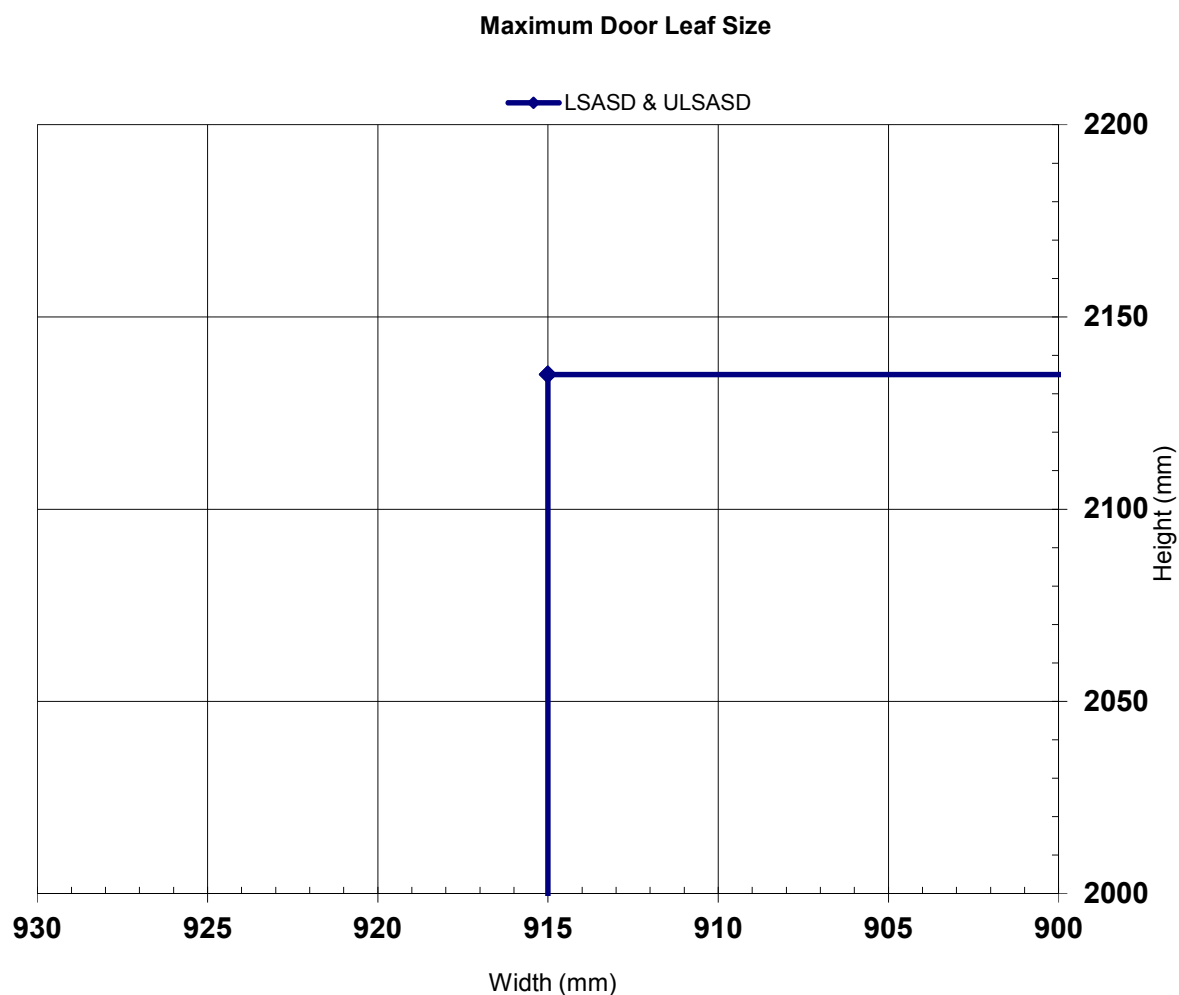


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**Falcon Panel Products Strebord – 60 Minutes Fire Resistance**  
**Latched and Unlatched Single Acting Single Doorsets – Lorient Intumescent Specification**  
**(Section 3.2.3.2)**

Configuration	Maximum leaf sizes		
LSASD & ULSASD	Height (mm)		Width (mm)
	2135	x	915

**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 – 60 Minutes Fire Resistance**

**Latched and Unlatched Equal Leaf Single Acting Double Doorsets**

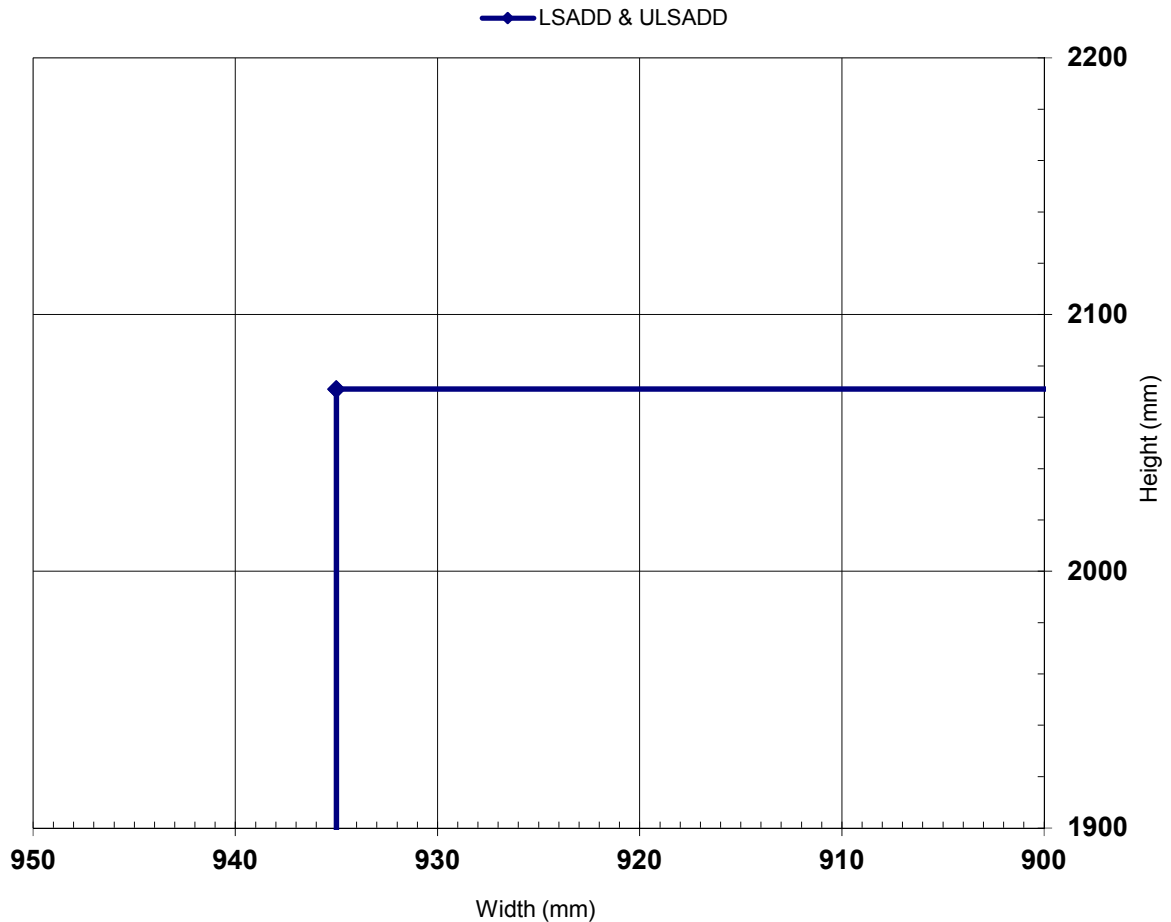
**Pyroplex Intumescent Specification**

**(Section 3.2.3.1)**

Configuration	Maximum leaf sizes		
	Height (mm)		Width (mm)
LSADD & ULSADD	2071	x	935

**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.

**Maximum Door Leaf Size**

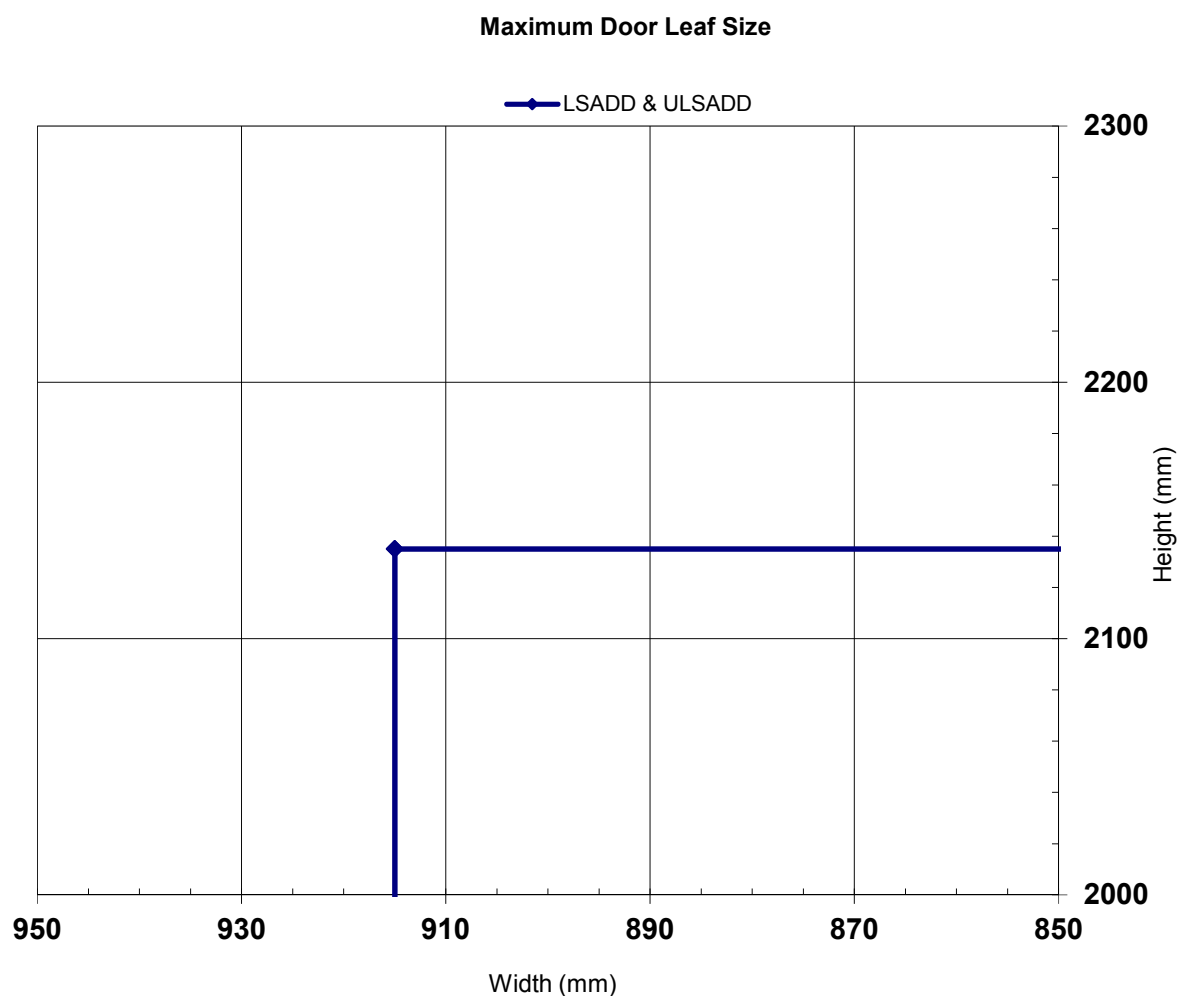


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**Falcon Panel Products Strebord – 60 Minutes Fire Resistance**  
**Latched and Unlatched Equal Leaf Single Acting Double Doorsets**  
**Lorient Intumescent Specification**  
**(Section 3.2.3.2)**

Configuration	Maximum leaf sizes		
LSADD & ULSADD	Height (mm)		Width (mm)
	2135	x	915

**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.

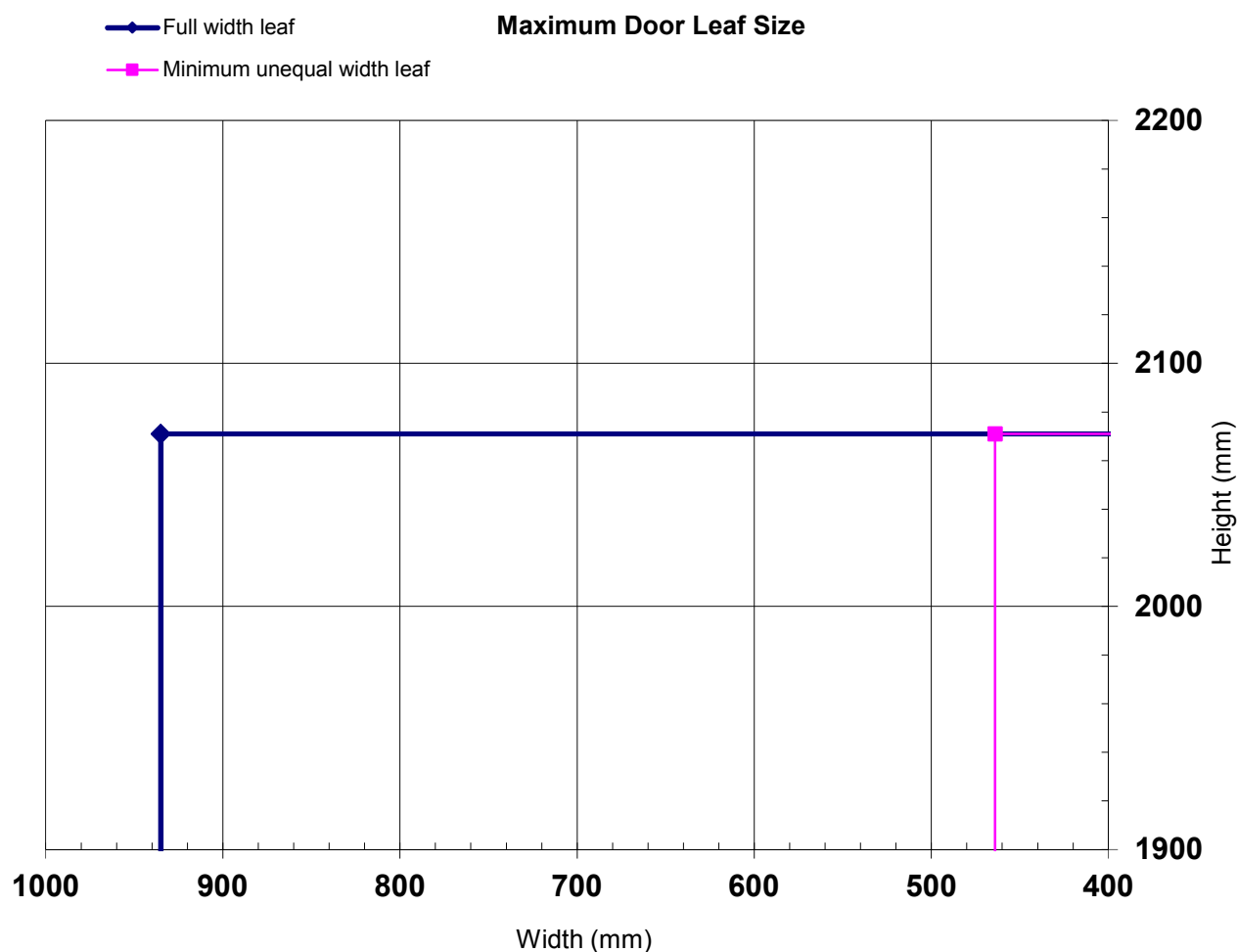


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**Falcon Panel Products Strebord – 60 Minutes Fire Resistance**  
**Latched and Unlatched Unequal Leaf Single Acting Double Doorsets**  
**Pyroplex Intumescent Specification**  
**(Section 3.2.3.1)**

Configuration	Maximum leaf sizes			
		Height (mm)		Width (mm)
LSADD & ULSADD (Unequal leaves)	Full width leaf	2071	x	935
	Unequal leaf minimum	2071	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.

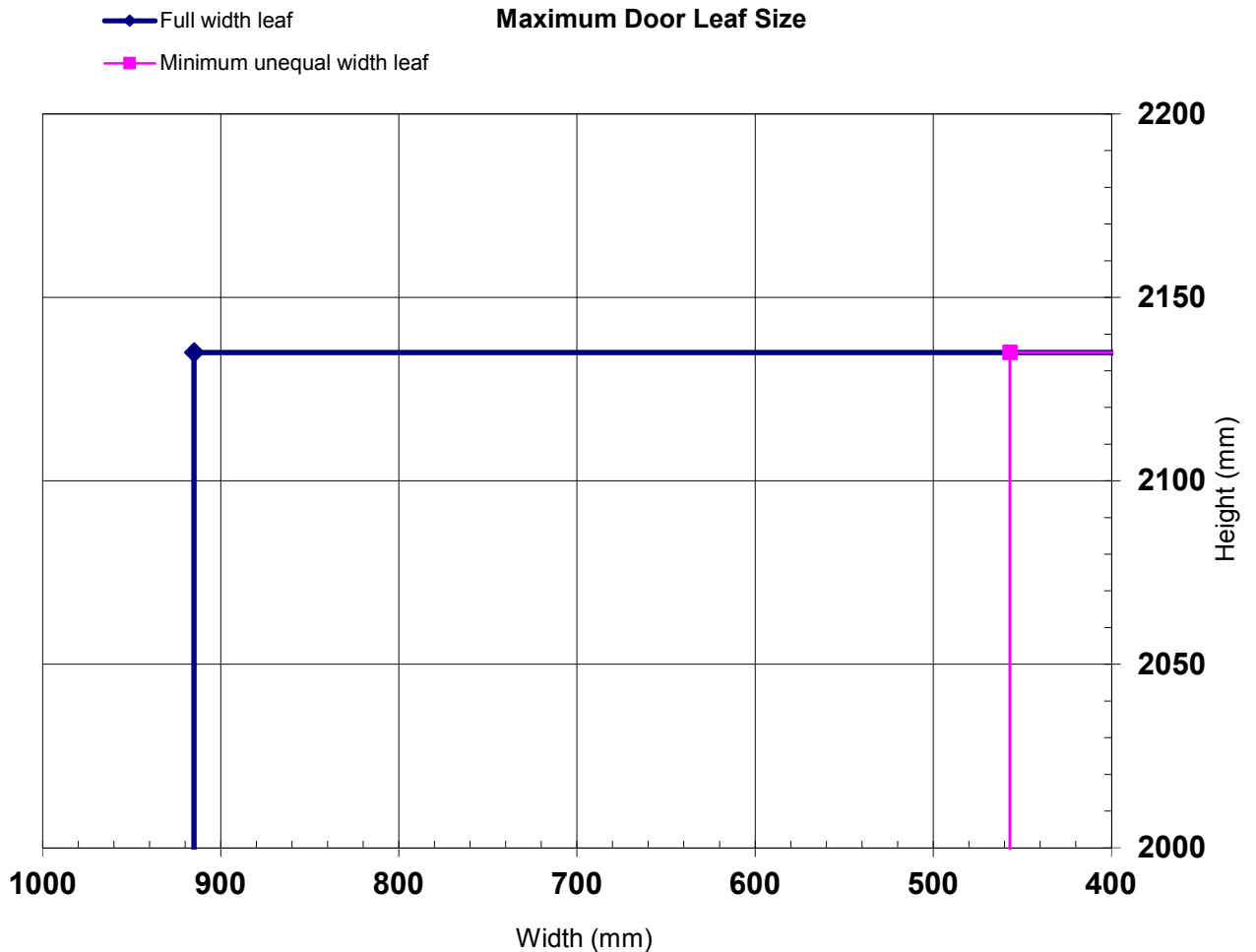


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**Falcon Panel Products Strebord – 60 Minutes Fire Resistance**  
**Latched and Unlatched Unequal Leaf Single Acting Double Doorsets**  
**Lorient Intumescent Specification**  
**(Section 3.2.3.2)**

Configuration	Maximum leaf sizes			
		Height (mm)		Width (mm)
LSADD & ULSADD (Unequal leaves)	Full width leaf	2135	x	915
	Unequal leaf minimum	2135	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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REGISTERED IN ENGLAND NO 3125010  
[testing@bmtrada.com](mailto:testing@bmtrada.com)



[bmtradagroup.com](http://bmtradagroup.com)



**+44 (0) 1494 569800**