

Exova Warringtonfire  
Chiltern House  
Stocking Lane  
Hughenden Valley  
High Wycombe  
Buckinghamshire  
HP14 4ND

T: +44 (0) 1494 569 800  
F: +44 (0) 1494 564 895  
E: [globalfire@exova.com](mailto:globalfire@exova.com)  
W: [www.exova.com](http://www.exova.com)



Testing, calibrating, advising.

**Title:**

Global Assessment  
Blankfort 30 & Blankfort  
30+ Doorsets for 30  
Minutes Fire Resistance.

**Report No:**

Chilt/A12151 Rev D

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**Prepared for:**

**Blankfort Inc**  
25 Avenue Cote  
St. Ephrem de Beauce  
QC  
Canada  
GoM 1Ro

## **Exova Warringtonfire – the new name for BM TRADA**

On December 1<sup>st</sup> 2015, Chiltern International Fire Limited (trading as BM TRADA) commenced trading under the name Exova Warringtonfire.

To coincide with this change, our Technical Reports, Test Reports, Product Assessments, company stationery and marketing collateral have been updated to reflect the Exova Warringtonfire branding.

The validity of all documents previously issued by Chiltern International Fire Limited including certificates, test reports and product assessments is unaffected by this change. A letter to this effect is available upon request by e-mailing [globalfire@exova.com](mailto:globalfire@exova.com)

### **About Exova Warringtonfire**

Exova Warringtonfire is part of the Exova Group one of the world's leading laboratory-based testing groups, trusted by organisations to test and advise on the safety, quality and performance of their products and operations. Headquartered in Edinburgh, UK, Exova operates 143 laboratories and offices in 32 countries and employs around 4,500 people throughout Europe, the Americas, the Middle East and Asia/Asia Pacific. With over 90 years' experience, Exova specialises in testing across a number of key sectors from health sciences to aerospace, transportation, oil and gas, fire and construction.

Be assured that whilst the name will change, your service provision and primary contacts have not. What will be available to you is a wider team of testing experts and an extended range of testing capabilities including structural steelwork testing, ventilation duct and damper testing, ASTM testing, water mist system testing and smoke toxicity testing and covering additionally both the rail and marine sectors.

If you have any questions, please do not hesitate to contact a member of the team and we will do our best to answer them. We appreciate your business to date and we look forward to working with you in the future.

Kind regards

Exova Warringtonfire

T: +44 (0) 1494 569 800

E: [globalfire@exova.com](mailto:globalfire@exova.com)

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## 1 Introduction

This document constitutes a global assessment report relating to Blankfort Inc. Blankfort 30 & Blankfort 30+ fire resisting doorsets. The assessment uses established extrapolation and interpretation techniques in order to extend the scope of application by determining the limits for the design based on the tested constructions and performances obtained. The assessment is an evaluation of the potential fire resistance performance, if the elements were to be tested in accordance with BS 476: Part 22: 1987.

## 2 General Description of Construction

### 2.1 Blankfort 30

The basic tested construction for the 45mm thick Blankfort 30 door leaves comprises the following:

Element	Material	Dimensions (mm)	Min. Density (kg/m <sup>3</sup> )
Core (lamels of one of the following tested species)	Eastern White Pine	Lamel size: Max. 42 wide x 26 - 27 thick	450*
	Grey Pine	Lamel size: Max. 42 wide x 26 - 27 thick	500*
	Spruce	Lamel size: Max. 42 wide x 26 - 27 thick	400-500*
Top rail (leaves over 2150mm high)	Same material as core	100 wide	As core
Facings	Chipboard (particleboard)	9 thick	650*
Lippings	Hardwood	Min. 6 thick	582

\* Stated nominal density; not checked by laboratory.

#### 2.1.1 Leaf thickness

The design may also be produced in 50 – 54mm thick versions as required, providing adjustment is made to the core thickness only. Increasing door thickness whilst maintaining the same design only improves performance.

#### 2.1.2 Core variations

The use of a trilaminated core construction is acceptable based on the testing and assessment given in appendix A

Element	Material	Layers of lamels (no.)	Dimensions (mm)	Min. Density (kg/m <sup>3</sup> )
Core (lamels of one of the following tested species)	Eastern white Pine	3	Lamel size: 24-30 wide x 9 thick	450*
	Grey Pine	3	Lamel size: 24-30 wide x 9 thick	500*
	Spruce	3	Lamel size: 24-30 wide x 9 thick	400-500*

### 2.1.3 Facing variations

MDF with a density of 720 kg/m<sup>3</sup> is permitted with associated limitation on leaf size, see section 11.1.

## 2.2 Blankfort 30+

The basic tested construction for 45mm thick Blankfort 30+ door leaves comprises the following:

Element		Material	Dimensions (mm)	Min. Density (kg/m <sup>3</sup> )
Core (lamels of one of the following tested species)		Eastern White Pine	Lamel size: Max. 30 wide x 21 thick	450*
		Grey Pine	Lamel size: Max. 30 wide x 21 thick	500*
		Spruce	Lamel size: Max. 30 wide x 21 thick	400-500*
Top rail (leaves over 2150mm high)		Same material as core	100 wide	As core
Facings	Outer	MDF	3 thick	700*
	Inner	Chipboard (particleboard)	9 thick	650*
Lippings		Hardwood	Min. 6 thick	582

\* Stated nominal density; not checked by laboratory

### 2.2.1 Leaf thickness

The design may also be produced in 50 – 54mm thick versions as required, providing adjustment is made to the core thickness only. Increasing door thickness whilst maintaining the same design only improves performance.

### 2.2.2 Core variations

The use of a trilaminated core construction is acceptable based on the testing and assessment given in appendix A

Element	Material	Layers of lamels (no.)	Dimensions (mm)	Min. Density (kg/m <sup>3</sup> )
Core (lamels of one of the following tested species)	Eastern white Pine	3	Lamel size: 24-30 wide x 7 thick	450*
	Grey Pine	3	Lamel size: 24-30 wide x 7 thick	500*
	Spruce	3	Lamel size: 24-30 wide x 7 thick	400-500*

### 2.2.3 Facing variations

The following variations in facings are permitted see Section 11.2 for justification.

Element	Species/Type	Dimensions (mm)	Min. Density (kg/m <sup>3</sup> )
Facings	Chipboard	2.5 to 3	640

	Plywood	2.5 to 3	640
	MDF	2.5 to 3	700

The core thickness must be increased accordingly if the facing is reduced to below 3mm so as to maintain an overall leaf thickness of 45mm.

### 3 Leaf Sizes

The approval for increased leaf dimensions is based on the tests listed in appendix A and takes into account the margin of over-performance above 30 minutes integrity for the design and the characteristics exhibited during test. A data sheet specifying the maximum assessed leaf size and a graph showing the permitted gradient between maximum height and width is contained in appendix E.

Doorsets with reduced dimensions are deemed to be less onerous. Therefore, doors with dimensions which are less than those tested and stated in appendix E may be manufactured.

### 4 Configuration and Orientation

Based on the test evidence listed in appendix A, this assessment covers the following doorset configuration:

Abbreviation	Description
LSASD & ULSASD	Latched & unlatched, single acting, single doorsets
DASD	Double acting, single doorsets
LSASD+OP & ULSASD+OP	Latched & unlatched, single acting, single doorsets + overpanel
DASD+OP	Double acting, single doorset + overpanel
LSADD & ULSADD	Latched & unlatched, single acting, double doorsets
DADD	Double acting, double doorsets
LSADD+OP & ULSADD+OP	Latched & unlatched, single acting, double doorsets + overpanel
DADD+OP	Double acting, double doorsets + overpanel

Unequal leaf double doorsets are covered by this assessment with no restriction on the smaller leaf dimension.

#### 4.1 Orientation

The primary fire resistance tests for this design were all conducted with the doorset hung such that the door leaf opened towards the fire, which is considered the most onerous orientation in terms of fire resistance performance. Based on this testing, assessment is made that doorsets to this design may be hung to open either away from or towards the fire risk side of the doorset.

## 5 Leaf Size Adjustment

Door leaves to this design may be altered as follows:

Element	Reduction
Leaf	The manufactured size of the leaf may be reduced in height or width without restriction, but reduction in height must be from the bottom edge only with the top rail dimension (where present) remaining unaltered.
Lipping	The dimensions stated in section 10 may be reduced by 20% for fitting purposes. If reductions in leaf width or height are made, lippings must be replaced and bonded correctly to maintain the minimum specified lipping dimensions.

## 6 Overpanels

### 6.1 Solid

Overpanels of the same construction as the door leaves may be used either flush with the leaf heads or when separated by a transom. The overpanel must be fully contained within the door frame (see following diagram).

If a transom is required to separate the leaf heads from the overpanel, it must be to the same specification as the door frame (see the note under the table in section 8.1).

Door frame joints between the transom and frame jambs must be either mortise and tenon joints or butt joints (see section 8.3).

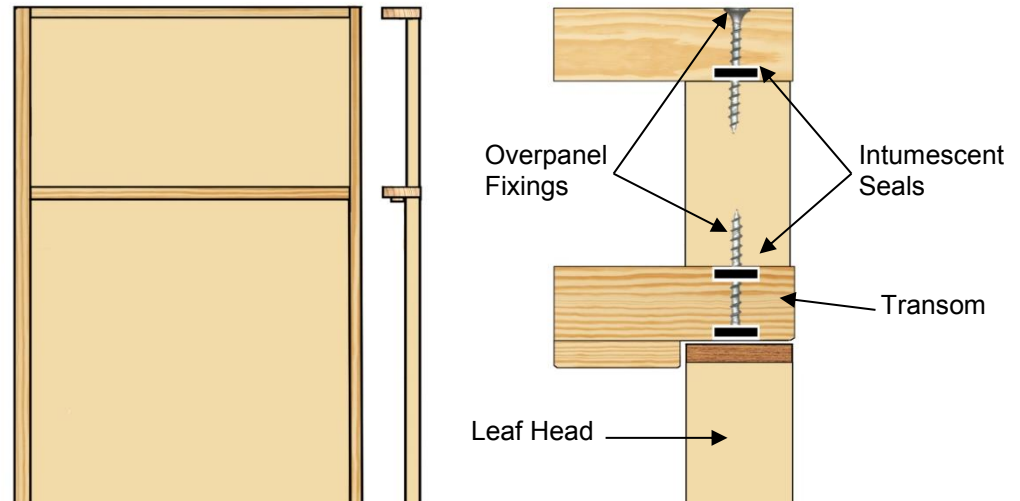
Methods require joints to be tight, with no gaps, and require mechanical fixing with the appropriate size ring shank nails or screws. Butt joints must be additionally bonded with urea formaldehyde or equivalent.

Overpanels must be fixed by screwing through the rear of the frame with steel screws passing at least 30mm into the centre line of the overpanel. Fixings must be no more than 100mm from each corner and a maximum of 250mm centres in between.

The intumescent seals specified for the jambs in appendix E must also be fitted to all four edges of the overpanel. The seals may be fitted in the overpanel edges or alternatively in the frame reveal.

Maximum overpanel dimensions are as follows:

Configuration	Height (mm)	Width (mm)
Single doorsets	2000	Overall door width
Double doorsets	1500	Overall door width



**Note:** Drawing is representative of doorset construction; actual construction must comply with the specification contained in this document.



## 7 Glazed Fanlights & Side Screens

### 7.1 General

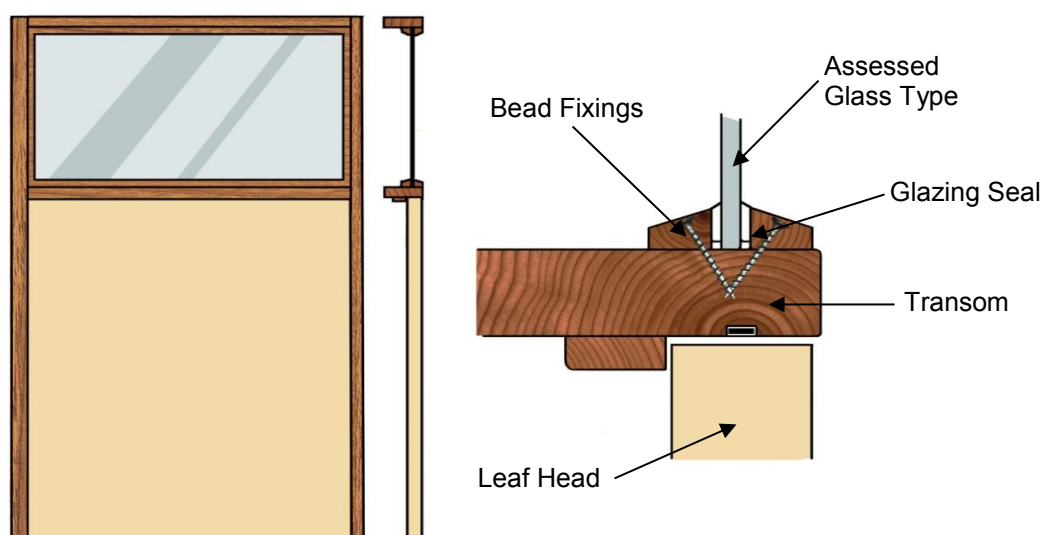
Doorsets with timber frames may include glazed fanlights or side screens. The timber frame and glazing beads must be hardwood with a minimum density of  $640\text{kg/m}^3$ , whilst the frame section for the transom must be a minimum of  $70\text{mm} \times 44\text{mm}$ . All other elements of the timber door frame and transom assembly must comply with the specifications contained in section 9.

The maximum assessed fanlight and side screen dimensions are detailed in the table below, subject to the following restriction:

- The glazing system and glass must be able to demonstrate adequate performance when tested as a window or screen in accordance with BS 476: Part 22: 1987 or BS EN 1634-1, at the pane dimensions to be installed.

Screen Element	Configuration	Height (mm)	Width (mm)
Fanlight	Single & double doorsets	$\leq 600$	Overall door width
Side Screen	Single & double doorsets	Overall door height	$\leq 600$

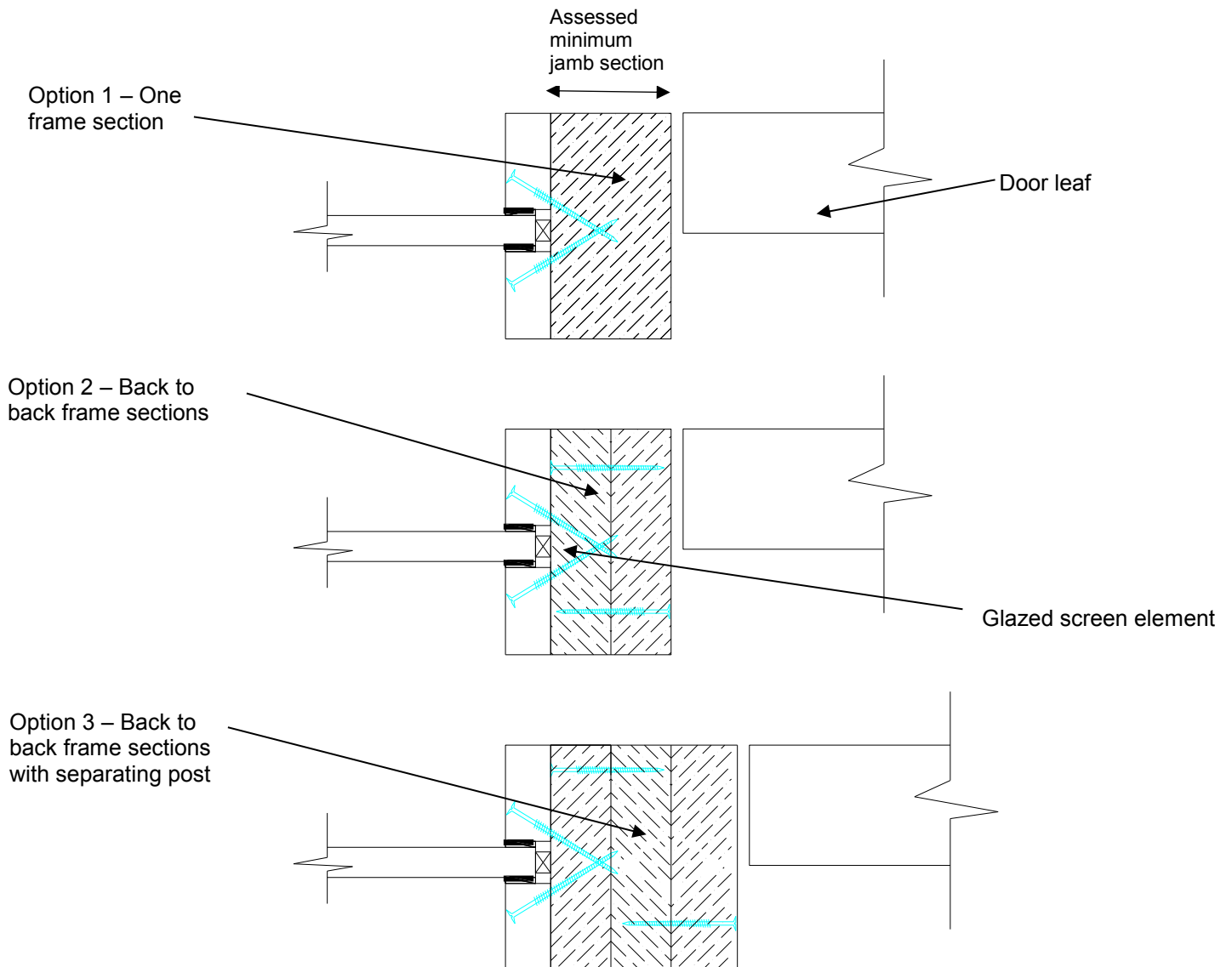
**NB:** MDF and softwood frame doorsets are not assessed for glazed fanlights or side screens without specific test evidence (see section 9 for options).



**Note:** Drawing is representative of doorset construction only; actual construction must comply with the specification contained in this document.

## 7.2 Common Frame Sections

The following drawings depict possible constructions of common frame sections for the screens and door frame jambs:



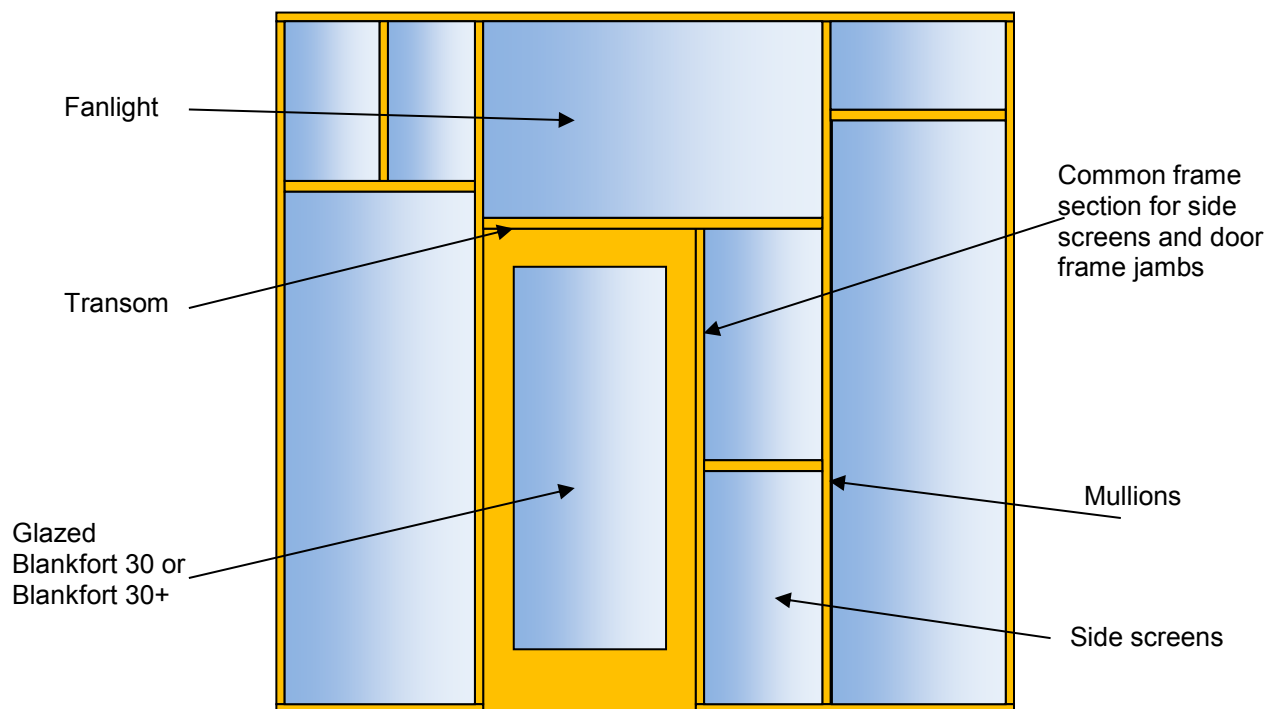
When using separate sections of timber, as shown above (option 2 and 3), each section must be suitably fixed to one another using appropriate steel screw fixings and glued using one of the adhesives approved for the lipping in the adhesive section of this report. Screws must be fixed at 600mm centres and locate to approx 2/3 depth of the adjacent timber section. The overall frame section and material must match that given in this assessment for each glass type and glazing specification. Joints must be tight with no gaps.

It is permitted to include maximum 3mm (w) x 3mm (d) quirks at the junction of each timber section for option 2 and 3.

Drawing is representative of each type of common frame member; actual construction in terms of intumescent seal location and material, etc. must be as the text within this document specifies.

### 7.3 Screen Elevations

The following drawing depicts a possible door and glazed screen configuration. The diagram is for information only. All details to remain as specified herein:



### 7.4 Specific Glass Types

The following sections provide a scope of approval for different glass types when used for glazing fanlights or side screens, it is based on the Supplementary data in Appendix A. Fanlights may be used in conjunction with side screens subject to the specification given for each of the glass types.

Unless stated in the following sections, all construction details for the doorset must remain as specified in the main assessment.

#### 7.4.1 Pyroguard EW30 (7mm thick) – Pyroguard UK Ltd

Transom/mullion details:

- Minimum 75mm deep x 40mm thick softwood or hardwood (minimum density 510kg/m<sup>3</sup>). This timber section can be used for both door jambs and transoms above doors included within screens and for the perimeter framing of the screen and the transoms and mullions separating individual panes of glass within the fanlights and side screens.

Glazing details:

- 15mm high x 32mm deep hardwood beads (minimum density 640kg/m<sup>3</sup>). The bead shape may be square or incorporate a 10 - 15° chamfer
- 50mm long size 6 - 8 steel wood screws at maximum of 70mm from corners and 200mm centres inserted at 30° to the plane of the glass
- 10mm x 2mm Interdens located between the glass and the beads

- 5mm high x 7mm wide x 40mm long hardwood or non-combustible setting blocks with 5mm expansion allowance to all edges.

Maximum single pane dimensions:

Screen Element		Height (mm)	Width (mm)
Fanlight	From:	1074	808
	To:	808	2600
Side screen		2500	1000

- The pane dimensions given above represent the maximum permitted width against maximum permitted height. Panes with smaller dimensions are acceptable
- Transoms supporting single panes above 900mm wide must be centrally supported by at least one vertical mullion.

Multiple panes:

- The fanlights and side screens may comprise multiple panes of glass providing the total doorset and screen assembly does not exceed 2950mm high and the transom/mullion restrictions above are complied with.

Leaf configurations and screen dimensions:

- The total width of the screen assembly is unlimited
- The screen assembly may only contain 1No. single or double leaf doorset.

#### 7.4.2 Pyroguard EW30 MAXI (11mm thick) – Pyroguard UK Ltd.

Transom/mullion details:

- Minimum 75mm deep x 40mm thick hardwood (minimum density 640kg/m<sup>3</sup>). This timber section can be used for both door jambs and transoms above doors included within screens and for the perimeter framing of the screen and the transoms and mullions separating individual panes of glass within the fanlights and side screens.

Glazing details:

- 20mm high x 30mm deep hardwood beads (minimum density 640kg/m<sup>3</sup>). The bead shape may be square or incorporate a 10 - 15° chamfer
- 50mm long size 6 - 8 steel wood screws at maximum of 70mm from corners and 200mm centres inserted at 30° to the plane of the glass
- 10mm x 2mm Interdens located between the glass and the beads
- 5mm high x 11mm wide x 40mm long hardwood or non-combustible setting blocks with 5mm expansion allowance to all edges.

Maximum single pane dimensions:

Screen Element		Height (mm)	Width (mm)
Fanlight	From:	967	2525
	To:	808	3000
Side screen		2700	1500

- The pane dimensions given above represent the maximum width against maximum height. Panes with smaller dimensions are acceptable.

Multiple panes:

- The fanlights and side screens may comprise multiple panes of glass providing the total doorset and screen assembly does not exceed 2950mm high and the transom/mullion restrictions above are complied with.

Leaf configurations and screen dimensions:

- The total width of the screen assembly is unlimited
- The screen assembly may only contain 1No. single or double leaf doorset.

#### 7.4.3 Pyroguard EI30 (15mm thick) – Pyroguard UK Ltd.

Transom/mullion details:

- Minimum 80mm deep x 40mm thick hardwood (minimum density 640kg/m<sup>3</sup>). This timber section can be used for both door jambs and transoms above doors included within screens and for the perimeter framing of the screen and the transoms and mullions separating individual panes of glass within the fanlights and side screens.

Glazing details:

- 20mm high x 23mm deep hardwood beads (minimum density 640kg/m<sup>3</sup>). The bead shape may be square or incorporate a 10 - 15° chamfer;
- 50mm long size 6 - 8 steel wood screws at maximum of 70mm from corners and 200mm centres inserted at 30° to the plane of the glass;
- 7mm x 2mm Egopren glazing tape located between the glass and the beads;
- 15mm x 2mm Kerafix Pan 200 edge seal fitted around edge of glass;
- 3mm high x 15mm wide x 80mm long hardwood or non-combustible setting blocks with 5mm expansion allowance to all edges.

Maximum single pane dimensions:

Screen Element		Height (mm)	Width (mm)
Fanlight		350	2890
Side screen	From:	2520	225
	To:	1141	1100

- The pane dimensions given above represent the maximum width against maximum height. Panes with smaller dimensions are acceptable;
- Transoms supporting single panes above 1100mm wide must be centrally supported by at least one vertical mullion.

Multiple panes:

- The fanlights and side screens may comprise multiple panes of glass providing the total doorset and screen assembly does not exceed 2950mm high and the transom/mullion restrictions above are complied with.

Leaf configurations and screen dimensions:

- The total width of the screen assembly is unlimited;
- The screen assembly may only contain 1No. single or double leaf doorset.

#### 7.4.4 Pyranova (15mm thick) – Schott Ltd.

Transom/mullion details:

- Minimum 68mm deep x 80mm thick softwood or hardwood (minimum density 400kg/m<sup>3</sup>). This section must be used for door jambs and transom above head of door leaves;
- Minimum 68mm deep x 40mm thick softwood or hardwood (minimum density 400kg/m<sup>3</sup>) can be used for the perimeter framing of the screen and the transoms and mullions separating individual panes of glass within the fanlights and side screens.

Glazing details:

- 20mm high x 23.5mm deep hardwood beads (minimum density 640kg/m<sup>3</sup>). The bead shape may be square or incorporate a 10 - 15° chamfer
- 40mm long size 6 - 8 steel wood screws at maximum of 70mm from corners and 200mm centres inserted at 30° to the plane of the glass
- 8mm x 3mm closed cell foam glazing tape located between the glass and the beads
- 3mm high x 15mm wide x 80mm long hardwood or non-combustible setting blocks.

Maximum single pane dimensions:

Screen Element	Height (mm)	Width (mm)
Fanlight	425	2280
Side screen	2264	350

- The pane dimensions given above represent the maximum width against maximum height. Panes with smaller dimensions are acceptable;
- Transoms supporting single panes above 1100mm wide must be centrally supported by at least one vertical mullion.

Multiple panes:

- The fanlights and side screens may comprise multiple panes of glass providing the total doorset and screen assembly does not exceed 2950mm high and the transom/mullion restrictions above are complied with.

Leaf configurations and screen dimensions:

- The total width of the screen assembly is unlimited
- The screen assembly may only contain 1No. single or double leaf doorset.

#### 7.4.5 Pyroshield 2 (6mm thick) – Pilkington Ltd.

Transom/mullion details:

- Minimum 80mm deep x 44mm thick softwood or hardwood (minimum density 510kg/m<sup>3</sup>). This timber section can be used for both door jambs and transoms above doors included within screens and for the perimeter framing of the screen and the transoms and mullions separating individual panes of glass within the fanlights and side screens.

Glazing details:

- 15mm high x 20mm deep hardwood beads (minimum density 640kg/m<sup>3</sup>) with an 18° chamfer
- 40mm long size 6 - 8 steel wood screws at maximum of 50mm from corners and 150mm centres inserted at 45° to the glass
- 10mm x 2mm Interdens located between the glass and the beads
- 3mm high x 6mm wide x 40mm long hardwood or non-combustible setting blocks fitted at 300mm centres along bottom edge of glass with 3mm expansion allowance to all edges.

Maximum single pane dimensions:

Screen Element	Height (mm)	Width (mm)
Fanlight	810	1830
Side screen	2040	485

- The pane dimensions given above represent the maximum permitted width against maximum permitted height. Panes with smaller dimensions are acceptable.

Multiple panes:

- The fanlights and side screens may comprise multiple panes of glass providing the total doorset and screen assembly does not exceed 2950mm high and the transom/mullion restrictions above are complied with.

Leaf configurations and screen dimensions:

- The total width of the screen assembly is unlimited
- The screen assembly may only contain 1No. single or double leaf doorset.

#### 7.4.6 Pyrodur 30-104 (7mm thick) – Pilkington Ltd.

Transom/mullion details:

- Minimum 80mm deep x 44mm thick hardwood (minimum density 640kg/m<sup>3</sup>). This timber section can be used for both door jambs and transoms above doors included within screens and for the perimeter framing of the screen and the transoms and mullions separating individual panes of glass within the fanlights and side screens.

Glazing details:

- 20mm high x 20mm deep hardwood beads (minimum density 640kg/m<sup>3</sup>) with a 15° chamfer;
- 40mm long size 6 - 8 steel wood screws at maximum of 50mm from corners and 150mm centres inserted at 30° to the glass;
- 20mm x 2mm Interdens located between the glass and the beads;
- 3mm high x 6mm wide x 40mm long hardwood or non-combustible setting blocks fitted at 300mm centres along bottom edge of glass with 3mm expansion allowance to all edges.

Maximum single pane dimensions:

Screen Element	Height (mm)	Width (mm)
Fanlight	810	1670
Side screen	2057	956

- The pane dimensions given above represent the maximum permitted width against maximum permitted height. Panes with smaller dimensions are acceptable.

Multiple panes:

- The fanlights and side screens may comprise multiple panes of glass providing the total doorset and screen assembly does not exceed 2950mm high and the transom/mullion restrictions above are complied with.

Leaf configurations and screen dimensions:

- The total width of the screen assembly is unlimited
- The screen assembly may only contain 1No. single or double leaf doorset.

#### 7.4.7 Pyrodur 60-10 (10mm thick) – Pilkington Ltd.

Transom/mullion details:

- Minimum 80mm deep x 44mm thick hardwood (minimum density 640kg/m<sup>3</sup>). This timber section can be used for both door jambs and transoms above doors included within screens and for the perimeter framing of the screen and the transoms and mullions separating individual panes of glass within the fanlights and side screens.

Glazing details:

- 20mm high x 20mm deep hardwood beads (minimum density 640kg/m<sup>3</sup>) with a 15° chamfer
- 40mm long size 6 - 8 steel wood screws at maximum of 50mm from corners and 150mm centres inserted at 30° to the glass
- 20mm x 2mm Interdens located between the glass and the beads
- 3mm high x 6mm wide x 40mm long hardwood or non-combustible setting blocks fitted at 300mm centres along bottom edge of glass with 3mm expansion allowance to all edges.

Maximum single pane dimensions:

Screen Element	Height (mm)	Width (mm)
Fanlight	810	1670
Side screen	2057	956

- The pane dimensions given above represent the maximum permitted width against maximum permitted height. Panes with smaller dimensions are acceptable.



Multiple panes:

- The fanlights and side screens may comprise multiple panes of glass providing the total doorset and screen assembly does not exceed 2950mm high and the transom/ mullion restrictions above are complied with.

Leaf configurations and screen dimensions:

- The total width of the screen assembly is unlimited
- The screen assembly may only contain 1No. single or double leaf doorset.

#### 7.4.8 Pyrostop 30-10 (15mm thick) – Pilkington Ltd.

Transom/mullion details:

- Minimum 95mm deep x 44mm thick hardwood (minimum density 640kg/m<sup>3</sup>). This timber section can be used for both door jambs and transoms above doors included within screens and for the perimeter framing of the screen and the transoms and mullions separating individual panes of glass within the fanlights and side screens.

Glazing details:

- 20mm high x 37mm deep hardwood beads (minimum density 640kg/m<sup>3</sup>). Can be square or chamfered
- 60mm long size 6 - 8 steel wood screws at maximum of 50mm from corners and 150mm centres inserted at 45° to the glass
- 12mm x 3mm Hodgsons Sealants Firestrip 30 located between the glass and the beads
- 5mm high x 15mm wide x 40mm long hardwood or non-combustible setting blocks fitted at 300mm centres along bottom edge of glass with 5mm expansion allowance to all edges.

Maximum single pane dimensions:

Screen Element	Height (mm)	Width (mm)
Fanlight	733	1001
Side screen	2870	1366

- The pane dimensions given above represent the maximum permitted width against maximum permitted height. Panes with smaller dimensions are acceptable.

Multiple panes:

- The fanlights and side screens may comprise multiple panes of glass providing the total doorset and screen assembly does not exceed 2950mm high and the transom/mullion restrictions above are complied with.

Leaf configurations and screen dimensions:

- The total width of the screen assembly is unlimited
- The screen assembly may only contain 1No. single or double leaf doorset.

## 8 Glazing

### 8.1 General

The doorset design has demonstrated that it is capable of tolerating glazed apertures, whilst providing a margin of over performance. The maximum total assessed glazed area is 1.92m<sup>2</sup>, which may be distributed using multiple panes, with a maximum single pane area of 1.32m<sup>2</sup>.

Glazing is acceptable within the following parameters:

### 8.2 Assessed Glazing Systems

The glazing system must be one of the following tested proprietary systems:

Product	Manufacturer	Max. Area (m <sup>2</sup> )
1. Therm-A-Strip 30	Intumescent Seals Ltd.	1.32
2. Therm-A-Glaze 45	Intumescent Seals Ltd.	1.32
3. Fireglaze 30	Sealmaster Ltd.	1.32
4. Firestrip 30	Hodgsons Sealants Ltd.	1.32
5. Pyroglaze 30	Mann McGowan Ltd.	1.32
6. System 36 Plus	Lorient Polyproducts Ltd.	1.32
7. Flexible Figure 1 (FF1)	Lorient Polyproducts Ltd.	1.32
8. R8193	Pyroplex Ltd.	1.32
9 FG30 <sup>1</sup>	Pyroplex Ltd	0.8

**Note 1** to be used in conjunction with assessed glasses 17-19 given below

### 8.3 Assessed Glass Products

Assessed glass types are as follows:

Product	Manufacturer	Thickness (mm)	Max. Area (m <sup>2</sup> )
1. Fivestar (see note 2)	Vetrotech St-Gobain	5	0.8
2. Pyroshield	Pilkington Ltd.	6 & 7	1.32
3. Pyroshield 2	Pilkington Ltd.	6 & 7	1.32
4. Pyroswiss 'Classic' (see note 2)	Vetrotech St-Gobain	6	0.8
5. Pyran S	Schott Glass Ltd.	6	1.32
6. Pyrostem	Pyroguard UK Ltd.	6	1.32
7. Pyroguard EW30	Pyroguard UK Ltd.	7	0.87
8. Pyranova S3.07	Schott Glass Ltd.	7	1.26
9. Pyrobelite 7	AGC Flat Glass UK Ltd.	7	1.32
10. Pyrodur 30-104	Pilkington Ltd.	7	1.32
11. Pyrodur 60-10	Pilkington Ltd.	10	1.32
12. Pyroguard EW MAXI	Pyroguard UK Ltd.	11	1.32
13. Pyranova 15-S2.0	Schott Glass Ltd.	11	1.32
14. Pyrobelite 12	AGC Flat Glass UK Ltd.	12	1.32
15. Pyrodur 60-20	Pilkington Ltd.	13	1.32
16. Swissflam Lite	Vetrotech St-Gobain	14	1.32

17. Pyroguard EI30	Pyroguard UK Ltd	15	1.32
18. Pyrostop 30-10	Pilkington Ltd.	15	1.32
19. Pyrobel 16	AGC Flat Glass UK Ltd.	16	1.32

**Notes:**

1. All glass types must be fitted strictly in accordance with the manufacturers' tested details/installation requirements, particularly with reference to suitable tolerances for expansion of the glass pane
2. 6mm Pyroswiss and Fivestar manufactured by Vetrotech may only be used with glazing system 4 (Firestrip 30) listed in section 8.2
3. Glass types 13 and 16 - 19 are fully insulating for 30 minutes in terms of the criteria set out in BS 476: Part 20: 1987.

## 8.4 Glazing Beads & Installation

Glazing beads must be from hardwood as specified in the following table:

Material	Profile	Min. Density (kg/m <sup>3</sup> )	Application
Hardwood	Splayed	640	All proprietary systems specified in section 8.2 and all glass types listed in section 8.3 and detailed in appendix B
Hardwood	Square	640	All proprietary systems specified in section 8.2 with glass types 9 - 19 listed in section 8.3

Sectional drawings detailing the tested and approved glazing system are contained in appendix A.

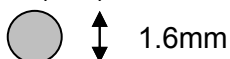
**Notes:**

1. Glazing beads must be retained in position with 40mm long steel pins or 40mm long No. 6 - 8 screws, inserted at 35 - 40° to the plane of the glass (or perpendicular to the bead splay) at no more than 50mm from each corner and at 150mm maximum centres.
2. The following minimum pin specification is permitted and is considered suitable for gun (pneumatically) fired applications:

2.1 Option 1 – Round, Oval and Rectangular shaped pins:

- Minimum Standard Wire Gauge (SWG) 16
- Minimum cross section area of 2.03mm<sup>2</sup>
- Minimum linear dimension 1.6mm in any direction

Round pin diameter (mm) = minimum 1.6mm



Oval/rectangular pin minimum diameter linear dimension = 1.6mm



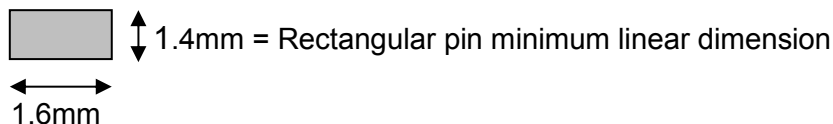
1.6mm



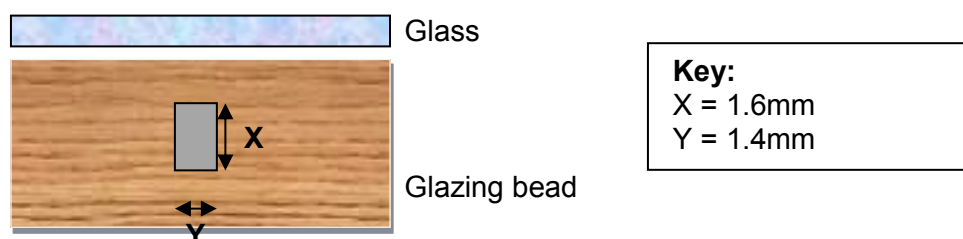
1.6mm

## 2.2 Option 2 – Rectangular shaped pins:

- Minimum Standard Wire Gauge (SWG) 16
- Minimum cross section area of 2.24mm<sup>2</sup>
- Minimum linear dimension 1.4mm in any direction



The following plan view illustrates the required orientation of rectangular pins in relation to the plane of the glass, showing the 1.6mm (long) dimension oriented perpendicular to the glass, where possible:



### Note:

There are many pins/brads on the market which are sold as SWG 16 but are often below the minimum dimensions stated above. The use of these pins is not covered by the scope of this assessment

3. Glazed openings must not be less than 100mm from any door edge. Multiple apertures are acceptable within the permitted glazed area, with a minimum dimension of 80mm of core between apertures
4. A square bead profile may be used as an alternative to the splayed beads subject to the restricted glass types and glazing systems specified in the table above. See appendix A for square bead options
5. Aperture shape is not restricted, providing the glazing system and beads are compatible with that shape
6. All timber for glazing beads must be hardwood of straight grained joinery quality, free from knots, splits and checks

7. False timber beads may be bonded to the glass face. Suitable glass for this application is restricted to types 9 - 11 & 13 - 19. One of the following intumescent glazing products must be used:

Glazing System	Manufacturer
1. Therm-A-Strip 30	Intumescent Seals Ltd.
2. Fireglaze 30	Sealmaster Ltd
3. Firestrip 30	Hodgsons Sealants Ltd.
4. Envirograf Product 77 – G10/10	Intumescent Seals Ltd.
5. Intumescent mastic or silicone tested for glazing applications to BS 476: Part 22: 1987 or BS EN 1634-1	Various

**Note:** Seals for false glazing beads must be a minimum of 10mm wide x 0.5 - 3mm thick. Preformed strip systems 1 - 4 may be self-adhesive and grooved into the rear of the glazing bars.

## 9 Door Frames

### 9.1 Door Frame Construction

Door frames for these designs may be timber or MDF, and constructed as follows:

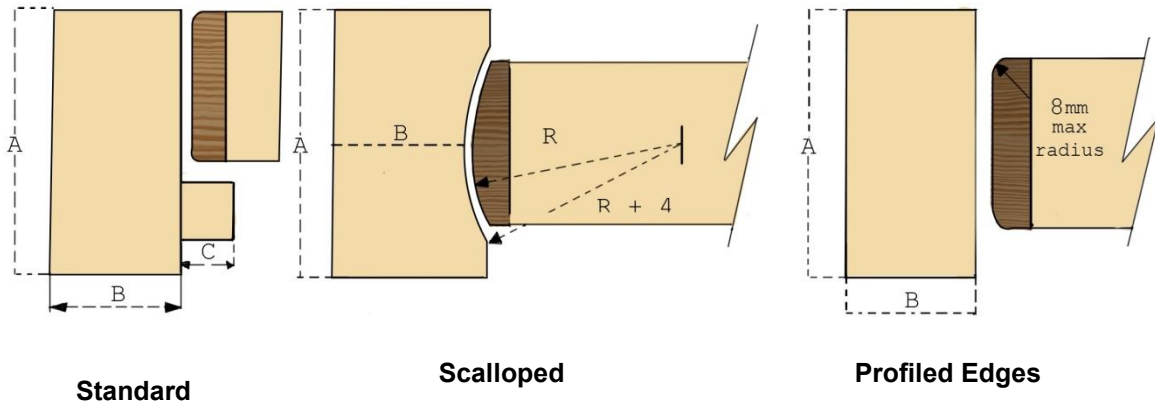
Material	Min. Section Size (mm)	Min. Density (kg/m <sup>3</sup> )	Application	Leaf Size Range (mm)
Softwood / Hardwood <sup>1</sup>	70 x 32	500	Not permitted with flush overpanels	See appendix E
Hardwood <sup>1</sup>	70 x 32	640	All	All
MDF <sup>1</sup>	70 x 30	700	All	See appendix E

**Notes:**

1. If the doorset features a solid transomed overpanel, the door frame must be softwood or hardwood with a minimum section of 70mm x 44mm and of the minimum density stated above
2. If the doorset features a glazed overpanel, the door frame must be hardwood with a minimum section of 70mm x 32mm and of the minimum density stated above and a transom of minimum dimension 70 x 44mm.
3. For steel door frame options, see appendix B
4. Framing for doorsets with side screens and fanlights must meet the relevant specification in section 7
5. All door frame material must be straight grained, joinery quality, free from knots, splits and checks
6. A 12mm deep planted stop is adequate for single acting frames, whilst double acting frames may be scalloped or square (see diagram below)
7. Frame joints must be mortice and tenoned, mitred, half lapped or butt jointed, with no gaps and must additionally be mechanically fixed with appropriately sized ring shank nails or wood screws (see section 9.3).
8. For finger jointed timber specification see section 9.4.

The following diagram depicts the assessed frame profiles and dimensions:

A = min. 70mm  
 B = min. 30 - 32mm (see table above)  
 C = min. 12mm  
 R = radius from floor spring  
 8mm max. radius to create a max. 2mm edge profiling



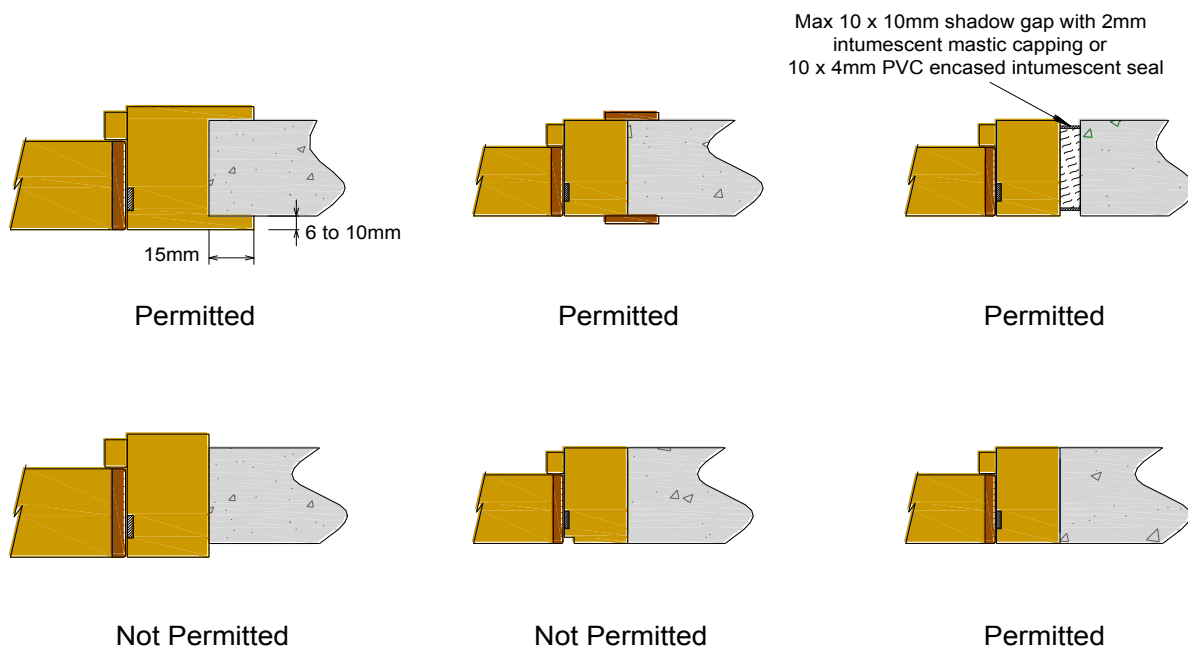
#### 9.1.1 CS Group Acrovyn

Based on the evidence generated in IF13094, timber and MDF door frames may be encapsulated in CS Group Acrovyn meeting the following specification. All other details must remain as required in section 9.1 above, as appropriate.

1. The intumescent detail as specified in section 12 and the relevant (CS Group headed) data sheets contained in appendix E of this assessment must be replicated.
2. CS Group Acrovyn must be bonded to the door frame using 3M Scotch-Grip cement 10 contact adhesive or equivalent.
3. See relevant (CS Group headed) data sheets in appendix E of this assessment for maximum permitted leaf sizes.
4. The maximum thickness of CS Group Acrovyn used must be 2mm, as per test evidence.

## 9.2 Door Frame Installation

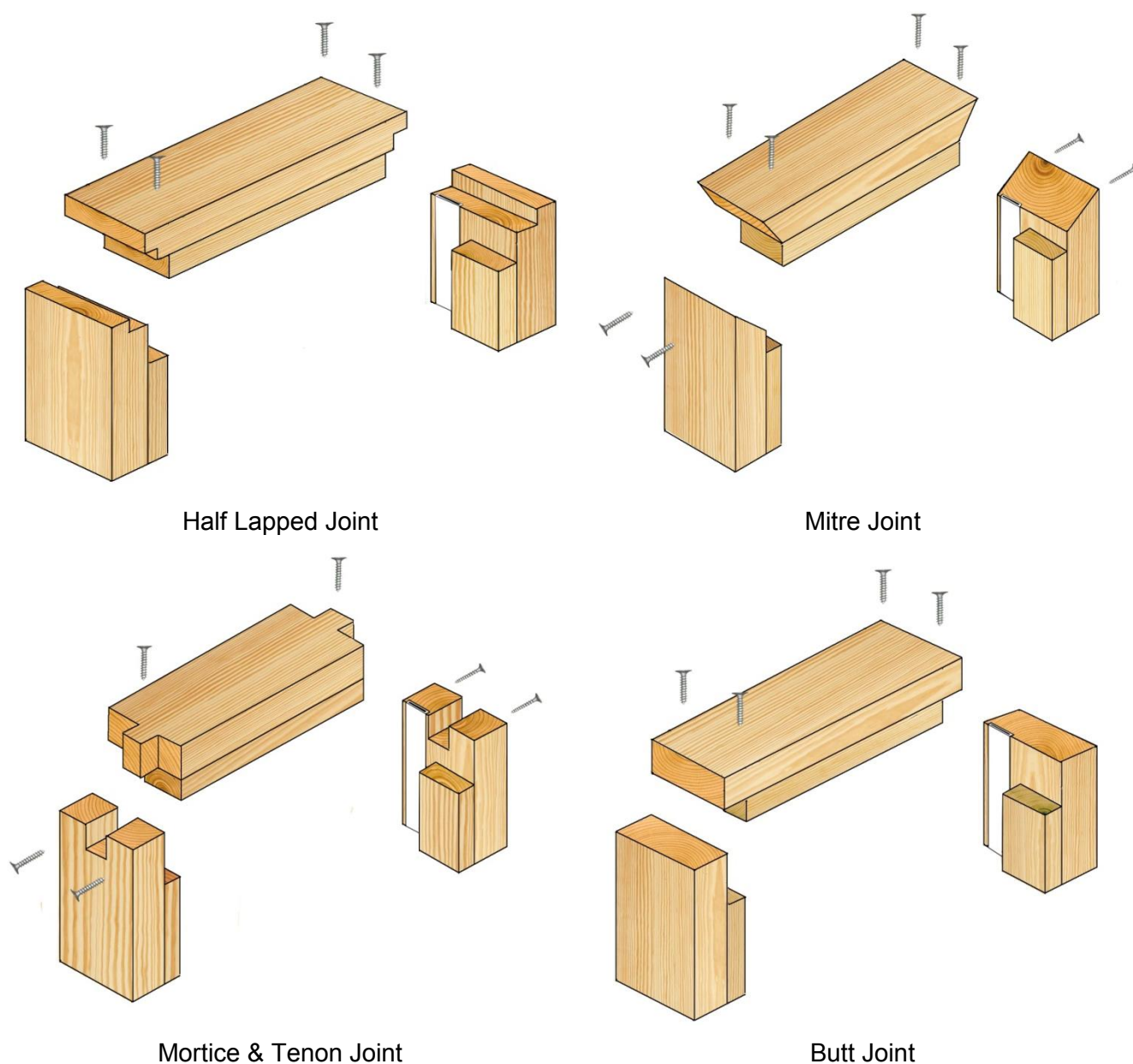
The following diagrams indicate acceptable and unacceptable door frame installations:



### Notes:

1. Drawing is representative of door frame installation only; actual installation must be as the text within this document specifies. See section 19 for sealing to structural opening specification.
2. For the shadow detail depicted above (top right), the sub-frame material must be the same material as approved for the door frame, or a non-combustible board, tightly fitted and with no gaps.

### 9.3 Door Frame Joints



**Note:** Drawing is representative of each type of door frame joint only; actual construction in terms of intumescent seal location and material, etc. must be as the text within this document specifies.

### 9.4 Finger jointed timber specification

It is permitted to use finger jointed timber for the door frame material meeting the following specification:

- Timber sections are to be clear and free of defects
- The door frame must comprise finger jointed solid timber sections only
- All finger jointed sections must have joints with vertical grain orientation
- 150mm minimum gaps/centres between finger joints.



- Minimum 10mm length of fingers fully jointed and with no gaps.
- The finger joints must use D4 adhesive conforming to EN 204.
- The timber must have a minimum density of 500 kg/m<sup>3</sup>

## 10 Edging Materials

### 10.1 Timber Lippings

Doors must be lipped in accordance with the following specification:

Material	Dimensions (mm)	Min. Density (kg/m <sup>3</sup> )
Timber for lippings must be straight grained, joinery quality hardwood, free from knots, splits and checks	1. Flat = 6 – 16mm thick with a maximum of 2mm profiling permitted at corners of lipping (see section 9.1)	582
	2. Rounded = 8 – 18mm thick with a radius matching the distance between the leaf edge and floor pivot (see section 9.1)	
	3. Rebated = 18 – 28mm thick with a 12mm deep rebate (equal or off-set)	

#### Notes:

1. Single doorsets are not permitted with rebated vertical edges
2. Single and double doorsets without overpanels only require lipping on the vertical edges
3. Doorsets with flush overpanels, i.e. no transom, must be lipped on the vertical edges and additionally at the bottom of the overpanel and top edge of the doors
4. Doorsets with flush overpanels may have the head junctions and meeting edges rebated concurrently
5. Lippings for concealed intumescent material must be bonded with urea formaldehyde
6. If a leaf head junction or meeting edge detail is to incorporate an off-set rebate, the specified rebated intumescent detail must be used (see appendix E) with a minimum clearance of 3mm from the edge of the intumescent strip to the leaf edge being maintained. The intumescent strip may be positioned closer to the upstand in order to achieve this requirement
7. A 2.5° chamfer is permitted to the lipping at the leading edge of leaves providing the door gaps meet the requirements in section 16.

### 10.2 PVC Edge Protectors & Post-Formed CS Group Acrovyn

#### 10.2.1 General

It is possible to fit proprietary edge protectors to this doorset design providing they have suitable supporting test evidence to BS 476: Part 22: 1987 or BS EN 1634-1, when fitted to timber doorsets of similar construction to this design. The end user must satisfy themselves that the test evidence supports the proposed end use application.

### 10.2.2 CS Group Edge Protectors

The Blankfort 30 and 30+ designs have been tested and assessed for use with CS Group edge protectors. CS Group edge protectors are supplied pre-formed with the approved intumescent material. The CS Group edge protectors must be used as part of a complete intumescent system and the required intumescent specification and leaf sizes are given in the relevant data sheets in appendix E. CS Group must be contacted for precise installation and fixing details ([www.c-sgroup.co.uk](http://www.c-sgroup.co.uk)).

### 10.2.3 Post-Formed CS Group Acrovyn

It is possible to encapsulate the Blankfort 30 and 30+ designs by post-forming the leaf in CS Group Acrovyn, based on the supporting test evidence in Chilt/RF11059 and IF13094, and the following specification:

1. CS Group Acrovyn may be wrapped around the vertical edges of the leaf, or the leaf can be fully encapsulated on all four edges
2. The vertical edge detail prior to post-forming must either be lipped with 8mm thick PVC adhered to the leaf edge using 3M Scotch-grip cement 10 contact adhesive or Jowat 609.38 PUR adhesive as tested or equivalent, or hardwood as detailed in this assessment (see section 10.1. Rebated timber lippings are not permitted)
3. The horizontal edge detail prior to post-forming does not require lipping but may be lipped with 8mm thick PVC, adhered to the leaf edge using 3M Scotch-grip cement 10 contact adhesive or Jowat 609.38 PUR adhesive as tested or equivalent, or hardwood as detailed in this assessment (see section 10.1. Rebated timber lippings are not permitted)
4. The maximum radius of the lipping at the corners of the vertical edges before post-forming must be 9mm, which provides for 11mm external radius after the CS Group Acrovyn has been applied
5. The intumescent detail as specified in section 12 and the relevant (CS Group headed) datasheets contained in appendix E of this assessment must be replicated
6. CS Group Acrovyn must be bonded to the leaf using 3M Scotch-Grip cement 10 contact adhesive or equivalent.
7. See relevant (CS Group headed) datasheets in appendix E of this assessment for maximum permitted leaf sizes
8. The maximum thickness of CS Group Acrovyn used must be 2mm, as per test evidence
9. The CS Group Acrovyn can be provided as pre-formed trays with dimensions to suit the proposed leaf sizes, as well as sheets for post-forming by the door manufacturer
10. It is permitted to hang leaves fitted with CS Group Acrovyn in timber or MDF door frames meeting the specification given in section 9.1 (not encapsulated with CS Group Acrovyn) or section 9.1.1 (encapsulated with CS Group Acrovyn).

## 11 Leaf Facing Materials

### 11.1 Structural Facings – Blankfort 30

The primary facing material for this doorset design is 9mm thick chipboard (nominal density 650kg/m<sup>3</sup>). Other test data has been generated on alternative face materials, which may be used in lieu of the chipboard. See the table below for details:

Material	Min. Density (kg/m <sup>3</sup> )	Performance Data
9mm MDF	720	Test RF98018 incorporated 10mm thick MDF facings and recorded a 36% over-run in performance. This provides confidence in the MDF option for all configurations with a maximum leaf size of 3076mm high x 1017mm wide (see note under table in appendix A)

### 11.2 Structural Facings – Blankfort 30+

The tested facing arrangement for this door design is listed below:

Element		Species/Type	Dimensions (mm)	Min. Density (kg/m <sup>3</sup> )
Facings	Inner	Chipboard	9	650
	Outer	MDF	3	700

The inner facing of chipboard is considered to be of structural importance to the fire resistance of the door design and substitution of alternative materials is therefore not permitted.

The outer MDF facing at 3mm thick is considered to have limited influence on the structural strength of the door in terms of fire resistance for this reason alternative thickness of MDF boards could be supplied to a minimum of 2.5mm and the density must be a minimum of 700 kg/m<sup>3</sup>.

The following materials and thicknesses have been assessed as alternative facing board options:

- 2.5mm to 3mm thick plywood (640kg/m<sup>3</sup>)
- 2.5 mm to 3mm thick chipboard (640kg/m<sup>3</sup>).

### 11.3 Decorative & Protective Facings

The following additional facing materials are permitted for this door design since they would degrade rapidly under test conditions without significant effect:

Facing Material	Maximum Permitted Thickness (mm)
Paint	0.5
Timber veneers	2
PVC	2
Plastic laminates	2
Cellulosic and non-metallic foils	0.4

**Notes:**

1. Metallic facings are not permitted (except push plates and kick plates).
2. The door leaf thickness may be reduced by a total maximum of 0.5mm for calibration purposes in order to accommodate the chosen finish.
3. Materials must not conceal intumescent strips.
4. PVC and plastic laminates must not be applied to the edges of leaves (other than those covered in section 10.2).

## 12 Intumescent Materials

### 12.1 General

The intumescent materials tested and approved for this doorset design are as follows:

Element	Location	Product
<b>Perimeter seals</b>	Fitted in the frame jambs or leaf edges	<ol style="list-style-type: none"> <li>1. PVC encased Palusol 100 – Lorient Polyproducts Ltd. or Mann McGowan Installations Ltd.</li> <li>2. Therm-A-Flex &amp; Therm-A-Seal – Intumescent Seals Ltd.</li> <li>3. Type 617 – Lorient Polyproducts Ltd.</li> <li>4. Pyroplex – Pyroplex Ltd.</li> </ol>
<b>Hinges</b>	Under both blades for leaves ≥2300mm high	<ol style="list-style-type: none"> <li>1. 1mm Interdens – Dufaylite Developments Ltd.</li> <li>2. 1mm MAP Paper – Lorient Polyproducts Ltd.</li> <li>3. 1mm Therm-A-Flex – Intumescent Seals Ltd.</li> <li>4. 1mm Pyrostrip – Mann McGowan Installations Ltd.</li> </ol>
<b>Locks/ Latches</b>	Under latch forend & keep ≥150mm high	<ol style="list-style-type: none"> <li>1. 1mm Interdens – Dufaylite Developments Ltd.</li> <li>2. 1mm MAP Paper – Lorient Polyproducts Ltd.</li> <li>3. 1mm Therm-A-Flex – Intumescent Seals Ltd.</li> <li>4. 1mm Pyrostrip – Mann McGowan Installations Ltd.</li> </ol>
<b>Top pivots &amp; flush bolts</b>	Lining all sides of the mortices including the keep mortice	<ol style="list-style-type: none"> <li>1. 2mm Interdens – Dufaylite Developments Ltd.</li> <li>2. 2mm MAP Paper – Lorient Polyproducts Ltd.</li> <li>3. 2mm G30 – Sealmaster Ltd.</li> <li>4. 2mm Therm-A-Strip – Intumescent Seals Ltd.</li> <li>5. 2mm Therm-A-Flex – Intumescent Seals Ltd.</li> </ol>

**Notes:**

1. Concealed intumescent material must be Palusol 100 and is only permitted for the vertical edges of single leaf doorsets only and when used with hardwood door frames
2. Concealed material must be grooved into the rear of the lipping and not into the leaf edges
3. The seal specification for each configuration is shown in appendix E.

4. Manufacturers Intumescent specification for top pivots and flush bolts can be used as an alternative specification

## 12.2 Anti-Ligature Intumescent Detail

To help maintain the anti-ligature status of fire resisting doorsets installed within mental health facilities it is necessary to provide for the option of fitting perimeter intumescent seals in short lengths (minimum 200mm).

Investigative testing carried out by Exova Warringtonfire has shown that the fitting of perimeter intumescent seals as short lengths is acceptable subject to the following specification:

Element	Specification
Leaf Configuration	LSASD & LSADD
Maximum Leaf Size	2100mm (h) x 1000mm (w) providing leaf size is covered by relevant data sheet in appendix E for intumescent seal types listed in this table below
Door Frame	Softwood (min. 510kg/m <sup>3</sup> ) Minimum frame section - 70mm (w) x 32mm (t)
Intumescent Seal Length	Minimum 200mm
Intumescent Seal Type	1. Type 617 – Lorient Polyproducts Ltd. 2. Therm-A-Seal – ISL
Seal Fixing (optional)	20mm long fine gauge steel pins located 25mm from the end of each length of intumescent

### Notes:

1. The joint between each section of intumescent strip must be tightly butted to each and with no gaps
2. It must be ensured that the intumescent material is present for its full length within its PVC casement for each strip section when fitted to the leaf edge or frame reveal
3. All other details must remain as specified herein.

## 13 Adhesives

The following adhesives must be used in construction:

Element	Product
Facings	Type 1 x-linked PVA or PU
Lippings	Urea formaldehyde (required for lipping concealed intumescents), or PU/MR PVA/x-linked PVA
Core Lamels	Type 1 x-linked PVA

## 14 Tested Hardware

### 14.1 General

The following hardware has been successfully incorporated in the tests on this doorset design:

Element	Product	Size (mm)
<b>Hinges</b>	Royde & Tucker H105 lift-off type hinges	98 x 82 (blade size)
<b>Closers</b>	Dorma TS73V face-fixed overhead closer	See manufacturer's information
	Dorma ITS 96 concealed overhead closer	See manufacturer's information
	Dorma BTS 75 floor spring assemblies	See manufacturer's information
<b>Lock/latch</b>	Standard 63mm & 75mm mortice latches with aluminium lever handles	-
<b>Threshold Seal</b>	Lorient Polyproducts Ltd. IS8010 threshold seal	See manufacturer's information

## 15 Additional & Alternative Hardware

The following section details the permitted scope and constraints for fitting hardware to this door design. The following items of hardware must also bear the CE Mark:

- Latches & locks: Test Standard EN 12209
- Single axis hinges: Test Standard EN 1935
- Controlled door closing devices: Test Standard EN 1154
- Door co-ordinators: Test Standard EN 1158
- Electro mechanically operated locks: Test Standard EN 14846
- Panic exit hardware: Test Standard EN 1125.

### 15.1 Latches & Locks

Latches and locks must either be as tested, or alternatively components with the following specification are acceptable:

<b>Maximum forend and strike plate dimensions</b>	235mm high by 25mm wide by 4mm thick
<b>Maximum body dimensions</b>	165mm high by 100mm wide by 18mm thick
<b>Intumescent protection</b>	See section 12
<b>Materials</b>	All parts essential to the locking/latching action (including the latch bolt, forend & strike) to be steel, stainless steel or brass with a melting point $\geq 800^{\circ}\text{C}$
<b>Location</b>	800 – 1200mm from the threshold

## 15.2 Hinges

Door leaves must be hung on a minimum of 3 hinges. Leaves over 2400mm high must fit 4 hinges. Hinges with the following specification are acceptable:

<b>Blade height</b>		90 – 120mm
<b>Blade width</b> (excluding knuckle)		30 – 35mm
<b>Blade thickness</b>		2.5 - 4mm
<b>Fixings</b>		Minimum of 4No. 30mm long No. 8 or No. 10 steel wood screws per blade
<b>Materials</b>		Steel, stainless steel or brass with a melting point $\geq 800^{\circ}\text{C}$
<b>Hinge positions</b>	<b>3 hinges</b>	Top: 100 – 180mm from top of blade to head of leaf. Middle: Min. 200mm from top hinge, or equispaced between top & bottom hinges. Bottom: 150 – 250mm from bottom of blade to foot of leaf.
	<b>4 hinges</b>	Top: 100 – 180mm from top of blade to head of leaf. 2 <sup>nd</sup> : Min. 200mm from top hinge, or equispaced between top & bottom hinges. 3 <sup>rd</sup> : Equispaced between 2 <sup>nd</sup> and bottom hinge. Bottom: 150 – 250mm from bottom of blade to foot of leaf.
<b>Intumescent protection</b>		See section 12

## 15.3 Safehinge

It is possible to fit the Safehinge™ product to the Blankfort 30 and 30+ designs. The end user must satisfy themselves that the test evidence supports the proposed end use application. Distributors of the Safehinge™ product can provide supporting test evidence for this doorset design and must be contacted to confirm exact requirements.

## 15.4 Automatic Closing

Automatic closing devices must be as tested or surface mounted overhead type closer components that have demonstrated contribution to the required 30 minutes performance of this type of flush doorset design and intumescent specification (as detailed in appendix E), at a similar leaf thickness and when tested to BS 476-22:1987 or BS EN 1634-1.

For double action doors, floor springs and top pivots may be used provided the components have demonstrated contribution to the required 30 minutes performance of this type of flush doorset design and intumescent specification (as detailed in appendix E), at a similar leaf thickness and when tested to BS 476-22:1987 or BS EN 1634-1. The top pivots and frame housing to floorspring assemblies must be protected with a 2mm thick intumescent gasket (as specified in section 12) or alternatively the manufacturers tested intumescent gaskets.

## 15.5 Push Plates/Kick Plates

Steel, Stainless steel or brass face-fixed hardware, with a minimum melting point of 800 deg C, such as push plates and kick plates may be fitted to the doorsets provided that their fitting requires the removal of no part of the door leaf. These items of hardware are permitted up to a maximum of 20% of the door leaf area if mechanically fixed and a maximum of 30% if bonded with a contact or other thermally softening adhesive. Plates must not return around the door edges.

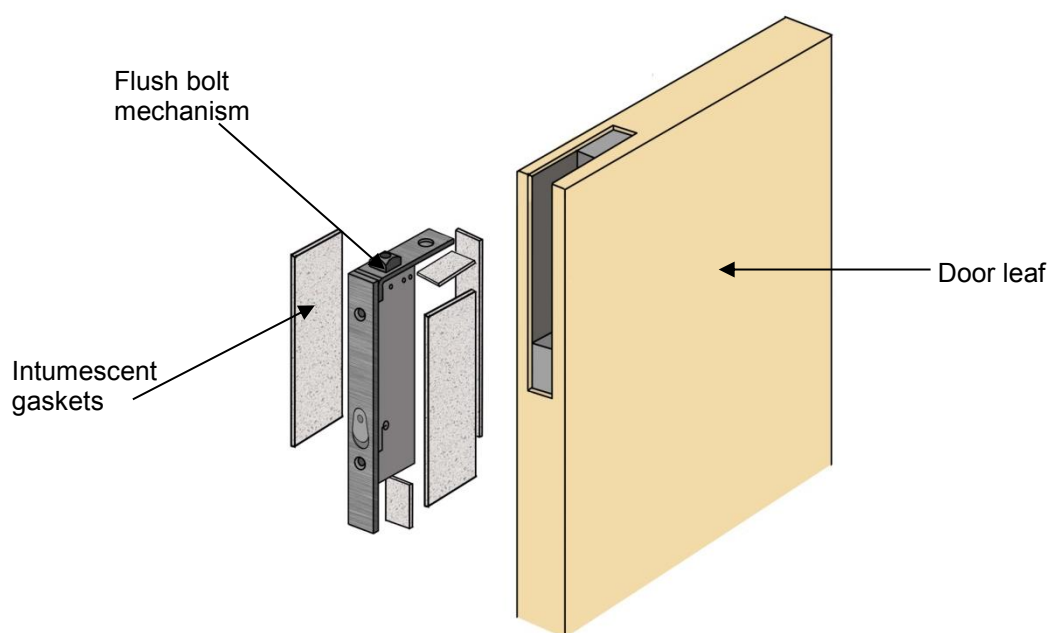
See section 11.3 for details of non-metallic additional facing materials.

## 15.6 Flush Bolts

Flush bolts may be incorporated centrally into the top and bottom of one meeting edge, providing the following maximum dimensions are not exceeded and the components are fitted opposite the edge fitted with intumescent strips:

- 200mm long x 20mm deep x 20mm wide

Flush bolts must be steel or brass with a minimum melting point of 800 deg C, and the mortice must be as tight to the mechanism as is compatible with its operation. All edges of the body mortice and the keep mortice must be protected with intumescent gaskets as specified in section 12. Alternatively, the hardware manufacturers tested gaskets may be used.



### Notes:

1. Flush bolts may also be incorporated into the top and bottom of the leaf face, providing the dimensions and details listed above are replicated
2. The flush bolt must be protected with intumescent gaskets as specified in section 12
3. The flush bolt must be located no closer than 50mm to the closing edge.

## 15.7 Pull Handles

These may be surface-fixed to the door leaf provided that they are steel, stainless steel or brass, with a minimum melting point of 800 deg C, and the length is limited to 1200mm between the fixing points. No additional intumescent protection is required provided that the hole for the bolt through the leaf is tight.

## 15.8 Door Selectors

These may be freely applied, provided that they are not invasive in the leaf edges or door frames. Those that are invasive will require fire resistance test/assessment evidence to support their use. No additional intumescent protection is required unless test evidence dictates otherwise.



## **15.9 Door Security Viewers**

Door security viewers with brass or steel bodies of a diameter less than or equal to 15mm may be used provided that the through-hole is bored tight to the case of the viewer (maximum tolerance +1mm). Lenses must be glass and the item must be bedded onto a tested intumescent mastic.

## **15.10 Panic Hardware**

Panic hardware may be fitted, provided that its installation does not require the removal of any timber from the leaf, stop or frame reveal and it in no way interferes with the self-closing action of the door leaf.

## **15.11 Cable-Way**

Based on the integrity performance of the doorset construction, with no burn-through of the core material, we consider it acceptable to allow the provision for a concealed cable-way to facilitate electro-magnetic closing/latching mechanisms. The cable-way must be concealed in the following way:

1. A hole drilled centrally through the leaf of maximum 10mm diameter
2. The cable for the electronic closing/latching mechanisms must be no more than 2mm smaller in diameter than the hole through the leaf
3. The cable for the electronic closing/latching mechanism must be PVC encased
4. Cable ways are only permitted for use with latched, single leaf, single acting doorsets with maximum leaf dimensions of 2100mm (h) x 900mm (w)
5. The hole must be located below 1500mm from the threshold and must be spaced a minimum of 90mm from any apertures within the leaf, e.g. glazing, air transfer grilles or letter plates, etc.

This approval is subject to the hardware manufacturer having the appropriate test evidence for the product for use with this type of 30 minute construction. Test evidence generated in steel doorsets is not acceptable. Any tested intumescent gaskets for the lockset, closing mechanism, receiver plate, cable loops, etc. must be replicated.

## **15.12 Air Transfer Grilles**

Air transfer grilles may be fitted providing the product has suitable test evidence to BS 476: Part 22: 1987 or BS EN 1634-1, that demonstrates a minimum of 30 minutes integrity performance when installed within a timber based doorset of comparable thickness. Margins to the leaf edges will remain as detailed for glazing and the position of the unit will be dictated by the pressure regime tested in the proving evidence (normally below mid-height). The area occupied by the air transfer grille must not exceed 0.2m<sup>2</sup> and must be deducted from the area of glazing, if both elements are fitted.

If it is required to fit air transfer grilles outside of the aforementioned scope, guidance and appropriate test evidence must be sought from the manufacturer of the grille, including permitted numbers of grilles, spacing within the door leaf, additional intumescents, aperture liners and location within the doorset (with respect to pressure regime).

### **15.12.1 Smoke Control**

Smoke control as defined by the performance criteria set out in BS 476: Part 31: Section 31.1 or BS EN 1634-3: 2001 cannot be claimed for a doorset fitted with an air transfer

grille(s) unless it is automatically operating on activation of the smoke alarm and has supporting data to the aforementioned test standards for smoke control.

### 15.13 Acoustic, Weather & Dust Seals

Silicon based flame retardant acoustic, weather and dust seals (e.g. Norsound 710, 720 and Lorient IS1212, IS1511, IS7025, IS7060) may be fitted to this doorset design without compromising the performance, providing their fitting does not interfere with the activation of the intumescent seals or hinder the self-closing function of the leaves.

### 15.14 Threshold Seals

The following types of automatic threshold drop seals may be recessed in to the bottom of leaves to this design without compromising the performance:

Product	Manufacturer
IS8010si	Lorient Polyproducts Ltd.
RP8Si	Raven Products Ltd.
Schall-Ex Duo L-15	Athmer
NOR810, NOR810S, NOR810dB+	Norsound Ltd.
950.05.513	Hafele (UK) Ltd.

### 15.15 Letter Boxes/Plates

Letter boxes/plates may be fitted providing the product has demonstrated contribution to the required integrity performance of this type of doorset design, when tested to BS 476: Part 22: 1987, BS EN 1634-1 or BS EN 1634-2, when installed within a timber based doorset of comparable thickness. Margins to the leaf edges must remain as detailed for glazing. The position of the letter box/plate will be dictated by the pressure regime tested in the proving evidence (normally below mid-height).

## 16 Door Gaps

For fire resistance performance, door gaps and alignment tolerances must fall within the following range:

Location	Dimensions
Door edge gaps	A minimum of 2mm and a maximum of 4mm
Alignment tolerances	Leaves must not be proud of each other or from the door frame by more than 1mm
Threshold	A maximum of 10mm between bottom of leaf and top of floor covering

## 17 Structural Opening

The supporting construction must be capable of staying in place and intact for the full period of fire resistance required from the doorset.

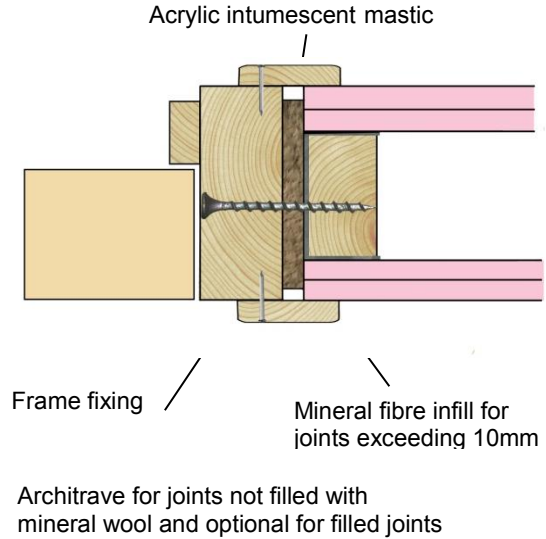
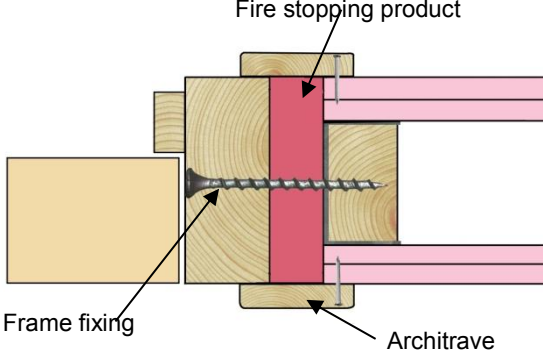
## 18 Fixings

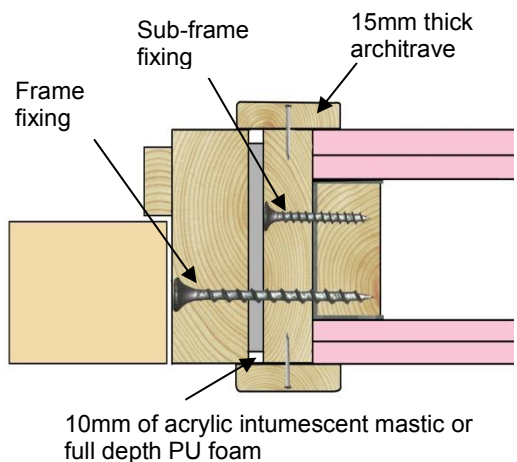
The supporting construction must be capable of staying in place and intact for the full period of fire resistance required from the doorset. The frame jambs are to be fixed to the supporting construction using steel fixings at 600mm maximum centres. The fixings must be of the appropriate type for the supporting construction and must penetrate to a minimum depth of 40mm. For doorsets without overpanels or fanlights, it is not necessary to fix the frame head, although packers must be inserted above the jambs

and at the meeting stile position. Where overpanels or fanlights are fitted it will be necessary to secure the head of the frame using the fixing specification for the jambs, as stated above.

## 19 Sealing to Structural Opening

The door frame to structural opening gap must be protected using one of the following methods:

<p>1. Gaps up to 10mm must be sealed on both sides with a 10mm depth of acrylic intumescent mastic, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1. Joints must be fitted with 15mm thick architraves overlapping at least 15mm each side.</p>	 <p>Acrylic intumescent mastic</p> <p>Frame fixing</p> <p>Mineral fibre infill for joints exceeding 10mm</p> <p>Architrave for joints not filled with mineral wool and optional for filled joints</p>
<p>2. Gaps between 10mm and 20mm must be tightly packed with mineral fibre capped on both sides with a 10mm depth of acrylic intumescent mastic, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1. Architraves are optional.</p>	 <p>Fire stopping product</p> <p>Frame fixing</p> <p>Architrave</p>

<p>4. Timber based or non-combustible sub-frame up to 50mm thick, with gaps up to 10mm between the components filled on both sides with 10mm depth of acrylic intumescent mastic or full depth expanding PU foam, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1. Joints must be fitted with 15mm thick architraves overlapping at least 15mm each side.</p>	 <p>The diagram illustrates a cross-section of a doorset assembly. It shows a timber frame (yellow) with a sub-frame (light brown) fixed to it. A 15mm thick architrave (pink) is fitted over the joint. The gap between the frame and sub-frame is filled with 10mm of acrylic intumescent mastic or full depth PU foam (grey). Labels indicate 'Frame fixing', 'Sub-frame fixing', '15mm thick architrave', and '10mm of acrylic intumescent mastic or full depth PU foam'.</p>
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**Note:** Drawings are representative of doorset construction only; actual construction must comply with the specification contained in this document.

## 20 Insulation

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

Type	Details
Partially insulating	Doorsets with timber frames incorporating up to 20% of non-insulating glass
Fully insulating	Unglazed doorsets or doorsets fitted with 30 minute insulating glazing (see section 8 for details)

## 21 Smoke Control

### 21.1 General

If the doorset design is required to provide a smoke control function to comply with Building Regulations, in the absence of a suitable pressurisation system, the doorset must meet one of the following criteria:

- (a) have a leakage rate not exceeding  $3\text{m}^3/\text{m}/\text{hour}$  (head and jambs only) when tested at 25Pa under BS 476 *Fire tests on building materials and structures*, Section 31.1 - *Methods for measuring smoke penetration through doorsets and shutter assemblies, Method of measurement under ambient temperature conditions*; or
- (b) meet the additional classification requirement of Sa when tested to BS EN 1634-3: 2004 - *Fire resistance tests for door and shutter assemblies*, Part 3 – *Smoke control doors*.

Smoke seals or combined intumescent/smoke seals that are fitted to the door to achieve the performance requirements specified above must have been tested in accordance with the associated test method. Providing the smoke seals, any interruptions, door gaps, and the type/configuration of the doorset are consistent with the detail tested, the doorset will comply with current smoke control legislation under Approved Document B; and a suffix 'S' or 'Sa', as appropriate, may be added to the designation. Any other components installed where smoke leakage may occur must also be taken into account.

**Note:** The incorrect specification and fitting of smoke seals may impair the operation of a doorset and therefore compromise the fire resistance performance. Advice should be sought from the seal manufacturers regarding the correct specification and installation of smoke seals or combined smoke and intumescent seals.

## **21.2 Further Considerations**

Note that there is other guidance available, including BS EN 9999-2017 - *Code of practice for fire safety in the design, management and use of buildings*, which may impose different or additional requirements, such as consideration of the gap between door leaf and threshold.

Responsibility for the appropriate smoke sealing specification and performance of the doors should be agreed between the relevant parties (i.e. specifier, manufacturer, contractor) prior to commencing manufacture and/or installation.

## **22 Conclusion**

If the Blankfort Inc. Blankfort 30 and Blankfort 30+ doorset designs, constructed in accordance with the specification documented in this global assessment were to be tested in accordance with BS 476: Part 22: 1987, it is our opinion that they would provide a minimum of 30 minutes integrity and insulation (subject to section 20).

## **23 Declaration by the Applicant**

- 1) We the undersigned confirm that we have read and comply with obligations placed on us by FTSG Resolution No. 82: 2001.
- 2) We confirm that the component or element of structure, which is the subject of this assessment, has not to our knowledge been subjected to a fire test to the Standard against which this assessment is being made.
- 3) We agree to withdraw this assessment from circulation should the component or element of structure be the subject of a fire test to the Standard against which this assessment is being made.
- 4) We are not aware of any information that could adversely affect the conclusions of this assessment.
- 5) If we subsequently become aware of any such information, we agree to ask the assessing authority to withdraw the assessment.

Signed:

Name:

For and on behalf of: BLANKFORT INC.


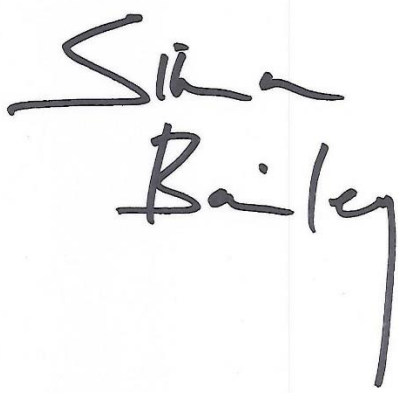
## 24 Limitations

The following limitations apply to this assessment:

- 1) This assessment addresses itself solely to the elements and subjects discussed and does not cover any other criteria. All other details not specifically referred to should remain as tested or assessed.
- 2) This assessment is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available, Exova Warringtonfire reserves the right to withdraw the assessment unconditionally, but not retrospectively.
- 3) This assessment has been carried out in accordance with Fire Test Study Group Resolution No. 82: 2001.
- 4) Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.
- 5) This assessment 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.

## 25 Validity

- 1) The assessment is initially valid until 12<sup>th</sup> November 2022, after which time it must be submitted to Exova Warringtonfire for technical re-appraisal and revalidation.
- 2) This assessment report is not valid unless it incorporates the declaration given in Section 23, duly signed by the applicant.

<b>Signature:</b>		
<b>Name:</b>	<b>Dr K D S Towler</b>	<b>Simon Bailey</b>
<b>Title:</b>	Senior Product Assessor	Senior Product Assessor

## Appendix A

### Performance Data

#### Primary Data

Report No.	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)	
RF95059	A: ULSASD	2134 x 915 x 45	BS 476: Part 22: 1987	40	
	B: ULSASD	2700 x 915 x 45		45	
RF95106	DADD+OP	2403/400 x 840 x 45	BS 476: Part 22: 1987	38	
RF95111	ULSASD	2700 x 915 x 45	BS 476: Part 22: 1987	54	
RF96015	ULSADD+OP	2193/394 x 806 x 45	BS 476: Part 22: 1987	Glass	31
				Perimeter	43
RF97104 (steel door frames)	B: LSASD	2740 x 910 x 45	BS 476: Part 22: 1987	30	
RF98018 <sup>1</sup>	A: ULSASD	2600 x 860 x 45	BS 476: Part 22: 1987	A = 41	
	B: ULSASD	2600 x 860 x 45		B = 49	
	C: ULSASD	2600 x 860 x 45		C = 41	
RF00004	ULSASD	2600 x 840 x 45	BS 476: Part 22: 1987	46	
RF01114	ULSASD	2134 x 915 x 46	BS 476: Part 22: 1987	38	
RF00035	A: ULSASD	2134 x 915 x 46	BS 476: Part 22: 1987	34	
	B: ULSASD	2440 x 1220 x 46		41	
BTC10939F	ULSASD	2700 x 915 x 45	BS 476: Part 22: 1987	A = 33	
				B = 56	
RF06157	A: ULSASD	2135 x 915 x 45	BS 476: Part 22: 1987	A = 32	
	B: ULSASD	2135 x 915 x 45		B = 34	
CFR0703091	ULSASD	1870 x 1050 x 45	BS 476: Part 22: 1987	36	
RF07031 (Lorient Palusol & Type 617 in softwood frame)	A: ULSADD	2040 x 827/302 x 45	BS 476: Part 22: 1987	A = 33	
	B: ULSADD	2040 x 827/302 x 45		B = 27	
A07051 Rev. B (Lorient Palusol & Type 617)	Various	Various	BS 476: Part 22: 1987	30 & 60	
RF08125 (MDF frame)	ULSADD	2442 x 915 x 44	BS 476: Part 22: 1987	49	
RF11059 (Post-formed Acrovyn)	B: ULSADD	2100 x 900/300 x 44	BS 476: Part 22: 1987	B = 39	
RF09061 <sup>2</sup> (Blankfort 30+ test – compare with RF96015)	ULSADD+OP	2193 x 808/600 x 45	BS 476: Part 22: 1987	Glazing	47
				Perimeter	55
RF11007 (Pyroplex perimeter intumescent)	ULSADD	2135 x 890/290 x 44	BS 476: Part 22: 1987	40	



**Notes:**

<sup>1</sup> Door A tested in RF98018 has been used to assess 10mm thick MDF faces for use with the Blankfort 30 design, for all configurations, up to the maximum leaf dimensions given in section 11.1. It has been deemed acceptable to permit this variation due to the door having exhibited a comparable degree of stability when compared to the chipboard faced doors in the same test and the door achieving a significant over run (36%) beyond the required 30 minutes fire resistance, when tested at 2600mm high.

<sup>2</sup> RF09061 was devised to replicate RF96015 for comparison of the Blankfort 30 design and the Blankfort 30+ design. RF96015 (Blankfort 30) was selected because of its onerous construction (rebated meeting edge, rebated flush overpanel, double leaf, unlatched). The criteria for permitting Blankfort 30+ as an additional design within this scope of application was for the doorset to perform at least as well as that originally tested. The Blankfort 30+ design performed for 55 minutes (excluding the glazing) and has therefore been considered as capable of providing at least the same level of fire resistance performance as the Blankfort 30 design. All design options given within this document are therefore applicable to both the Blankfort 30 and Blankfort 30+ designs, unless stated otherwise.

**Primary Data For 3 layer construction**

Report No.	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)
PF15111	A: ULSADD <sup>2</sup>	2135 x 890/290 x 44	BS 476: Part 22: 1987	54
	B: ULSADD <sup>1</sup>	2135 x 890/290 x 44		48

**Notes:**

1. PF15111 (door A) has been used to support the use of 3 layers of lamels in the core construction in lieu of 1 layer of lamels by comparing a previously tested construction with 1 layer of lamels in the core (door A in RF11007). The 3 layer lamel core construction outperformed the 1 layer of lamels originally tested by 11 minutes. The use of additional layers in a construction will generally improve the performance of the door design, providing the gluelines are maintained and this test proved exactly these points. It has therefore been deemed acceptable to permit 1 or 3 layers of lamels across the Blankfort 30 and 30 + range
2. PF15111(door B) has used a different facing material so is not directly applicable to this design, but it gives further confidence in the basic 3 layer construction as the performance ratings are well over 30 minutes.



## Supplementary Data

Report No.	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)
CFR1010071	ULSASD	2135 x 925 x 45	BS EN 1634-1	40
IF09029 (BM TRADA test – 200mm lengths of intumescent)	Bespoke test sample	1170 x 1170 test sample	BS 476: Part 20: 1987	43
RF09134 (EW30 Pyroguard)	Doorset	Used for sideslights	BS EN 1634-1	Doorset: 29
	Screen			Screen: 34
RF09201 (EW30 Pyroguard)	Doorset	Used for sideslights	BS EN 1634-1	Doorset: 33
	Screen			Screen: 33
RF10070 (EW30 Pyroguard)	Doorset	Used for sideslights	BS EN 1634-1	Doorset: 29
	Screen			Screen: 32
RF10081 (EW30 Pyroguard)	Doorset	Used for sideslights	BS EN 1634-1	Doorset: 29
	Screen			Screen: 32
RF10120 (EW30 Pyroguard)	Doorset	Used for sideslights	BS EN 1634-1	Doorset: 32
	Screen			Screen: 32
RF10163 (EW30 Maxi Pyroguard)	Doorset	Used for sideslights	BS EN 1634-1	Doorset: 38
	Screen			Screen: 38
IFT 27128098 (EI30 Pyroguard)	Doorset	Used for sideslights	BS EN 1634-1	Doorset: 34
	Screen			Screen: 34
IFT 27129622 Revision 1 (15mm Pyranova)	Doorset	Used for sideslights	BS EN 1634-1	Doorset: 35
	Screen			Screen: 35
WF 197001 (Pyranova S3.07)	LSASD	2055 x 925 x 44	BS EN 1634-1	31
RF00138 (7 Pyrodur)	Doorset	Used for sideslights	BS EN 1634-1	Doorset: 40
	Screen			Screen: 32
RF01024 Rev. A (10 Pyrodur)	Doorset	Used for sideslights	BS 476: Part 22: 1987	Doorset: 60
	Screen			Screen: 57
RF03068 (7 Pyrodur)	Doorset	Used for sideslights	BS EN 1634-1	Doorset: 37
	Screen			Screen: 37
RF05037 (15 Pyrostop)	Doorset	Used for sideslights	BS EN 1634-1	Doorset: 43
	Screen			Screen: 59
RF10028 (Pyroshield 2)	Doorset	Used for sideslights	BS 476: Part 22: 1987	Doorset: 39
	Screen			Screen: 39
IF13094 (Full encapsulation of Blankfort design with CS Group Acrovyn)	ULSADD	1400x300/900x48	Principles of BS 476: Part 20/22: 1987	45
RF13133 (Glazed with Pyroplex FG30)	ULSADD	2146x935x46	BS EN 1634-1	Integrity 40 Insulation 37
RF 13177	ULSASD	2148x935x44	BS EN 1634-1	Integrity 42 Insulation 42

## Appendix B

### Blankfort 30 & Blankfort 30+ Steel Frames

#### 1. Introduction

This appendix contains information relating to Blankfort 30 and Blankfort 30+ doorsets, incorporating steel door frames. The assessment uses the same extrapolation and interpretation techniques applied for the main assessment, and is conducted in terms of fire resistance performance judged against BS 476: Part 22: 1987.

#### 2. General Specification of Construction

The door leaves for Blankfort 30 and Blankfort 30+ steel framed doorsets are manufactured in accordance with the specification detailed in section 2 of Chilt/A12151 Revision C. All other aspects of the leaf construction specification are identical to that detailed in the main assessment except where specifically discussed in the following paragraphs.

#### 3. Leaf Sizes & Configurations

Doorset B tested in RF97036 comprised a latched, single leaf, single acting doorset and achieved 30 minutes performance exactly. It is not therefore possible to offer an increase in leaf size beyond that tested. The following are the maximum permitted leaf sizes and configurations:

- LSASD - 2740mm high x 910mm wide.

#### 4. Intumescent Materials

The following intumescent materials from Lorient Polyproducts Ltd. must be fitted to the doorsets:

Configuration	Head	Jambs
Single Doorsets	20 x 6mm LP2006 in the frame reveal and 10 x 2mm Interdens in the leaf	20 x 6mm LP2006 in the frame reveal

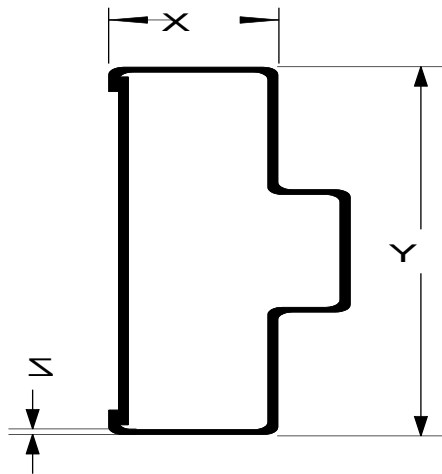
#### 5. Door Frames

The approved door frame specification for doorsets to this design is contained in the table below:

Element	Material	Dimensions (mm)
Head & Jambs	Profiled 1.6 thick (16 SWG) mild steel frame manufactured in two sections and spot welded together along the intumescent seal rebate (it is also permitted for the frame to be constructed as one section)	129 wide x 67 thick (including a 16mm deep x 48mm wide integral stop)
Stops	Integral	16 deep
Architrave	Integral	51 wide x 13 thick

Fixings must be of the appropriate type and length for the structural opening medium and must include a minimum of 5No. fixings per jamb and one at the head. The construction of frames may be varied within the following parameters:

Note the following drawing shows the permitted variations in dimensions, the groove for the intumescent seal has been omitted for clarity.



X: +/-30%

Y: +/-50% (providing the frame reveal dimensions are maintained)

Z: +100% and -0%

The frame may be back filled with timber, mortar, concrete, plasterboard or Supalux (Promat) as tested. Rockwool, glass fibre and ceramic wool must not be used.

## 6. Structural Openings

Blankfort 30 and Blankfort 30+ steel framed doorsets may be fitted into the following types of structural opening:

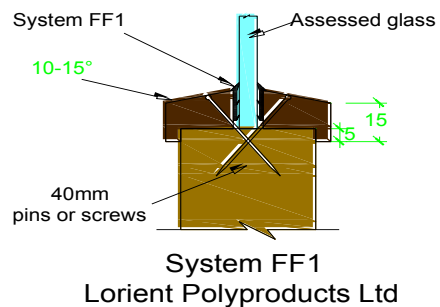
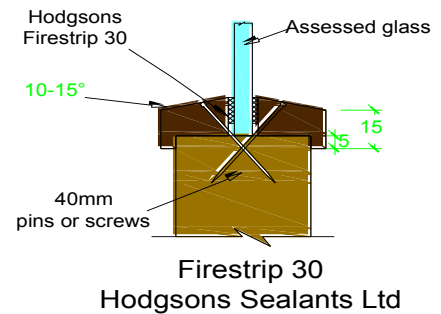
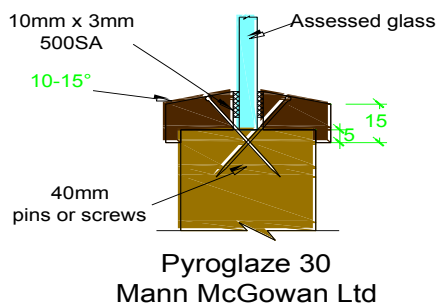
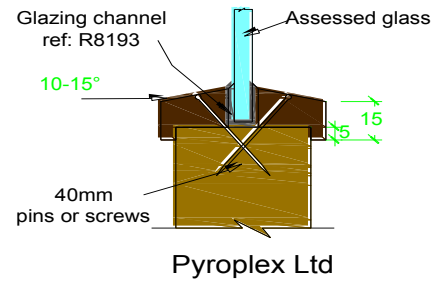
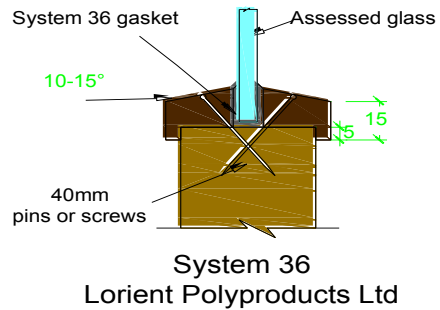
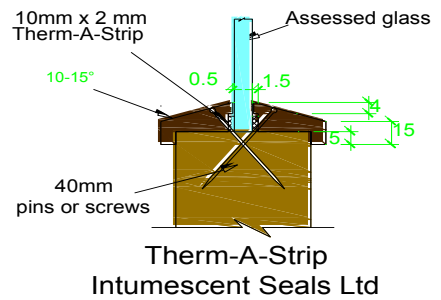
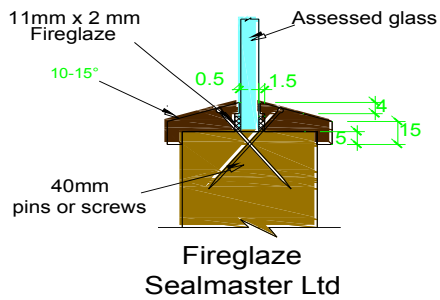
- Cast dense concrete
- Dense concrete blocks or brickwork
- Masonry
- Lightweight concrete
- Lightweight aerated concrete
- Timber stud partition
- Steel stud partition.\*

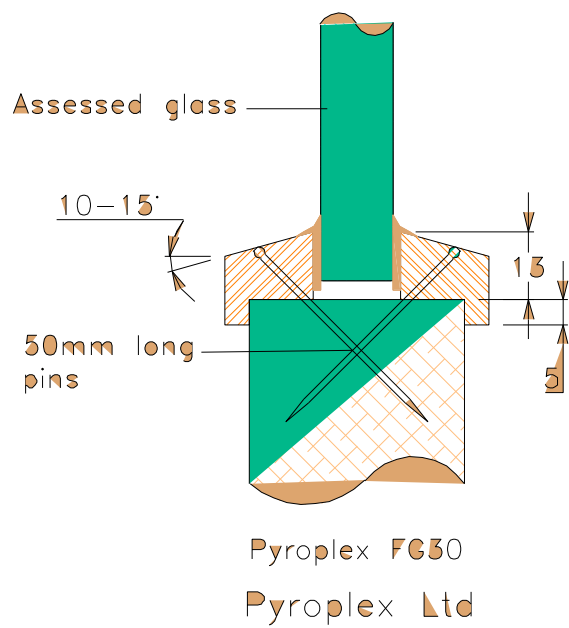
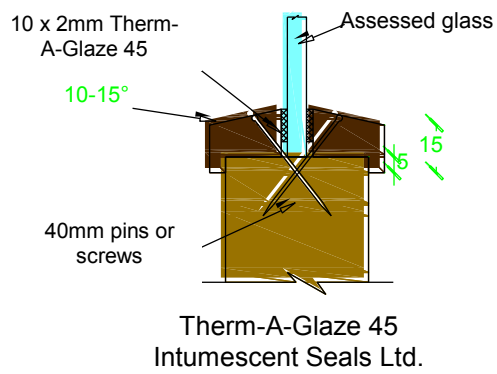
Gaps between door frames and structural openings must be protected with proprietary materials that have been successfully tested for the application.

\* Structural opening must incorporate the additional framework as tested (i.e. boxed studs infilled with softwood).

## Appendix C

### Proprietary 30 Minute Glazing Systems

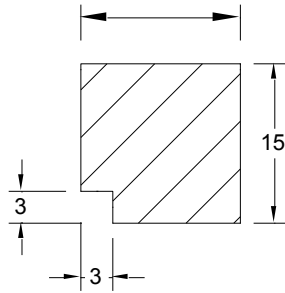




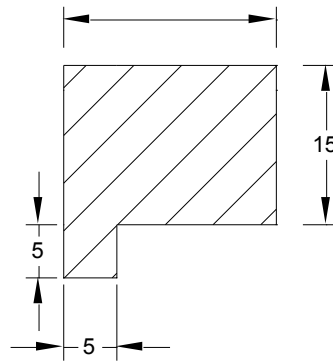
### Assessed Square Glazing Bead Profiles

(The following square bead profile may be used as an alternative to the splayed beads detailed above - refer to section 8 for glazing system and glass restrictions).

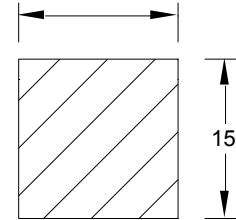
To finish flush with the leaf face



Suited to glass thickness



To finish flush with the leaf face



## Appendix D

### Revisions

Rev.	Exova Warringtonfire	Date	Description
A	12253	12/11/12	Revalidation with further five years validity. Inclusion of post-formed CS Group Acrovyn based on Chilt/RF11059. Included option to face fix flush bolts. Change of address on front page.
B	14197	14/11/14	Update to include indicative test referenced IF13094 covering CS Group Acrovyn encapsulating the whole leaf and door frame. Additional hinge specification has been clarified. The validity period has been maintained.
C	F15079	24/03/15	Correction to hinge position section, update of glazing pin specification section
D	391845	12/11/17	5 year technical review and update into Exova Warrington format. Trilaminate core construction included, finger jointed frames, 2.5mm outer facing, FG30 glazing system, Pages 52 and 63 changed based on test RF131333.

## **Appendix E**

**Data Sheets for:**

**Blankfort Inc.**

**Blankfort 30 & Blankfort 30+ Doorsets**

**30 Minute Fire Resisting Doorsets**

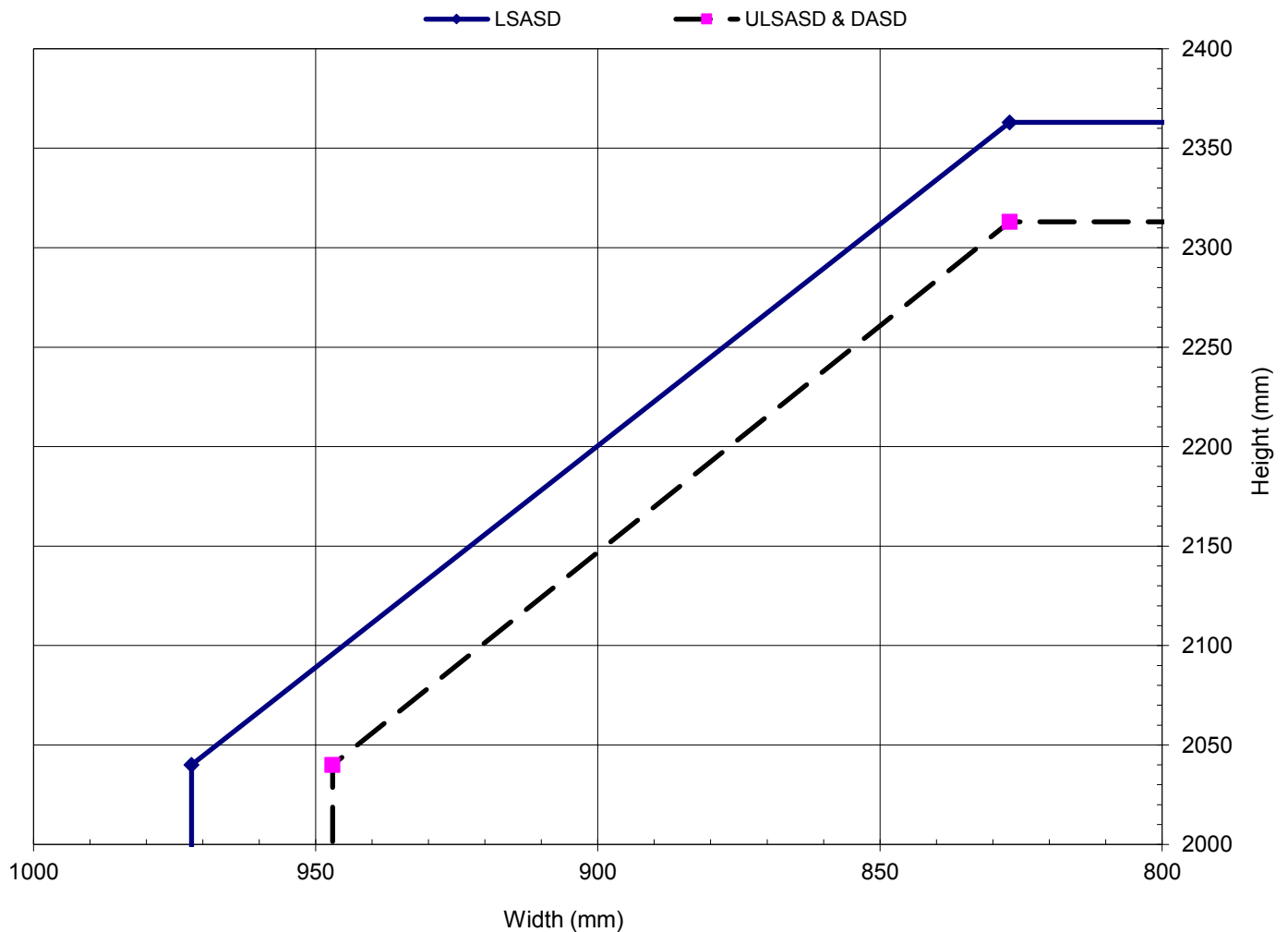


## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Single Doorsets

	Configuration		Height (mm)		Width (mm)	
Leaf Sizes	LSASD	From:	2040	x	972	
		To:	2363	x	827	
	ULSASD & DASD	From:	2040	x	947	
		To:	2313	x	827	
Max. Overpanel Height (mm)		Transomed	2000			
Glazing		Max. Glazed Area	1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details			
		Approved Systems	See section 8 and appendix C			
Frame Specification		Min. Section (mm)	70 x 32	70 x 32	70 x 30	
		Material	Softwood	Hardwood	MDF	
		Min. Density (kg/m <sup>3</sup> )	500	500	700	
<b>INTUMESCENT MATERIALS: Palusol, Type 617</b>						
<b>HEAD:</b> 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.						
<b>JAMBS &amp; OVERPANEL:</b> 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.						
<b>HARDWARE PROTECTION:</b> See section 12.						

Maximum Door Leaf Size

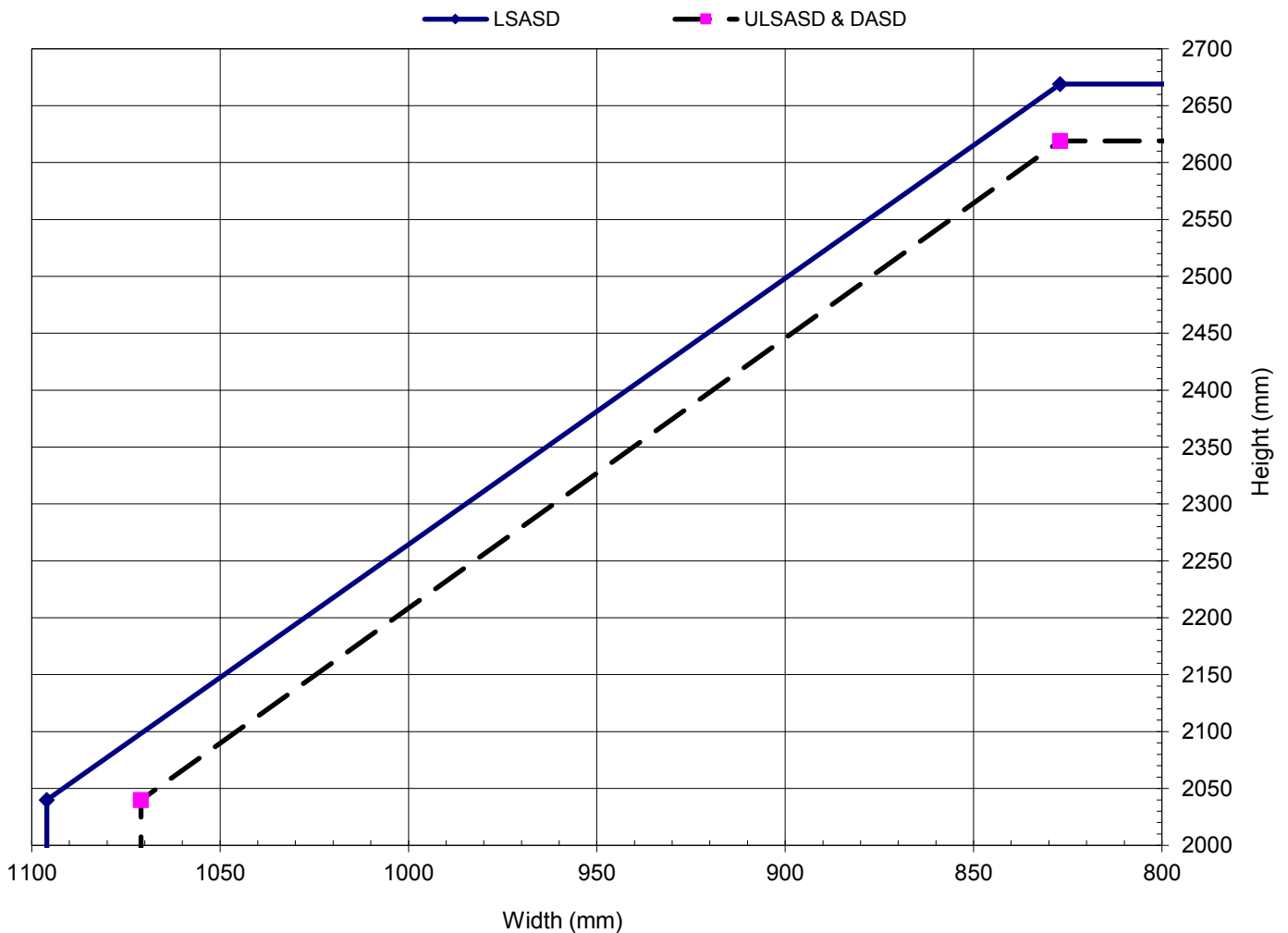


## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Single Doorsets

	Configuration		Height (mm)		Width (mm)	
Leaf Sizes	LSASD	From:	2040	x	1096	
		To:	2669	x	827	
	ULSASD & DASD	From:	2040	x	1071	
		To:	2619	x	827	
Max. Overpanel Height (mm)		Transomed	2000			
Glazing		Max. Glazed Area	1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details			
		Approved Systems	See section 8 and appendix C			
Frame Specification		Min. Section (mm)	70 x 32	70 x 32	70 x 30	
		Material	Softwood	Hardwood	MDF	
		Min. Density (kg/m <sup>3</sup> )	500	500	700	
<b>INTUMESCENT MATERIALS: Type 617</b>						
<b>HEAD:</b> 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.						
<b>JAMBS &amp; OVERPANEL:</b> 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.						
<b>HARDWARE PROTECTION:</b> See section 12.						

Maximum Door Leaf Size

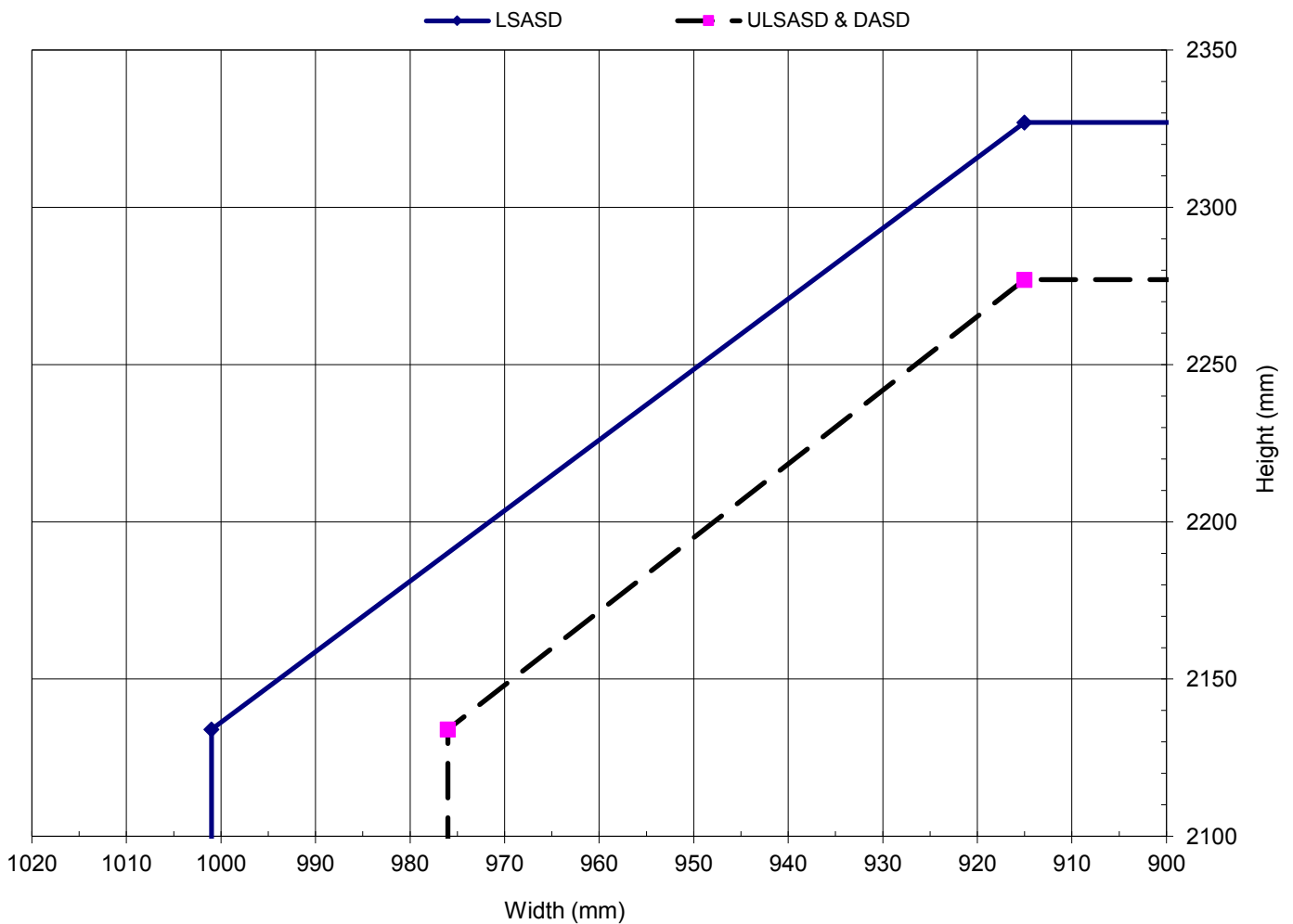


## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Single Doorsets

	Configuration		Height (mm)		Width (mm)	
Leaf Sizes	LSASD	From:	2134	x	1001	
		To:	2327	x	915	
	ULSASD & DASD	From:	2134	x	976	
		To:	2277	x	915	
Max. Overpanel Height (mm)		Transomed	2000			
Glazing		Max. Glazed Area	1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details			
		Approved Systems	See section 8 and appendix C			
Frame Specification		Min. Section (mm)	70 x 32	70 x 32	70 x 30	
		Material	Softwood	Hardwood	MDF	
		Min. Density (kg/m <sup>3</sup> )	500	500	700	
<b>INTUMESCENT MATERIALS: Palusol, Type 617, Therm-A-Seal</b>						
<b>HEAD:</b> 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal. Leaves over 2275mm high increase to 1No. 25 x 4mm.						
<b>JAMBS &amp; OVERPANEL:</b> 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.						
<b>HARDWARE PROTECTION:</b> See section 12.						

Maximum Door Leaf Size

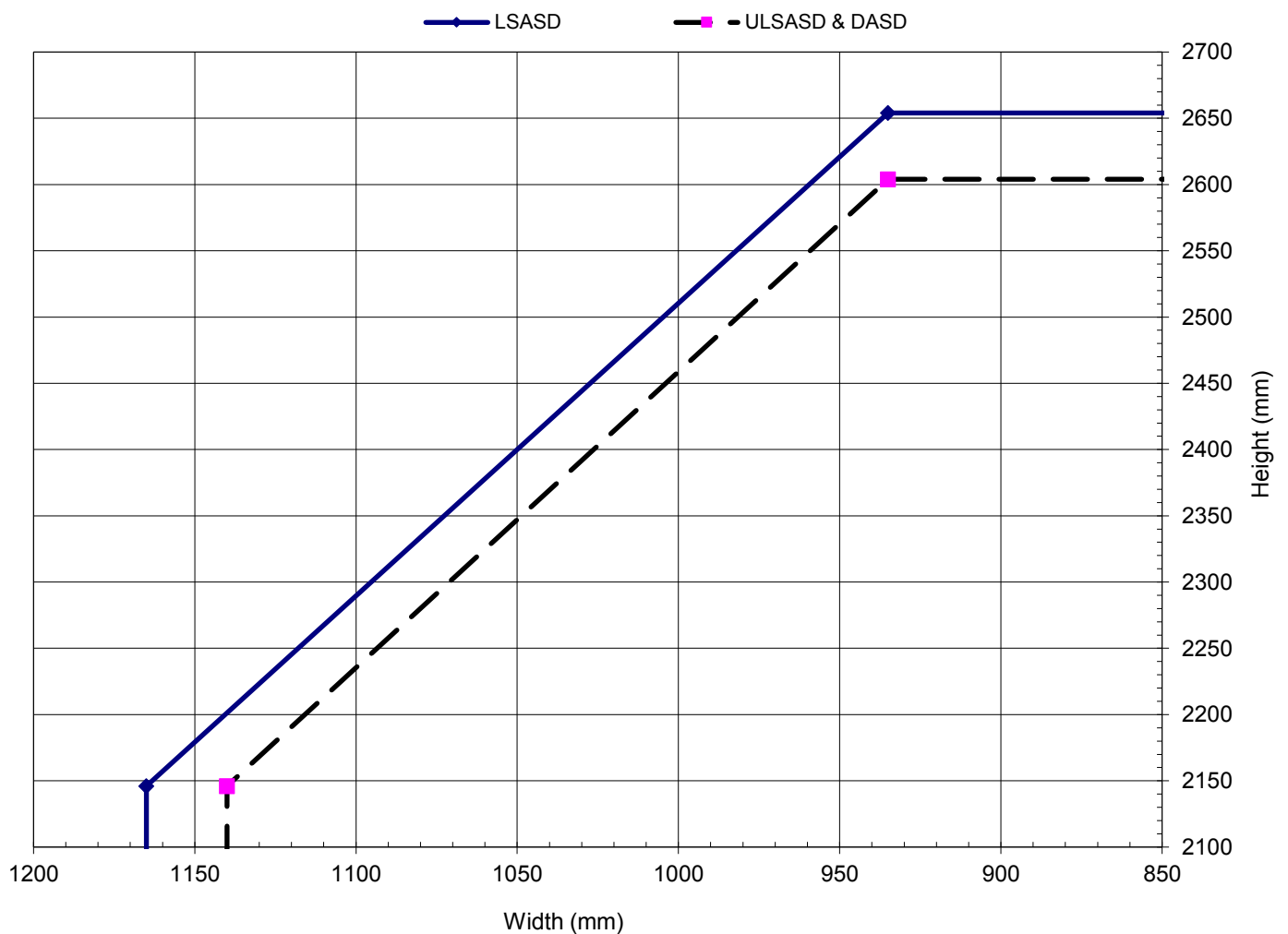


## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Single Doorsets

	Configuration		Height (mm)		Width (mm)	
Leaf Sizes	LSASD	From:	2146	x	1165	
		To:	2654	x	935	
	ULSASD & DASD	From:	2146	x	1140	
		To:	2604	x	935	
Max. Overpanel Height (mm)		Transomed	2000			
Glazing		Max. Glazed Area	1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details			
		Approved Systems	See section 8 and appendix C			
Frame Specification		Min. Section (mm)	70 x 32	70 x 32	70 x 30	
		Material	Softwood	Hardwood	MDF	
		Min. Density (kg/m <sup>3</sup> )	500	500	700	
<b>INTUMESCENT MATERIALS: Pyroplex</b>						
<b>HEAD:</b> 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal. Leaves over 2440mm high increase to 1No. 20 x 4mm.						
<b>JAMBS &amp; OVERPANEL:</b> 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.						
<b>HARDWARE PROTECTION:</b> See section 12.						

Maximum Door Leaf Size



### Blankfort 30+ – 30 Minute Fire Resisting Doorsets

#### Latched & Unlatched, Single & Double Acting, Single Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2193	x	1319
		To:	3456	x	808
	ULSASD & DASD	From:	2193	x	1294
		To:	3406	x	808
Max. Overpanel Height (mm)		Transomed	2000		
Glazing		Max. Glazed Area		1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details	
		Approved Systems		See section 8 and appendix C	
Frame Specification		Min. Section (mm)		70 x 32	70 x 30
		Material		Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )		640	700
		Max. Leaf Dims (mm)	From:	All	2440 x 1204
			To:		3215 x 915

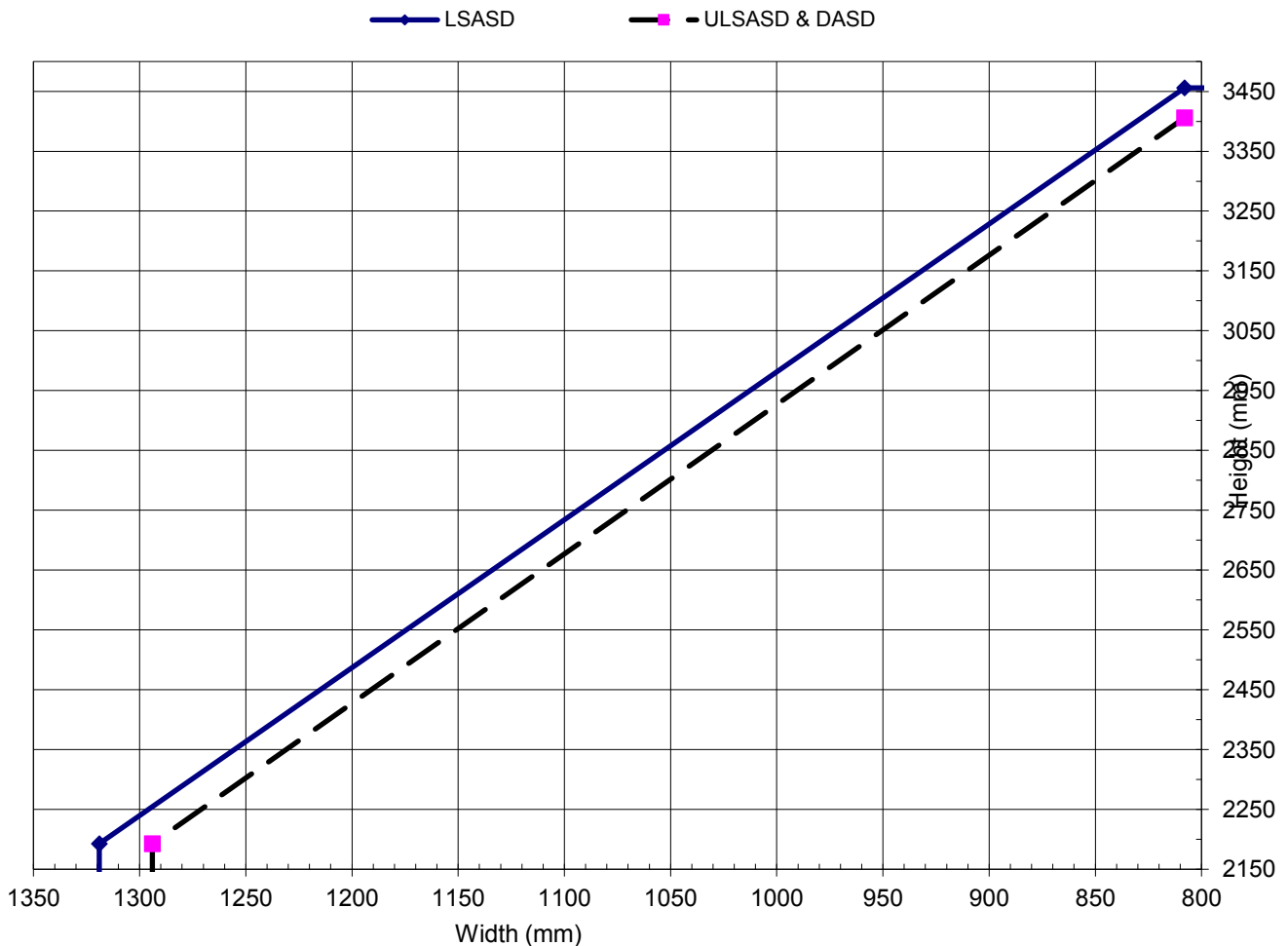
#### INTUMESCENT MATERIALS: Palusol, Type 617

**HEAD:** 1No. 25 x 4mm strip centrally fitted in the leaf edge or frame reveal. Leaves over 2700mm high increase to 1No. 35 x 4mm.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Single Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2440	x	1220
		To:	3050	x	915
	ULSASD & DASD	From:	2440	x	1220
		To:	3050	x	915
Max. Overpanel Height (mm)		Transomed	2000		
Glazing		Max. Glazed Area		1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details	
		Approved Systems		See section 8 and appendix C	
Frame Specification		Min. Section (mm)		70 x 32	70 x 30
		Material		Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )		640	700
		Max. Leaf Dims (mm)	From:	All	2440 x 1204
			To:		3050 x 915

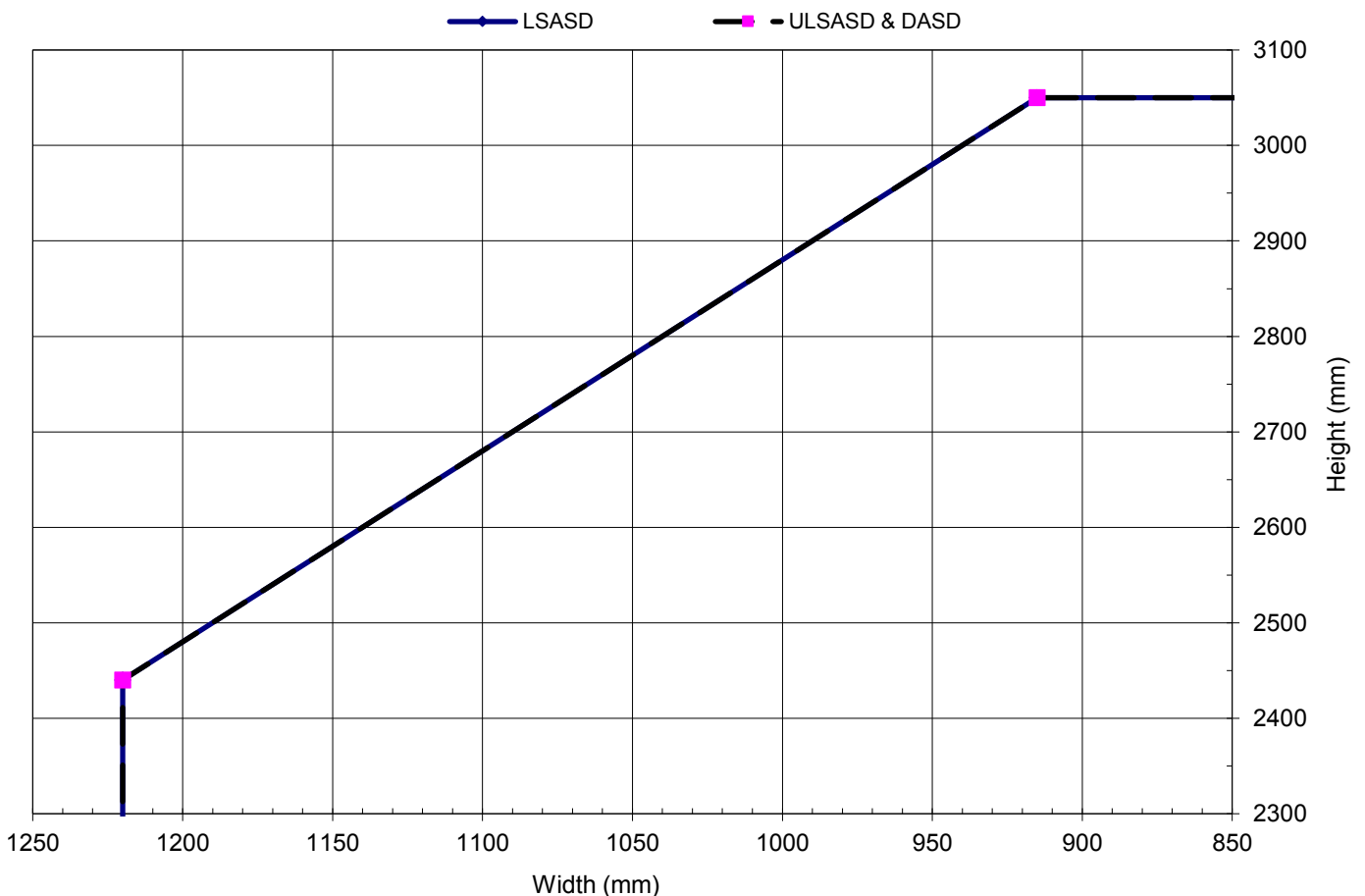
#### INTUMESCENT MATERIALS: Type 617, Therm-A-Seal

**HEAD:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal. Leaves over 2275mm high increase to 1No. 20 x 4mm.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal. Leaves over 1000mm wide increase to 1No. 20 x 4mm.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Single Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2440	x	1471
		To:	2937	x	1220
	ULSASD & DASD	From:	2440	x	1444
		To:	2887	x	1220
Max. Overpanel Height (mm)		Transomed	2000		
Glazing		Max. Glazed Area		1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details	
		Approved Systems		See section 8 and appendix C	
Frame Specification		Min. Section (mm)		70 x 32	70 x 30
		Material		Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )		640	700
		Max. Leaf Dims (mm)	From:	All	2440 x 1204
			To:		2887 x 915

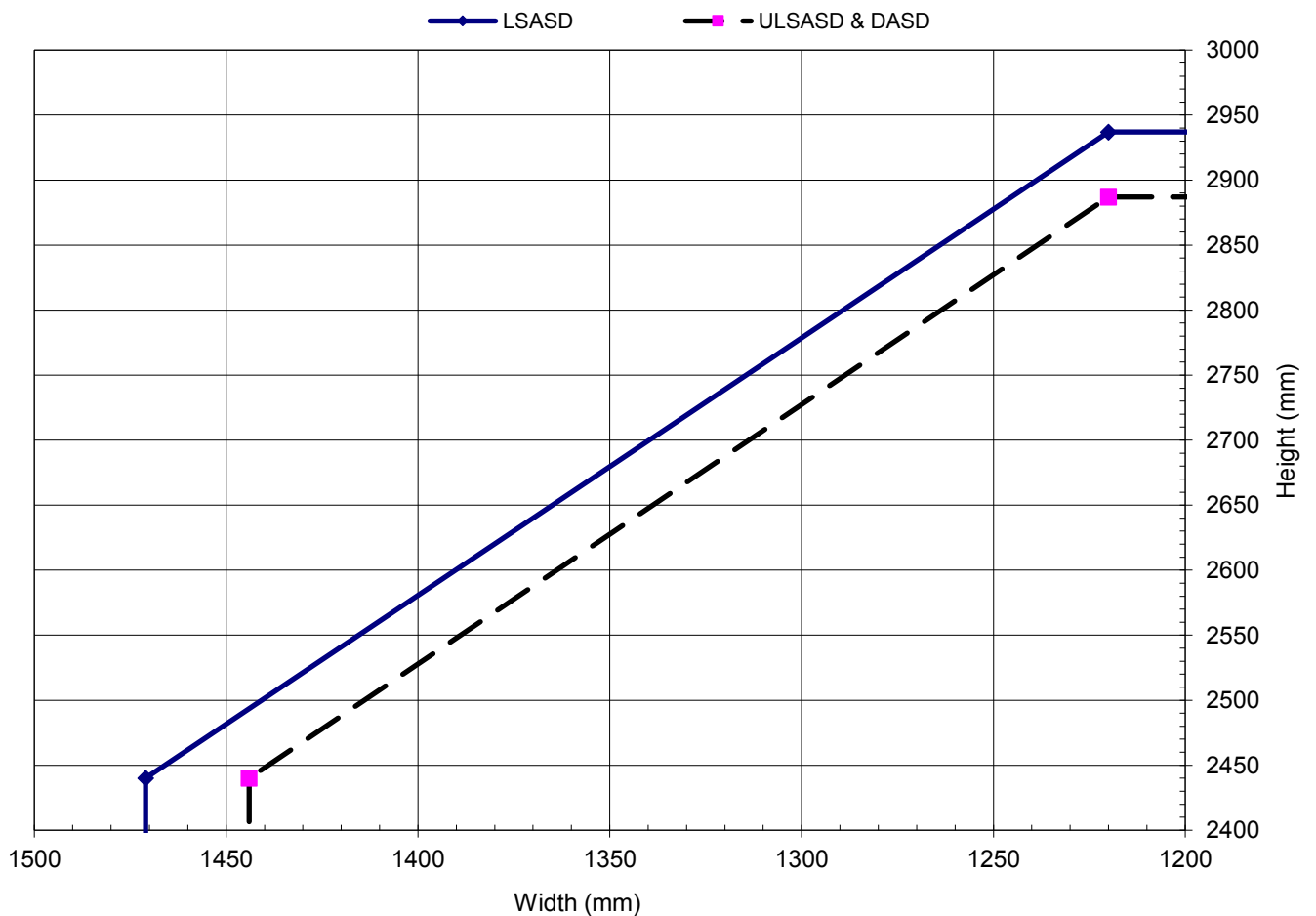
#### INTUMESCENT MATERIALS: Palusol, Type 617

**HEAD:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal. Leaves over 2275mm high increase to 1No. 20 x 4mm.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal. Leaves over 1000mm wide increase to 1No. 20 x 4mm.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Single Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2700	x	1169
		To:	3425	x	915
	ULSASD & DASD	From:	2700	x	1144
		To:	3375	x	915
Max. Overpanel Height (mm)		Transomed	2000		
Glazing		Max. Glazed Area	1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details		
		Approved Systems	See section 8 and appendix C		
Frame Specification		Min. Section (mm)		70 x 32	70 x 30
		Material		Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )		640	700
		Max. Leaf Dims (mm)	From:	All	2440 x 1144
			To:		3215 x 915

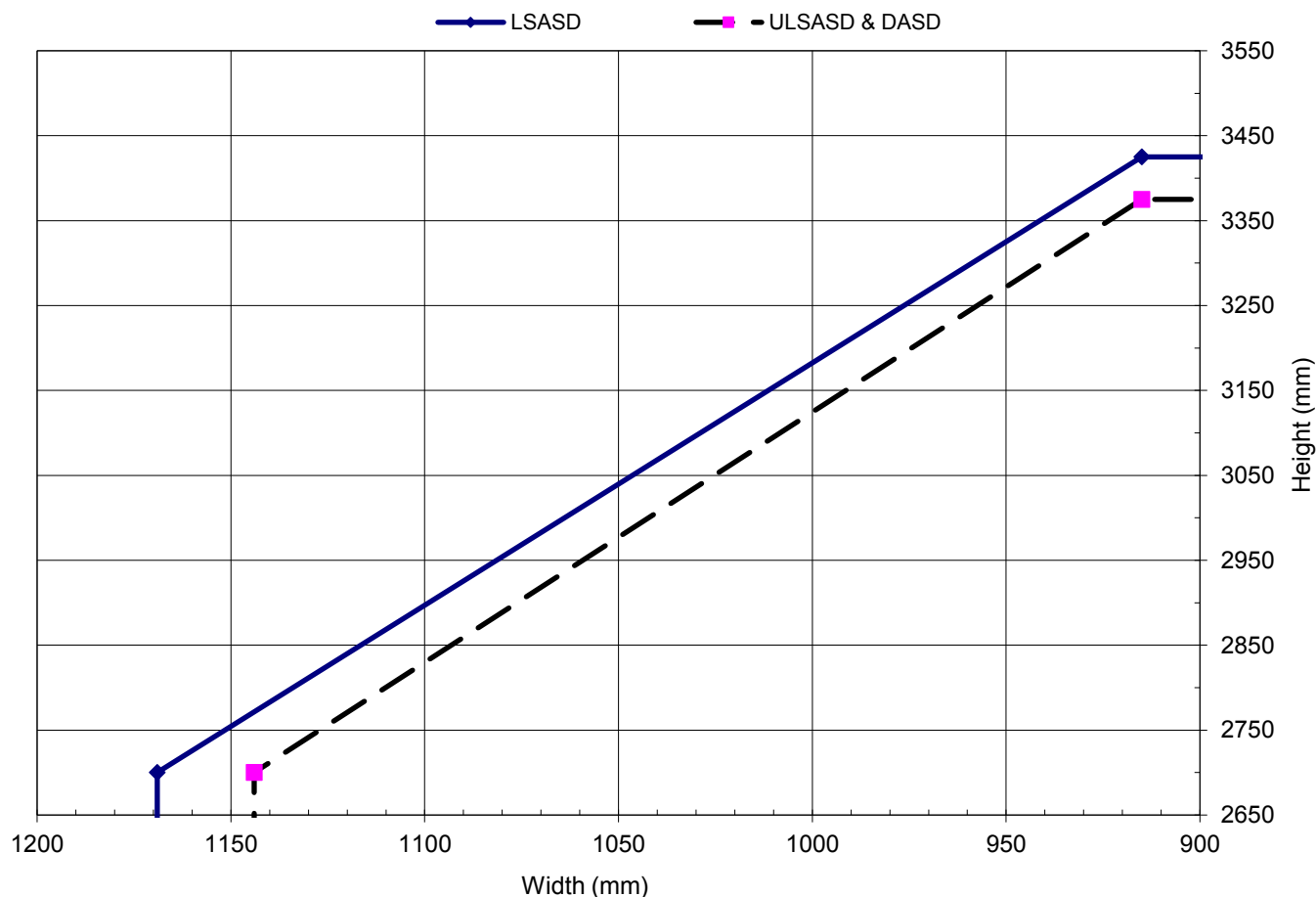
#### INTUMESCENT MATERIALS: Palusol, Type 617

**HEAD:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal. Leaves over 2275mm high increase to 1No. 20 x 4mm. Leaves over 3100mm high increase to 1No. 35 x 4mm.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal. Leaves over 1000mm wide increase to 1No. 20 x 4mm.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size





## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Single Doorsets – Concealed Intumescent

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2700	x	1153
		To:	3380	x	915
	ULSASD & DASD	From:	2700	x	1128
		To:	3330	x	915
Max. Overpanel Height (mm)		Transomed	2000		
Glazing		Max. Glazed Area	1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details		
		Approved Systems	See section 8 and appendix C		
Frame Specification		Min. Section (mm)	70 x 32		
		Material	Hardwood		
		Min. Density (kg/m <sup>3</sup> )	640		

#### INTUMESCENT MATERIALS:

Exposed (head only) = Palusol

Concealed = Epoxy coated Palusol

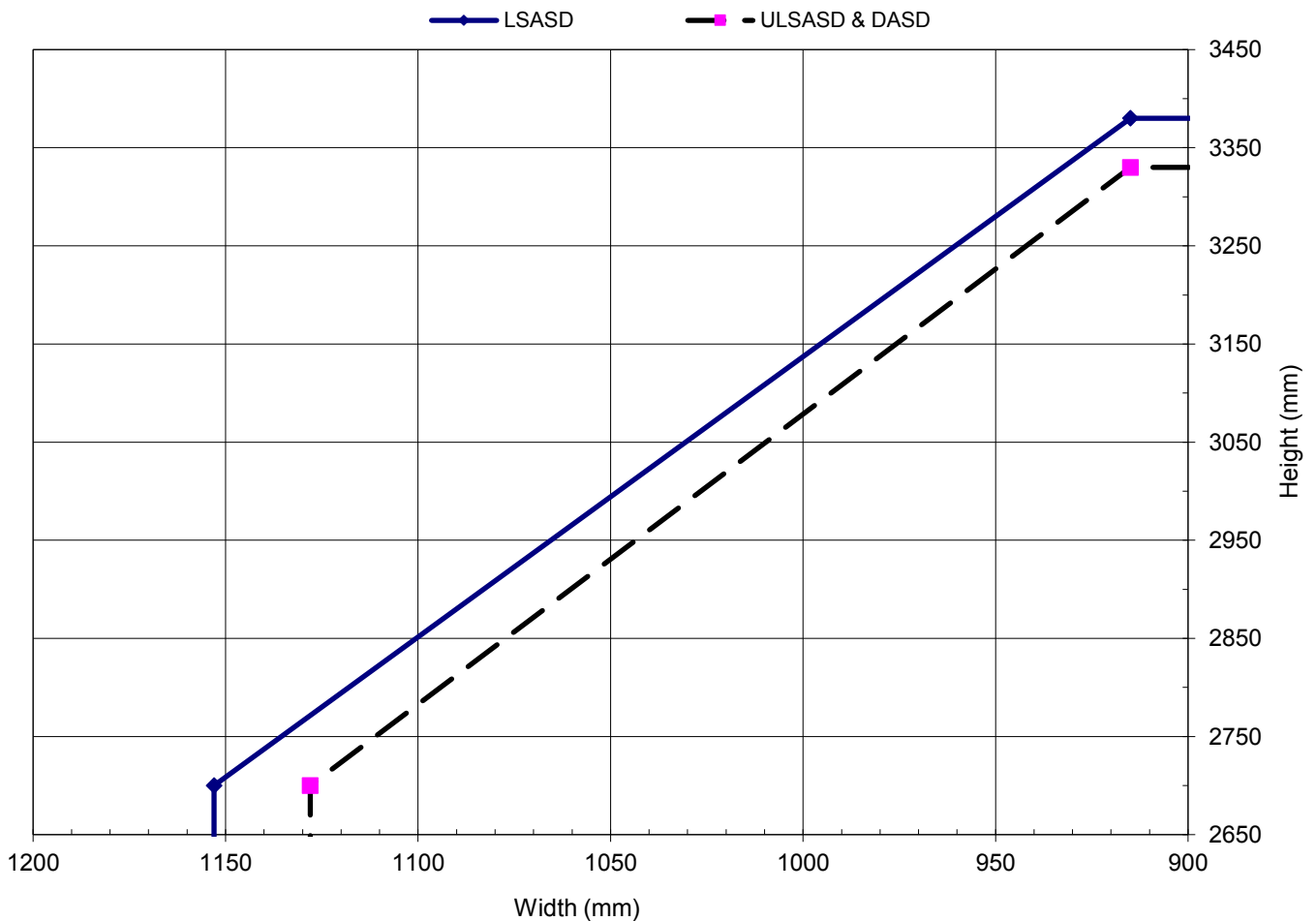
**HEAD:** 1No. 20 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**JAMBS:** 1No. 30 x 2mm strip centrally fitted and concealed in the rear of the lipping.

**OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in either the panel edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Single Doorsets + Overpanels

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD+OP	From:	2193	x	1269
		To:	3356	x	808
	ULSASD+OP & DASD+OP	From:	2193	x	1244
		To:	3306	x	808
Max. Overpanel Height (mm)			2000		
Glazing		Max. Glazed Area		1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details	
		Approved Systems		See section 8 and appendix C	
Frame Specification		Min. Section (mm)		70 x 32	70 x 30
		Material		Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )		640	700
		Max. Leaf Dims (mm)	From:	All	2440 x 1140
			To:		3215 x 840

#### INTUMESCENT MATERIALS: Palusol, Type 617

##### HEAD:

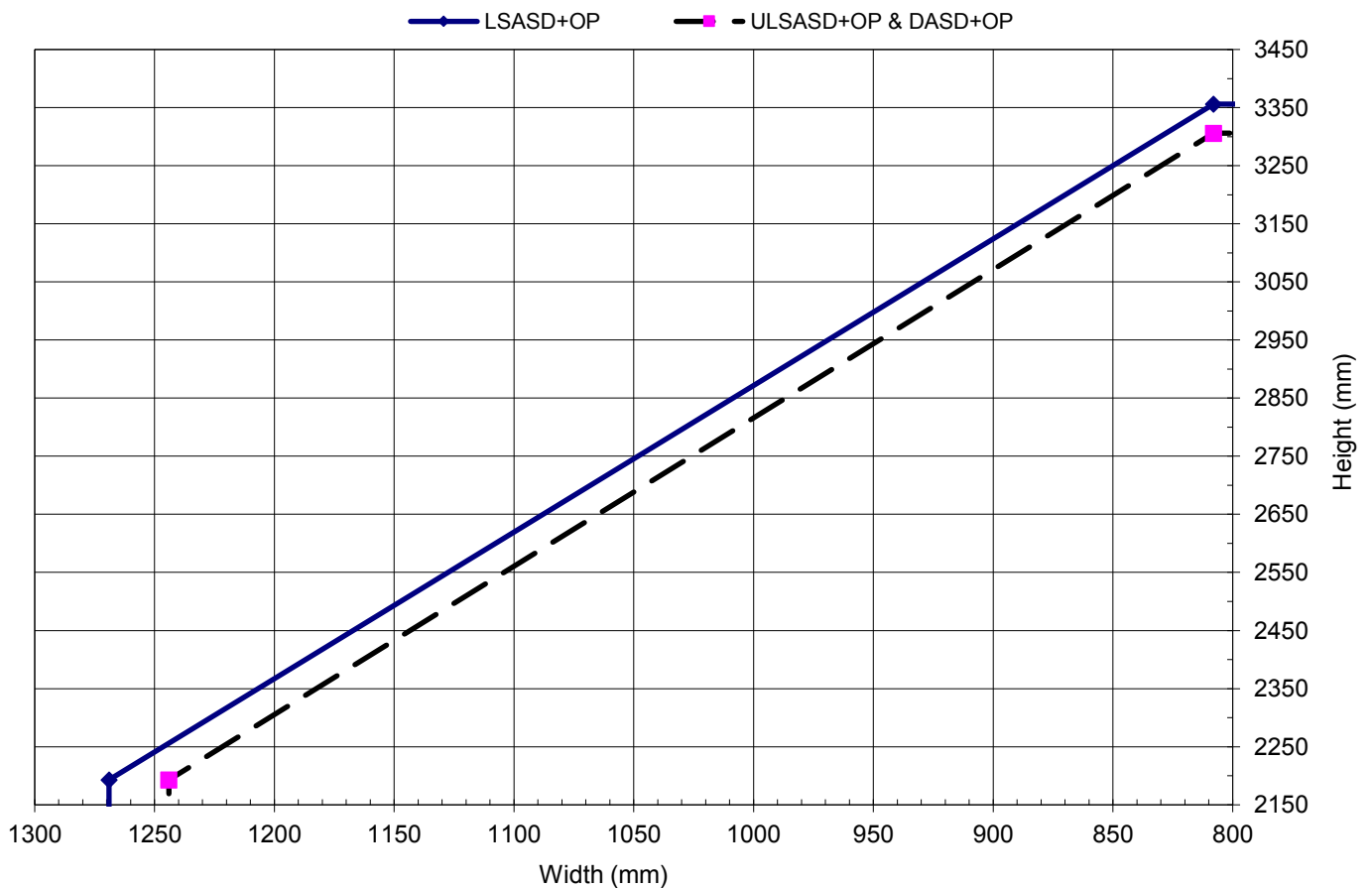
**Square:** 1No. 25 x 4mm strip centrally fitted in the bottom of the overpanel or leaf head. Leaves over 2700mm high increase to 1No. 35 x 4mm.

**Rebated:** 1No. 15 x 4mm strip centrally fitted in the rebate of the leaf and in the rebate of the overpanel.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Single Doorsets + Overpanels

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD+OP	From:	2440	x	1220
		To:	3050	x	915
	ULSASD+OP & DASD+OP	From:	2440	x	1220
		To:	3050	x	915
Max. Overpanel Height (mm)			2000		
Glazing		Max. Glazed Area		1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details	
		Approved Systems		See section 8 and appendix C	
Frame Specification		Min. Section (mm)		70 x 32	70 x 30
		Material		Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )		640	700
		Max. Leaf Dims (mm)	From:	All	2440 x 1204
			To:		3040 x 915

#### INTUMESCENT MATERIALS: Type 617, Therm-A-Seal

##### HEAD:

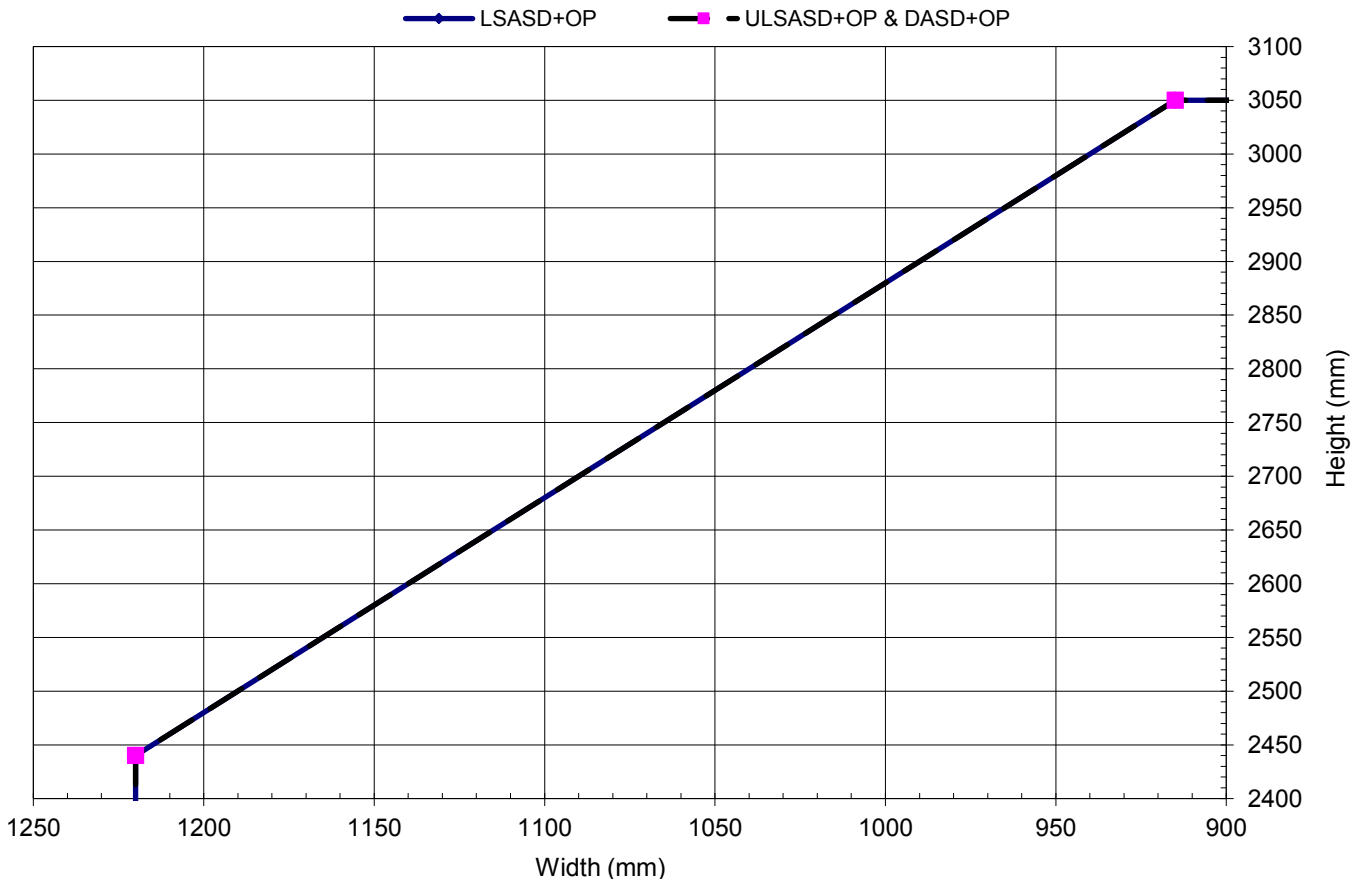
**Square:** 1No. 25 x 4mm strip centrally fitted in the bottom of the overpanel. Leaves over 2700mm high increase to 1No. 35 x 4mm.

**Rebated:** 1No. 15 x 4mm strip centrally fitted in the rebate of the leaf and in the rebate of the overpanel.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Single Doorsets + Overpanels

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD+OP	From:	2403	x	1074
		To:	2965	x	840
	ULSASD+OP & DASD+OP	From:	2403	x	1049
		To:	2915	x	840
Max. Overpanel Height (mm)			2000		
Glazing		Max. Glazed Area		1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details	
		Approved Systems		See section 8 and appendix C	
Frame Specification		Min. Section (mm)		70 x 32	70 x 30
		Material		Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )		640	700
		Max. Leaf Dims (mm)	From:	All	2440 x 1030
			To:		2720 x 915

#### INTUMESCENT MATERIALS: Palusol, Type 617

##### HEAD:

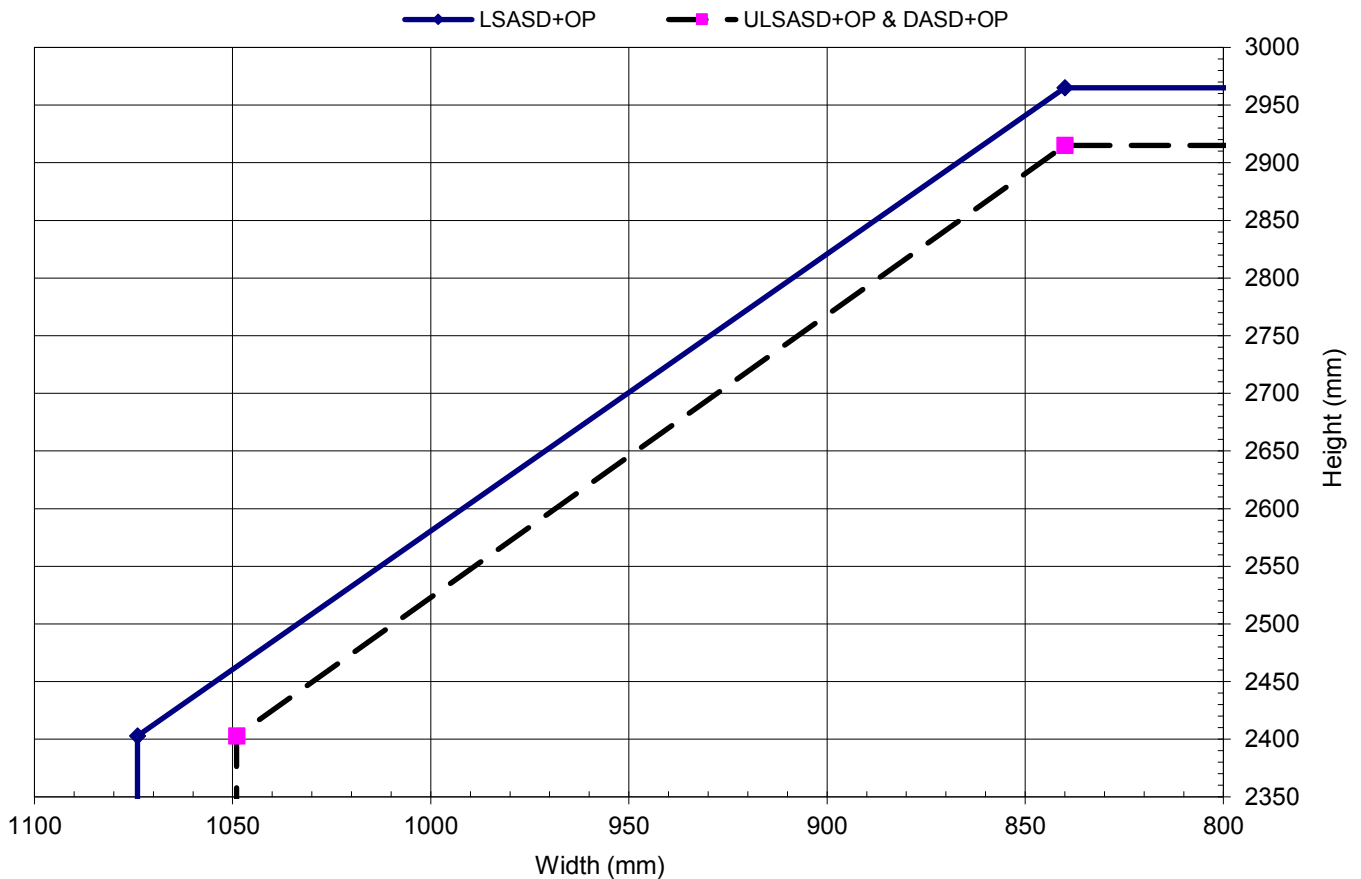
**Square:** 1No. 25 x 4mm strip centrally fitted in the bottom of the overpanel. Leaves over 2700mm high increase to 1No. 35 x 4mm.

**Rebated:** 1No. 15 x 4mm strip centrally fitted in the rebate of the leaf and in the rebate of the overpanel.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Double Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2040	x	922
		To:	2263	x	827
	ULSADD & DADD	From:	2040	x	897
		To:	2213	x	827
Max. Overpanel Height (mm)		Transomed	1500		
Glazing		Max. Glazed Area	1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details		
		Approved Systems	See section 8 and appendix C		
Frame Specification		Min. Section (mm)	70 x 32	70 x 32	70 x 30
		Material	Softwood	Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )	500	500	700

#### INTUMESCENT MATERIALS: Palusol, Type 617

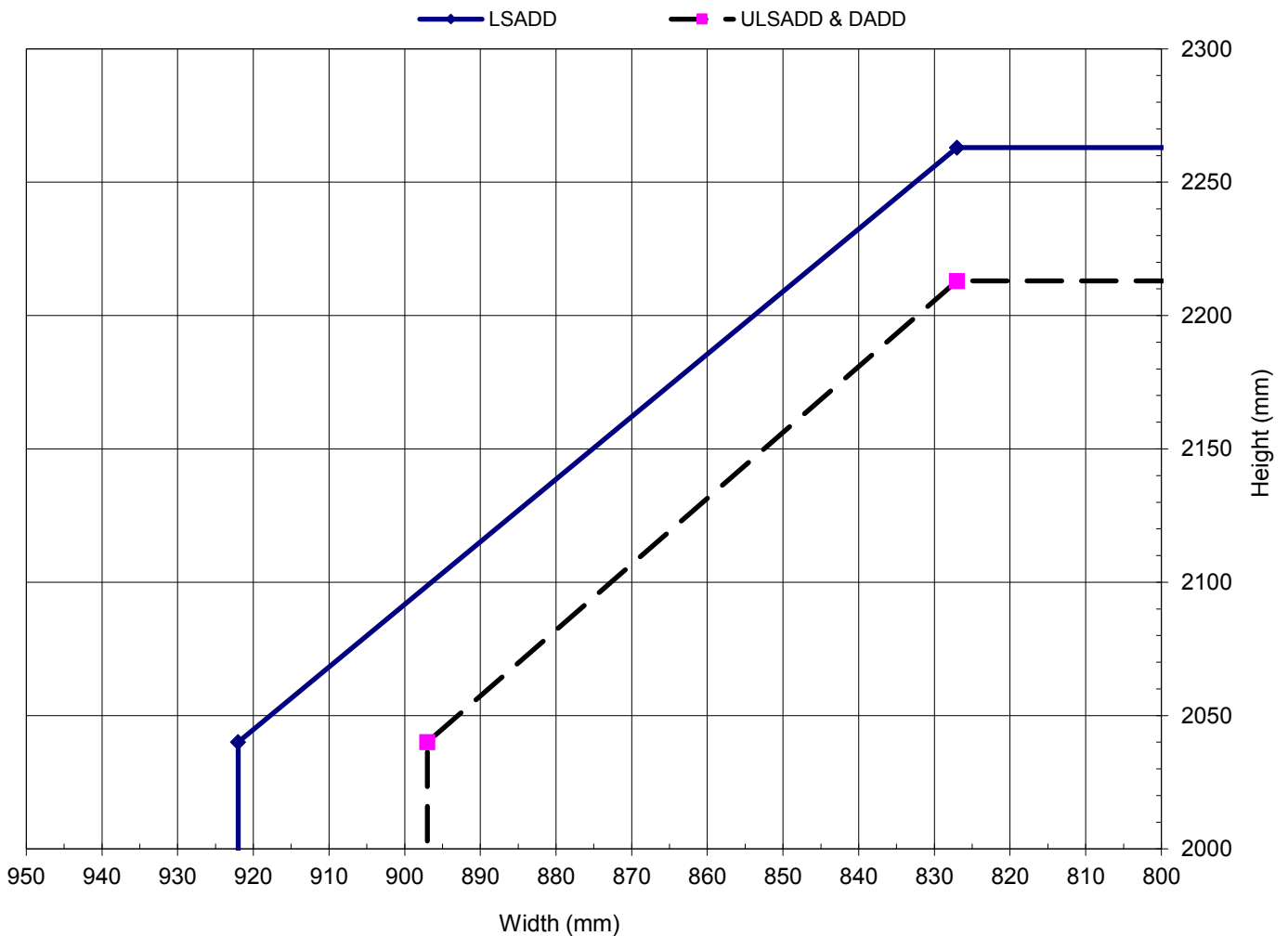
**HEAD:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**MEETING EDGES:** 1No. 15 x 4mm strip centrally fitted in one meeting edge only.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Double Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2040	x	1046
		To:	2569	x	827
	ULSADD & DADD	From:	2040	x	1021
		To:	2519	x	827
Max. Overpanel Height (mm)		Transomed	1500		
Glazing		Max. Glazed Area	1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details		
		Approved Systems	See section 8 and appendix C		
Frame Specification		Min. Section (mm)	70 x 32	70 x 32	70 x 30
		Material	Softwood	Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )	500	500	700

#### INTUMESCENT MATERIALS: Type 617

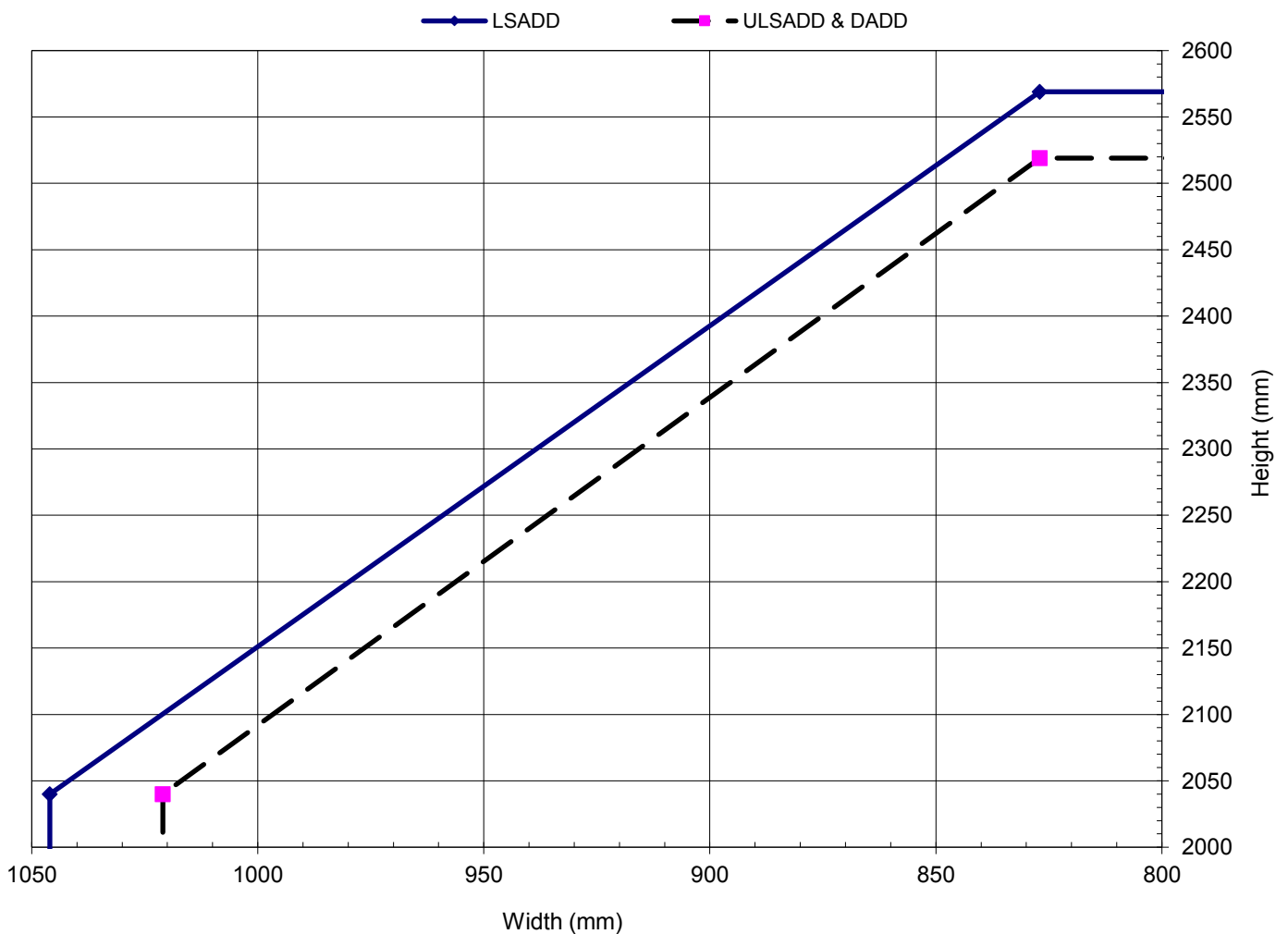
**HEAD:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**MEETING EDGES:** 1No. 15 x 4mm strip centrally fitted in one meeting edge only.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Double Doorsets

	Configuration		Height (mm)		Width (mm)	
Leaf Sizes	LSADD	From:	2146	x	1115	
		To:	2554	x	935	
	ULSADD & DADD	From:	2146	x	1090	
		To:	2504	x	935	
Max. Overpanel Height (mm)		Transomed	1500			
Glazing		Max. Glazed Area	1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details			
		Approved Systems	See section 8 and appendix C			
Frame Specification		Min. Section (mm)	70 x 32	70 x 32		70 x 30
		Material	Softwood	Hardwood		MDF
		Min. Density (kg/m <sup>3</sup> )	500	500		700

#### INTUMESCENT MATERIALS: Pyroplex

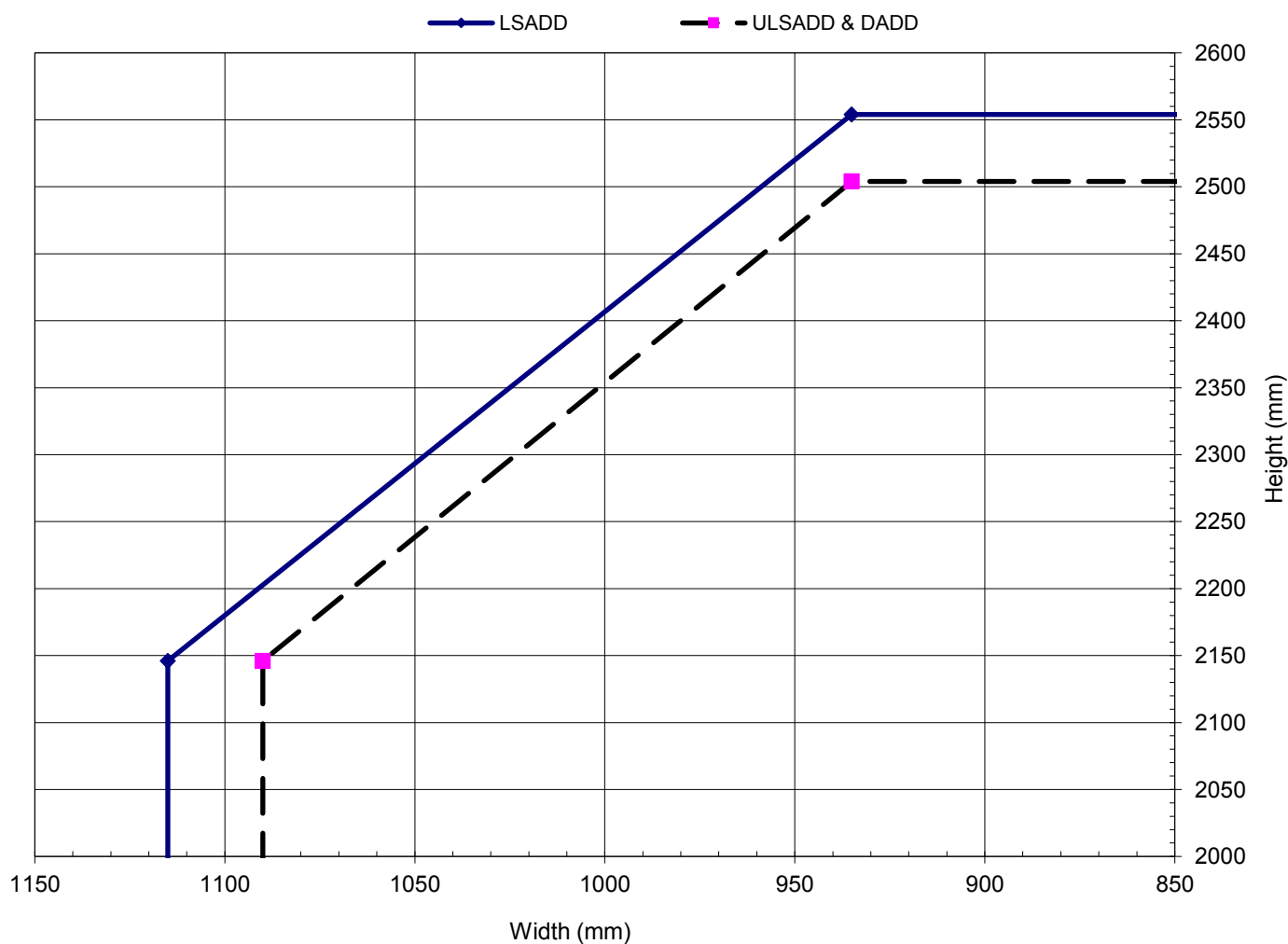
**HEAD:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**MEETING EDGES:** 1No. 15 x 4mm strip centrally fitted in one meeting edge only.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Double Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2193	x	1219
		To:	3256	x	808
	ULSADD & DADD	From:	2193	x	1194
		To:	3206	x	808
Max. Overpanel Height (mm)		Transomed	1500		
Glazing		Max. Glazed Area		1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details	
		Approved Systems		See section 8 and appendix C	
Frame Specification		Min. Section (mm)		70 x 32	70 x 30
		Material		Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )		640	700
		Max. Leaf Dims (mm)	From:	All	2440 x 1100
			To:		2900 x 915

#### INTUMESCENT MATERIALS: Palusol, Type 617

**HEAD:** 1No. 25 x 4mm strip centrally fitted in the leaf edge or frame reveal. Leaves over 2700mm high increase to 1No. 35 x 4mm.

#### MEETING EDGES:

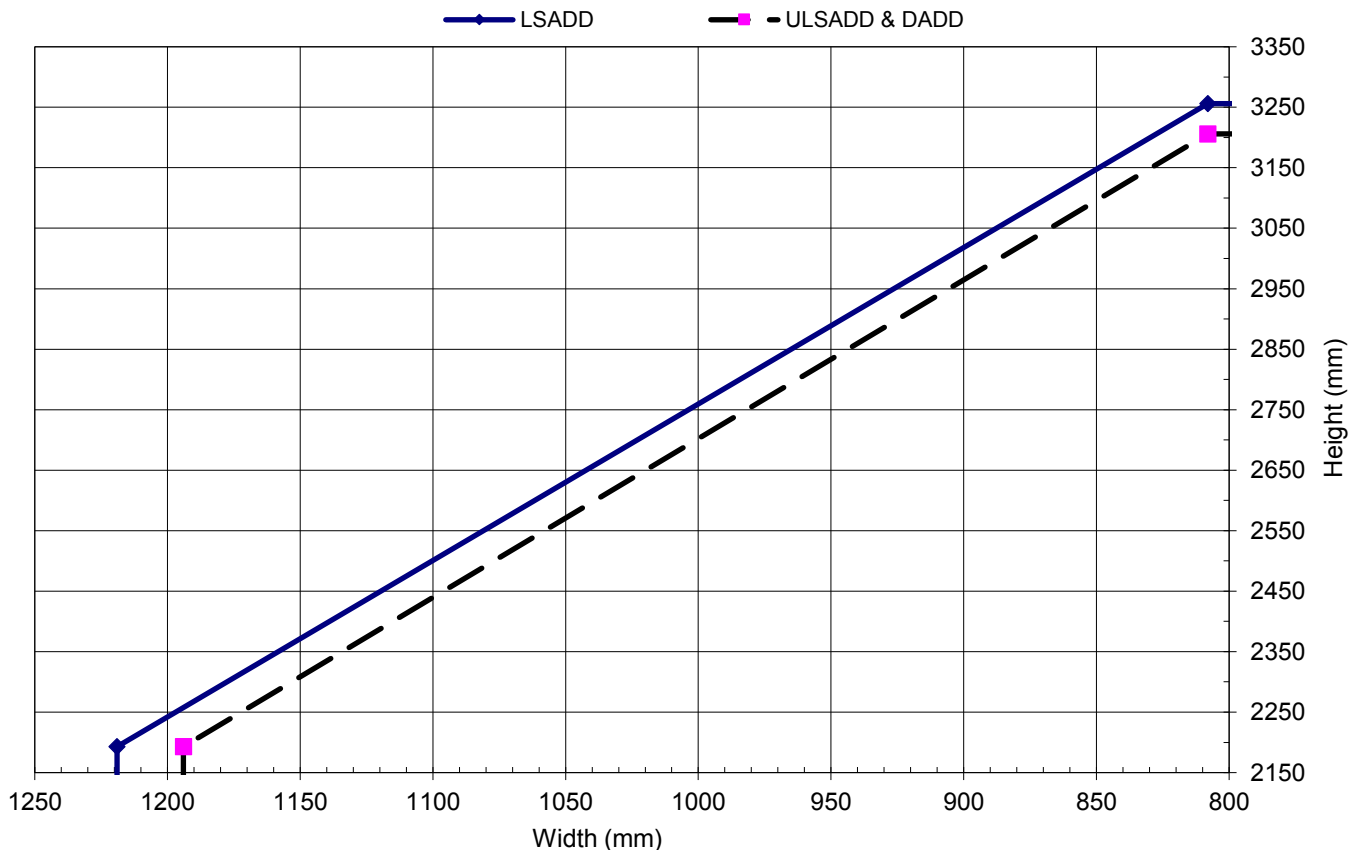
**Square:** 1No. 25 x 4mm strip centrally fitted in one meeting edge only.

**Rebated:** 1No. 15 x 4mm strip centrally fitted in the rebates of both leaf edges.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size





## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Double Doorsets

	Configuration		Height (mm)	Width (mm)
Leaf Sizes	LSADD & ULSADD & DADD	Maximum Leaf Size	2440	x 915
Max. Overpanel Height (mm)		Transomed	1500	
Glazing		Max. Glazed Area	1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details	
		Approved Systems	See section 8 and appendix C	
Frame Specification		Min. Section (mm)	70 x 32	70 x 30
		Material	Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )	640	700
		Max. Leaf Dims (mm)	All	All

#### INTUMESCENT MATERIALS: Type 617, Therm-A-Seal

**HEAD:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal. Leaves over 2275mm high increase to 1No. 20 x 4mm.

#### MEETING EDGES:

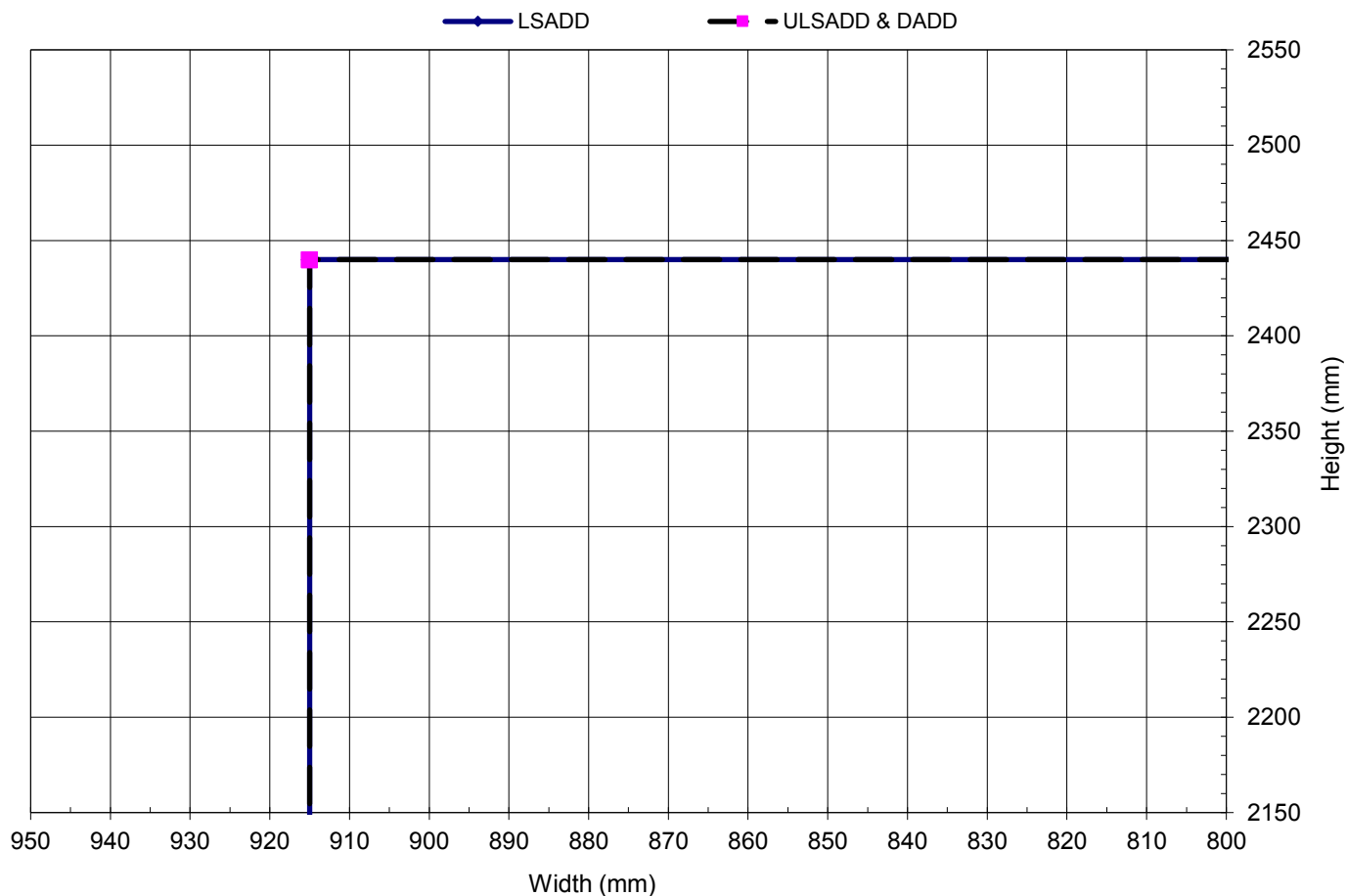
**Square:** 1No. 15 x 4mm strip centrally fitted in one meeting edge only.

**Rebated:** 1No. 15 x 4mm strip centrally fitted in the rebates of both leaf edges.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Double Doorsets

	Configuration		Height (mm)		Width (mm)	
Leaf Sizes	LSADD	From:	2403	x	1024	
		To:	2865	x	840	
	ULSADD & DADD	From:	2403	x	999	
		To:	2815	x	840	
Max. Overpanel Height (mm)		Transomed	1500			
Glazing		Max. Glazed Area		1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details		
		Approved Systems		See section 8 and appendix C		
Frame Specification		Min. Section (mm)		70 x 32		70 x 30
		Material		Hardwood		MDF
		Min. Density (kg/m <sup>3</sup> )		640		700
		Max. Leaf Dims (mm)	From:	All		2440 x 980
			To:			2600 x 915

#### INTUMESCENT MATERIALS: Palusol, Type 617

**HEAD:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal. Leaves over 2275mm high increase to 1No. 20 x 4mm. Leaves over 2700mm high increase to 1No. 30 x 4mm.

#### MEETING EDGES:

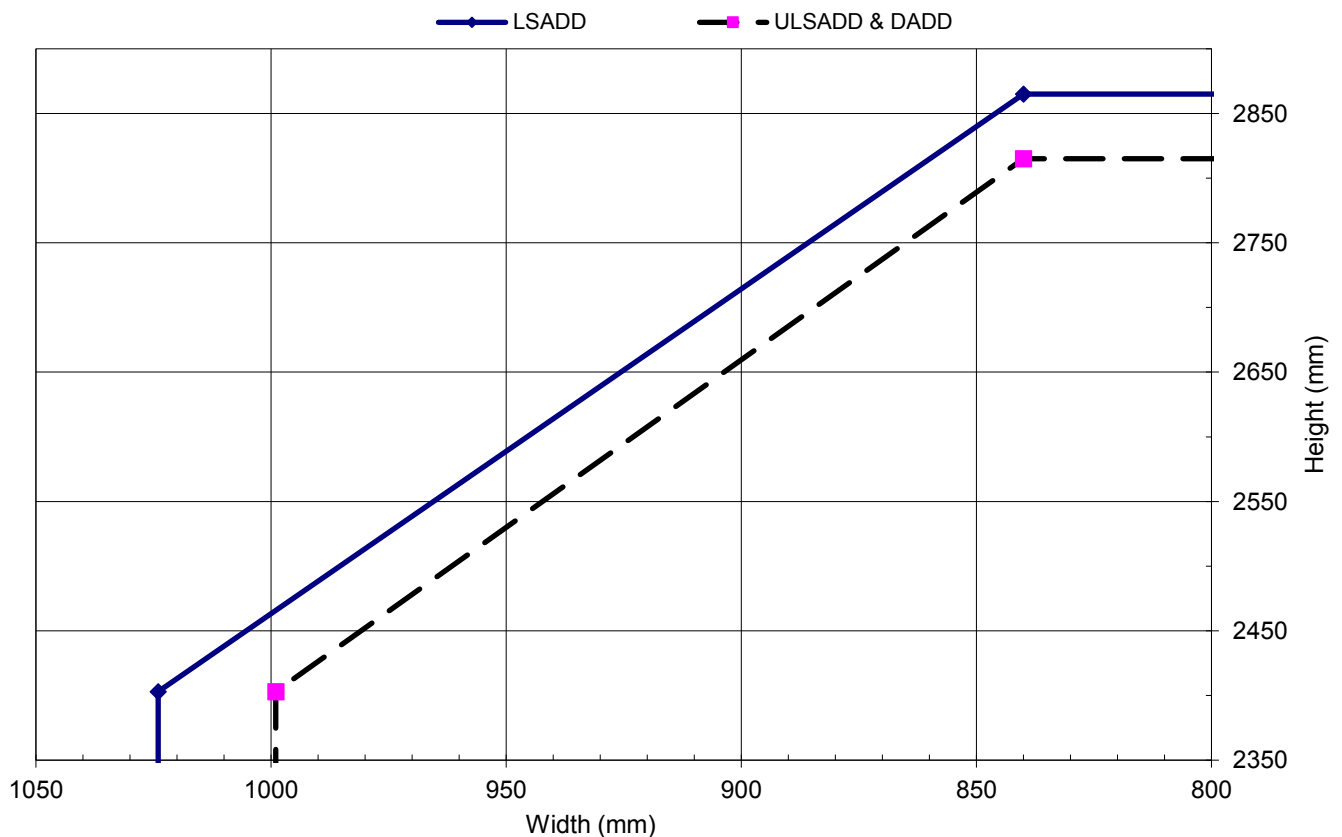
**Square:** 1No. 15 x 4mm strip centrally fitted in one meeting edge only.

**Rebated:** 1No. 15 x 4mm strip centrally fitted in the rebates of both leaf edges.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Double Doorsets + Overpanels

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD+OP	From:	2193	x	1169
		To:	3156	x	808
	ULSADD+OP & DADD+OP	From:	2193	x	1144
		To:	3106	x	808
Max. Overpanel Height (mm)			1500		
Glazing		Max. Glazed Area		1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details	
		Approved Systems		See section 8 and appendix C	
Frame Specification		Min. Section (mm)		70 x 32	70 x 30
		Material		Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )		640	700
		Max. Leaf Dims (mm)	From:	All	2440 x 1050
			To:		2820 x 915

#### INTUMESCENT MATERIALS: Type 617, Therm-A-Seal

##### HEAD:

**Square:** 1No. 25 x 4mm strip centrally fitted in the bottom of the overpanel. Leaves over 2700mm high increase to 1No. 35 x 4mm.

**Rebated:** 1No. 15 x 4mm strip centrally fitted in the bottom of the rebates of the leaf heads and rebate of the overpanel.

##### MEETING EDGES:

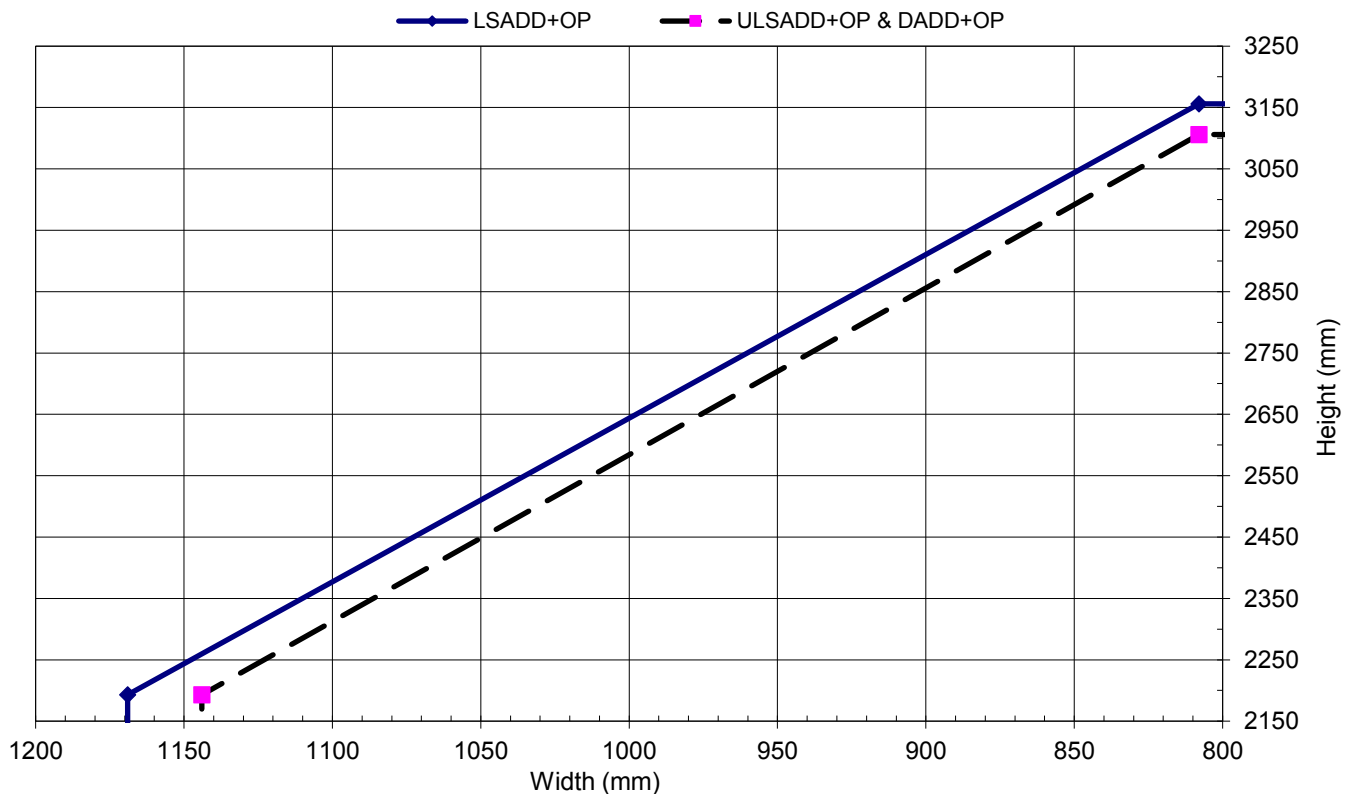
**Square:** 1No. 25 x 4mm strip centrally fitted in one meeting edge only.

**Rebated:** 1No. 15 x 4mm strip centrally fitted in the rebates of both leaf edges.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Double Doorsets + Overpanels

	Configuration		Height (mm)	Width (mm)
Leaf Sizes	LSADD+OP & ULSADD+OP & DADD+OP	Maximum Leaf Size	2440	x 915
Max. Overpanel Height (mm)			1500	
Glazing	Max. Glazed Area		1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details	
	Approved Systems		See section 8 and appendix C	
Frame Specification	Min. Section (mm)		70 x 32	70 x 30
	Material		Hardwood	MDF
	Min. Density (kg/m <sup>3</sup> )		640	700
	Max. Leaf Dims (mm)		All	All

#### INTUMESCENT MATERIALS: Type 617, Therm-A-Seal

##### HEAD:

**Square:** 1No. 25 x 4mm strip centrally fitted in the bottom of the overpanel.

**Rebated:** 1No. 15 x 4mm strip centrally fitted in the bottom of the rebates of the leaf heads and rebate of the overpanel.

##### MEETING EDGES:

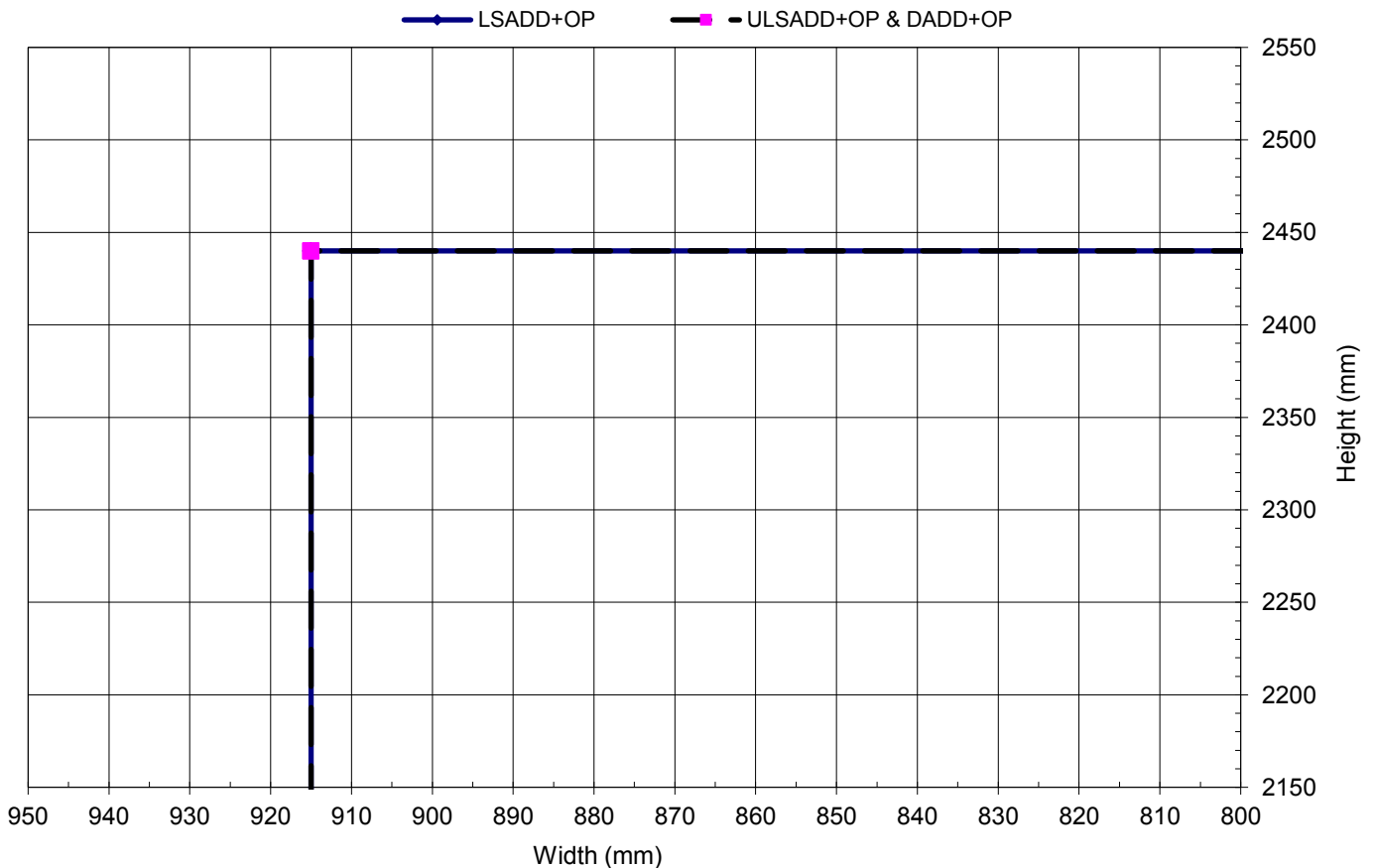
**Square:** 1No. 15 x 4mm strip centrally fitted in one meeting edge only.

**Rebated:** 1No. 15 x 4mm strip centrally fitted in the rebates of both leaf edges.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size



## Blankfort 30 & 30+ – 30 Minute Fire Resisting Doorsets

### Latched & Unlatched, Single & Double Acting, Double Doorsets + Overpanels

	Configuration		Height (mm)		Width (mm)		
Leaf Sizes	LSADD+OP	From:	2403	x	974		
		To:	2765	x	840		
	ULSADD+OP & DADD+OP	From:	2403	x	949		
		To:	2715	x	840		
Max. Overpanel Height (mm)			1500				
Glazing		Max. Glazed Area		1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details			
		Approved Systems		See section 8 and appendix C			
Frame Specification		Min. Section (mm)		70 x 32		70 x 30	
		Material		Hardwood		MDF	
		Min. Density (kg/m <sup>3</sup> )		640		700	
		Max. Leaf Dims (mm)	From:	All		2440 x 930	
			To:			2510 x 915	

#### INTUMESCENT MATERIALS: Palusol, Type 617

##### HEAD:

**Square:** 1No. 25 x 4mm strip centrally fitted in the bottom of the overpanel. Leaves over 2700mm high increase to 1No. 35 x 4mm.

**Rebated:** 1No. 15 x 4mm strip centrally fitted in the bottom of the rebates of the leaf heads and rebate of the overpanel.

##### MEETING EDGES:

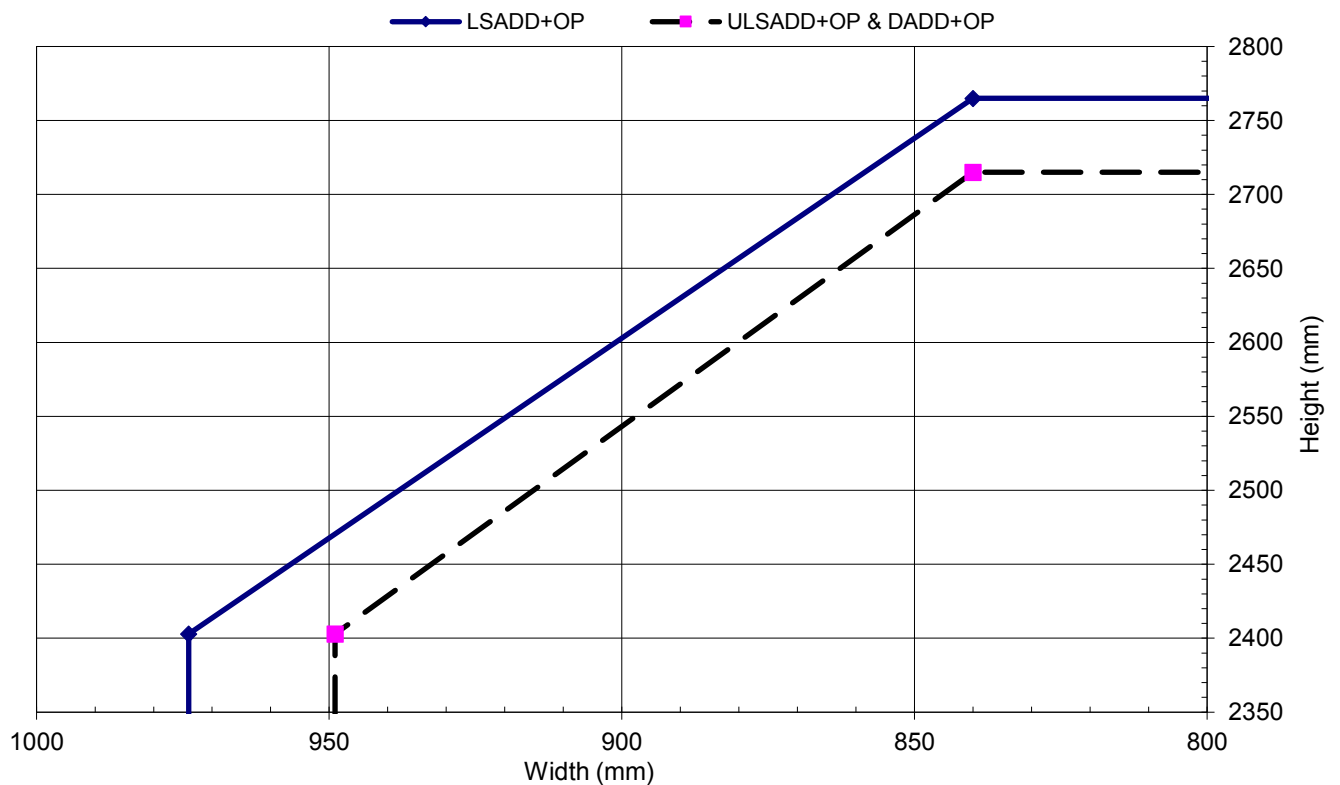
**Square:** 1No. 25 x 4mm strip centrally fitted in one meeting edge only.

**Rebated:** 1No. 15 x 4mm strip centrally fitted in the rebates of both leaf edges.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge or frame reveal.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size

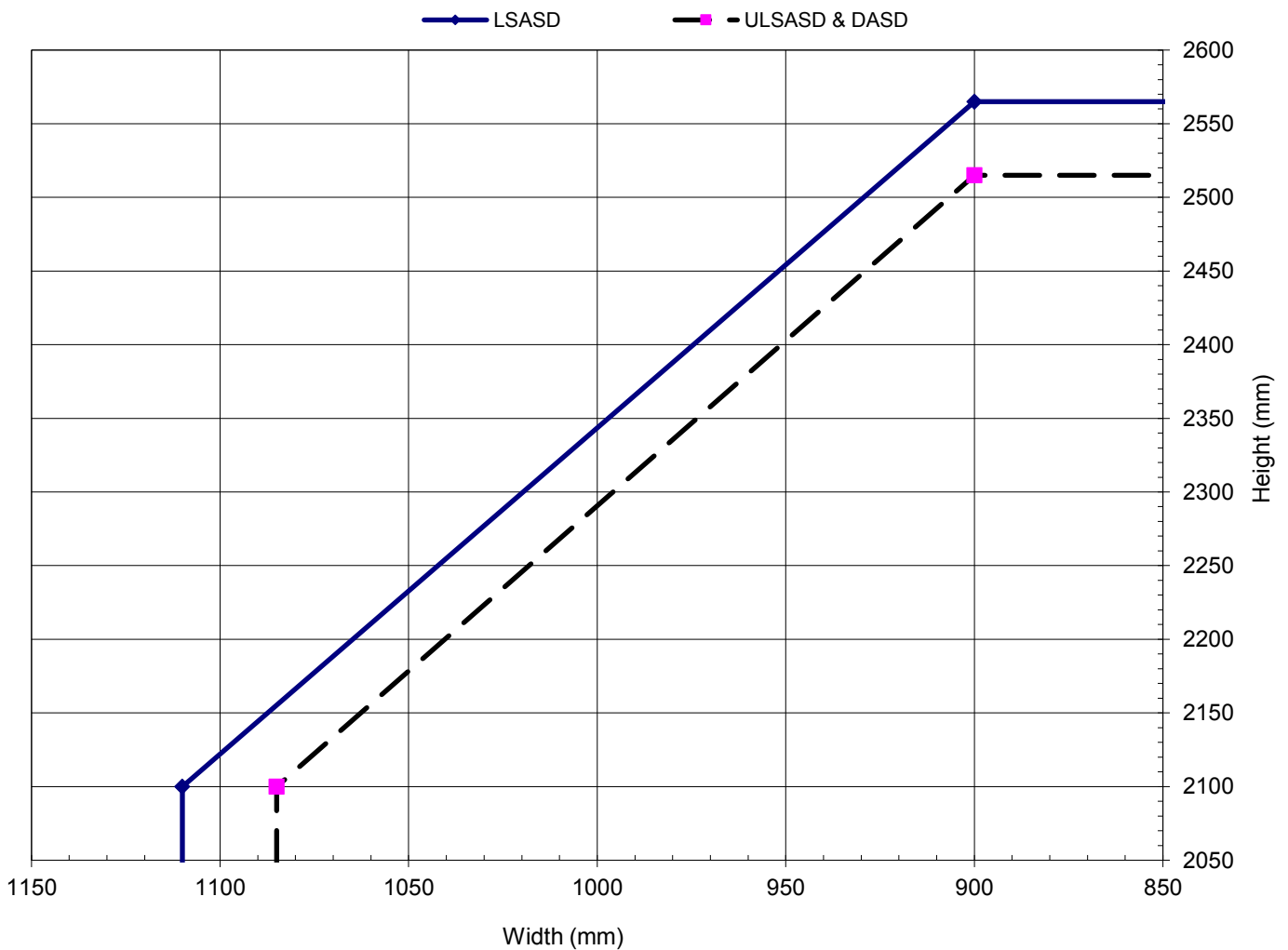


## Blankfort 30 & 30+ – CS Edge Protectors/Acrovyn Wrap

### Latched & Unlatched, Single & Double Acting, Single Doorsets

	Configuration		Height (mm)	Width (mm)
Leaf Sizes	LSASD	From:	2100	x 1110
		To:	2565	x 900
	ULSASD & DASD	From:	2100	x 1085
		To:	2515	x 900
Max. Overpanel Height (mm)		Transomed	2000	
Glazing		Max. Glazed Area	1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details	
		Approved Systems	See section 8 and appendix C	
Frame Specification		Min. Section (mm)	70 x 32	70 x 30
		Material	Softwood/Hardwood	MDF
		Min. Density (kg/m <sup>3</sup> )	500	700
<b>INTUMESCENT MATERIALS: Type 617</b>				
<b>HEAD:</b>				
<b>Square:</b> 1No. 15 x 4mm strip centrally fitted in the leaf head or frame reveal.				
<b>JAMBS &amp; OVERPANEL:</b> 1No. 15 x 4mm strip centrally fitted in the leaf edge.				
<b>HARDWARE PROTECTION:</b> See section 12.				

Maximum Door Leaf Size



## Blankfort 30 & 30+ – CS Edge Protectors/Acrovyn Wrap

### Latched & Unlatched, Single & Double Acting, Double Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2100	x	1060
		To:	2465	x	900
	ULSADD & DADD	From:	2100	x	1035
		To:	2415	x	900
Max. Overpanel Height (mm)		Transomed	1500		
Glazing		Max. Glazed Area	1.92m <sup>2</sup> (1.32m <sup>2</sup> for single panes). See section 8 for details		
		Approved Systems	See section 8 and appendix C		
Frame Specification		Min. Section (mm)	70 x 32		70 x 30
		Material	Softwood/Hardwood		MDF
		Min. Density (kg/m <sup>3</sup> )	500		700

#### INTUMESCENT MATERIALS: Type 617

##### HEAD:

**Square:** 1No. 15 x 4mm strip centrally fitted in the leaf heads or frame reveal.

##### MEETING EDGES:

**Square:** 1No. 15 x 4mm strip centrally fitted in the meeting edges of both leaves.

**JAMBS & OVERPANEL:** 1No. 15 x 4mm strip centrally fitted in the leaf edge.

**HARDWARE PROTECTION:** See section 12.

#### Maximum Door Leaf Size

