



Global Assessment of:

**KLW Wood Products
Raised & Fielded and Shaker Style
Panelled Timber Doorsets**

30 Minute Fire Resisting Doorset

Report No: Chilt/A10222 Revision A

**Valid From: 27th March 2013
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www.qmark.info

Prepared for:

**KLW Wood Products
PL034, Simpang Renggam
Industrial Estate
86200 Simpang Renggam
Johore
Malaysia**

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Contents

	Page No.
1 Introduction.....	3
2 General Description of Construction	3
3 Leaf Sizes.....	4
4 Configurations	4
5 Leaf Size Adjustment.....	4
6 Overpanels.....	5
7 Fanlights.....	6
8 Panel and Groove Specification.....	7
9 Glazing	7
10 Door Frames	11
11 Edging Materials.....	13
12 Leaf Facing Materials	13
13 Intumescent Materials	14
14 Adhesives.....	15
15 Tested Hardware	15
16 Additional & Alternative Hardware	15
17 Classification of Timber	17
18 Door Gaps.....	17
19 Structural Opening.....	17
20 Fixings.....	18
21 Sealing to Structural Opening	18
22 Insulation.....	19
23 Smoke Control.....	20
24 Conclusion.....	20
25 Declaration by the Applicant	21
26 Limitations	22
27 Validity.....	22
Appendix A - Performance Data	23
Appendix B - Proprietary 30 Minute Glazing Systems	24
Appendix C - Revisions & Amendments.....	26
Appendix D - Datasheets	27

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1 Introduction

This document constitutes a global assessment relating to K LW Wood Products raised & fielded and Shaker style panelled 30 minute 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 designs 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

The construction for door leaves covered by this assessment comprises the following designs:

2.1 Raised & Fielded Panel Doors

Element	Species/Type		Dimensions (mm)	Density (kg/m ³)
Stiles and rails	None fitted		-	-
Core	Veneered particleboard		44 thick reduced to 21 thick at mock panel areas	520-580*
Panel facings	Profiled veneered MDF		6.5 thick reduced to 2 thick at fielded areas	650-680*
Panel beading	Oak		11.5 high x 9.5 wide	500*
Adhesives	Lipping	PVAC*	-	-
	Panel facing	Urea formaldehyde*	-	-
	Panel beading	PVAC*	-	-
Lippings – vertical edges only	Oak		6 thick	500*

* Information provided by client and not verified by CIFL.

2.2 Shaker Style Panel Doors

Element	Species/Type		Dimensions (mm)	Density (kg/m ³)
Stiles and rails	None fitted		-	
Core	Veneered particleboard		44 thick reduced to 30 thick under decorative inlay	520-580*
Decorative inlay	Oak		13.5 wide x 7 deep incorporating 10 wide x 4 deep groove	500*
Adhesives	Lipping	PVAC*	-	-
	Decorative inlay	PVAC*	-	-
Lippings – vertical edges only	Oak		6 thick	500*

* Information provided by client and not verified by CIFL.

3 Leaf Sizes

Assessment for increased leaf dimensions is based on the design's performance and the characteristics exhibited during test. Data sheets specifying the maximum assessed leaf sizes and graphs showing the permitted gradient between maximum height and width are contained in appendix D.

Doorsets containing leaves with smaller dimensions than those stated are deemed to be less onerous and are therefore automatically covered.

4 Configurations

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

Abbreviation	Description
LSASD & ULSASD	Latched & unlatched, single acting, single doorset
DASD	Double acting, single doorset

5 Leaf Size Adjustment

Door leaves of these designs may be altered as follows:

Element	Reduction
Leaf	The manufactured dimensions of the leaf may not be reduced in height or width (smaller doors may be manufactured-see section 3)
Timber lippings	The dimensions stated in section 11 may be reduced by 20% for fitting purposes

6 Overpanels

Overpanels of the same construction as the door leaves may be used with these doorset designs, only when separated from the leaves by a transom. The overpanel must be fully contained within the door frame (see following diagram).

The transom must be made from solid timber (i.e. softwood or hardwood) to the same specification as the door frame (see section 10.1).

MDF must not be used for transom construction (i.e. solid timber only).

Door frame joints must utilise one of the following four methods: mortise and tenon joints; half lapped joints; mitre joints; butt joints (see section 10.2).

All 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.

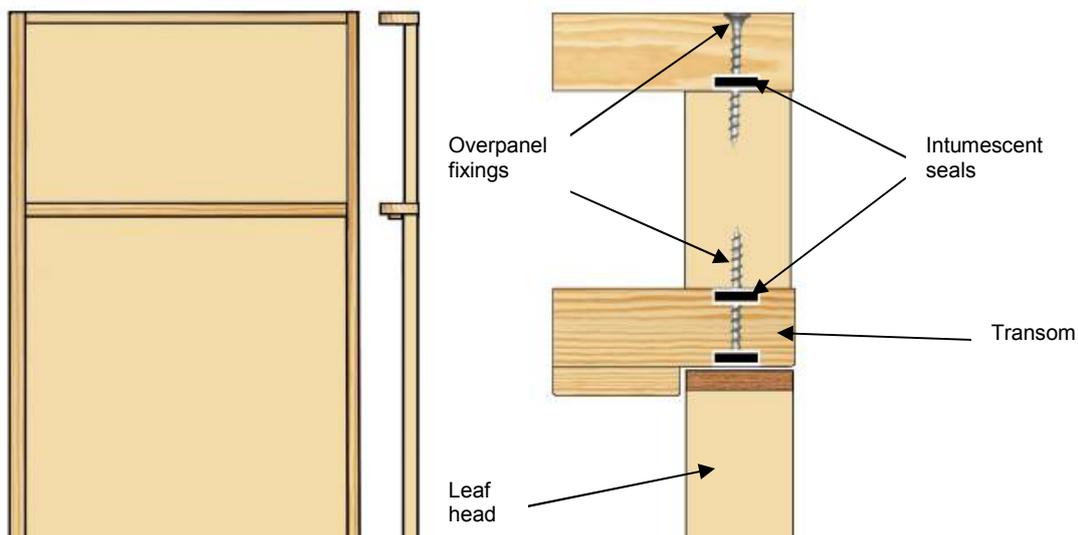
Overpanels must be fixed by:

- Screwing through the rear of the frame with steel screws passing at least 40mm 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.

Maximum overpanel heights are as follows:

- Single doorsets - 2000mm.

The intumescent seals specified for the jambs in appendix D, must be fitted in the edges of the overpanel or frame reveal. Providing the intumescent seals are fitted to all edges of the overpanel, the frame to overpanel junction is permitted to have a maximum 2mm gap tolerance.



Note: Drawing is representative of doorset construction; actual construction must be as the text within this document specifies.

7 Fanlights

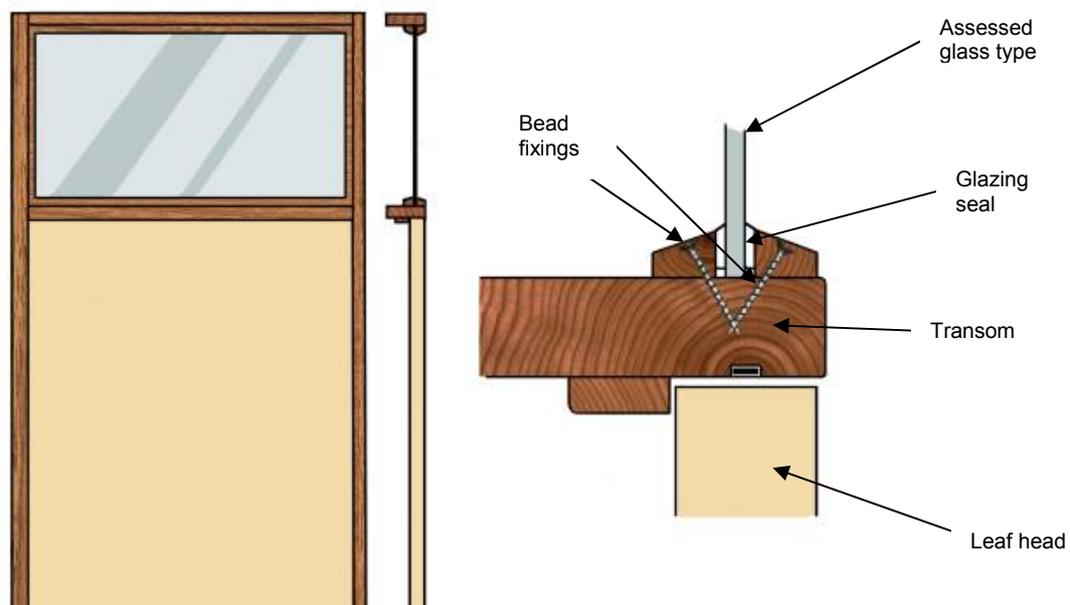
Timber frame doorsets may include glazed fanlights. The timber frame and glazing beads must be hardwood with a minimum density of 640kg/m^3 , whilst the frame section must be a minimum of $70\text{mm} \times 44\text{mm}$. The door frame construction must comply with the specification contained in section 10.

The maximum assessed fanlight 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: 2000 or 2008, at the pane dimensions to be installed.

Screen Element	Configuration	Height (mm)	Width (mm)
Fanlight	Single doorsets	≤ 600	Overall door width

NB: MDF and softwood frame doorsets are not assessed for glazed fanlights.



Note: Drawing is representative of doorset construction; actual construction must be as the text within this document specifies.

8 Panel and Groove Specification

8.1 General

Based on the test data, each design is assessed with the following permitted variation to the number of panels or groove specification, subject to the minimum required framing dimensions stated in the tables below, where applicable.

8.2 Raised & Fielded Panel Doors

The door leaf design referred to in section 2.1 of this assessment may have a minimum of 2 and a maximum of 8 panels, subject to the minimum required framing dimensions below:

Element		Dimensions (mm)
Stiles		120 wide x 44 thick
Rails	Top	120 wide x 44 thick
	Middle	180 wide x 44 thick
	Bottom	200 wide x 44 thick
	Intermediate framing (where required)	100 wide x 44 thick

8.3 Shaker Style Panel Doors

The door leaf design referred to in section 2.2 of this assessment may be grooved to the following specification:

Element	Details	
Max. groove size (mm)	As specified for inlay in section 2.2	
Minimum proximity to door edges (mm)	Horizontal Grooves	≥ 120 from top and bottom
	Vertical Grooves	≥ 120 from sides
Groove spacing (mm)	≥ 100	
Orientation	Vertical or horizontal	
Configuration	Latched and unlatched, single and double acting, single leaf doorsets	
Leaf size range (mm)	As specified in appendix D	
Intumescent seal dimensions (mm)	As specified in appendix D	

A maximum of 4No. vertical and 4No. horizontal grooves are permitted perpendicular to one another providing all other details meet the specification given in the table above. Grooves must not intersect glazed apertures, and must be located a minimum of 50mm from any aperture edge.

9 Glazing

9.1 General

The testing conducted on the two designs detailed in section 2 has demonstrated that both designs can tolerate glazed apertures within the following parameters:

- Multiple panes may be fitted within either design.
- The maximum assessed individual pane size when two or more panes are fitted is 0.36m².

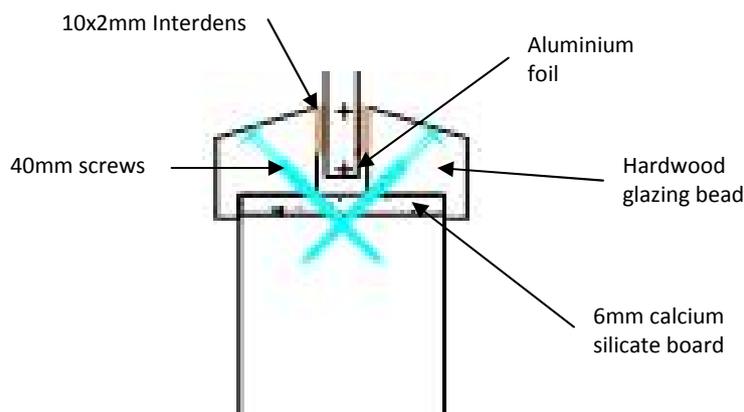
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- The maximum assessed pane size when a single pane is fitted is 1.4m².
- The minimum framing dimensions and groove spacing must be as specified in section 8 of this assessment.
- The glazing system for CFG toughened glass must meet that detailed in section 9.2.
- For alternative glass types and glazing systems, see section 9.3.

9.2 CFG Toughened Glass and Glazing System

The glazing system tested in Chilt/RF12160 must be installed exactly as tested, and illustrated below:

1. Hardwood (min. density 640kg/m³) glazing beads 25mm high x 22mm wide with an 19° chamfer including a 5mm x 5mm bolection return;
2. Beads must be retained in position with 40mm long No. 6-8 screws, inserted at 45° to the vertical at no more than 50mm from each corner and at 150mm maximum centres;
3. Aluminium foil is to be used between the intumescent material and face of the glass. The foil must finish flush with the top of the bead;
4. The glass must be fitted with maximum 17mm edge cover;
5. The glass must be fitted to allow for 3mm expansion on all edges;
6. An 6mm thick calcium silicate board aperture liner is to be fitted using PVA adhesive;
7. Aperture shape is not restricted, providing the glazing system and beads are compatible with that shape;
8. Timber for glazing beads must be hardwood (640kg/m³), straight grained, joinery quality, free from knots, splits and checks;
9. Glazed openings must not be less than 120mm from any edge, with a minimum dimension of 100mm between apertures;
10. Multiple apertures are permitted, subject to point 9 above.



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9.3 Proprietary Glazing Systems

The glazing system may be as tested, or alternatively one of the following tested proprietary systems:

Glazing System	Manufacturer
1. Therm-A-Strip 30	Intumescent Seals Ltd.
2. Fireglaze 30	Sealmaster Ltd.
3. Firestrip 30	Hodgsons Sealants Ltd.
4. Pyroglaze 30	Mann McGowan Ltd.
5. System 36	Lorient Polyproducts Ltd.
6. FF1	Lorient Polyproducts Ltd.
7. R8913	Pyroplex

9.4 Proprietary Glass Products

The glass type may be as tested, or alternatively one of the following tested proprietary glass types:

Glass Type	Manufacturer	Thickness (mm)	Max. Area (m ²)
1. Pyroshield	Pilkington Group Ltd.	6 & 7	1.4
2. Pyroshield 2	Pilkington Group Ltd.	6 & 7	1.4
3. Pyran S	Schott Glass Ltd.	6	1.4
4. Pyrostem	CGI Ltd.	6	1.4
5. Pyroguard EW 30	CGI Ltd.	7	0.87
6. Pyranova S3.07	Schott UK Ltd.	7	1.4
7. Pyrobelite 7	AGC Flat Glass UK	7	1.4
8. Pyrodur 30-104	Pilkington Group Ltd.	7	1.4
9. Pyrodur 60-10	Pilkington Group Ltd.	10	1.4
10. Pyroguard EW MAXI	CGI Ltd.	11	0.58
11. Pyrobelite 12	AGC Flat Glass UK	12	1.4
12. Pyrodur 60-20	Pilkington Group Ltd.	13	1.4
13. Swissflam Lite	Vetrotech Saint Gobain	14	1.4
14. Pyranova 15-S2.0	Schott UK Ltd.	15	1.4
15. Pyroguard EI 30	CGI Ltd.	15	0.54
16. Pyrostop 30-10	Pilkington Group Ltd.	15	1.4
17. Pyrobel 16	AGC Flat Glass UK	16	1.4

Notes:

- 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.
- Glass types 14-17 are fully insulating for 30 minutes in terms of the criteria set out in BS 476: Part 20: 1987.

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9.5 Glazing Beads and Installation

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

Material	Profile	Min. Density (kg/m ³)	Application
Hardwood	Splayed	640	All proprietary systems detailed in section 9.3 and all glass types listed in section 9.4
Hardwood	Square	640	Proprietary systems 1-3 detailed in section 9.3 with glass types 5 & 7-17 listed in section 9.4

An alternative to the proprietary splayed bead systems is a square hardwood bead which may be used either with or without a 3mm high x 3mm deep quirk (see appendix B for diagram of profile).

The shape of glazed apertures is not restricted providing the glazing system can accommodate the profile.

Glazed apertures must not be nearer than 120mm to any leaf edge.

A 6mm thick calcium silicate board aperture liner is to be fitted using PVA adhesive.

Multiple apertures are acceptable within the parameters stated in section 9.1 and with a minimum dimension of 100mm separating the apertures.

All timber for glazing beads must be joinery quality, straight grained hardwood and free from splits, checks and knots.

Beads must be retained in position with 40mm long No. 6-8 screws, inserted at 45° to the vertical at no more than 50mm from each corner and at 150mm maximum centres.

False timber beads may be applied to glass types 7-17 using one of the following intumescent glazing products:

Glazing System	Manufacturer
1. Therm-A-Strip 30	Intumescent Seals Ltd.
2. Fireglaze 30	Sealmaster Ltd.
3. Firestrip 30	Hodgson Sealants Ltd.
4. Envirograf Product 77 - G10/10	Intumescent Systems Ltd.
5. Intumescent mastic or silicone tested for glazing applications to BS 476: Part 22: 1987 or BS EN 1634-1: 2000 or 2008	Various

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. Sectional drawings detailing the proprietary glazing systems are contained in appendix B.

10 Door Frames

10.1 Door Frame Construction

Door frames for these doorset designs may be timber or MDF as follows:

Material	Min. Section Size (mm)	Min. Density (kg/m ³)	Application
Softwood	70 x 32	510	All configurations
MDF	70 x 30	700	All configurations
Hardwood	70 x 32	510	All configurations

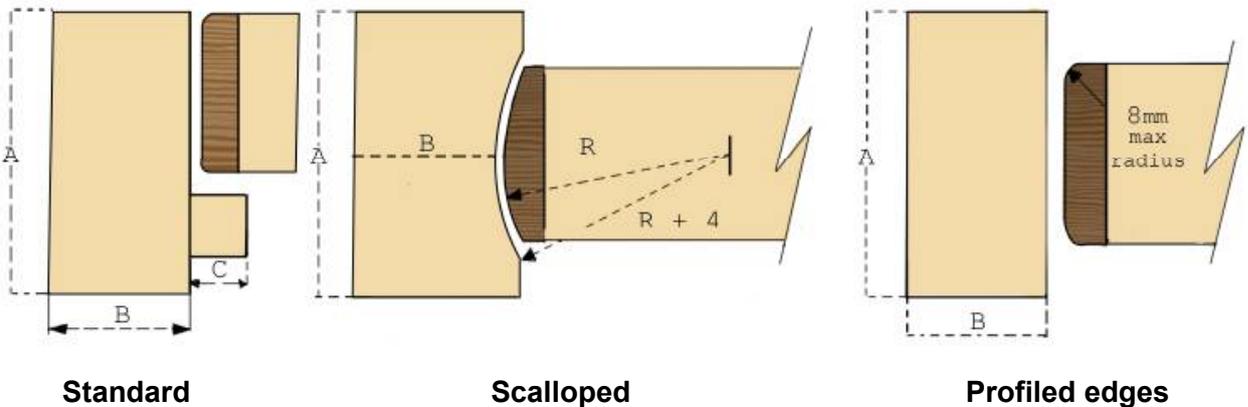
All door frame timber must be to class J30 as specified in BS EN 942: 2007, subject to the repair of any defects (see section 17).

A 12mm deep planted stop is adequate for single acting frames whilst double acting frames may be scalloped or square (see diagram below).

Frame joints may be mortice and tenoned, mitred, half lapped or butted and with no gaps (see section 10.2). All jointing methods require mechanical fixing with the appropriate size ring shank nails or screws.

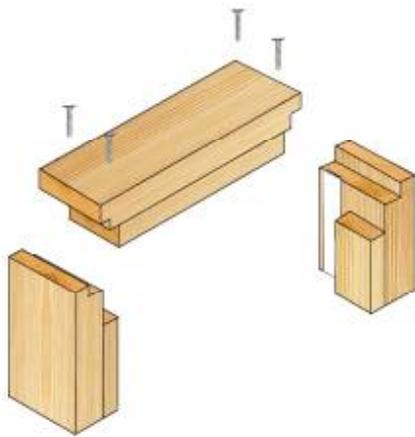
The following diagram depicts the assessed frame profiles and dimensions:

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

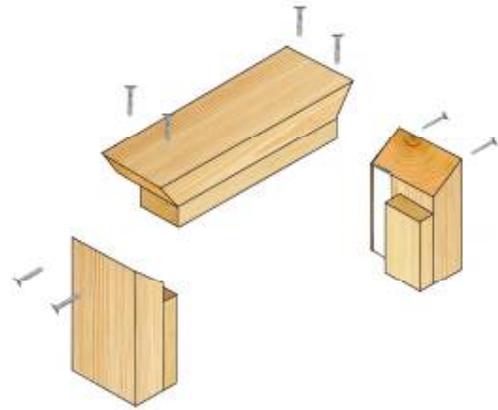


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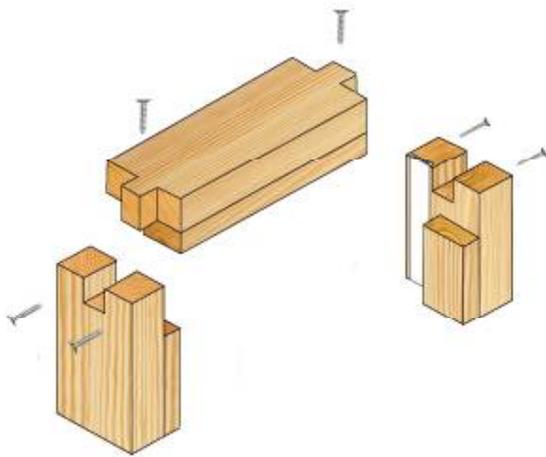
10.2 Door Frame Joints



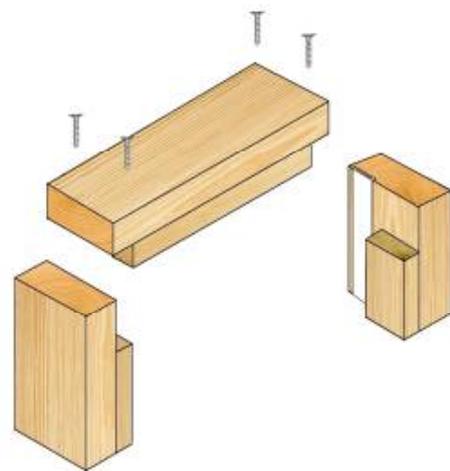
Half Lapped Joint



Mitre Joint



Mortice and Tenon Joint



Butt Joint

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

10.3 Door Frame Installations

The following diagrams indicate acceptable and unacceptable door frame installations:



11 Edging Materials

11.1 Timber Lippings

The assessed designs must be lipped in accordance with the following specification:

Material	Size (mm)	Min. Density (kg/m ³)
Timber for lippings must be straight grained, joinery quality hardwood, free from knots, splits or checks	Square = 6mm to 11mm thick	500
	Rounded = 8mm-13mm thick with a maximum of 2mm profiling permitted at corners of lipping (see section 10.1)	
	Rebated = Not permitted	

Notes:

1. Doorsets must be lipped on all edges.
2. A 2.5° chamfer is permitted to the lipping at the leading edge of leaves providing the door gaps meet the requirements of section 18.

12 Leaf Facing Materials

12.1 General

The following facing materials have been assessed as suitable for use with these door designs:

Design	Material	Dimensions (mm)	Min. Density (kg/m ³)
Raised & Fielded	MDF	6.5 (±0.5)	≥700
Shaker Style	Veneer	0.5 (±0.1)	500

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12.2 Decorative and Protective Facings

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

Facing Material	Maximum Permitted Thickness (mm)
Paint	0.5
Timber veneers	2
PVC/plastic laminates	2
Decorative paper/non-metallic foil	0.5

Notes:

1. Metallic facings are not permitted except for push plates and kick plates.
2. Materials must not conceal intumescent strips.
3. PVC/plastic laminates must not be applied to the edges of leaves.

13 Intumescent Materials

13.1 General

It is important that the type, size and fitting detail for the intumescent seals remains as tested. These products can often exhibit significantly different characteristics, which could alter the performances obtained during test, and therefore they must not be considered interchangeable, irrespective of whether the product has been tested and the seal dimensions are maintained.

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

Application	Location	Product/Manufacturer	Size (mm)
Edge seals	See appendix D	1. Lorient Polyproducts Ltd. - Type 617	See appendix D
Locks/latches	Under latch keep & forend ¹	1. Lorient Polyproducts Ltd. – MAP paper; 2. Dufaylite Development Ltd. – Interdens; 3. Sealmaster Ltd. – G30; 4. Intumescent Seals Ltd. – Therm-A-Strip; 5. Mann McGowan – Pyrostrip.	1 thick
Hinges	Under both blades ²	1. Lorient Polyproducts Ltd. – MAP paper; 2. Dufaylite Development Ltd. – Interdens; 3. Sealmaster Ltd. – G30; 4. Intumescent Seals Ltd. – Therm-A-Strip; 5. Mann McGowan – Pyrostrip.	1 thick
Top pivots	Lining all sides of the mortices	1. Lorient Polyproducts Ltd. – MAP paper; 2. Dufaylite Development Ltd. – Interdens; 3. Intumescent Seals Ltd. – Therm-A-Strip.	2 thick

Notes:

1. All doorsets fitted with locks/latches where the forend size is greater than 57mm high, require the locks/latches to be protected, as defined above.
2. All doorsets with leaves over 2300mm high must use hinge protection as defined in the table above.
3. The seal specification for each configuration is shown in appendix D.

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14 Adhesives

The following adhesives must be used in construction:

Element	Product/Manufacturer
Lipping	PVAC
Raised & Fielded Panel Facing	Urea formaldehyde
Panel Beading and Inlay	PVAC
Veneers	PVAC

15 Tested Hardware

The following hardware has been successfully incorporated in the tests on these designs:

Element	Make/type	Size (mm)
Hinges	3No. Royde & Tucker lift-off type hinges	100 x 35 (blade size)
Closer	Dorma Door Controls Ltd. TS71 surface mounted overhead type closer	232 x 68 (footprint size)
Locks/latches	E*S tubular steel mortise latch	57 x 26 (forend size)
Furniture	Aluminium lever handle	100 x 38 (footprint size)

16 Additional & Alternative Hardware

16.1 Latches & Locks

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

Maximum forend and strike plate dimensions	235mm high by 25mm wide by 4mm thick
Maximum body dimensions	180mm high by 100mm wide by 18mm thick
Intumescent protection	See section 13
Materials	All parts essential to the locking/latching action (including the latch bolt, forend and strike) to be steel
Position	1000mm – 1200mm above threshold

16.2 Hinges

Door leaves must be hung on a minimum of 3 hinges. Products with the following specification are acceptable:

Blade height	90 – 120mm
Blade width (excluding knuckle)	30 – 36mm
Blade thickness	2.5 - 4mm
Fixings	Minimum of 4No. 30mm long No. 8 or No.10 steel wood screws per blade
Materials	Steel, stainless steel or brass with a melting point $\geq 800^{\circ}\text{C}$
Hinge positions (to top of blade)	Top: 150 – 200mm from the head of the leaf; Bottom: 200 - 250mm from the foot of the leaf; Remainder: Equispaced between top & bottom hinge.
Intumescent protection	See section 13

16.3 Automatic Closing

Automatic closing devices, must either be as tested or components of equal specification that have demonstrated contribution to the required performance of these types of 30 minute doorset designs, when tested to BS 476: Part 22: 1987 or BS EN 1634-1: 2000 or 2008.

Note: Floor spring top pivots and all mounting plates must be protected with 2mm thick Interdens, 2mm thick MAP or 2mm thick Therm-A-strip gaskets. Alternatively, the hardware manufacturers tested gaskets may be used.

16.4 Pull Handles

These may be surface-fixed to the door leaf provided that they are steel or brass 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.

16.5 Push Plates/Kick Plates

Face-fixed hardware such as push plates and kick plates may be fitted to the doorsets on both sides 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.

16.6 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 in to a tested intumescent mastic.

16.7 Acoustic, Weather and Dust Seals

Silicon based flame retardant acoustic, weather and dust seals (e.g. Norseal 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.

16.8 Threshold Seals

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

Manufacturer	Product
Lorient Polyproducts	IS8010si
Pemko	411 – AR
Raven	RP8Si
Athmer	Schall-Ex Duo L-15
Norseal	810

16.9 Letter Boxes/Plates

Letter boxes/plates may be fitted providing the product can demonstrate contribution to the required performance of this type of 30 minute doorset design, when tested to BS 476: Part 22: 1987 or BS EN 1634-1: 2000 or 2008, 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). Letter plates must be fitted centrally in a 200mm wide mid-rail.

17 Classification of Timber

Other than as specified within specific sections of this report, all timber must meet or exceed class J30 as specified in BS EN 942: 2007, providing any defects are repaired.

18 Door Gaps

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

Location	Dimensions
Door edge gaps	Representative of those tested but as a guideline, 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	10mm between bottom of leaf and top of floor covering

19 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.

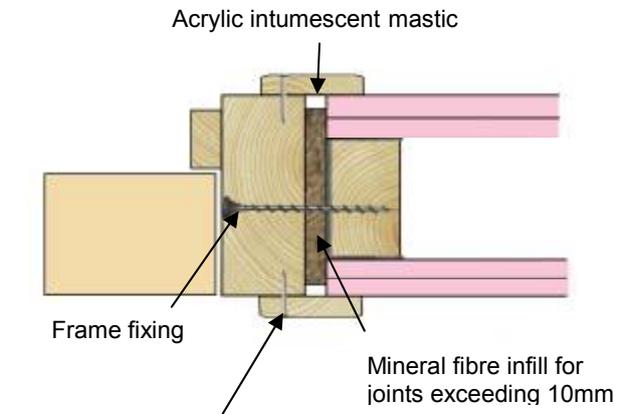
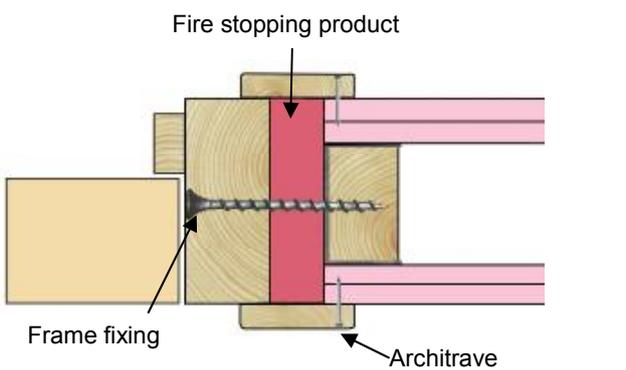
20 Fixings

The frame jambs are to be fixed to the supporting construction using steel fixings at 500mm maximum centres. The fixings must be of the appropriate type for the supporting construction and must penetrate to a minimum depth of 50mm. For doorsets without fanlights or overpanels, it is not necessary to fix the frame head, although packers must be inserted.

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

21 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: 2000 or 2008. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.</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: 2000 or 2008. Architraves are optional.</p>	

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<p>4. Timber based or non-combustible subframe up to 50mm thick, with no gaps between the components. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.</p>	
<p>5. Timber based or non-combustible subframe 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: 2000 or 2008. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.</p>	

Additional Guidance:

Guidance for various methods of sealing the frame to structural opening gap is also given in BS 8214: 2008, “Code of practice for fire door assemblies”, which may be referred to where appropriate.

Note: Drawings are representative of doorset installation only; actual installations must be as the text within this document specifies.

22 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 glazing
Fully insulating	Doorsets unglazed or including 30 minute insulating glazing (e.g. see note 2 of section 9.4 for fully insulating glass types)

23 Smoke Control

23.1 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.

23.2 Further Considerations

Note that there is other guidance available, including BS EN 9999-2008 - *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.

24 Conclusion

If the K LW Wood Products 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 22).

25 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: K LW Wood Products

26 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, CIF 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.

27 Validity

- 1) The assessment is initially valid for 5 years after which time it must be submitted to Chiltern International Fire Ltd. for technical review.
- 2) This assessment report is not valid unless it incorporates the declaration given in Section 25 duly signed by the applicant.

Signature:			
Name:	J Godfrey	S Bailey	P N Barker
Title:	Product Assessor	Product Assessor	Senior Consultant

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

Appendix A

Performance Data

Primary Data

Report No.	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)
Chilt/RF10105	A – ULSASD	1981x838x44	BS 476: Pt 22: 1987	Integrity: 38 Insulation: 38
	B – ULSASD	1981x838x44	BS 476: Pt 22: 1987	Integrity: 41 Insulation: 41
Chilt/RF12160 ²	A – ULSASD	2100x915x44	BS 476: Pt 20/22: 1987	Integrity: 28 ¹ Insulation: 0*
	B - ULSASD	2100x830x44	BS 476: Pt 20/22: 1987	Integrity: 26 ¹ Insulation: 0*

Notes:

* In accordance with section 8.6.1 of BS 476: Pt 22: 1987, the specimen has not been evaluated for insulation.

1 – Assessment of Premature Failure

The specimens failed under the integrity criterion at 28 and 26 minutes respectively due to ignition of a cotton pad approximately 50mm above the latch position. This is considered to be due to the significantly increased size of the latch component tested in comparison to the size of the latch component successfully tested in Chilt/RF10105.

When considered in conjunction with the lack of intumescent gaskets protecting this element, assessment is made on the basis that protection in the form of intumescent gaskets (see section 13 for range of assessed products) must be provided for doorsets fitted with a latch larger than that which was tested in Chilt/RF10105.

2 – Assessment of Increased Maximum Glazed Area

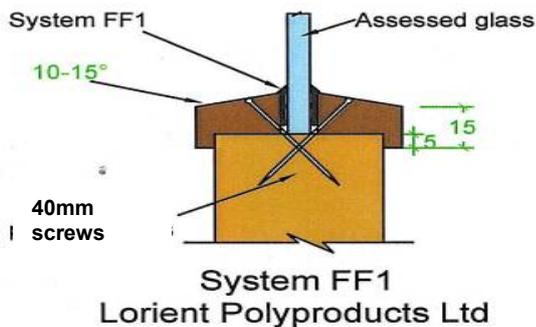
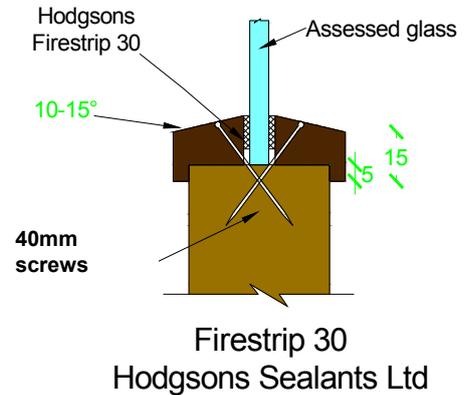
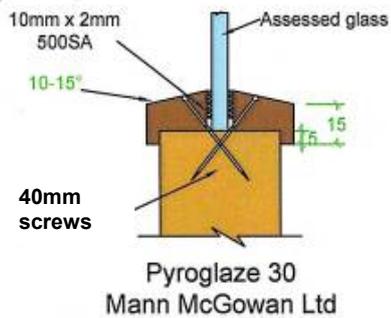
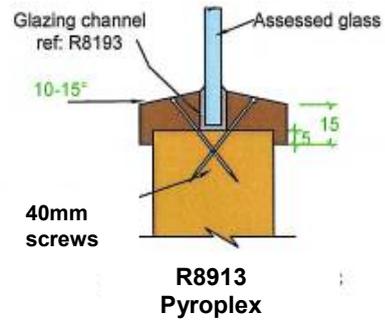
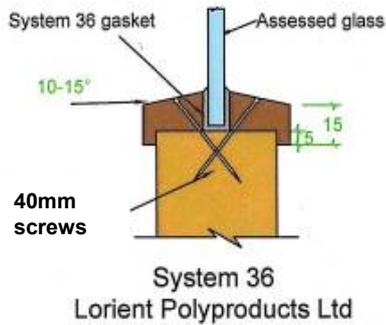
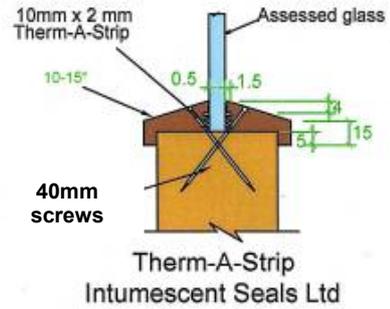
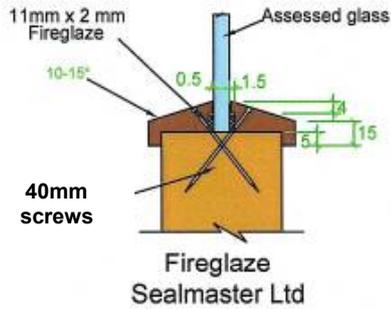
Based on the above assessment of the premature failures, the test referenced Chilt/RF12160 has been used to justify an increased maximum glazed area from 0.2m² up to 0.36m² for individual panes when two or more panes are used, and from 0.2m² up to 1.4m² for single panes.

Assessment has been made as no further failures of the specimens occurred until 39 and 37 minutes respectively, and no failures occurred which could be attributed to the glazing prior to termination of the test at 41 minutes.

Glazing systems must be in accordance with the details outlined in section 9 and appendix B of this assessment.

Appendix B

Proprietary 30 Minute Glazing Systems

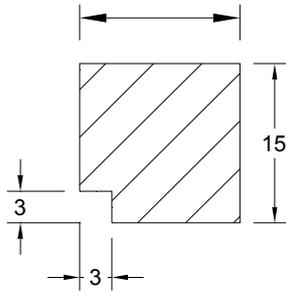


The legal validity of this report can only be claimed on presentation of the complete report.

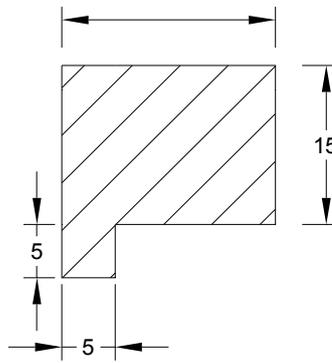
Assessed Square Glazing Bead Profiles

(The following square bead profile may be used as an alternative to the splayed beads detailed above - refer to section 9 for glazing system and glass restrictions.)

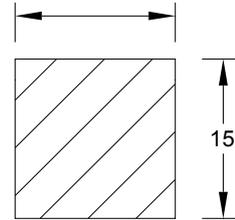
To finish flush with the leaf face



Suited to glass thickness



To finish flush with the leaf face



Appendix C

Revisions and Amendments

Revision No.	Date	Description
A – CIFL Ref. 13051	27/03/2013	Inclusion of assessed MDF door frames and an increased maximum glazed area based on assessment of Chilt/RF12160.

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



Appendix D

Datasheets for:

**KLW Wood Products
Raised & Fielded and Shaker Style
Panelled Doorsets
30 Minutes Fire Resistance Doorsets**

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

KLW Wood Products – 30 Minute Raised & Fielded Panelled Doorsets
Latched & Unlatched, Single & Double Acting, Single Doorsets

Leaf Sizes	Configuration	From: To:	Height (mm)		Width (mm)
	LSASD		1981 2288	x x	972 838
	ULSASD & DASD	1981 2238	x x	947	
				838	
Maximum Overpanel Height (mm)		Transomed	2000		

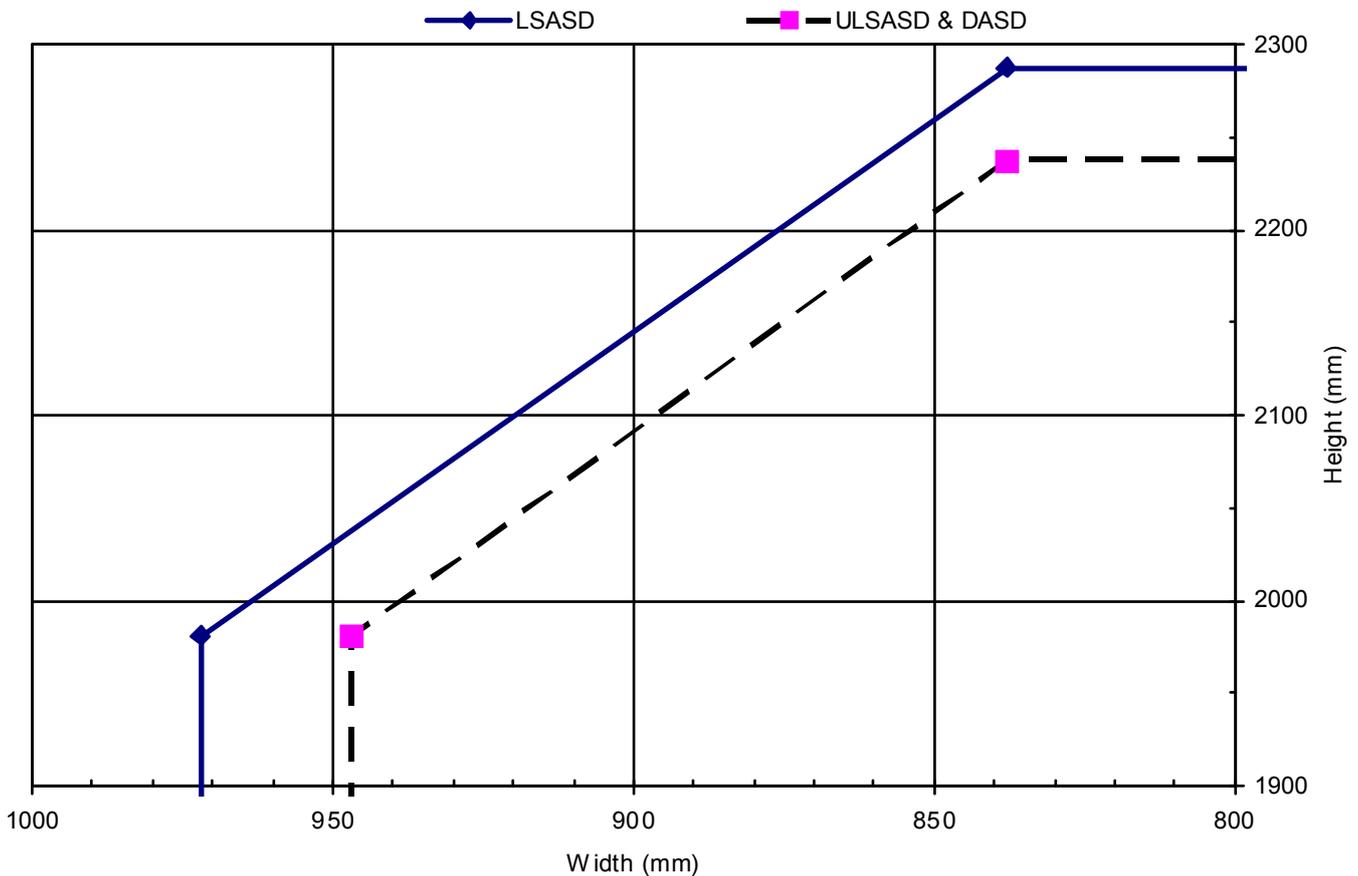
Intumescent Materials: Lorient Polyproducts Ltd. – Type 617

Head: 1No. 15x4mm strip fitted centrally in the leaf edge or frame reveal.

Jamb: 1No. 15x4mm strip fitted centrally in the leaf edge or frame reveal.

Hardware & Panel Protection: See section 13.

Maximum Door Leaf Size



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KLW Wood Products – 30 Minute Shaker Style Panelled Doorsets
Latched & Unlatched, Single & Double Acting, Single Doorsets

Leaf Sizes	Configuration	From: To:	Height (mm)		Width (mm)	
	LSASD		1981 2388	x x	1014 838	
	ULSASD & DASD	1981 2338	x x	989		
				838		
Maximum Overpanel Height (mm)		Transomed	2000			

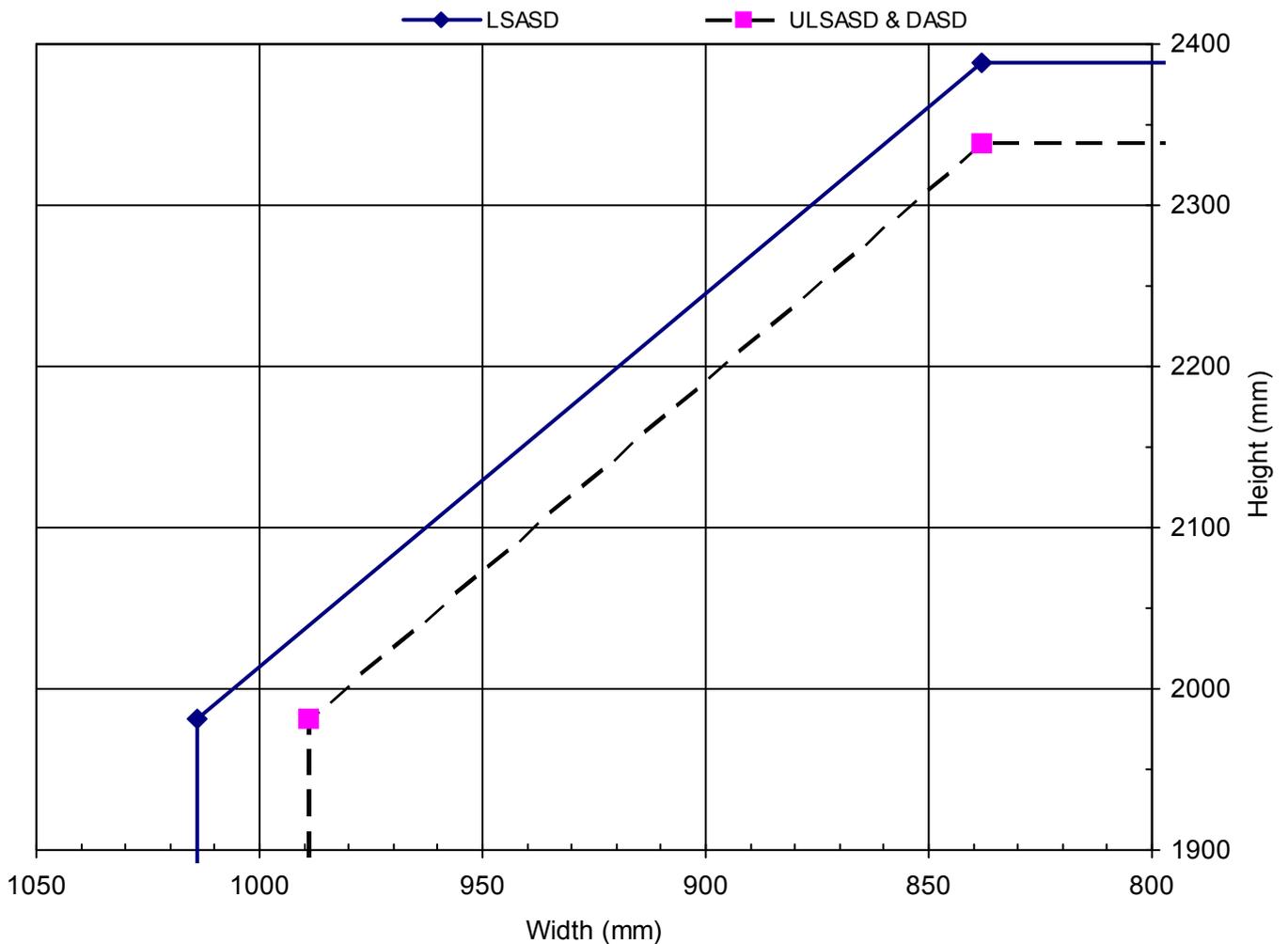
Intumescent Materials: Lorient Polyproducts Ltd. – Type 617

Head: 1No. 15x4mm strip fitted centrally in the leaf edge or frame reveal.

Jamb: 1No. 15x4mm strip fitted centrally in the leaf edge or frame reveal.

Hardware & Panel Protection: See section 13.

Maximum Door Leaf Size



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