
Title

Field of Application for:

The Halspan Optima 30 Range of Doorsets.

Part 1: Timber Based Door Frames

For 30 minutes Fire Resistance if they were to be tested in accordance with BS 476: Part 22: 1987

Assessment Report No.:

Chilt/A01204 Part 1 (Revision J)

Issue Date:

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Valid Until:

11th August 2031

Job Reference:

WF560240

Prepared for:

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The issue/revision number stated on the front of this report supersedes all previous issues/revisions, if applicable. Previous issues/revisions of the report, if applicable, cannot be used once an updated report has been issued/revised under a new revision.

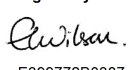
Signatories and Revision History

Issue No.	Date	FM No.	Report scope and Signatures
A	22/11/2002	Chilt/A022 22B	Revision of the assessment scope
B	29/04/2003	Chilt/A030 76	Revision of the assessment scope
C	03/03/2005	Chilt/A050 09	Revision of the assessment scope
D	12/08/2010	Chilt/A100 87	Revision of the assessment scope, technical review, update & revalidation for 5 years.
E	10/08/2015	CNA/F151 65	Technical review, update & revalidation for a further 5 years with additional scope and test evidence included based on the Halspan Prima design where technically justifiable. The 38mm thick core plus facing options has been removed from the scope of this assessment.
F	28/09/2020	WF422605	Technical review, update & revalidation for a further 5 years. Changes included: (1) Amendment of Leaf types to include: 44mm Optima (includes Prima), 44mm Optima bond-up (MDF or Plywood) and 54mm Optima. (2) Amendment of Frame types to include: Morland Firecheck, Projecting and Over rebated frames. (3) New layout of leaf size envelopes for each leaf and frame type. (4) Amendment of Orientation section to include references to test evidence. (5) Glazing section reconfigured with addition of STS glazing system. (6) Amendment of door frame section to include thresholds and raised cill. (7) Overpanel/sidelight section re-configured. (8) Hardware section reconfigured. (9) Addition of Appendix B providing reference to hardware test evidence. (10) Scope for steel frames is removed, and to be covered in a separate document. (11) Revision of report layout to new WF styling
G	12/02/2021	WF435648	The following changes made Changes to references to mitron closer and intumescent pack to include Rutland reference in test evidence section. In 11.8.2.1 remove requirement to protected closer body In sections 6.2 and 6.3 Pyrobelite 12 removed as a fully insulating glass In section 8.1 clarify maximum height of flush overpanel section 8.1.3 Removal of dowel option for fixing overpanel In section 5.7.1 Removal of PVC return at edges for decorative facing Flush bolt in sections 3.2.9 and 11.9 corrected to ZA13SS – 610mm x 20mm Section 12.4.1 added to detail shadow gaps for frame 5 Section 11.7.1.3 – added drawing to show wall/frame/tectus hinge arrangement Section 5.5.6 chamfer on meeting stile changed Added note to allow hardwood frames in sections • 4.5.9.1 - ULSASD • 4.5.11.1 - LSASD+OP • 4.5.12.1 ULSASD+OP Shadow gaps detailed with respect to use of firestopping and use of subframe in section 12.4.1 Secondary latch details introduced in section 11.4 Frame 5 permitted to be MDF Introduce 11.4.1 Magnetic lock section Permitted deadlocks in 11.4

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Issue No.	Date	FM No.	Report scope and Signatures
			Updated smoke control section
H	15/11/2023	WF536996	Additional test evidence and assessed sections: WF428611, Halspan letterplate WF414679, lock/latches in equal rebated meeting edge WF531368, Halspan 6200 concealed closer CFR2109021 LH, LSADD, ULSADD, Leaf 1 + Frame 5 Clarification of flush overpanel lippings & intumescent Letterplate in solid side panel Range of RGL ML600, ML1200 mag locks Amendments to intumescent positioning and quantity for configurations cascaded from test reports RF97091 and RF08127. Amendment of leaf sizes permitted based on RF08127. Addition of astragal section
I	30/03/26	WF555377	Full revision and revalidation of assessed scope: - Reformatted - Inclusion of new test evidence. - Re-evaluation of test evidence to define permitted scope. - Addition of Leaf 4 (62mm thick bond up) - Perimeter Intumescent Seal Specification reference numbers updated - Removal of specific installation detail (flush with wall) for Tectus TE541 FVZ 3D
J	11/08/26	WF560240	Amendment to Glazing System 13 in section 6.3 Re-branding of glass type in section 8.4.1. Additional test report CFR2506031 for support of specific hardware items.

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* For and on behalf of Warringtonfire

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Executive summary

This field of application report presents an assessment of the fire resistance performance of the specified proprietary Halspan Optima 30 doorset designs with timber-based frames, as fire tested and described in the reports detailed within Appendix A when modified as detailed herein.

The proposed modifications include leaf and frame design options, doorset configurations and sizes, glazing details, various hardware and installation parameters as discussed in the relevant sections below.

This assessment report is subject to the requirements and limitations described in Sections 2 and 15.

The findings of this report are that if Halspan Optima 30 doorsets constructed in accordance with the specification documented in this field of application were to be tested in accordance with BS 476: Part 22: 1987, it is expected that they would be capable of providing a minimum of 30 minutes integrity and insulation (subject to section 12).

This report represents our opinion as to the performance likely to be demonstrated on a test in accordance with the test standard specified above, on the basis of the test evidence referred to in this report. We express no opinion as to whether that evidence, and/or this report would be regarded by any Building Control authorities or any other third parties as sufficient for that or any other purpose.

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1. Introduction

This field of application report presents an assessment of the fire resistance performance of the specified proprietary Halspan Optima 30 doorset designs, as fire tested and described in the reports detailed within Appendix A when modified as detailed herein.

Analysis of specific construction details that require assessment are given within this report against the relevant element of construction, as appropriate.

2. Assessment framework

An assessment is an opinion of the likely performance of a component or element of structure if it was subjected to a standard fire test.

This assessment report has been carried out in accordance with the Passive Fire Protection Forum (PFPF) *'Guide to Undertaking Technical Assessments of the Fire Performance of Construction Products Based on Fire Test Evidence - 2021'* and has been written in accordance with the general principles outlined in BS EN 15725: 2023; *Extended application reports on the fire performance of construction products and building elements, as applicable*.

This scope document cannot be used as supporting documentation for either a CE or UKCA marking application nor can the conclusion be used to establish a formal classification against EN13501-2.

The scope presented in this report relates to the behaviour of the element under the particular conditions of the test; they are not intended to be the sole criterion for considering the potential fire hazard of the door assembly in use.

This report has been prepared and checked by product assessors with the necessary competence, who subscribe to the principles outlined in the Passive Fire Protection Forum (PFPF) *'Guide to Undertaking Technical Assessments of the Fire Performance of Construction Products Based on Fire Test Evidence - 2021'*. The aim of the PFPF guidelines is to give confidence to end-users that assessments that exist in the UK are of a satisfactory standard to be used for building control and other purposes.

This report uses established empirical methods of extrapolation and experience of fire testing similar elements, in order to extend the scope of application by determining the limits for the designs based on the tested constructions and performances obtained. The scope is an evaluation of the potential fire resistance performance, if the variations specified herein were to be tested in accordance with the test standard specified.

This report has been written using appropriate test evidence generated at UKAS accredited laboratories¹, to the relevant test standard. The supporting test evidence has been deemed appropriate to support the stated design and is summarised in Appendix A.

¹ Test evidence from overseas laboratories has also been considered as supporting evidence for the designs in this assessment report. The test evidence is from a laboratory that has been accredited by a national accreditation body that is a signatory of the International Laboratories Accreditation Co-operation (ILAC).

3. General requirements and assumptions

The specified proprietary Halspan Optima 30 doorset designs shall be constructed in a similar manner from materials and components of the same manufacturer and equivalent quality as those tested or otherwise assessed by Warringtonfire.

The following assumptions have been made in the preparation of this report:

- All densities referred to in this document are based upon an assumed moisture content of 12%.
- It is assumed that unless otherwise documented in the field of application sections of this report, the doorset subject to this report will be constructed in accordance with the test evidence referred to herein.
- For components created using solid timber sections referred to in this assessment, it is assumed that, for all timbers, they will be of a quality deemed to meet or exceed class J30 as specified in BS EN 942: 2007, subject to adequate repairs, other than glazing beads which must meet a minimum class J10. Note that areas under intumescent seals/gaskets are not considered to be concealed faces and defects must be repaired.
- Where timber is referred to within this document it is assumed that the timber element is made from a continuous solid piece, unless specifically detailed otherwise.
- All dimensions detailed herein may be varied by $\pm 2\%$ except where minimum, maximum or a range of dimensions are given.
- Where morticed items of hardware are used (within the leaf or frame) it is assumed that the preparation for such items are tight to the item (and where applicable intumescent protection) as tested with no excessive gaps, unless stated otherwise within a particular section of this report.

It is assumed that the end user will have an understanding of the tested specification as defined in the relevant test report(s) summarised in Appendix A.

Whilst specific items are included within this Field of Application report that may be used to provide additional performance characteristics (such as acoustic or smoke control for example), it is beyond the remit of this Field of Application report to provide scope for performance characteristics other than fire resistance integrity and (where applicable) insulation performance. Any other performance requirement for the door designs contained herein is to be subject to a separate analysis.

If a design variation or extension to scope is not explicitly detailed within the assessment it should not be assumed to be acceptable by omission.

4. Technical Specification

4.1 General

The technical specification for the proposed door assemblies are given in the following sections and is based on the test evidence for the door designs, summarised in Appendix A.

4.2 Intended Use

The intended use of the proposed door assembly is summarised below:

A pedestrian doorset including any frame, door leaf or leaves which is provided to give a fire resisting capability when used for the closing of permanent openings in fire resisting separating elements, which together with the building hardware and any seals (whether provided for the purpose of fire resistance or smoke control or for other purposes such as draught or acoustics) form the assembly.

4.3 Door Leaf

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

Section 5 gives the description of the leaf types in terms of composition and density etc.

Doorsets constructed using different leaves can include various design features as summarised below.

The same leaf option must be used for door leaf, solid side panel and solid overpanel components of any individual doorset.

4.3.1 Leaf 1 – Optima 30 – 44mm thick core

The door designs can include:

1. Glazing within the Leaf
2. Various hardware options
3. Decorative facings
4. Decorative planted on timber mouldings
5. Edge protection
6. Feature grooves

4.3.2 Leaf 2 – Optima 30 – 54mm thick core

The door designs can include:

1. Glazing within the Leaf
2. Various hardware options
3. Decorative facings
4. Decorative planted on timber mouldings
5. Edge protection
6. Feature grooves

4.3.3 Leaf 3 – Optima 30 – 44mm thick bond up based on 38mm thick core

The door designs can include:

1. Glazing within the Leaf
2. Various hardware options
3. Decorative facings
4. Decorative planted on timber mouldings
5. Edge protection
6. Feature grooves

4.3.4 Leaf 4 – Optima 30 – Up to 62mm thick bond up based on 44mm thick core

Leaf 4 is based upon the tested design in WF533900 and door designs can include:

1. Glazing within the Leaf
2. Various hardware options
3. Decorative facings
4. Decorative planted on timber mouldings
5. Edge protection
6. Feature grooves

4.4 Door Frames

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

Section 7 gives the description of the frame types including composition and density and minimum dimensions.

Doorsets constructed using different frame options can include various design features as summarised below.

The same frame option must be used for any individual doorset.

Permitted frame and leaf combinations are detailed within section 4.5.4.

Specific installation requirements relating to frame types are detailed within section 11.2.

4.4.1 Frame 1 – Softwood or Hardwood Timber

The construction of the Frame 1 door frame is softwood or hardwood with minimum frame dimensions fitted flush to wall or within the wall thickness.

Frame 1 may also be installed as detailed in section 11.2.4 to form a shadow gap.

4.4.2 Frame 2 – Hardwood Timber

The construction of the Frame 2 door frame is hardwood with minimum frame dimensions fitted flush to wall or within the wall thickness.

Frame 2 may also be installed as detailed in section 11.2.4 to form a shadow gap.

4.4.3 Frame 3 – MDF

The construction of the Frame 3 door frame is MDF with minimum frame dimensions fitted flush to wall or within the wall thickness.

Frame 3 may also be installed as detailed in section 11.2.4 to form a shadow gap.

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4.4.4 Frame 4 – Morland Firecheck

The construction of the Frame 4 door frame is a proprietary MDF based frame which includes concealed intumescent, under decorative wrap, with minimum frame dimensions fitted flush to wall and must be fitted with the architraves which form part of the system.

4.4.5 Frame 5 – Projecting Softwood, MDF or Hardwood

The construction of the Frame 5 door frame is MDF, softwood or hardwood and comprises either a projecting frame with no cloaking of wall or a 2-part frame with the main part of the frame including an integral architrave return cloaking the wall.

4.4.6 Frame 6 – Over rebated Hardwood Timber

The construction of the Frame 6 door frame is hardwood with minimum frame dimensions fitted flush to wall or within the wall thickness. The frame has the same depth as the door and has a leaf edge rebate which fits into a rebate in the frame.

4.4.7 Frame 7 – WoodEx Frame

The construction of the Frame 7 door frame is a proprietary engineered hardwood or softwood timber frame with minimum frame dimensions fitted flush to wall or within the wall thickness.

4.5 Doorset Configurations & Maximum Leaf Sizes

4.5.1 General

The evaluation of the leaf size for each door leaf option and frame option and doorset configuration 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
- The characteristics exhibited during test and
- The doorset configuration tested

The evaluation of the permitted configurations included in this field of application is based on the configuration(s) tested. The principle is that the more components included in testing, for example, double door leaves and an overpanel – the harder it becomes to pass a test. In this specific example it is because the junction between two door leaves or door leaf and overpanel introduces a discontinuity into the doorset which can be a means of failure.

This approach leads to the following statements:

- A test on a double doorset is more onerous than a test on a single doorset.
- A test on a doorset with a flush overpanel is more onerous than a test on a doorset without an overpanel. A flush overpanel has the same thickness as the door leaf and is flush with the leaf/leaves.
- A test on an unlatched doorset is more onerous than a test on a latched doorset as the leading edge is unrestrained and will deflect more in fire test conditions.
- A test on an unlatched single acting doorset is considered to be equivalent to a double acting doorset, due to the known deflection of an unlatched single acting doorset towards the furnace conditions i.e. away from the door stop. However, this does not cover doorsets with flush overpanels.
- A doorset with transomed overpanel is considered to perform comparably to a similar doorset without an overpanel. This is because the transom structurally separates the overpanel from the doorset.

The leaf size for each door leaf option and configuration is linked to the perimeter intumescent specification and frame option. The following section details the maximum leaf size for each door leaf option and configuration based on the intumescent specification and frame details tested.

Doorsets with reduced height and width dimensions from those tested are deemed to be less onerous. Therefore, doors with dimensions less than those given in the leaf size envelopes (for the relevant intumescent specification) in the following sections are covered and may be manufactured.

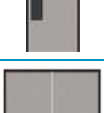
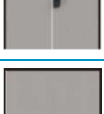
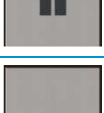
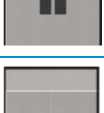
Minimum door leaf width must be no smaller than 300mm. Inclusion of specific design details may require restrictions to maximum or minimum leaf sizes.

4.5.2 Configuration

The table below shows the permitted configurations for the doorset design, with the abbreviation and full description of each configuration.

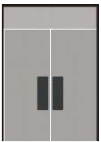
The following sections details the assessed maximum leaf size envelopes for each permitted configuration based on the intumescent specification and door frame tested.

Where latched is indicated in this table, doorsets with an engaged lock would also be considered latched.

Depiction	Abbreviation	Description
	LSASD	Latched Single Acting Single Doorset
	ULSASD	Unlatched Single Acting Single Doorset
	DASD	Double Acting Single Doorset
	LSASD+OP	Latched Single Acting Single Doorset + Flush Overpanel
	ULSASD+OP	Unlatched Single Acting Single Doorset + Flush Overpanel
	DASD + OP	Double Acting Single Doorset + Flush Overpanel
	LSADD	Latched Single Acting Double Doorset
	ULSADD	Unlatched Single Acting Double Doorset
	DADD	Double Acting Double Doorset
	LSADD+OP	Latched Single Acting Double Doorset + Flush Overpanel

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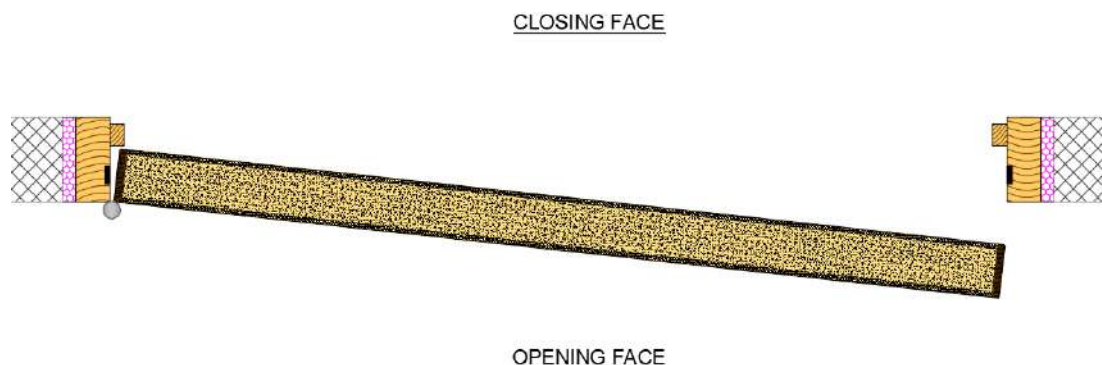
Depiction	Abbreviation	Description
	ULSADD+OP	Unlatched Single Acting Double Doorset + Flush Overpanel
	DADD + OP	Double Acting Double Doorset + Flush Overpanel

4.5.3 Orientation

The majority of primary fire resistance tests for these designs were 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 the doorsets to this design may be hung either away from or towards the fire risk side of the doorset. The rationale behind the direction of fire testing timber based doorsets opening towards the fire test conditions is further explained in Annex C of BS EN 1634-1:2014 +A1:2018.

Test reference WF529765 was undertaken with the same design of doorset tested both opening in towards the furnace heating conditions and out away from the heating conditions. The doorset opening in achieved 34 minutes integrity and the doorset opening out achieved 39 minutes integrity performance, therefore validating the point made above.

The report may refer to the opening or closing face of the door, for clarity the following drawing defines which face is the opening face.



4.5.4 Envelopes for each Configuration

The following sections detail the door leaf envelopes which indicate the permitted leaf sizes for the listed configurations based on the perimeter intumescent, door leaf option and door frame.

Unequal leaf double doorsets are covered by this assessment provided that all the following criteria are met:

- The relevant door leaf envelopes are not exceeded.
- Door leaf widths are no smaller than 300mm.

For equal double doorsets both leaves must comply with the door leaf envelope size limitations.

Single acting double doorsets are only considered acceptable when the leaves are hung to open in the same direction.

A table of essential hardware is given in section 10.3 for each doorset configuration, as a minimum requirement for the doorset described. Changes to hardware can affect the intumescent specification and frame details which are subsequently considered for each specific hardware component, where required.

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.4.1 General Note on Intumescent Seals

- Intumescent seals are to be fitted centrally to the thickness of the leaf unless stated otherwise.
- Intumescent seals are fully interrupted at hardware locations unless stated otherwise.
- Intumescent seals must run the full length of the leaf edge or frame reveals, with tightly formed abutting corner joints, unless stated otherwise.
- Vertical perimeter intumescent seals may include one tight butt joint in their length if needed.
 - Where two seals are fitted, the joints must be offset by a minimum of 100mm and may not be coincident.
 - Where one seal is fitted the joint must be in the lower half of the doorset.
- Intumescent seals are not to be concealed below lippings, unless stated otherwise.
- While intumescent seals are not specified to be applied at the bottom edge of the leaf, their application may be a requirement for certain elements of building hardware. It is the opinion of Warringtonfire that the application of intumescent seals across the bottom edge of the leaf will not detract from the fire resistance performance under test conditions, when applied the intumescent may consist of either:
 - 1No. Intumescent seal of 15mm or 20mm wide centrally fitted or
 - 2No. Intumescent seals, each no greater than 10mm wide at either 10mm or 14mm apart.
- Inclusion of specific design details (e.g. feature grooves) and/or hardware may require a different intumescent seal specification compared to that stated for the leaf configurations in sections 4.5. Where this is the case, it is important that the following conditions are met:
 - The intumescent type given for the specific design detail must match that given for the required leaf configuration and leaf size (e.g. if graphite is given as the required seal type for a concealed closer, only leaf configurations and sizes approved for graphite type seals can be used).
 - The largest of the intumescent specifications given for the different design details must take precedence, which is to be determined by the total amount of intumescent required for that design detail (e.g. if the total amount of perimeter intumescent for a particular concealed closer is greater than that required for the associated leaf configuration and size, the intumescent detail stated for the concealed closer would take precedence).

Intumescent seals have been demonstrated both with and without the presence of fins, blades and brushes, on this basis the seals detailed in the following sections may be supplied with or without fins, blades or brushes providing the active intumescent material the carrier and the dimensions of the components are no different from those tested and summarised. For example:

The Halspan SLS range of graphite seals listed in this Field of Application have the following product variants and product codes:

SLS-PLA-154. PVC encapsulated fire only seal, 15mm x 4mm

SLS-PLA-104. PVC encapsulated fire only seal, 10mm x 4mm

SLS-BRU-154. PVC encapsulated fire & smoke brush seal, 15mm x 4mm

SLS-BRU-104. PVC encapsulated fire & smoke brush seal, 10mm x 4mm

SLS-TWF-154. PVC encapsulated fire, smoke & acoustic twin fin bladed seal, 15mm x 4mm

SLS-TWF-104. PVC encapsulated fire, smoke & acoustic twin fin bladed seal, 10mm x 4mm

SLS-OSF-154. PVC encapsulated fire, smoke & acoustic offset fin bladed seal, 15mm x 4mm

SLS-OSF-104. PVC encapsulated fire, smoke & acoustic offset fin bladed seal, 10mm x 4mm

All of the seals listed above contain the same graphite intumescent and may therefore be considered interchangeable, where appropriate.

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4.5.4.2 Explanation for following sections

The performance of a doorset in terms of configuration and size is dependent on the leaf type, perimeter intumescent used and frame type. These elements are not automatically interchangeable. The following sections present the envelopes for the 4 leaf options and 7 frame options. Each envelope is linked to a specific perimeter intumescent which is given a unique reference and is based directly on test evidence.

The envelopes are presented as follows: -

- for LSASD increasing in configuration complexity up to DADD+OP
- for each configuration, each leaf type is considered separately
- for each configuration and leaf type, each frame type is considered separately
- for each configuration, leaf type, frame type and intumescent specification is considered separately, and a unique envelope of permitted leaf sizes is presented based on the configuration, leaf type, frame type and intumescent and the envelope is directly linked to a unique test.

Both Type 617 and Palusol Lorient perimeter intumescent seals have been used within the test evidence considered herein. A comparison of performance has been made between Chilt/RF07008 Doorsets A and B, which were of the same design apart from Palusol was used in Doorset A and Type 617 in Doorset B. On the basis of the performance observed in Chilt/RF07008, it is assessed that whether tests were conducted using Lorient Type 617 or Palusol seals, the requirement for the doorset design is to use Type 617, with further details given in the following sections.

The only exception to this is where Lorient intumescent was tested concealed under lippings.

4.5.4.3 Summary of Permitted Configurations (for each Leaf and Frame option)

Permitted Configurations with frame option 1-7 with leaf option 1 (Optima 30 – 44mm core)													
Frame	Configuration												
		LSASD	ULSASD	DASD	LSASD OP	ULSASD OP	DASD OP	LSADD	ULSADD	DADD	LSADD OP	ULSADD OP	DADD OP
	1 – Softwood or Hardwood frame*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	2 – Hardwood frame*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	3 – MDF frame*	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No
	4 – Morland Firecheck frame*	Yes	No	No	No	No	No	No	No	No	No	No	No
	5 – Projecting Softwood, MDF or Hardwood frame*	Yes	Yes	No	No	No	No	Yes	Yes	No	No	No	No
	6 – Over rebated Hardwood frame*	No	No	No	No	No	No	No	No	No	No	No	No
	7 – WoodEx frame*	Yes	Yes	No	No	No	No	Yes	Yes	No	No	No	No

* See Section 7 for specific limitations with respect to the framing types

Permitted Configurations with frame option 1-7 with leaf option 2 (Optima 30 – 54mm core)													
Frame	Configuration												
		LSASD	ULSASD	DASD	LSASD OP	ULSASD OP	DASD OP	LSADD	ULSADD	DADD	LSADD OP	ULSADD OP	DADD OP
	1 – Softwood or Hardwood frame*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	2 – Hardwood frame*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	3 – MDF frame*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	4 – Morland Firecheck frame*	Yes	No	No	No	No	No	No	No	No	No	No	No
	5 – Projecting Softwood, MDF or Hardwood frame*	Yes	Yes	No	No	No	No	Yes	Yes	No	No	No	No
	6 – Over rebated Hardwood frame*	Yes	No	No	No	No	No	Yes	No	No	No	No	No
	7 – WoodEx frame*	Yes	Yes	No	No	No	No	Yes	Yes	No	No	No	No

* See Section 7 for specific limitations with respect to the framing types

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Permitted Configurations with frame option 1-7 with leaf option 3 (Optima 30 – 44mm bond up based on 38mm core)

Configuration													
Frame		LSASD	ULSASD	DASD	LSASD OP	ULSASD OP	DASD OP	LSADD	ULSADD	DADD	LSADD OP	ULSADD OP	DADD OP
	1 – Softwood or Hardwood frame*	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No
	2 – Hardwood frame*	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No
	3 – MDF frame*	Yes	Yes	No	No	No	No	Yes	Yes	No	No	No	No
	4 – Morland Firecheck frame*	No	No	No	No	No	No	No	No	No	No	No	No
	5 – Projecting Softwood, MDF or Hardwood frame*	No	No	No	No	No	No	No	No	No	No	No	No
	6 – Over rebated Hardwood frame*	No	No	No	No	No	No	No	No	No	No	No	No
	7 – WoodEx frame*	No	No	No	No	No	No	No	No	No	No	No	No

* See Section 7 for specific limitations with respect to the framing types

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Permitted Configurations with frame option 1-7 with leaf option 4 (Optima 30 - 62mm bond up based on 44mm core)

Permitted Configurations with frame option 1-7 with leaf option 4 (Optima 30 - 62mm bond up based on 44mm core)													
Frame	Configuration												
		LSASD	ULSASD	DASD	LSASD OP	ULSASD OP	DASD OP	LSADD	ULSADD	DADD	LSADD OP	ULSADD OP	DADD OP
	1 – Softwood or Hardwood frame*	No	No	No	No	No	No	No	No	No	No	No	No
	2 – Hardwood frame*	Yes	No	No	No	No	No	No	No	No	No	No	No
	3 – MDF frame*	Yes	No	No	No	No	No	No	No	No	No	No	No
	4 – Morland Firecheck frame*	No	No	No	No	No	No	No	No	No	No	No	No
	5 – Projecting Softwood, MDF or Hardwood frame*	No	No	No	No	No	No	No	No	No	No	No	No
	6 – Over rebated Hardwood frame*	No	No	No	No	No	No	No	No	No	No	No	No
7 – WoodEx frame*	No	No	No	No	No	No	No	No	No	No	No	No	

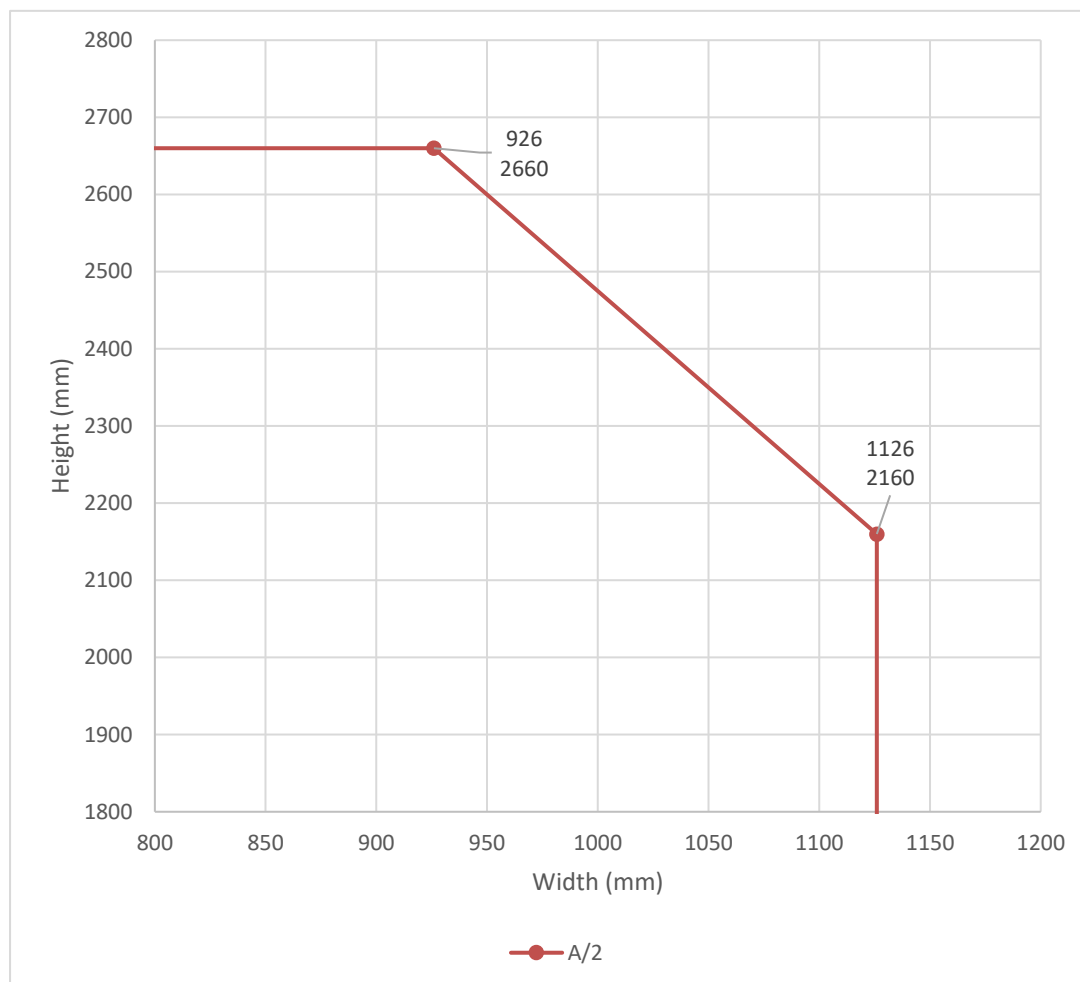
* See Section 7 for specific limitations with respect to the framing types

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4.5.5 LSASD Configuration: Leaf Sizes & Intumescent Specification

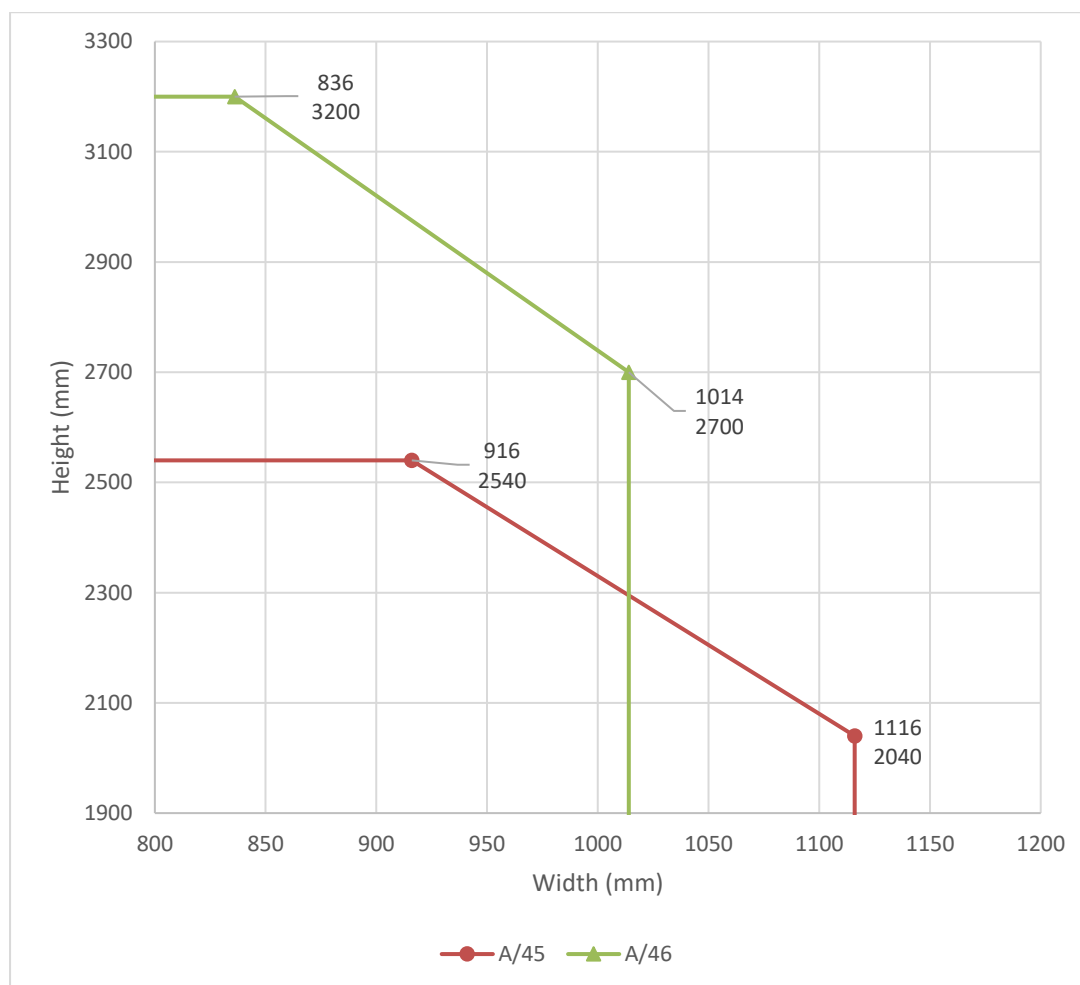
4.5.5.1 Leaf 1, 2 + Frame 1, 2, 3 Doorset



Halspan Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/2 (Chilt/RF09069)	Halspan SLS	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal

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Intumescent Seals Limited Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/45 (Chilt/RF11005 A)	Intumescent Seals Limited 10x4 Therm-A- Seal	Head & Jambs: 1no 10x4. Fitted in frame reveal or leaf edges
A/46 (WARRES 118409/A)	Intumescent Seals Limited 20x4 Therm-A- Seal 10x4 Therm-A- Seal	Head: 1no 20x4. Fitted in frame head reveal or leaf edge Jambs: 1no 10x4. Fitted in frame jamb reveal or leaf edges

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

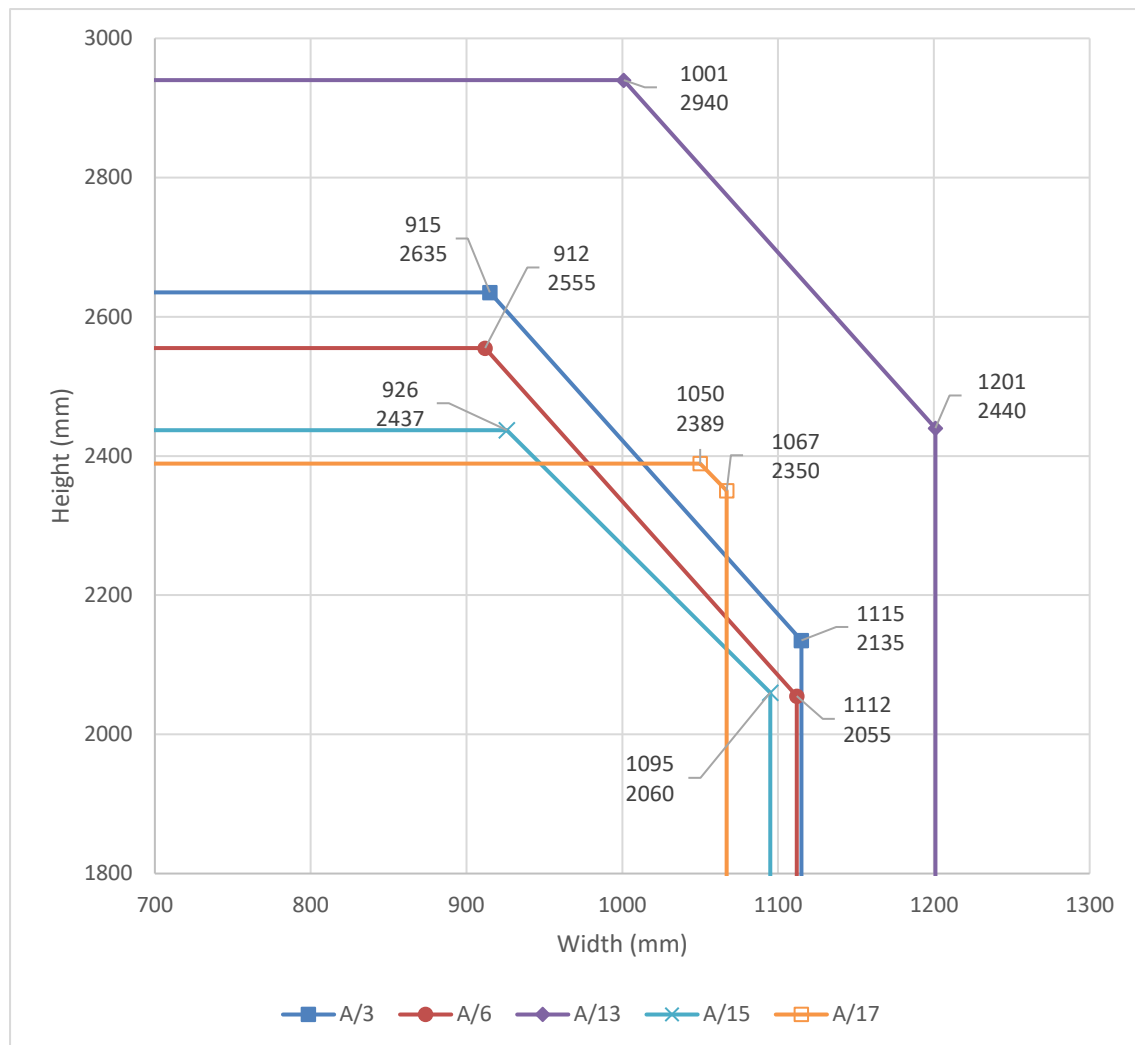


Lorient Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/22 (WARRES 131998 B)	Lorient LP1004 617	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal
A/35 (WF 135011)	Lorient LP1504 617 LP1004 617	Head: 1no 15x4 centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal

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4.5.5.2 Leaf 1, 2 + Frame 1, 2, 3, 7 Doorset



Halspan Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/3 (Chilt/RF13063 Revision A)	Halspan SLS	Head: 2no 15x4: Fitted 7mm apart and centrally to frame head reveal or leaf head edge Jambs: 1no 15x4. Fitted in frame jambs reveal or vertical leaf edges
A/6 (Chilt/RF08039)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

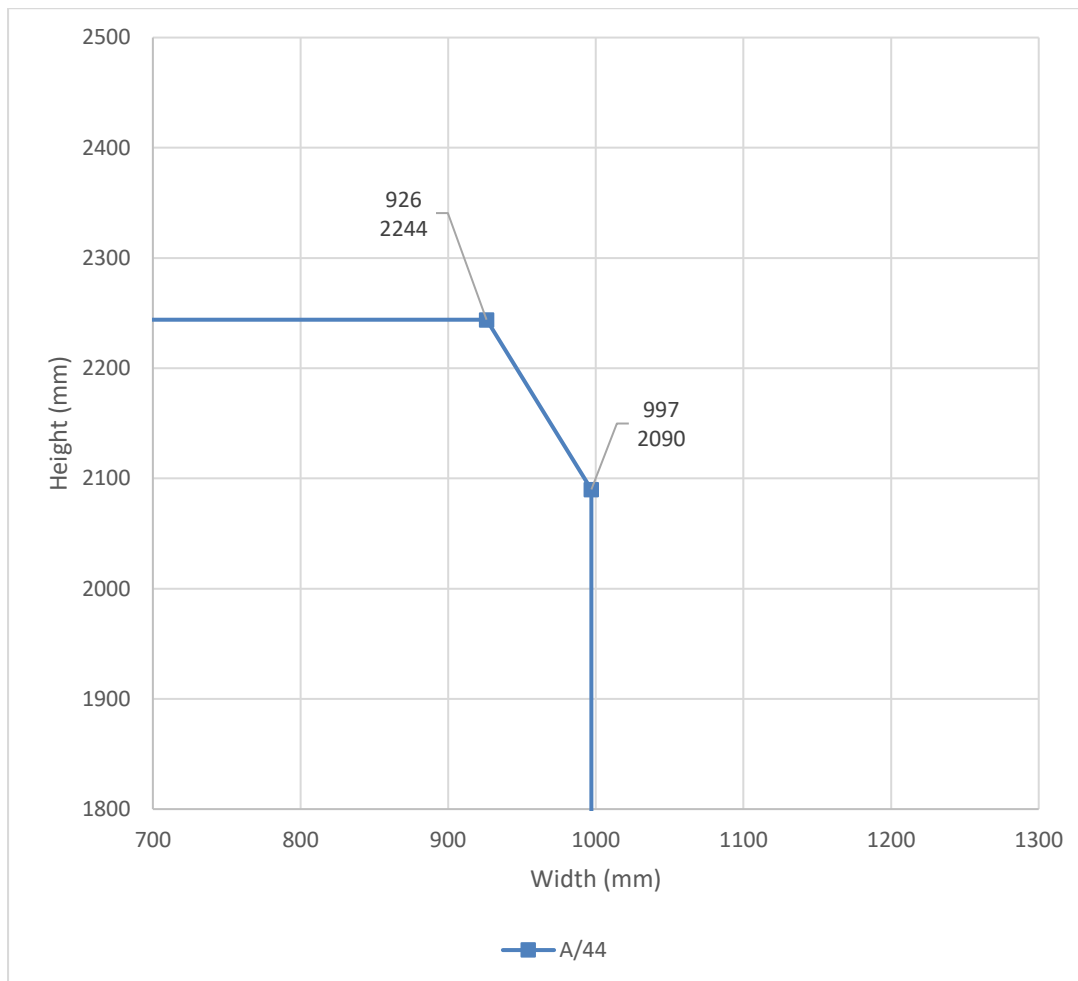
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

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Halspan Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/13 (CFR1903071 Revision 1 LH)	Halspan SLS	Head: 1no 15x4. Fitted in frame head reveal Hanging Jamb: 1no 15x4. Fitted in frame hanging jamb reveal
	Halspan SLSP	Closing Jamb: 1no 25x4 Palusol. Fitted in frame closing jamb reveal
A/15 (WF507669 Issue 2 B)	Halspan SLS	Head & Jambs: 2no 10x4. Fitted centrally and 14mm apart in frame reveal or leaf edges
A/17 (WF537652 A)	Halspan SLS	Head & Jambs: 2no 10x4. Fitted centrally and 14mm apart in frame reveal or leaf edges

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

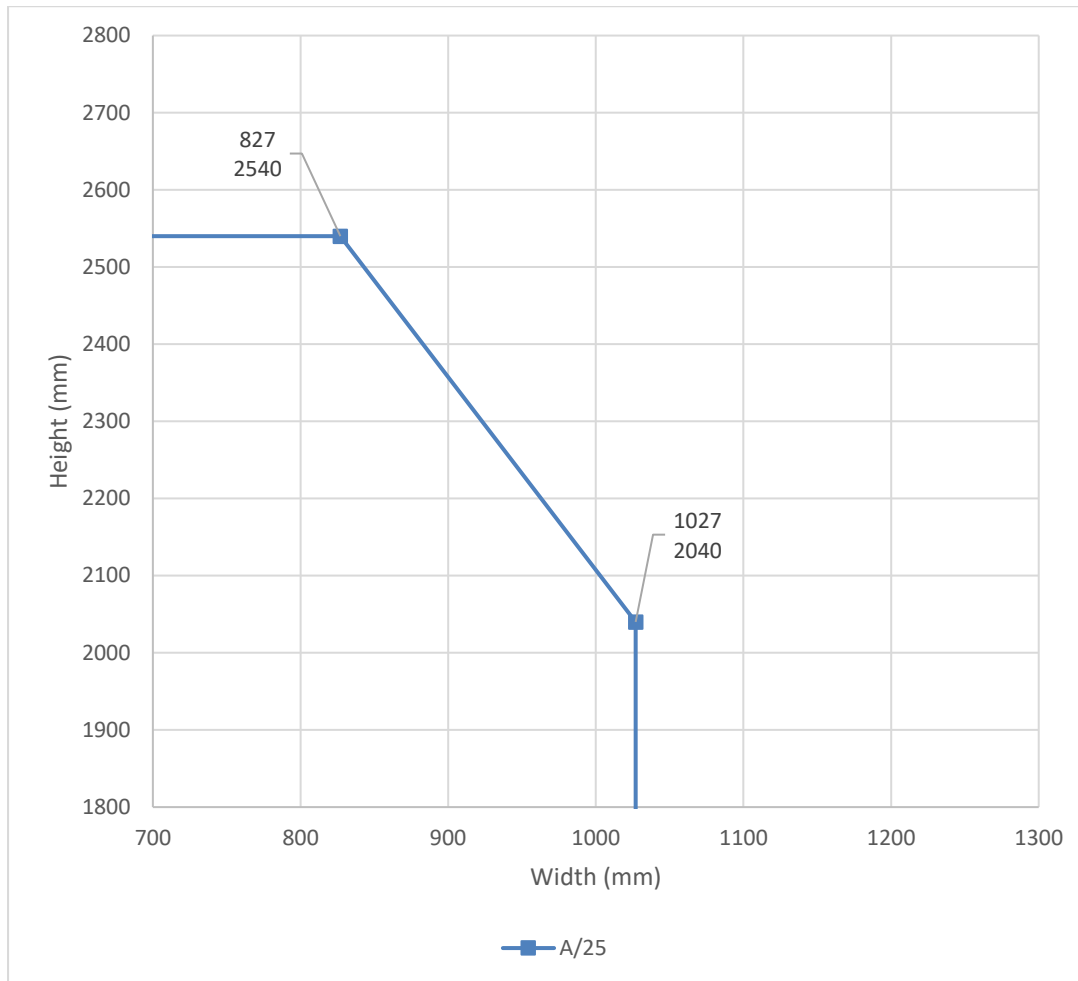
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Intumescent Seals Limited Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/44 (Chilt/RF06068 B)	Intumescent Seals Limited 15x4 Therm-A- Seal	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

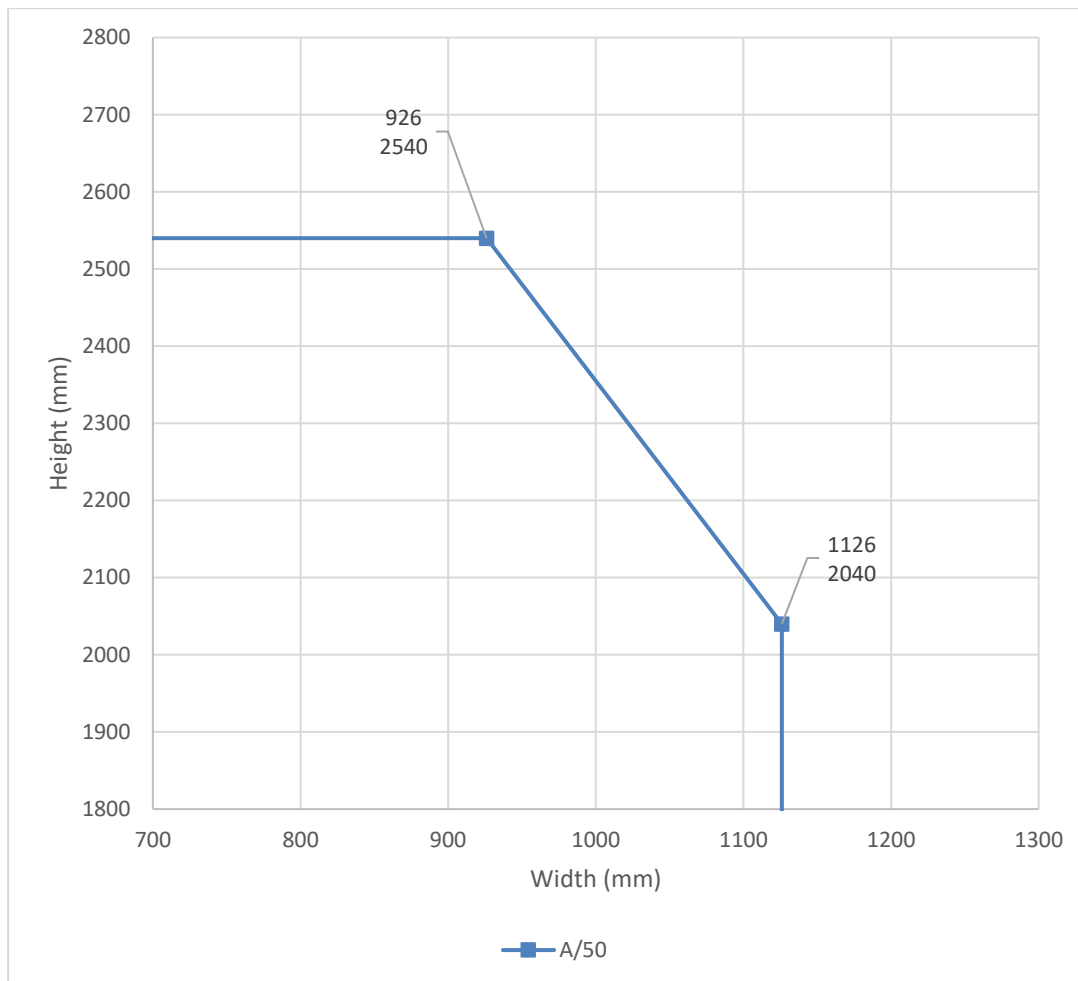
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Lorient Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/25 (RF07008 B)	Lorient LP1504 617	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

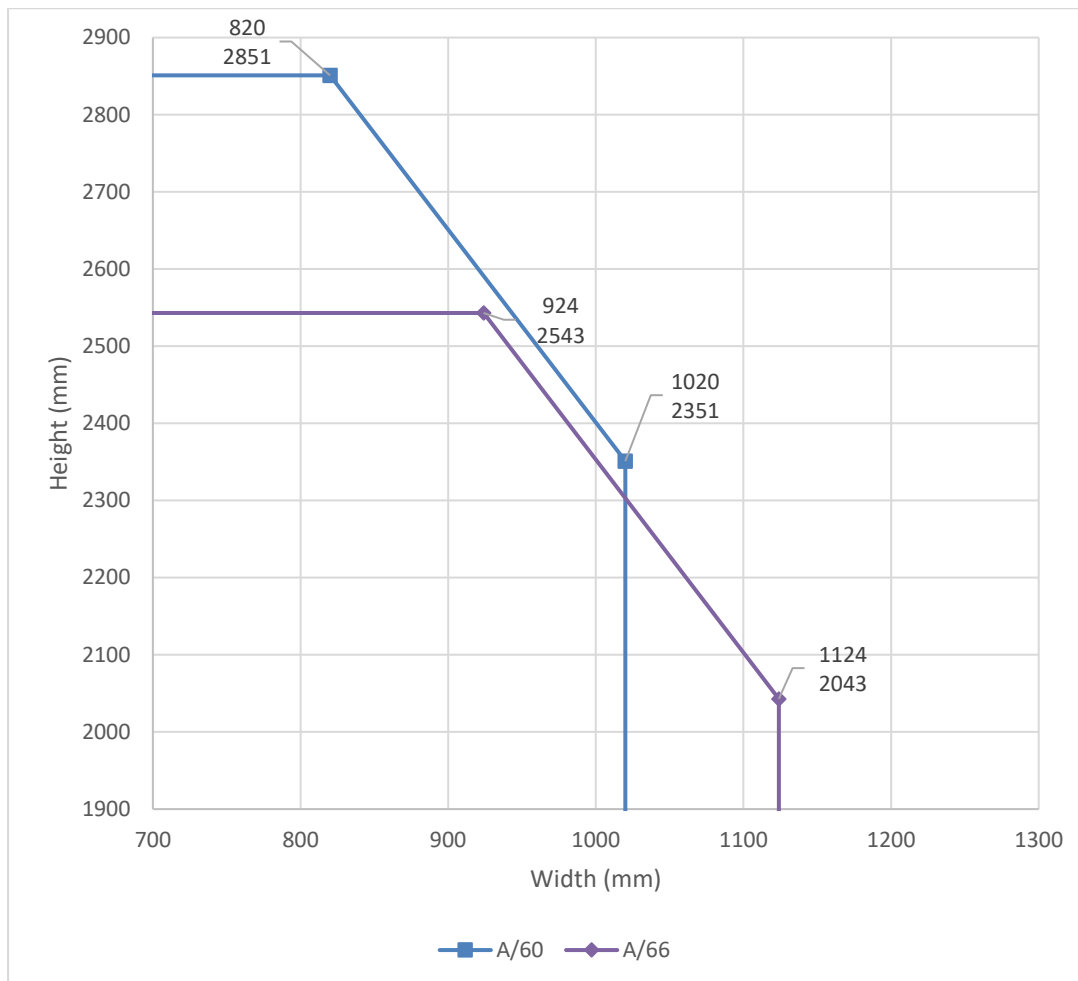
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Mann McGowan Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/50 (WF391351 A)	Mann McGowan Graphite 500PSA	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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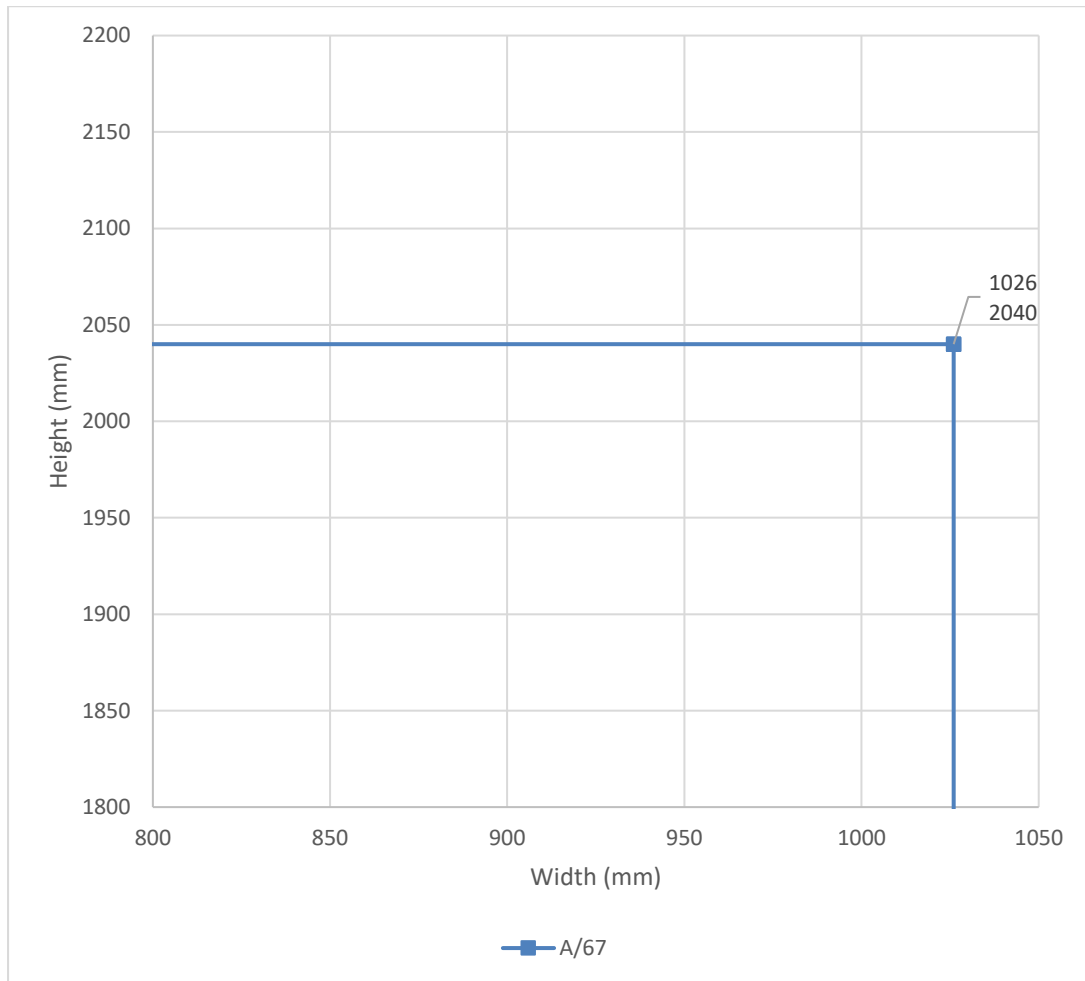
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Pyroplex Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/60 (CFR2210051)	Pyroplex 8500 8700	Head: 2no 10x4: Fitted 13mm apart and centrally to frame head reveal Jambs: 1no 15x4. Fitted in frame jambs reveal
A/66 (CFR1811191 LH)	Pyroplex 8700	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

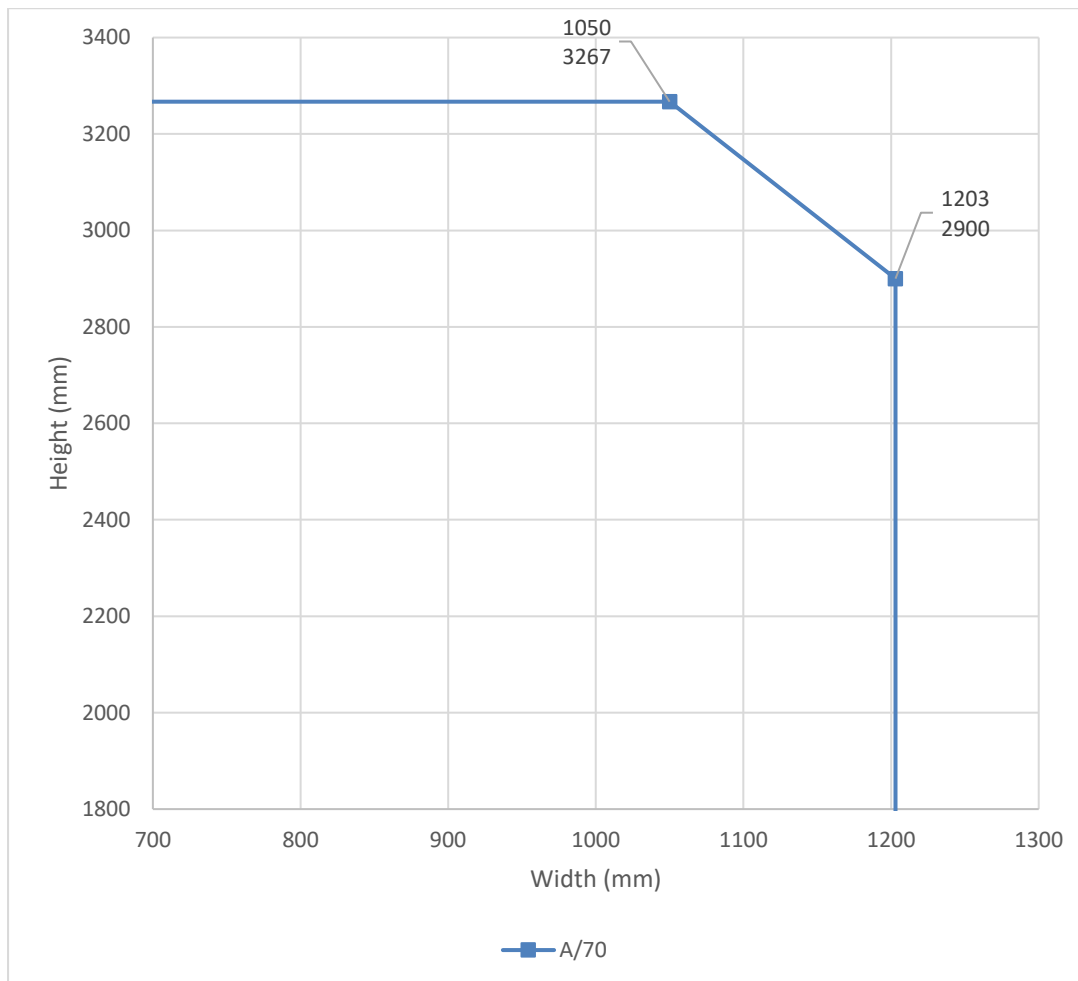
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Pyroplex Intumescent Specification for LSASD Angled/ Raked Head Doorsets, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/67 (WF522390 Version 2 A)	Pyroplex 8700	Head & Jambs: 1no 15x4. Fitted in frame reveal

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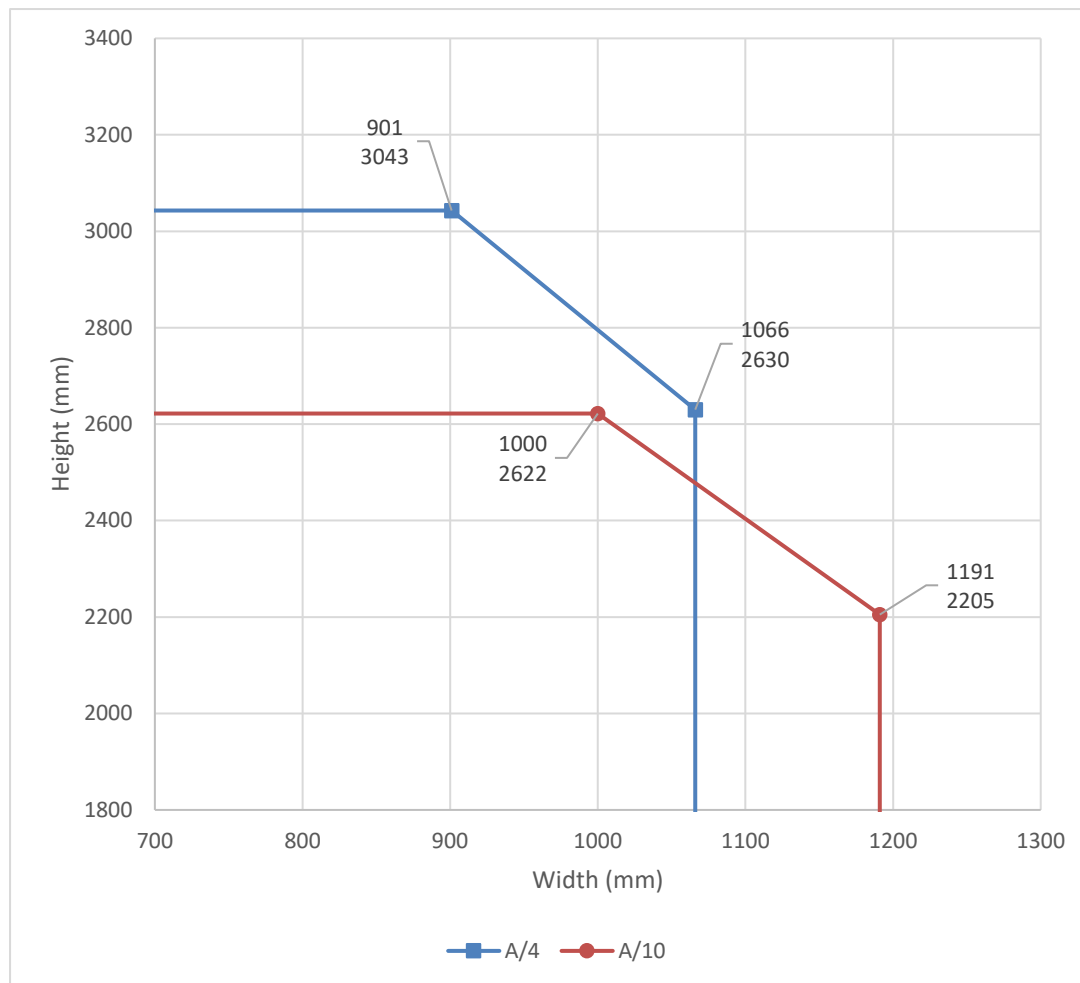


Sealed Tight Solutions Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/70 (BMT/FEP/F15097)	Sealed Tight Solutions ST1504FO	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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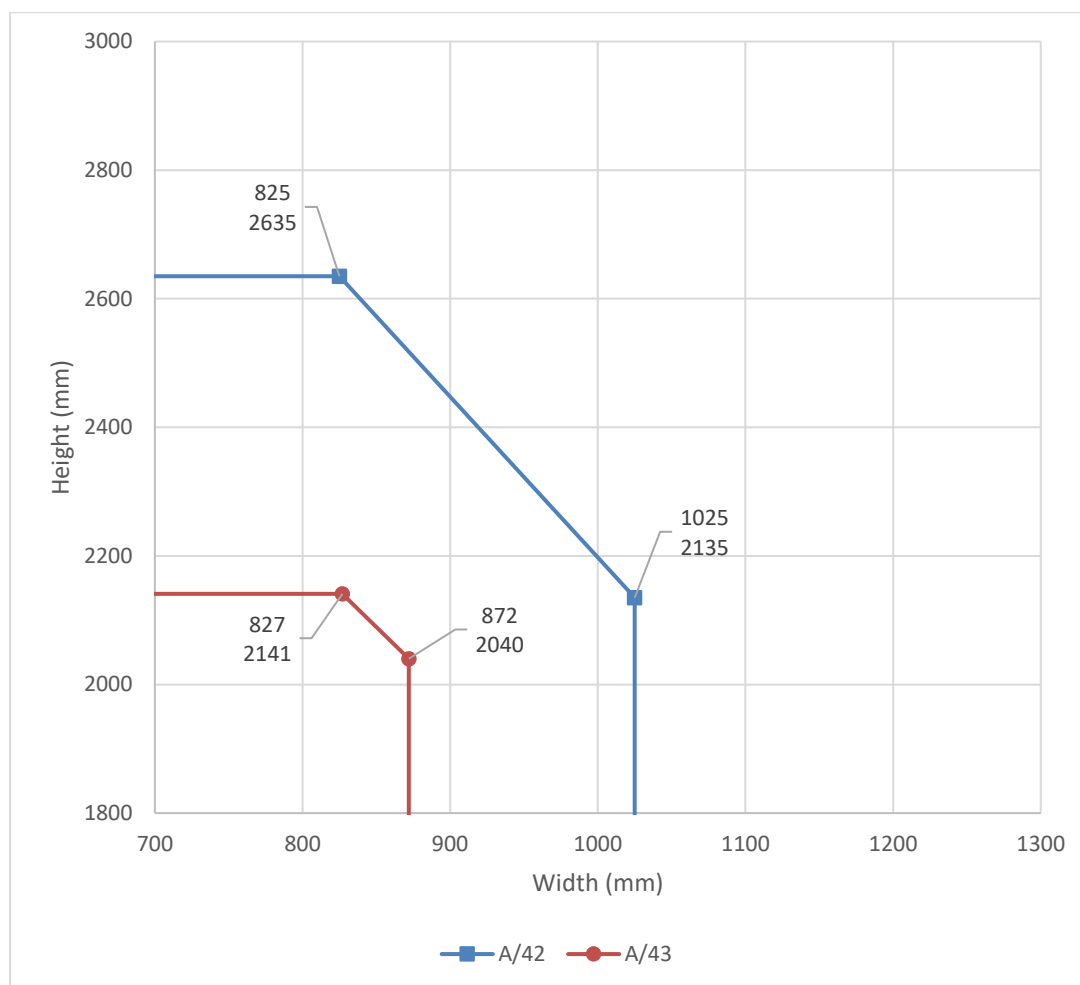
4.5.5.3 Leaf 1, 2 + Frame 2 Doorset



Halspan Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/4 (BMT/FEP/F15272 AR1)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal or leaf edges
A/10 (BMT/FEP/F15214 AR1)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

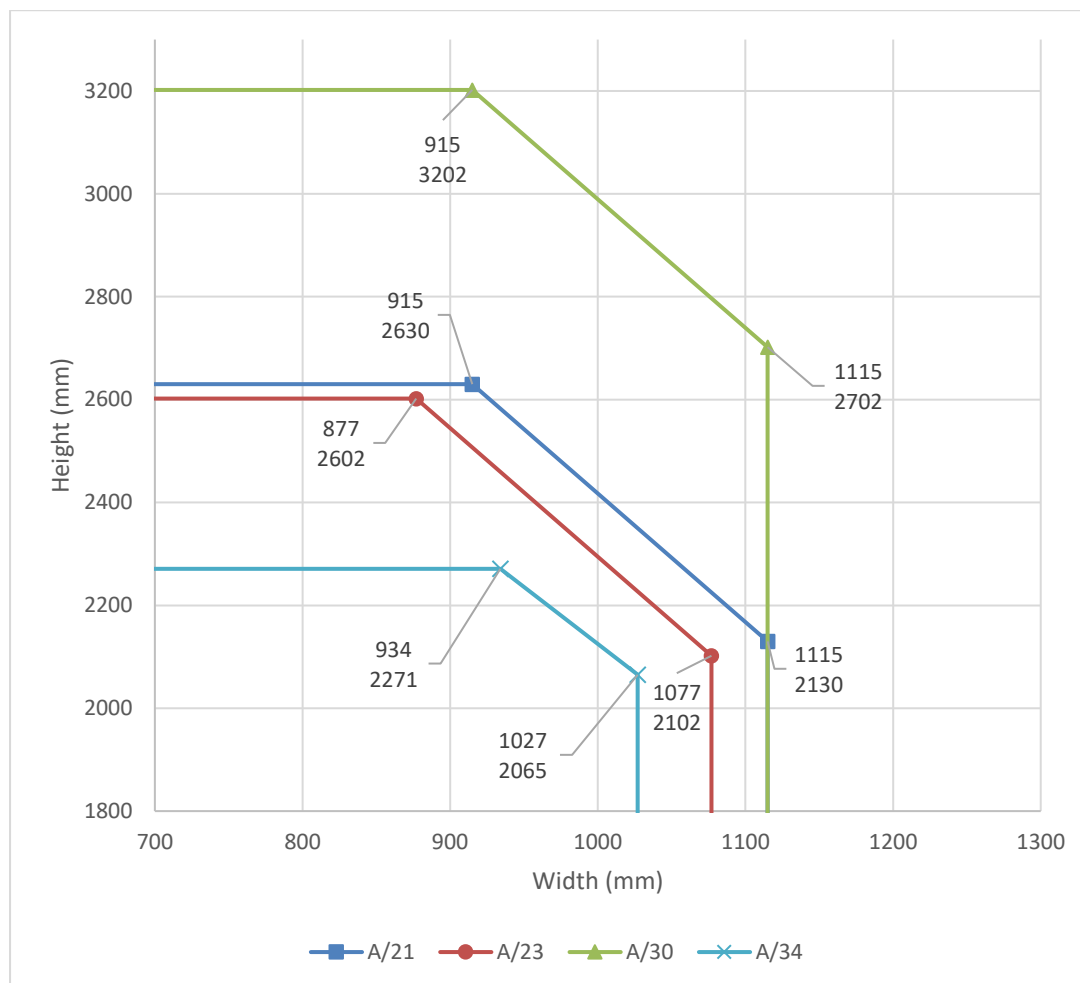
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Intumescent Seals Limited Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/42 (Chilt/RF04021 A)	Intumescent Seals Limited 10x4 Therm-A-Seal 20x4 Therm-A-Stop	Head & Jambs (with Leaf 1 doorset): 1no 10x4. Fitted 5mm from opening face in frame reveal 1no 20x4. Fitted 8mm apart from the 1no10x4 seal in apart in frame reveal
		Head & Jambs (with Leaf 2 doorset): 1no 10x4. Fitted 10mm from opening face in frame reveal 1no 20x4. Fitted 8mm apart from the 1no10x4 seal in apart in frame reveal
A/43 (CFR1005241)	Intumescent Seals Limited 15x4 Therm-A-Blade	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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Lorient Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/21 (RF97091)	Lorient LP1004 617	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal
A/23 (RF00067 A)	Lorient LP2004 617 LP1004 617	Head: 1no 20x4. Fitted in frame head reveal or leaf edge Jambs: 1no 10x4. Fitted in frame jamb reveal or leaf edges

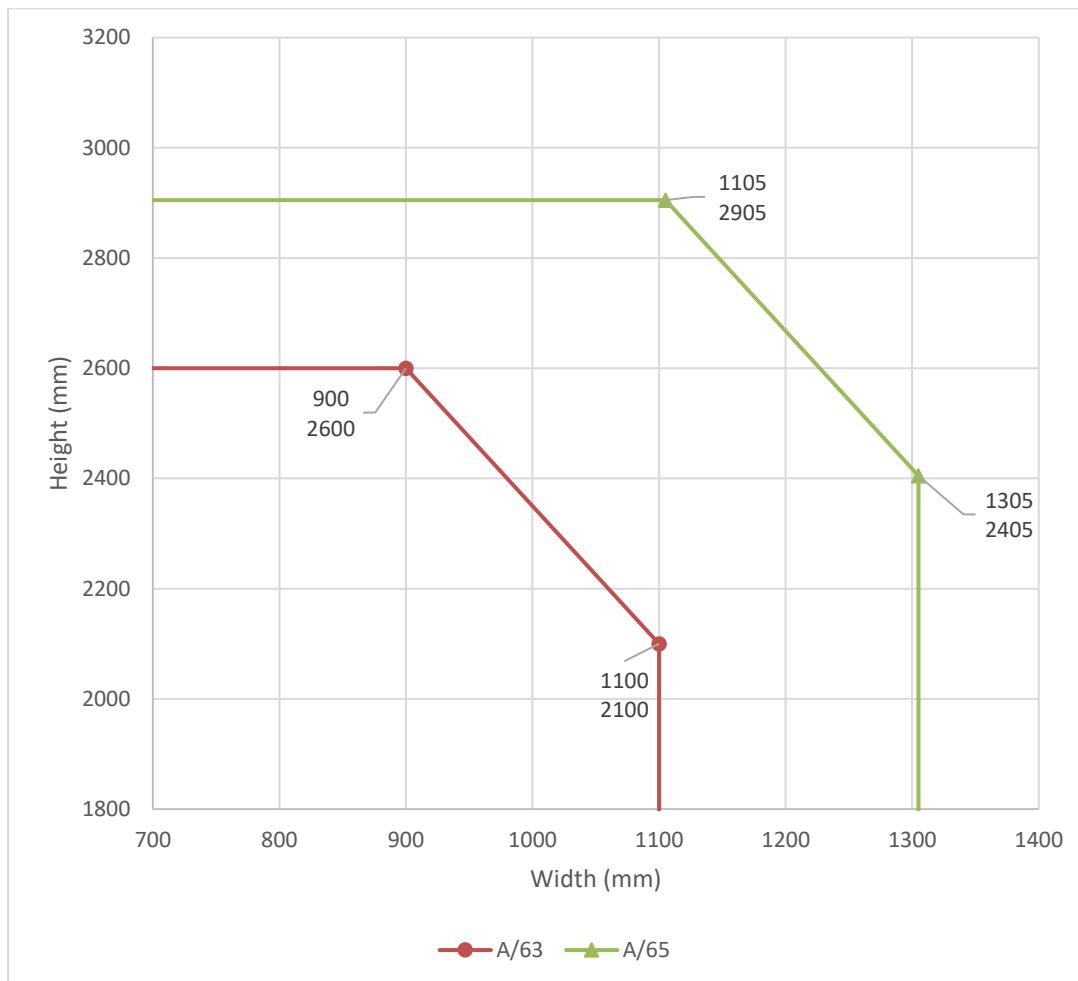
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Lorient Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/30 (RF00068 A)	Lorient LP2004 617 100EC 30x2	Head: 1no 20x4. Fitted in frame head reveal Leaf vertical Edges: 1no 30x2. Fitted centrally recessed into the rear face the vertical flat lipping. The vertical lippings (see section 5.4.1) must be no greater than 10mm thick when using this Intumescent Specification. Lippings must be adhered with the specific adhesive in section 9.
A/34 (WF384748 AR1)	Lorient LP1504 617	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

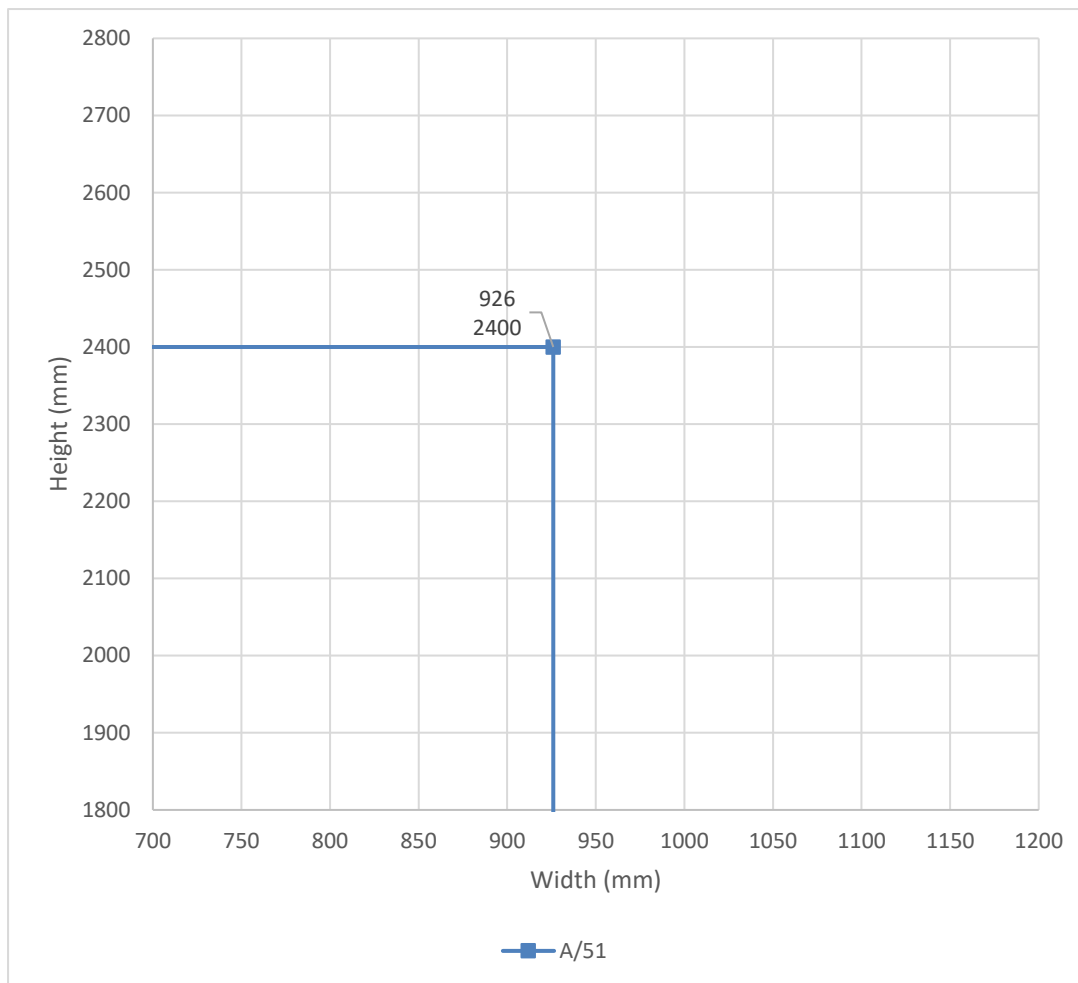


Pyroplex Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/63 (BMT/FEP/F16050 B)	Pyroplex 8500	Head & Jambs: 1no 10x4. Fitted in frame reveal or leaf edges
A/65 (WF372222 AR1 A)	Pyroplex 8700	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.5.4 Leaf 1, 2 + Frame 4 Doorset

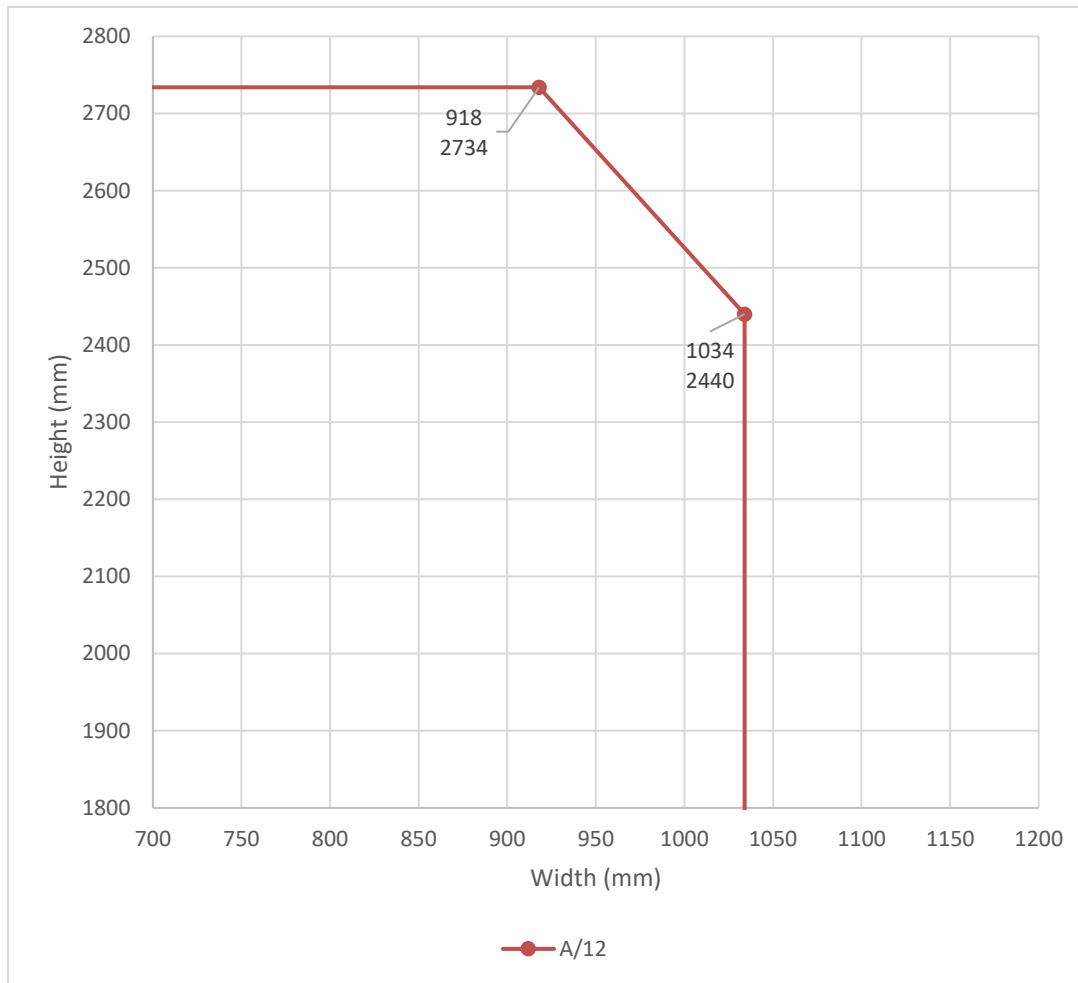


Mann McGowan Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 4		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/51 (Assessed from WF393430 and WF391351 A)	Mann McGowan Graphite CF 356 as tested in WF393430	Head & Jambs: 1no 15x4. Fitted in frame reveal, concealed behind laminate facing of Frame 4

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.5.5 Leaf 1, 2 + Frame 5 Doorset

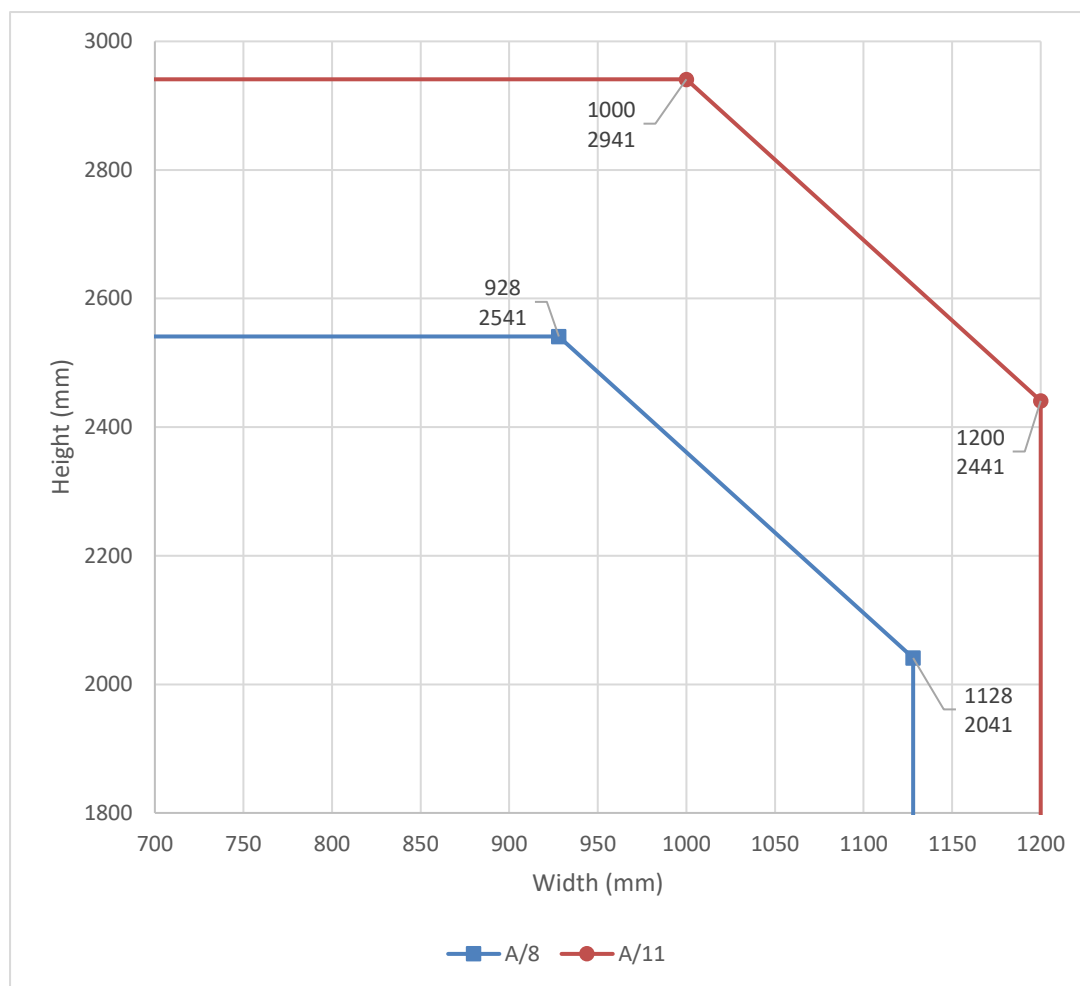


Halspan Intumescent Specification for LSASD, Leaf 1 or 2 with Frame 5		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/12 (CFR1809181_1 Rev 1)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.5.6 Leaf 2 + Frame 1, 2, 3, 7 Doorset

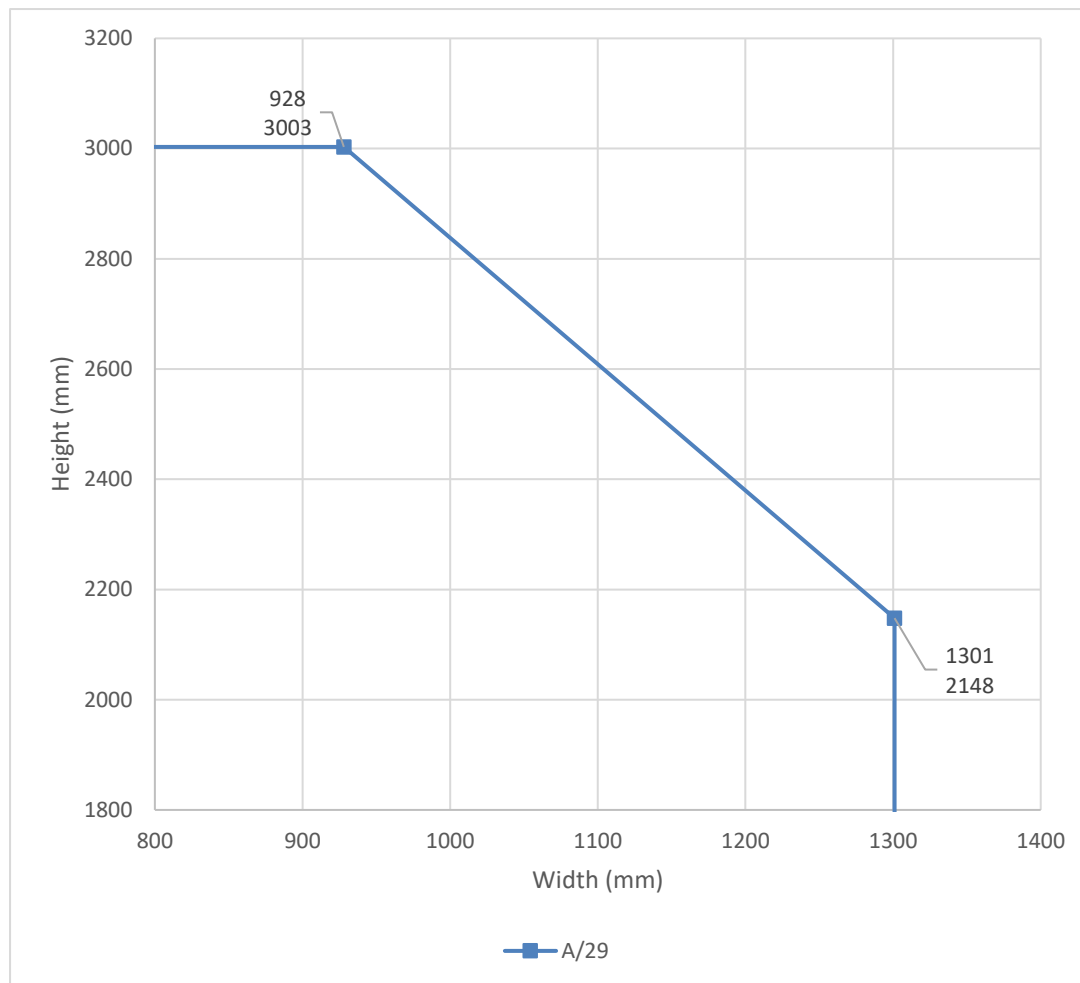


Halspan Intumescent Specification for LSASD, Leaf 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/8 (CFR2307031)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or in leaf head and hanging edges. and 2no 15x4. Fitted centrally and 10mm apart in leaf head and hanging edges or in the frame reveal. The above seals must be located such that the 2no seals oppose the 1no seal at the head and jambs.
A/11 (CFR1909021)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.5.7 Leaf 2 + Frame 2 Doorset



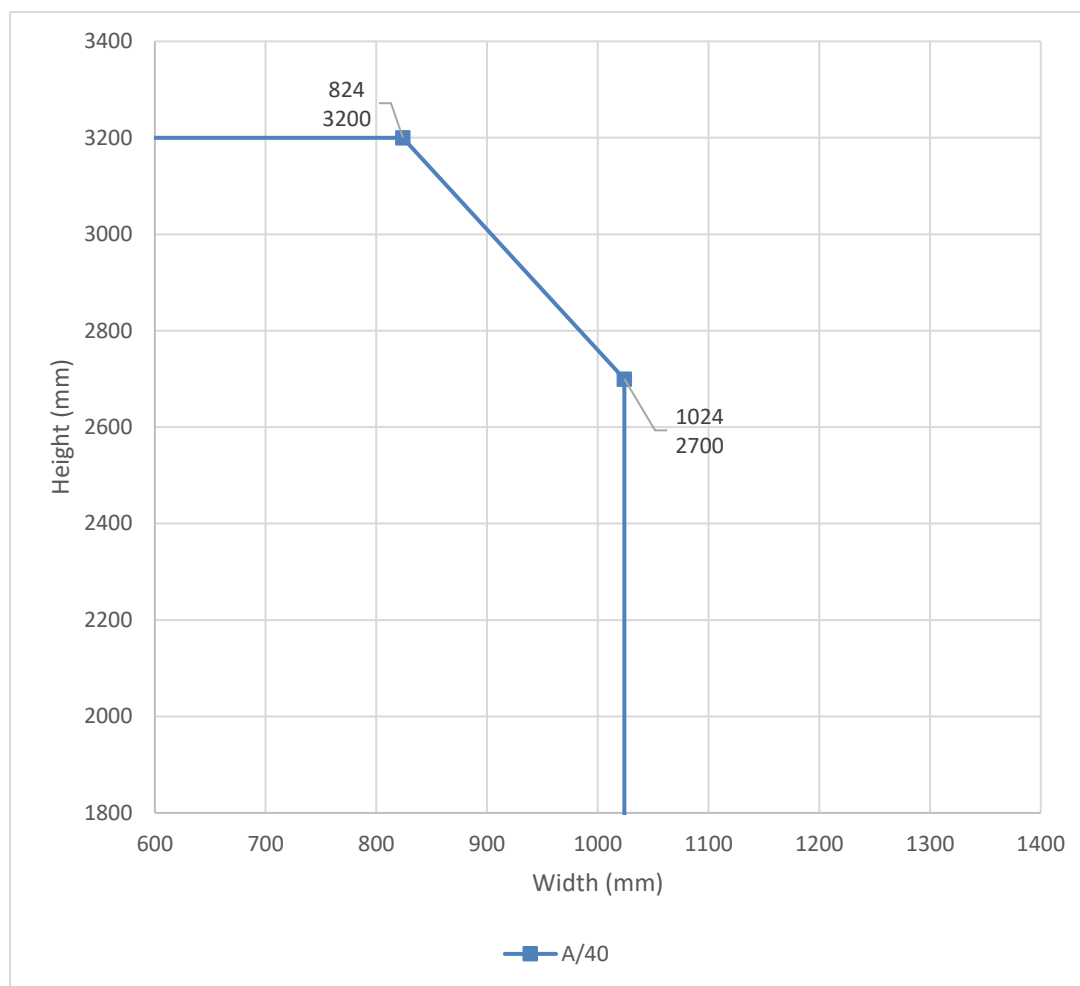
Lorient Intumescent Specification for LSASD, Leaf 2 with Frame 2

Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/29 (WF545612)	Lorient LP1504 617	Head & Jambs: 2no 15x4. Fitted centrally and 8mm apart in frame reveal or leaf edges

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.5.8 Leaf 2 + Frame 2, 3 Doorset



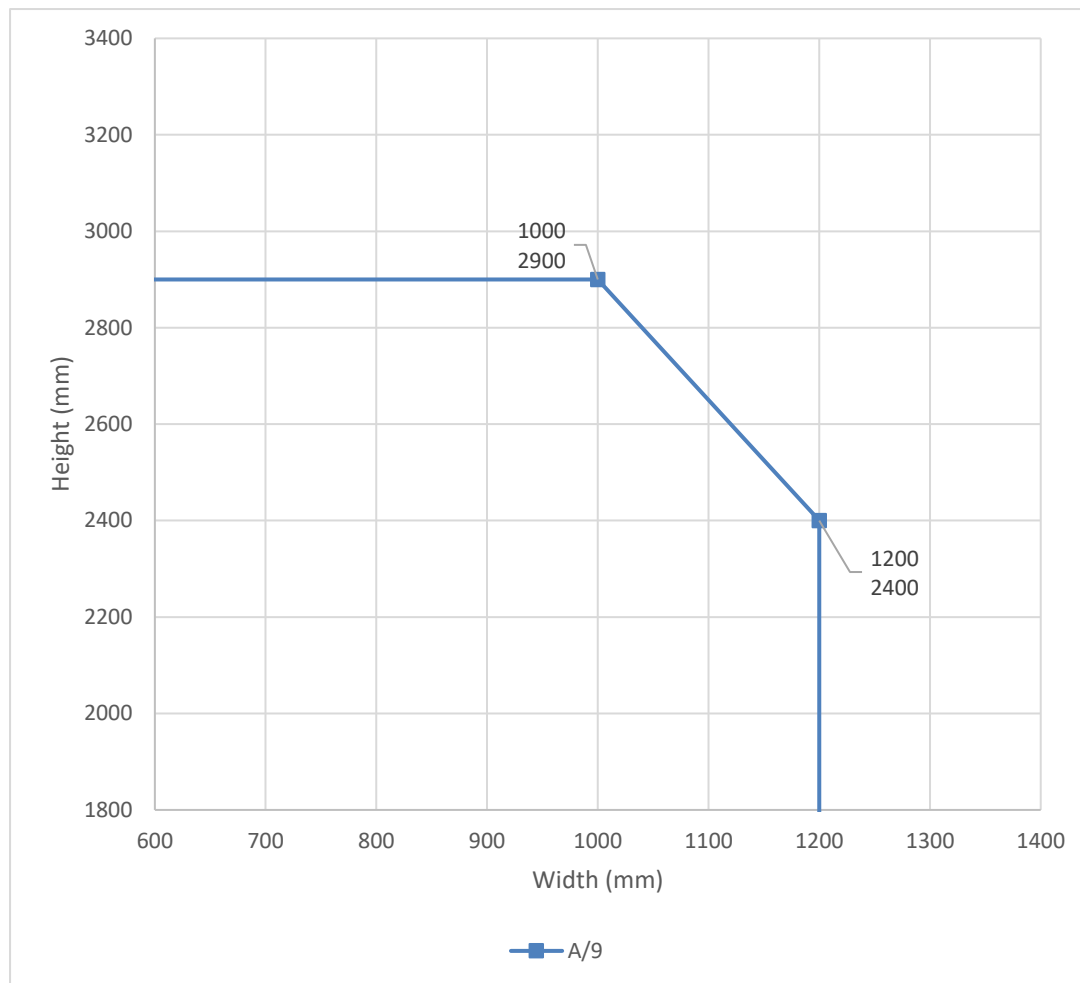
Intumescent Seals Limited Intumescent Specification for LSASD, Leaf 2 with Frame 2 or 3

Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/40 (Chilt/RF02081)	Intumescent Seals Limited 15x4 Therm-A- Seal 10x2 Therm-A- Flex	Head: 2no 15x4. Fitted centrally and 10mm apart to frame head. 1no 10x2. Fitted centrally to leaf head Jambs: 2no 15x4. Fitted centrally and 10mm apart in frame jambs reveal

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

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4.5.5.9 Leaf 2 + Frame 6 Doorset

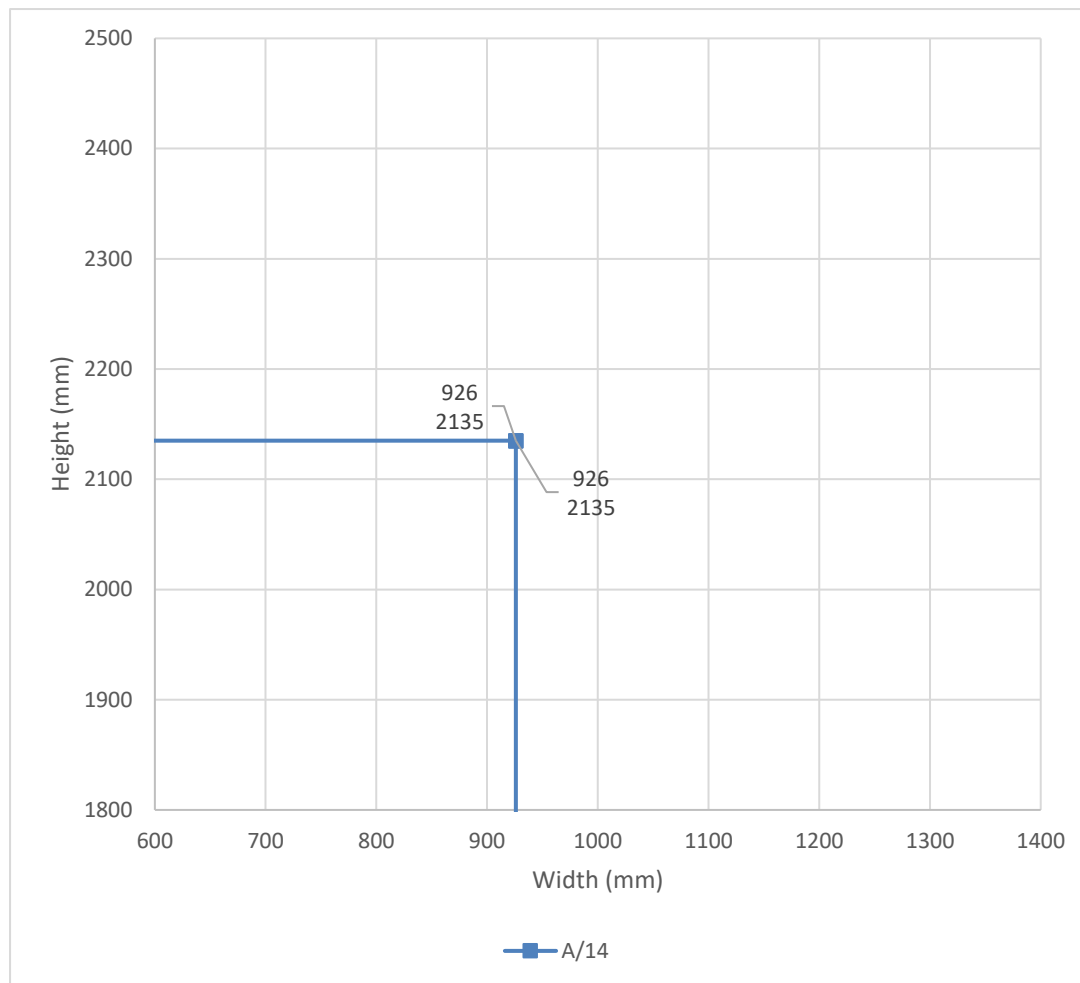


Halspan Intumescent Specification for LSASD, Leaf 2 with Frame 6		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/9 (CFR1808101)	Halspan SLS	Head & Jambs: 2no 15x4. Fitted in the larger frame reveal rebate at 5mm and 27mm from the opening face of the leaf.

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

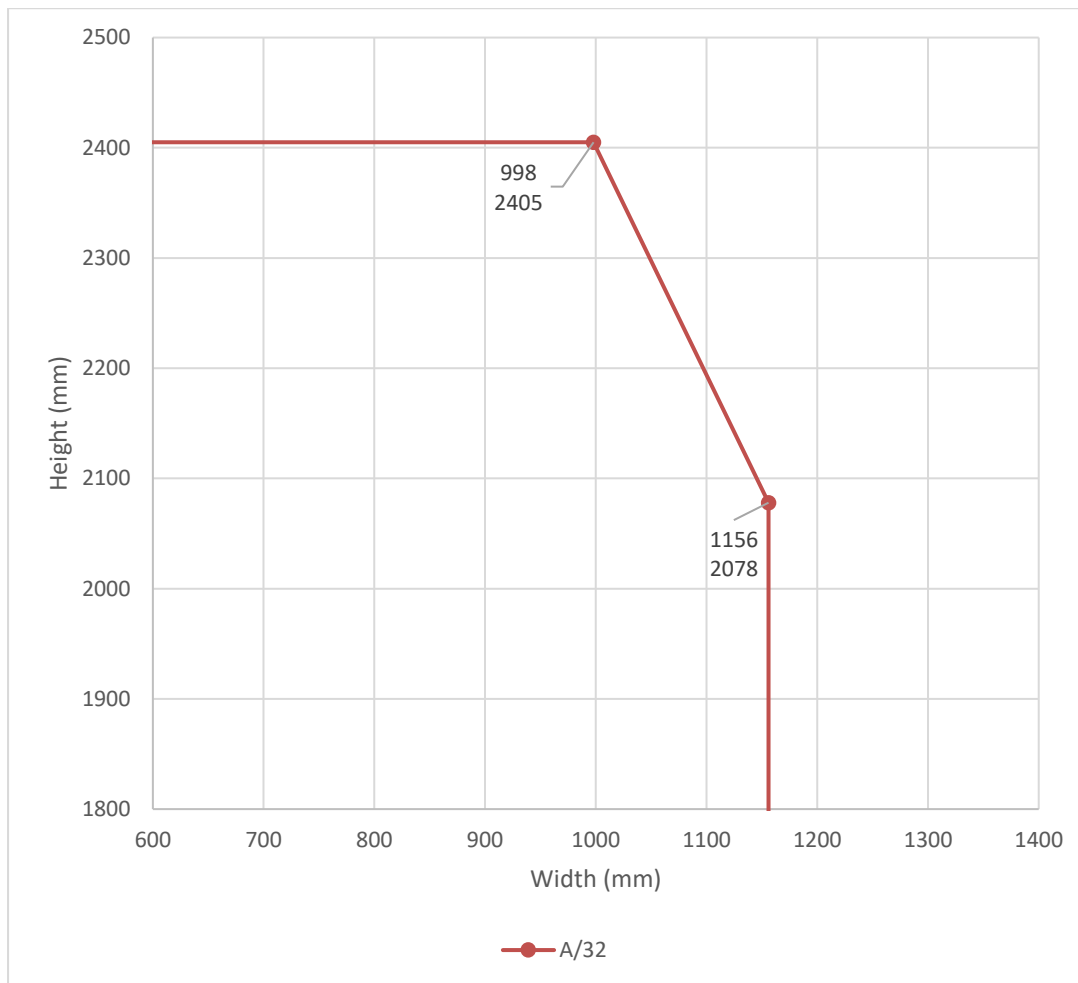
4.5.5.10 Leaf 3 + Frame 1, 2, 3, 7 Doorset



Halspan Intumescent Specification for LSASD, Leaf 3 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/14 (WF412654 B)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

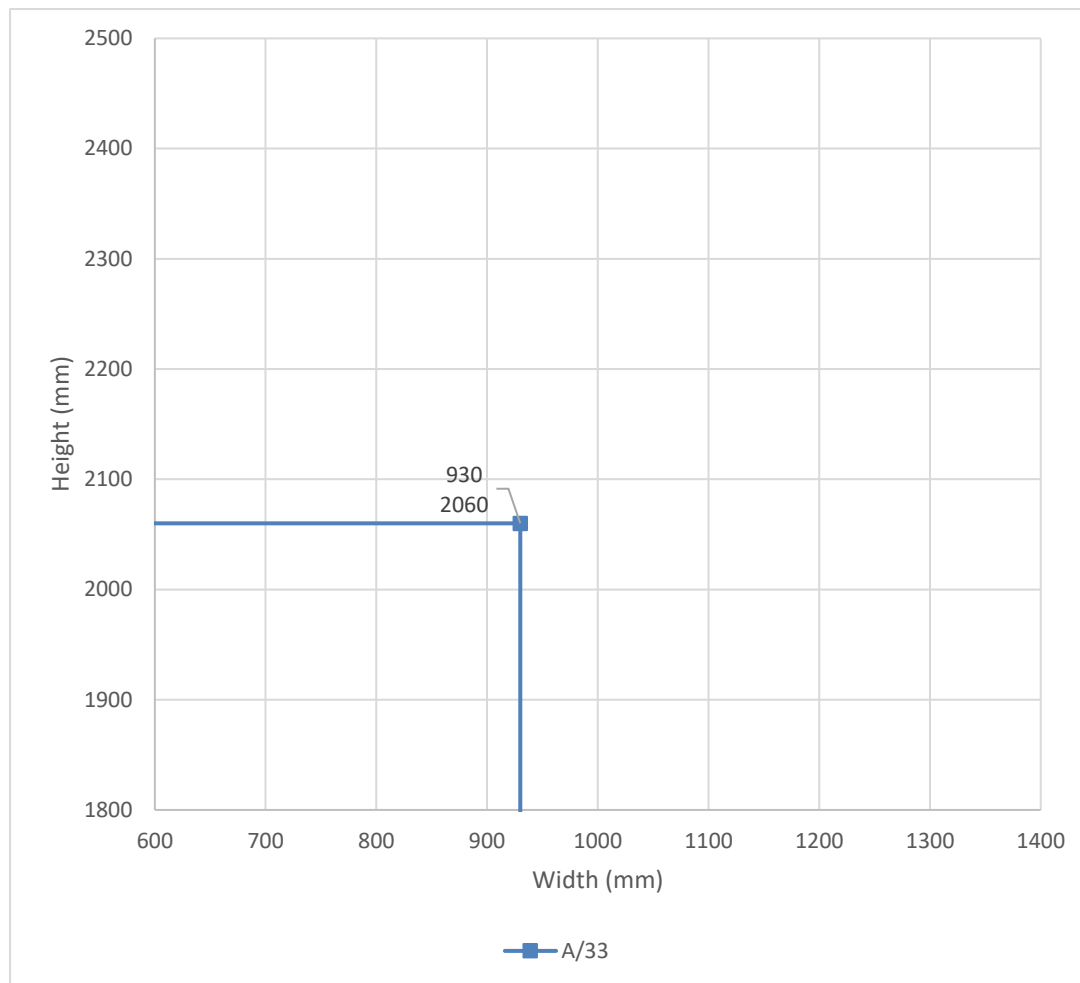


Lorient Intumescent Specification for LSASD, Leaf 3 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/32 (WF145632 A)	Lorient LP1504 617	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.5.11 Leaf 3 + Frame 2 Doorset



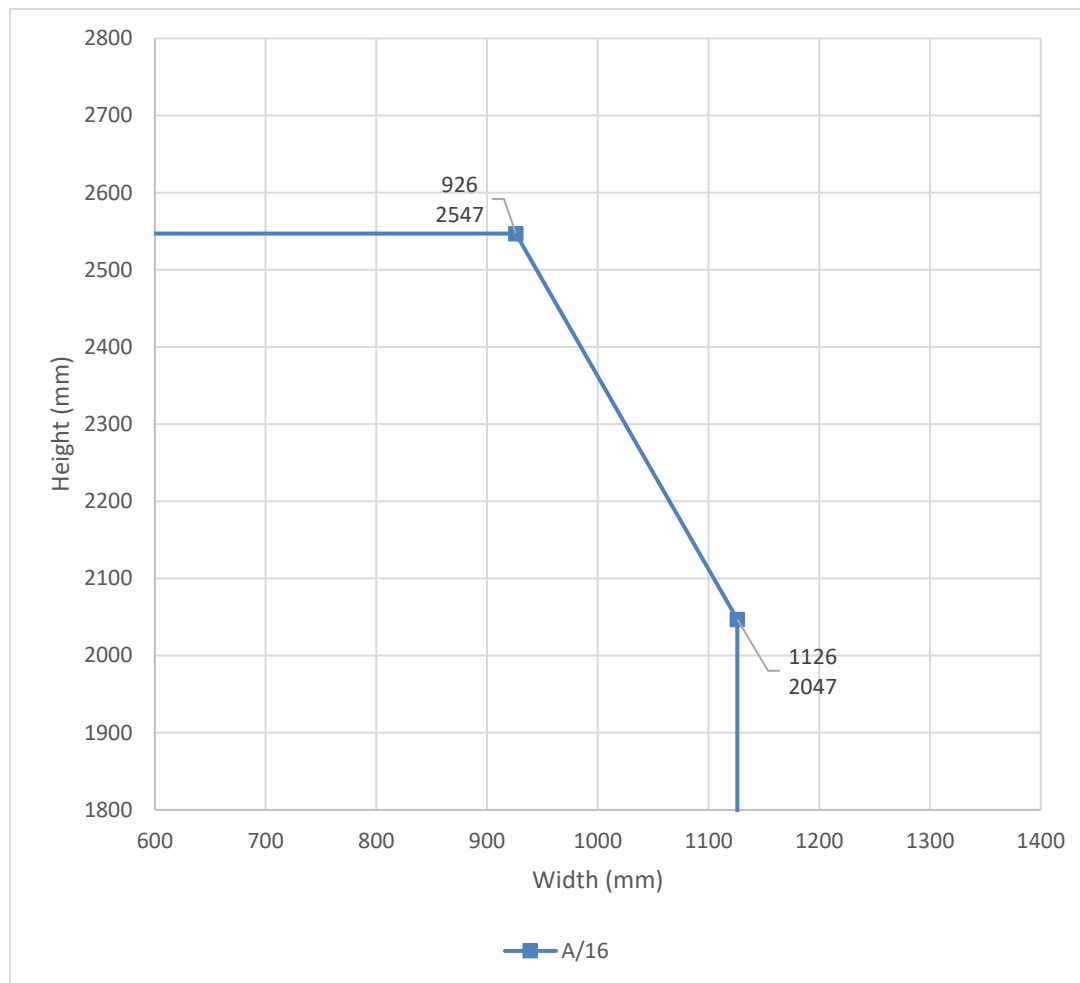
Lorient Intumescent Specification for LSASD, Leaf 3 with Frame 2

Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/33 (RF03076)	Lorient LP1004 617 LP2504 617	Head: 1no 10x4. Fitted in frame head reveal Hanging Jamb: 1no 10x4. Fitted in frame hanging jamb reveal Closing Jamb: 1no 25x4. Fitted in frame closing jamb reveal

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.5.12 Leaf 4 + Frame 2, 3 Doorset



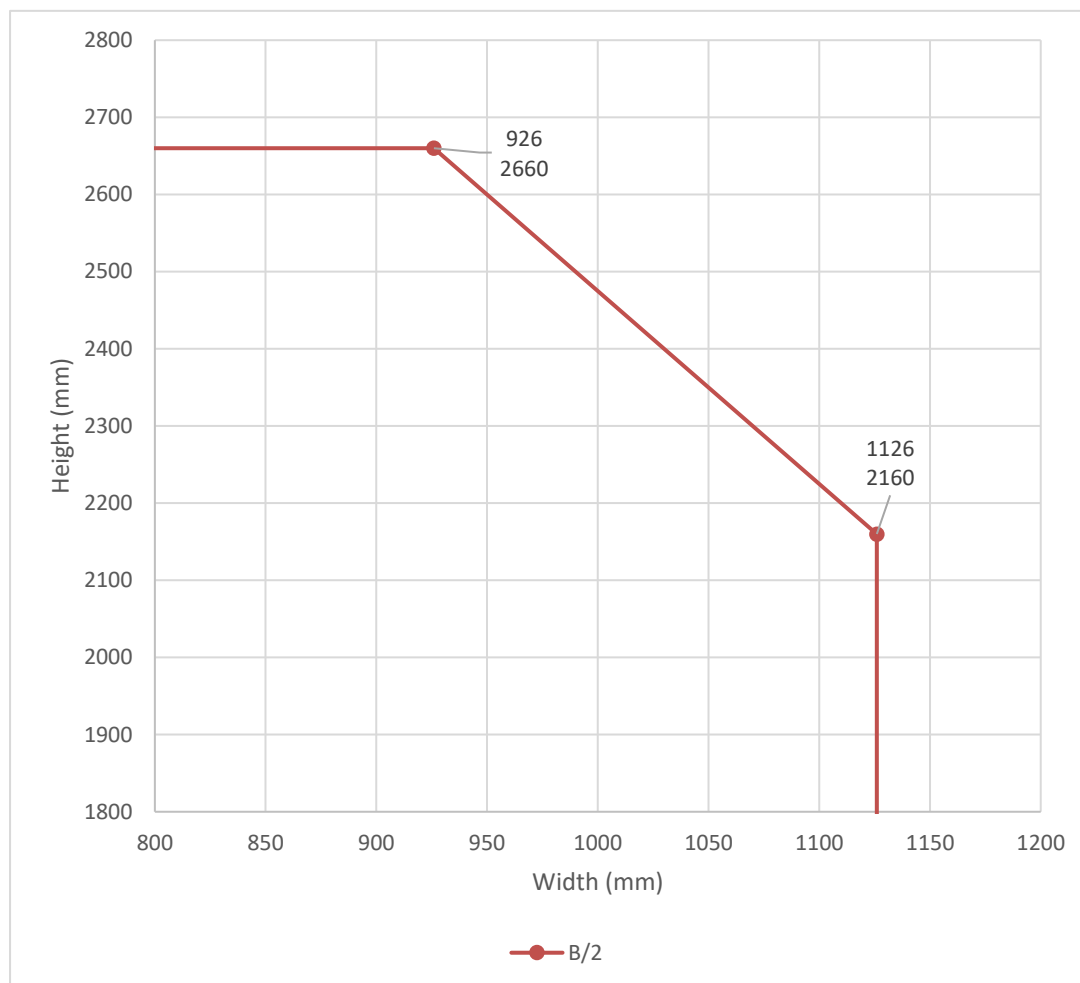
Halspan Intumescent Specification for LSASD, Leaf 4 with Frame 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
A/16 (WF533900 B)	Halspan SLS	Head & Jambs: 2no 10x4. Fitted centrally and 14mm apart in frame reveal or leaf edges

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.6 ULSASD Configuration: Leaf Sizes & Intumescent Specification

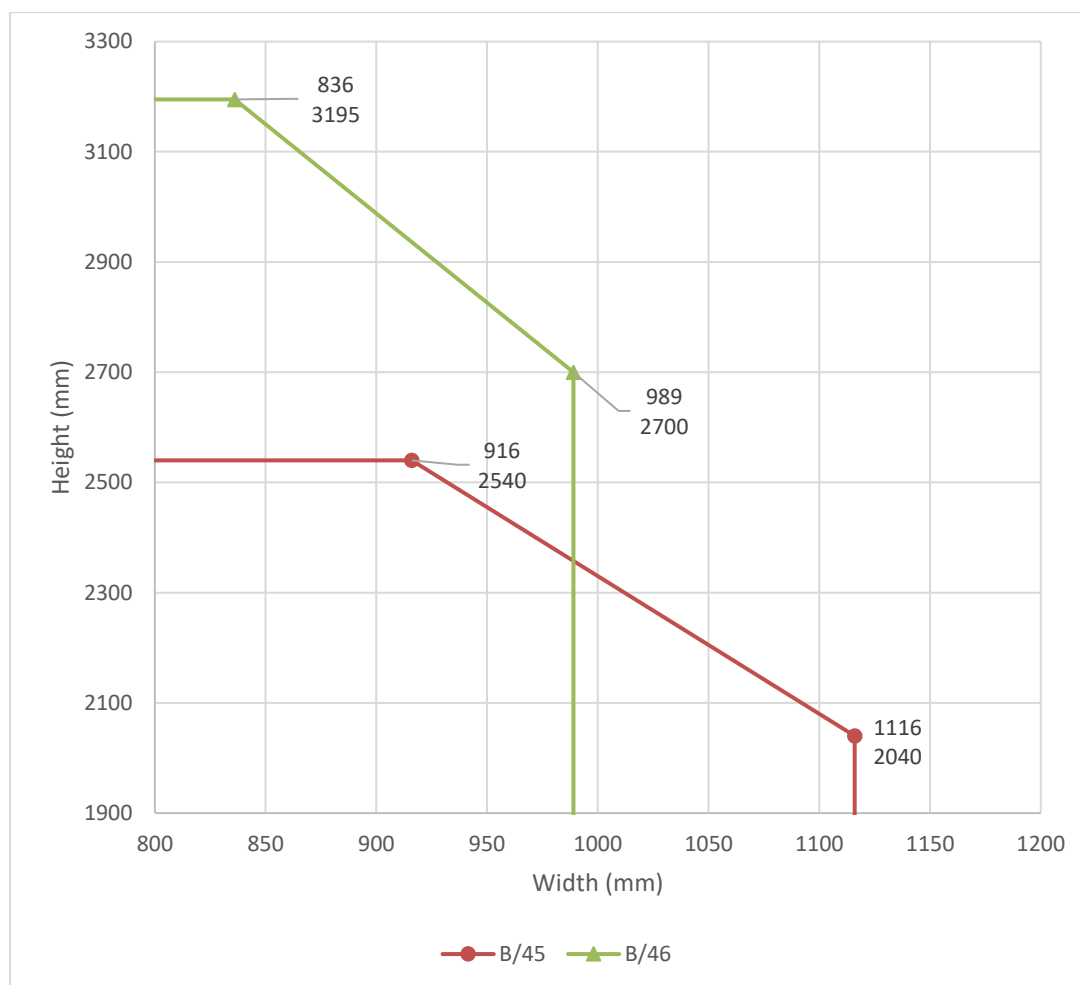
4.5.6.1 Leaf 1, 2 + Frame 1, 2, 3 Doorset



Halspan Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/2 (Chilt/RF09069)	Halspan SLS	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal

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

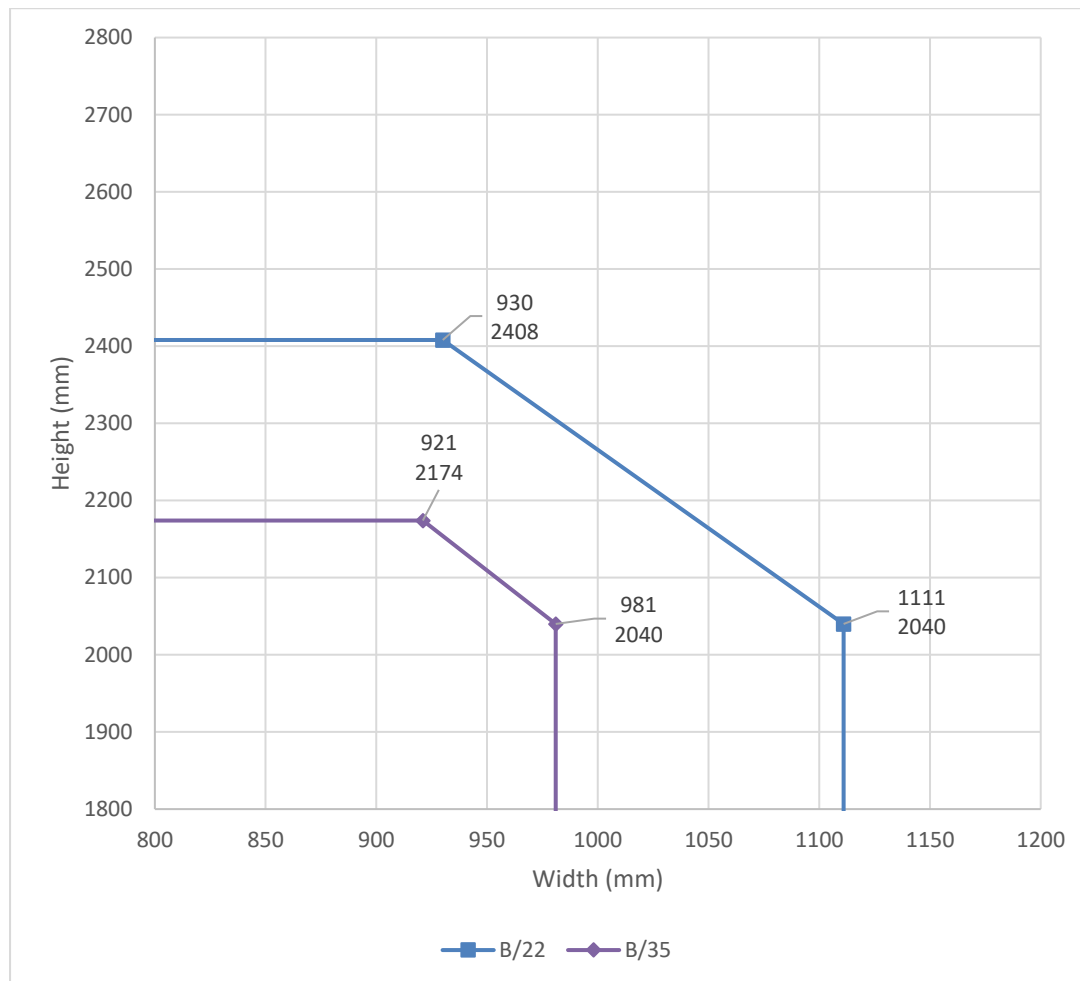
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Intumescent Seals Limited Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/45 (Chilt/RF11005 A)	Intumescent Seals Limited 10x4 Therm-A- Seal	Head & Jambs: 1no 10x4. Fitted in frame reveal or leaf edges
B/46 (WARRES 118409/A)	Intumescent Seals Limited 20x4 Therm-A- Seal 10x4 Therm-A- Seal	Head: 1no 20x4. Fitted in frame head reveal or leaf edge Jambs: 1no 10x4. Fitted in frame jamb reveal or leaf edges

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

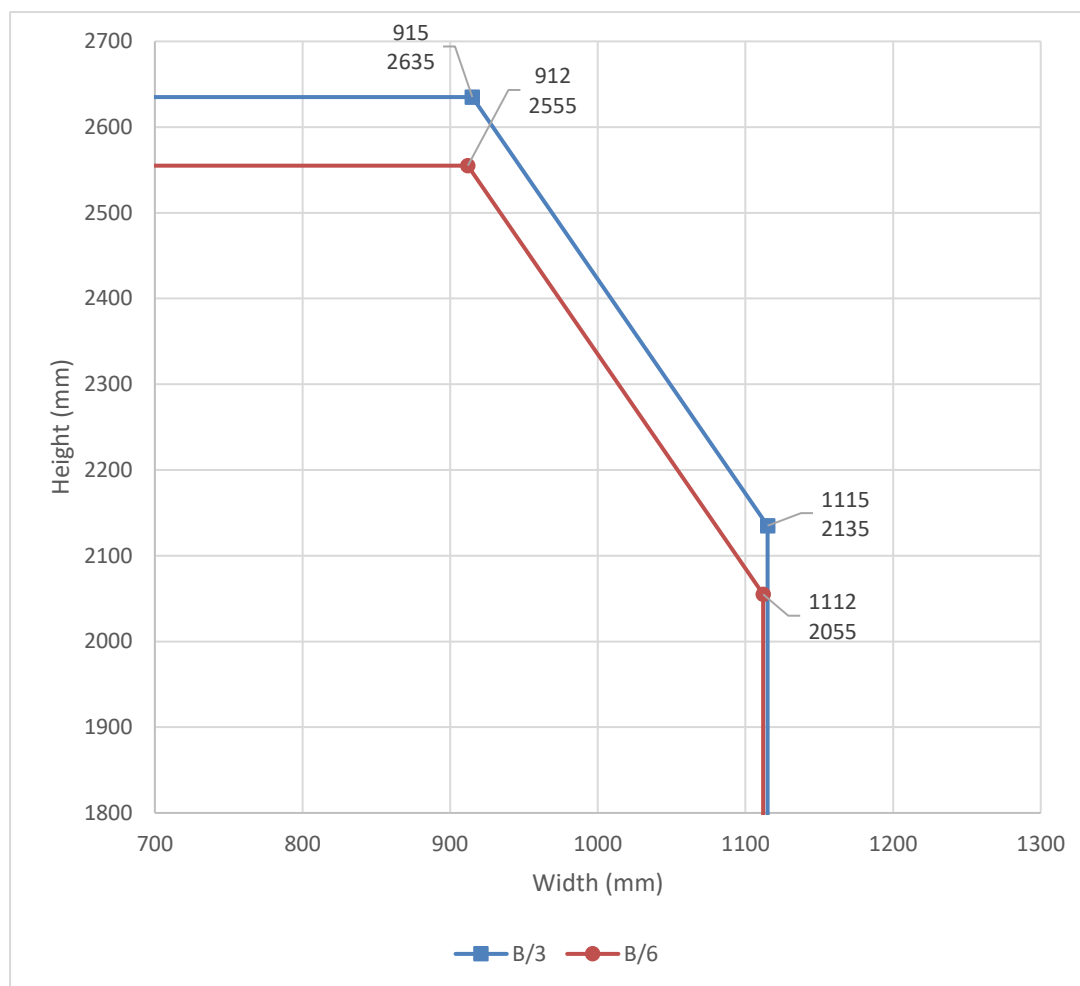


Lorient Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/22 (WARRES 131998 B)	Lorient LP1004 617	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal
B/35 (WF 135011)	Lorient LP1504 617 LP1004 617	Head: 1no 15x4 centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

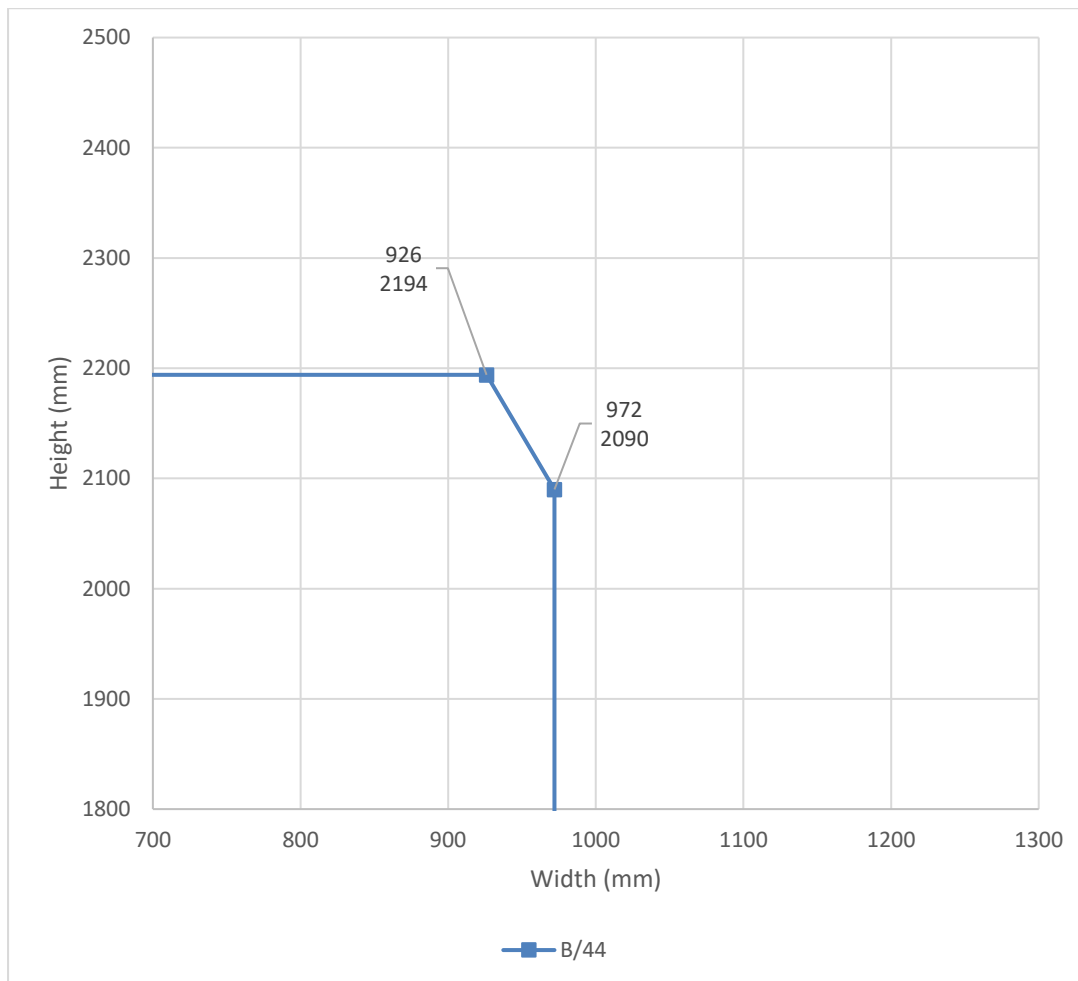
4.5.6.2 Leaf 1, 2 + Frame 1, 2, 3, 7 Doorset



Halspan Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/3 (Chilt/RF13063 Revision A)	Halspan SLS	Head: 2no 15x4: Fitted 7mm apart and centrally to frame head reveal or leaf head edge Jambs: 1no 15x4. Fitted in frame jambs reveal or vertical leaf edges
B/6 (Chilt/RF08039)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

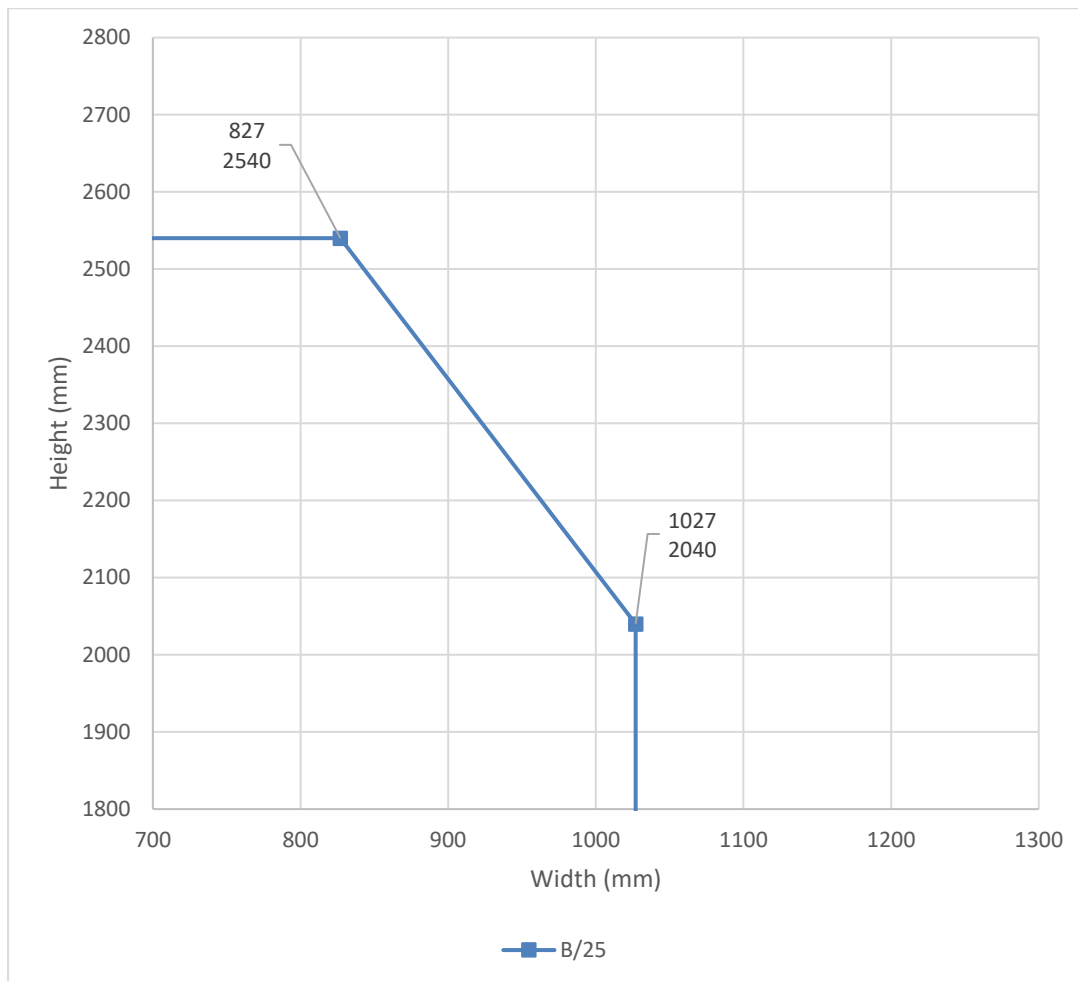
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Intumescent Seals Limited Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/44 (Chilt/RF06068 B)	Intumescent Seals Limited 15x4 Therm-A- Seal	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

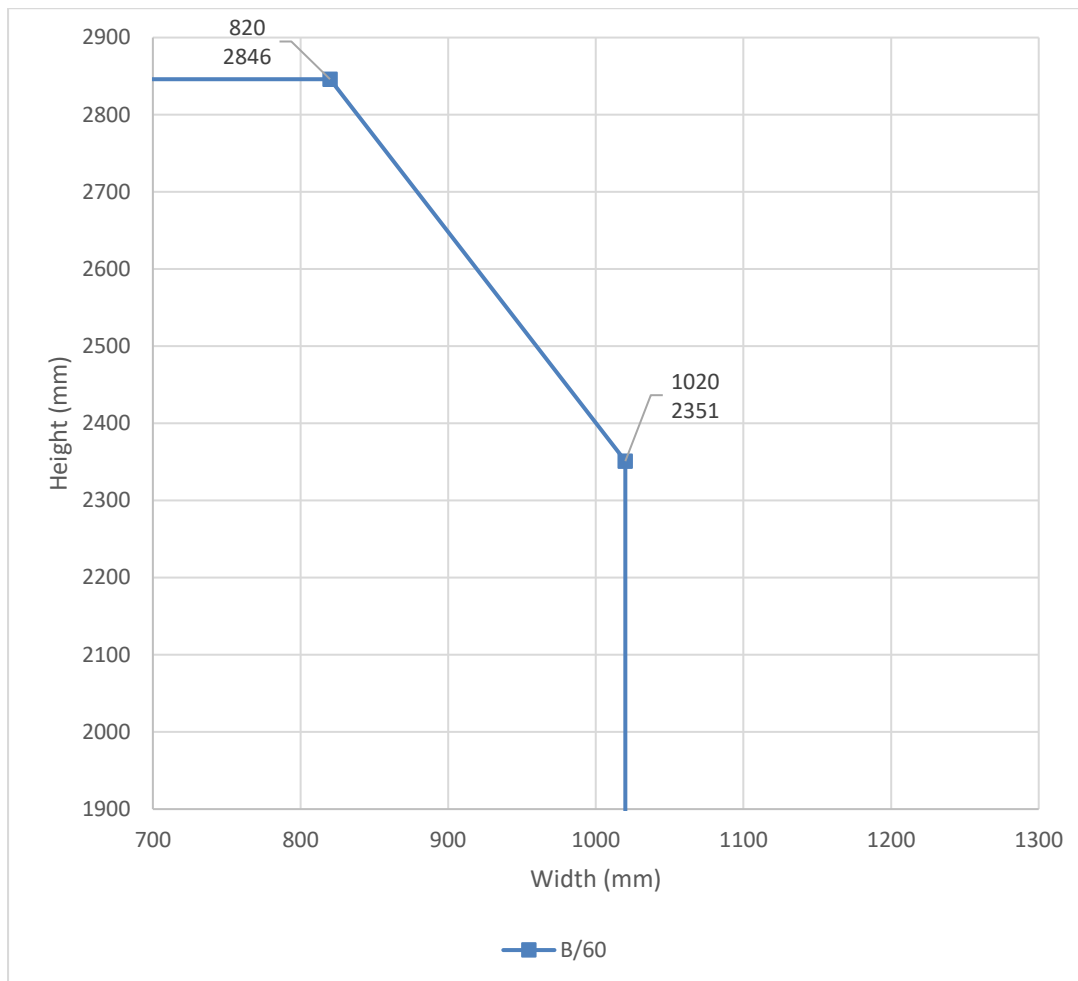
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Lorient Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/25 (RF07008 B)	Lorient LP1504 617	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

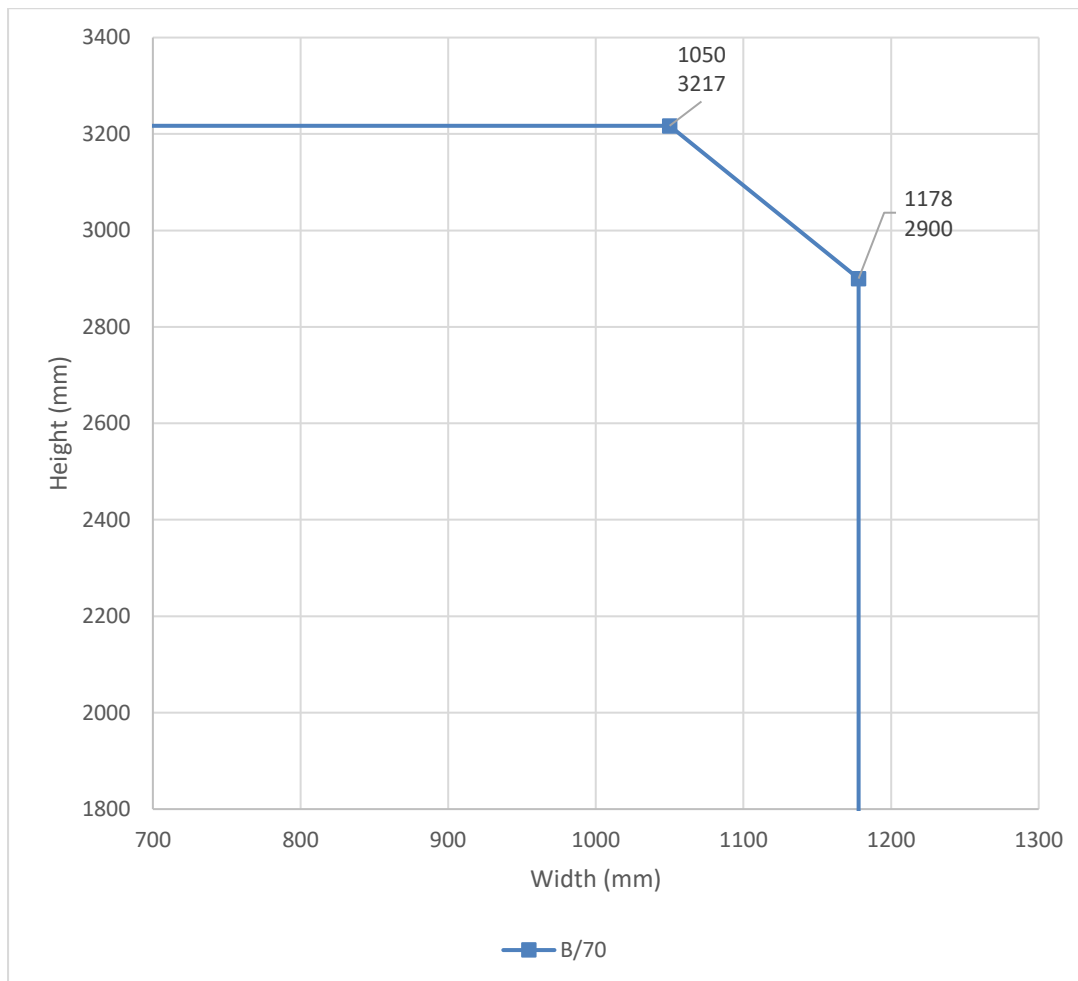
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Pyroplex Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/60 (CFR2210051)	Pyroplex 8500 8700	Head: 2no 10x4: Fitted 13mm apart and centrally to frame head reveal Jambs: 1no 15x4. Fitted in frame jambs reveal

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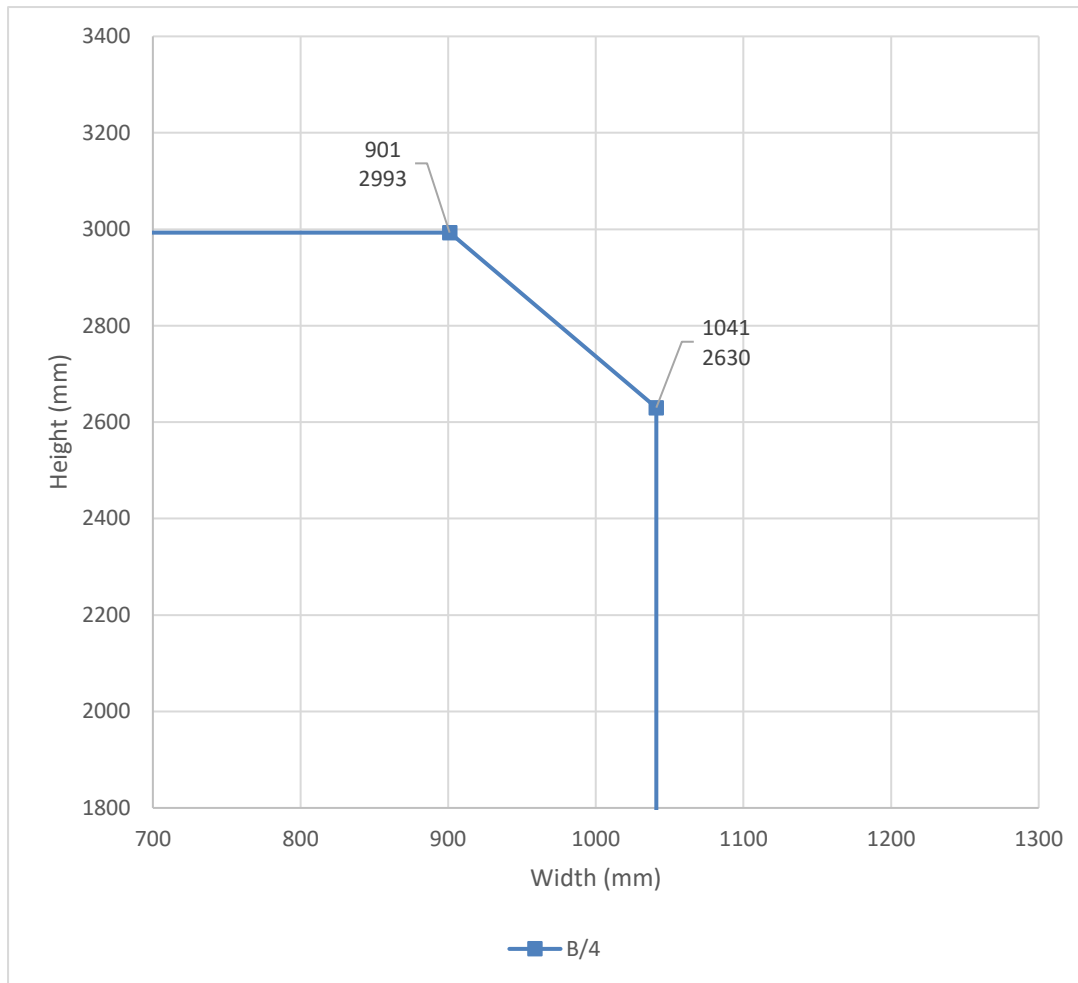


Sealed Tight Solutions Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/70 (BMT/FEP/F15097)	Sealed Tight Solutions ST1504FO	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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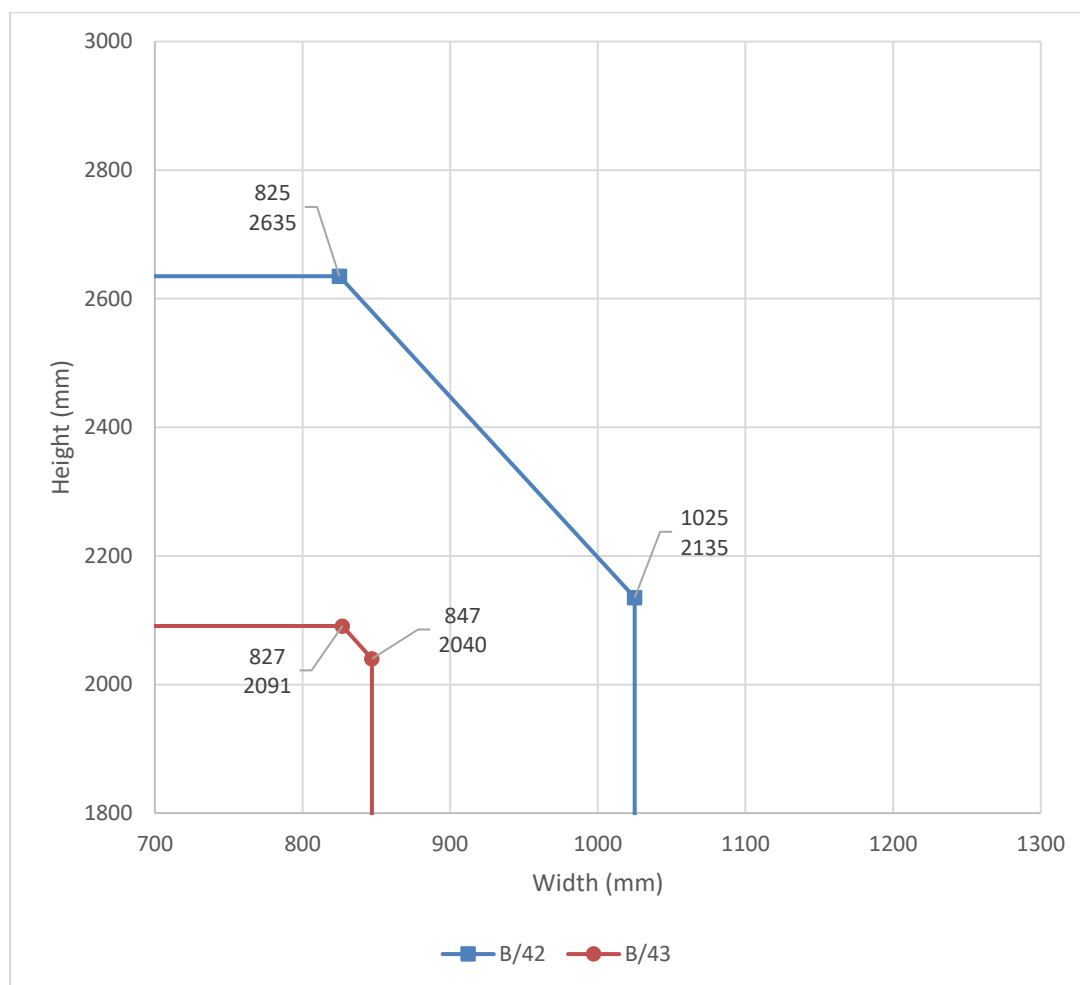
4.5.6.3 Leaf 1, 2 + Frame 2 Doorset



Halspan Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/4 (BMT/FEP/F15272 AR1)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal or leaf edges

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

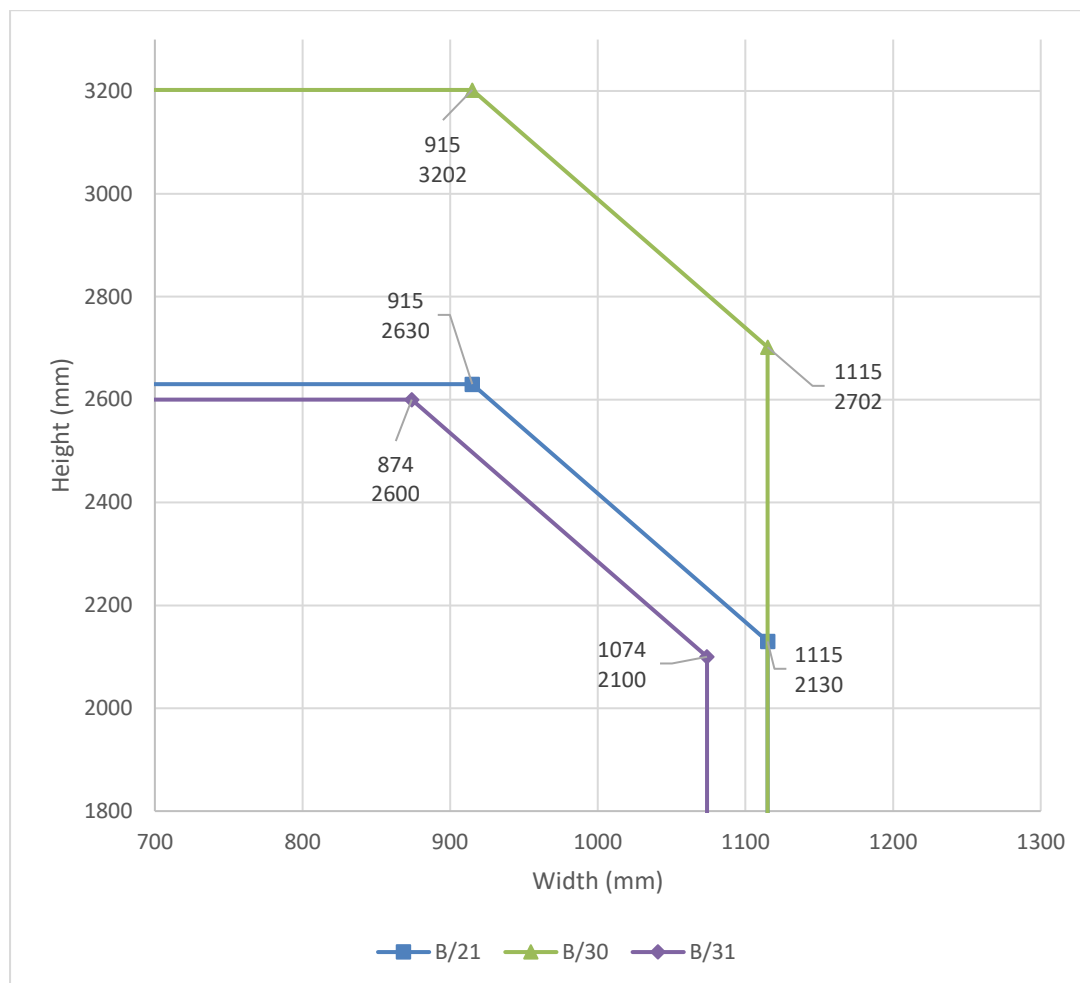
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Intumescent Seals Limited Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/42 (Chilt/RF04021 A)	Intumescent Seals Limited 10x4 Therm-A- Seal 20x4 Therm-A- Stop	Head & Jambs (with Leaf 1 doorset): 1no 10x4. Fitted 5mm from opening face in frame reveal 1no 20x4. Fitted 8mm apart from the 1no10x4 seal in apart in frame reveal
		Head & Jambs (with Leaf 2 doorset): 1no 10x4. Fitted 10mm from opening face in frame reveal 1no 20x4. Fitted 8mm apart from the 1no10x4 seal in apart in frame reveal
B/43 (CFR1005241)	Intumescent Seals Limited 15x4 Therm-A- Blade	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

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Lorient Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/21 (RF97091)	Lorient LP1004 617	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal
B/30 (RF00068 A)	Lorient LP2004 617 100EC 30x2	Head: 1no 20x4. Fitted in frame head reveal Leaf vertical Edges: 1no 30x2. Fitted centrally recessed into the rear face the vertical flat lipping. The vertical lippings (see section 5.4.1) must be no greater than 10mm thick when using this Intumescent Specification. Lippings must be adhered with the specific adhesive in section 9.

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

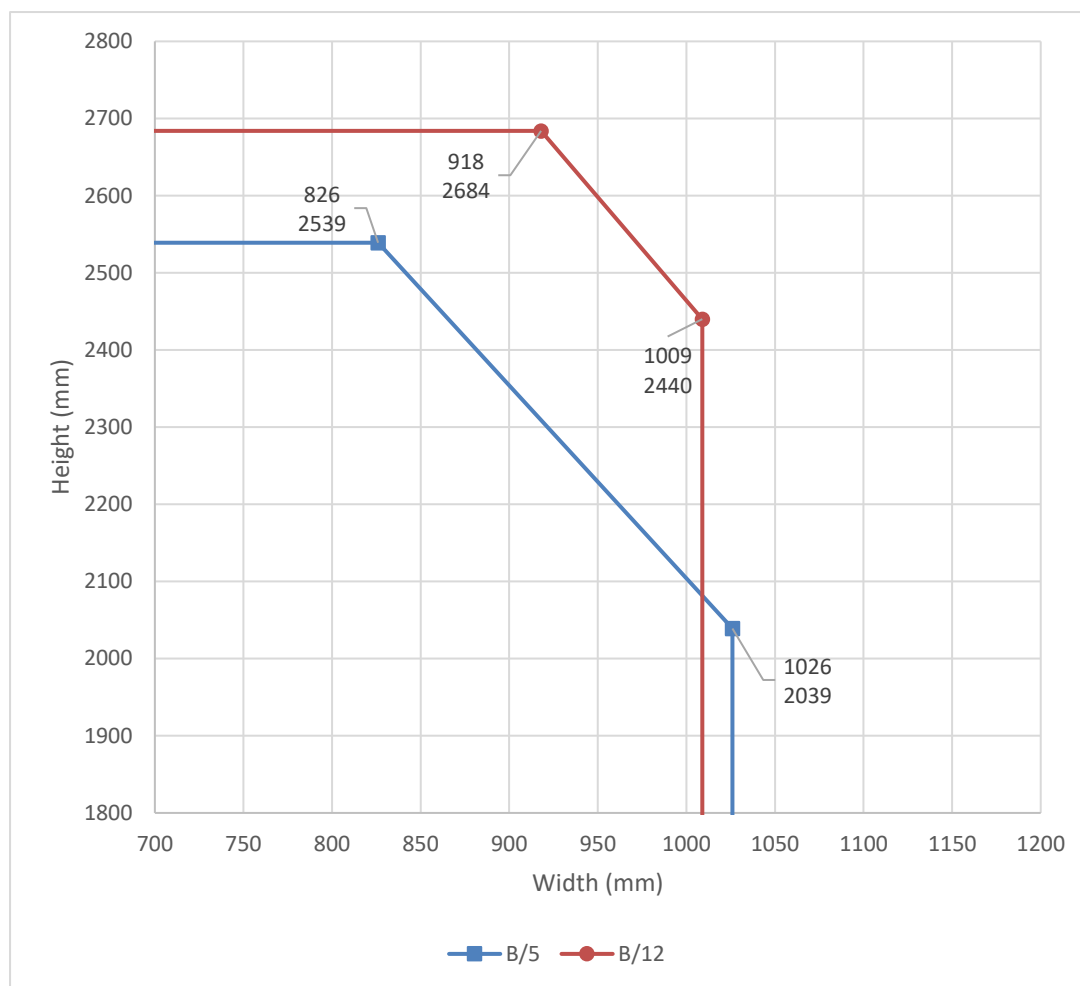
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Lorient Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/31 (RF95042 A)	Lorient LP2004 617 LP1004 617	Head: 1no 20x4. Fitted in frame head reveal or leaf edge Jambs: 1no 10x4. Fitted in frame jamb reveal or leaf edges

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.6.4 Leaf 1, 2 + Frame 5 Doorset

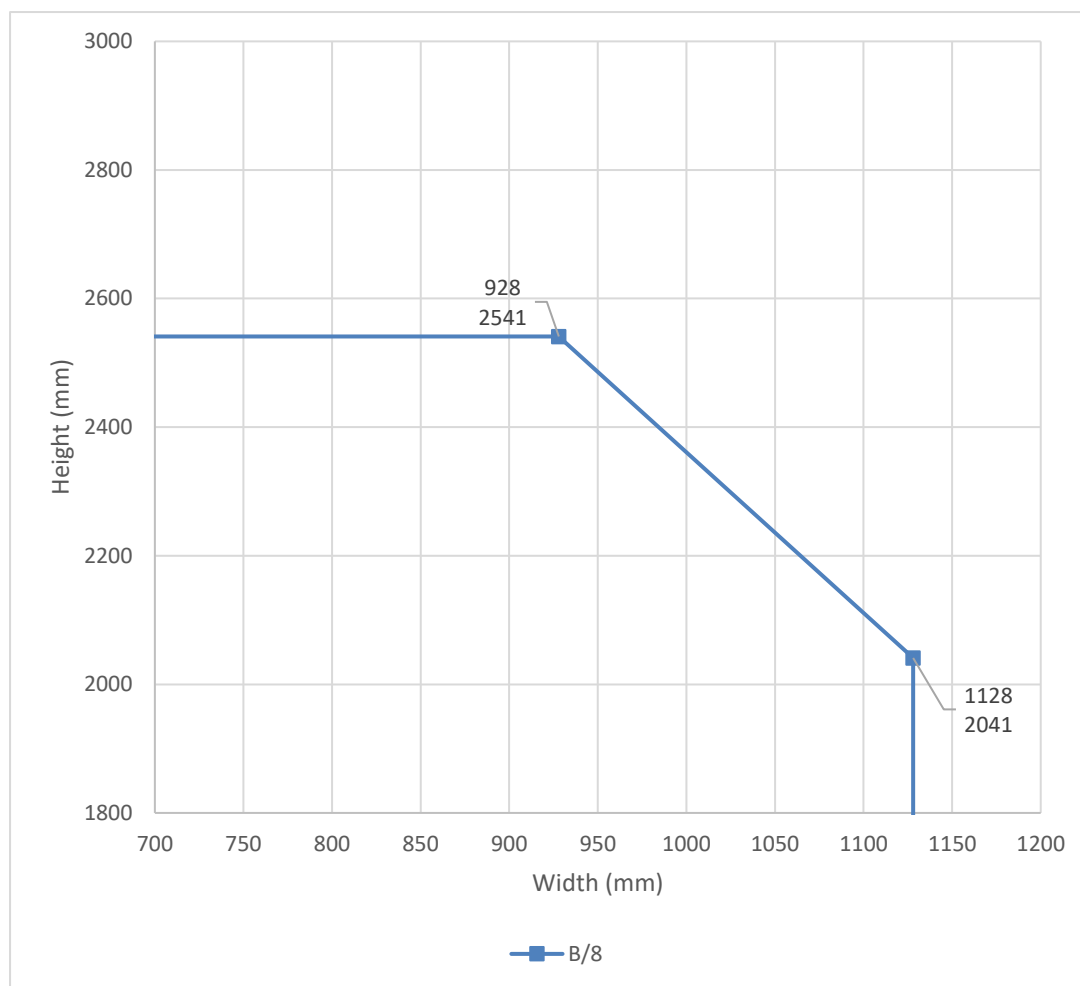


Halspan Intumescent Specification for ULSASD, Leaf 1 or 2 with Frame 5		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/5 (CFR2109021 LH)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges
B/12 (CFR1809181_1 Rev 1)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.6.5 Leaf 2 + Frame 1, 2, 3, 7 Doorset

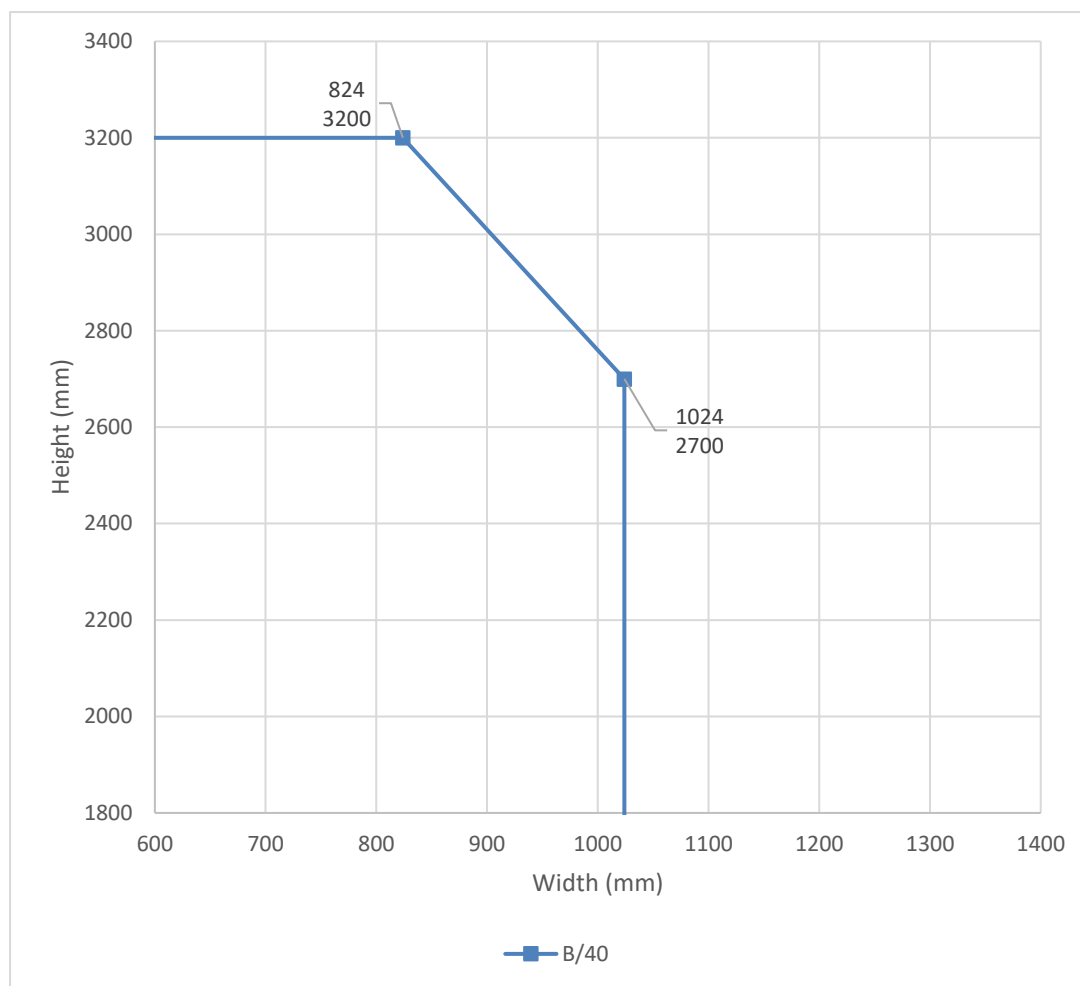


Halspan Intumescent Specification for ULSASD, Leaf 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/8 (CFR2307031)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or in leaf head and hanging edges. and 2no 15x4. Fitted centrally and 10mm apart in leaf head and hanging edges or in the frame reveal. The above seals must be located such that the 2no seals oppose the 1no seal at the head and jambs.

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4.5.6.6 Leaf 2 + Frame 2, 3 Doorset

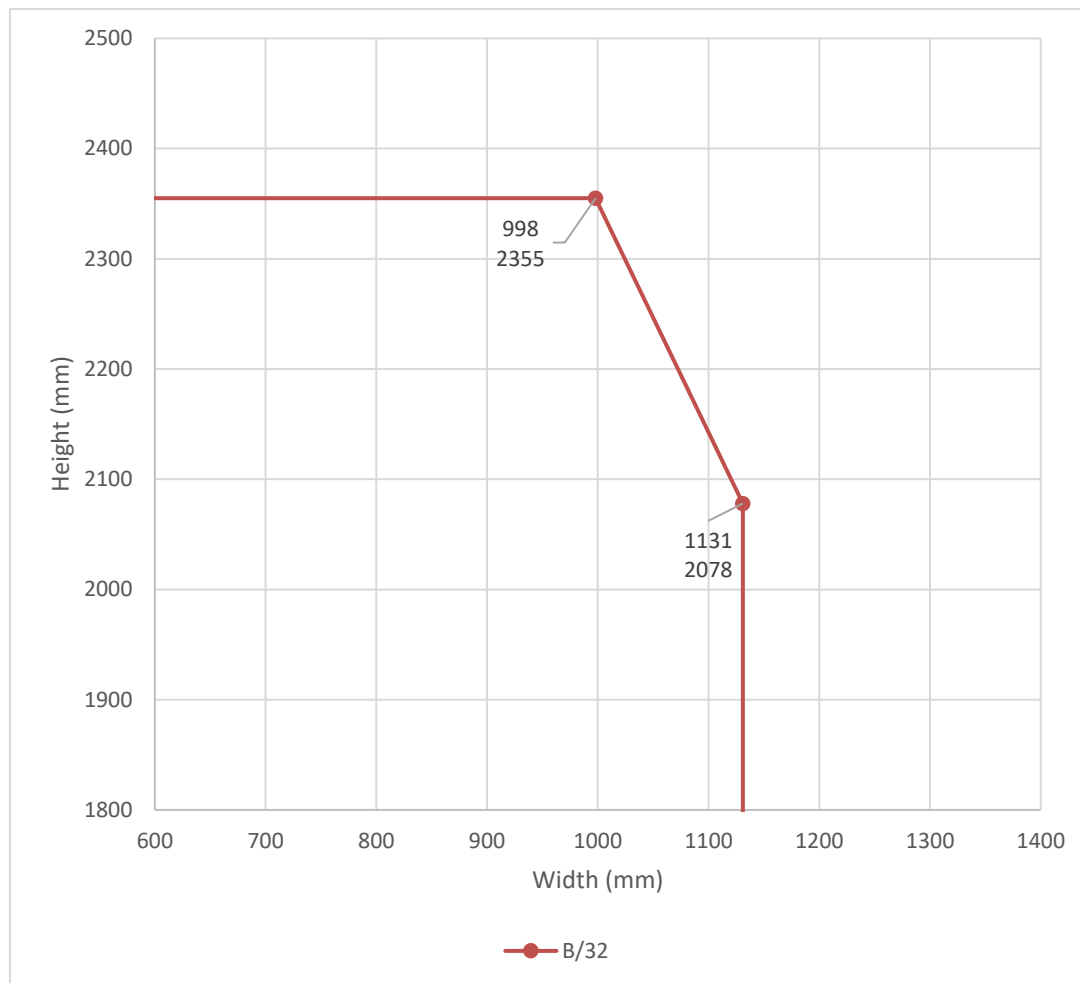


Intumescent Seals Limited Intumescent Specification for ULSASD, Leaf 2 with Frame 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/40 (Chilt/RF02081)	Intumescent Seals Limited 15x4 Therm-A- Seal 10x2 Therm-A- Flex	Head: 2no 15x4. Fitted centrally and 10mm apart to frame head. 1no 10x2. Fitted centrally to leaf head Jambs: 2no 15x4. Fitted centrally and 10mm apart in frame jambs reveal

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.6.7 Leaf 3 + Frame 1, 2, 3, 7 Doorset



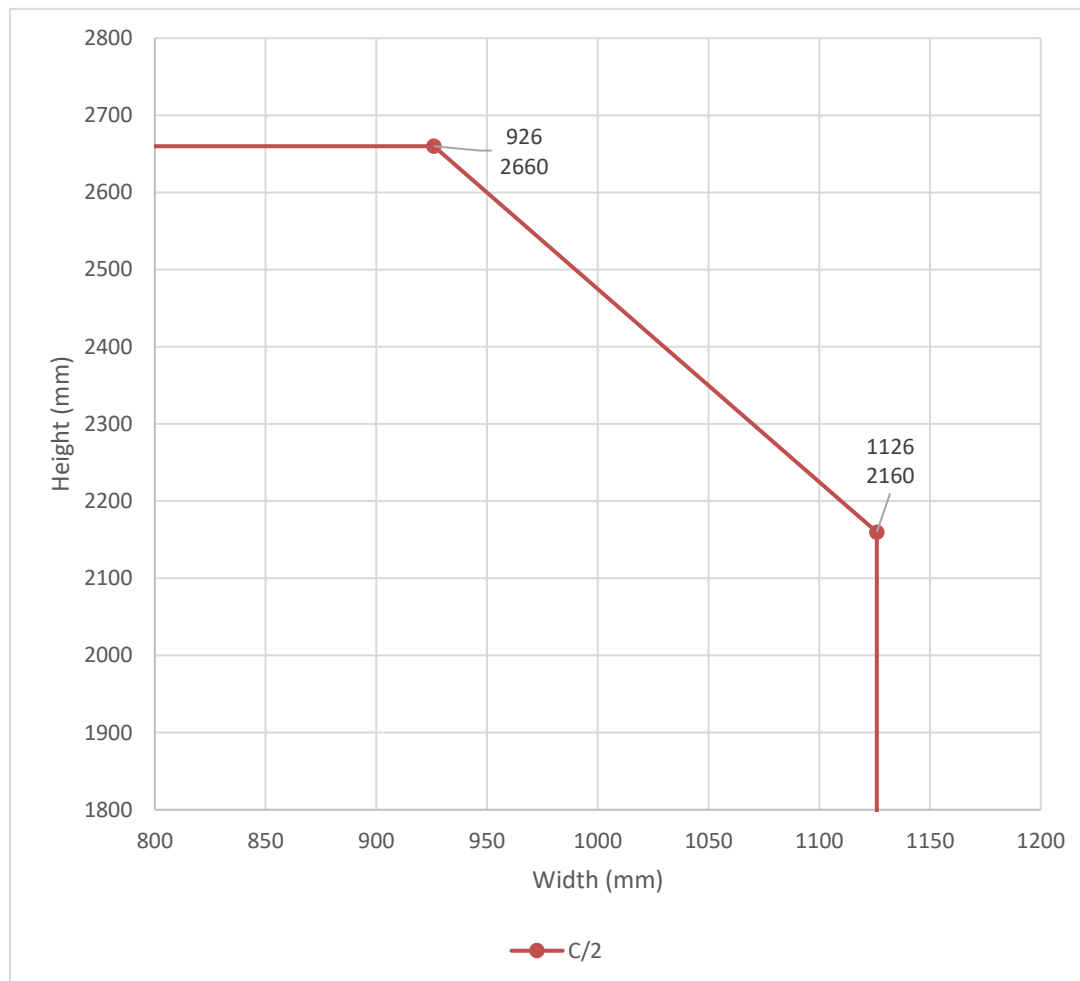
Lorient Intumescent Specification for ULSASD, Leaf 3 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
B/32 (WF145632 A)	Lorient LP1504 617	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.7 DASD Configuration: Leaf Sizes & Intumescent Specification

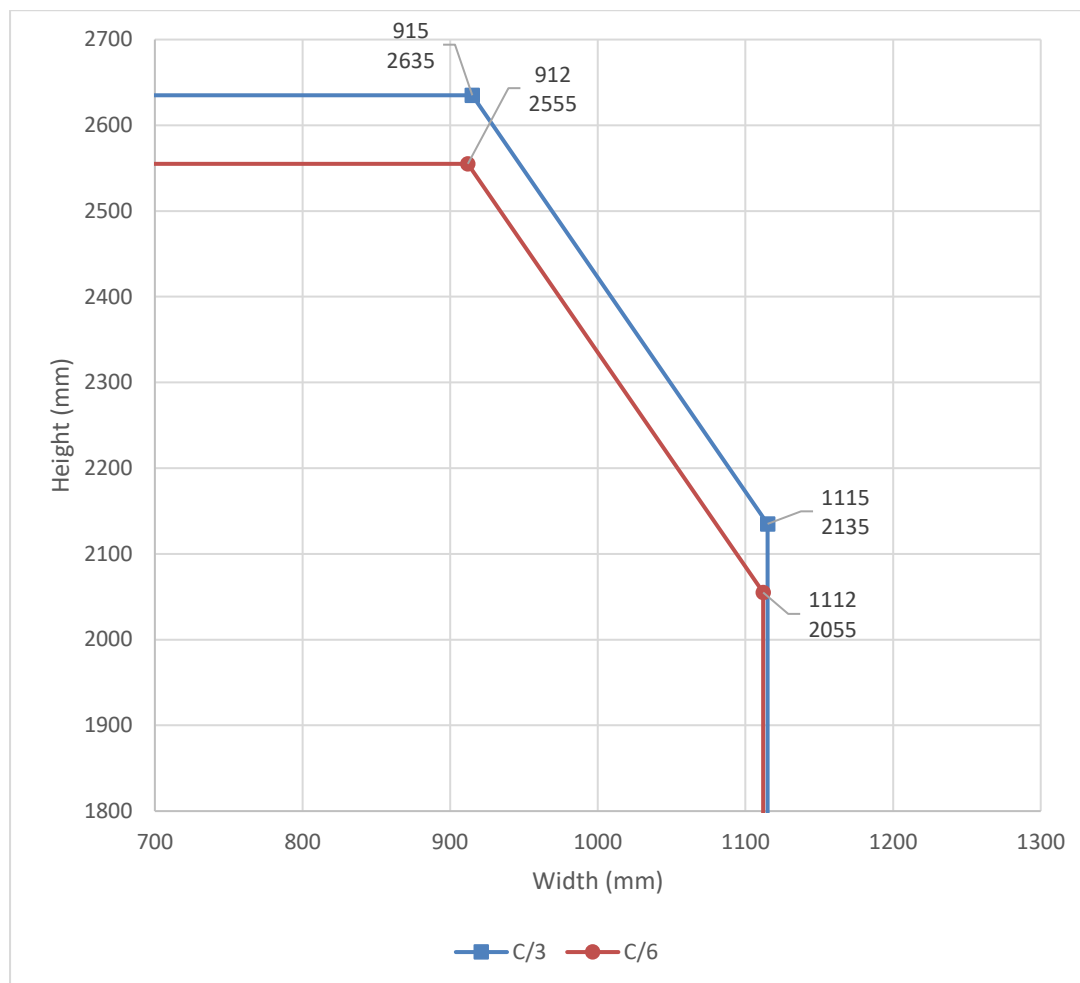
4.5.7.1 Leaf 1, 2 + Frame 1, 2 Doorset



Halspan Intumescent Specification for DASD, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
C/2 (Chilt/RF09069)	Halspan SLS	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal

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

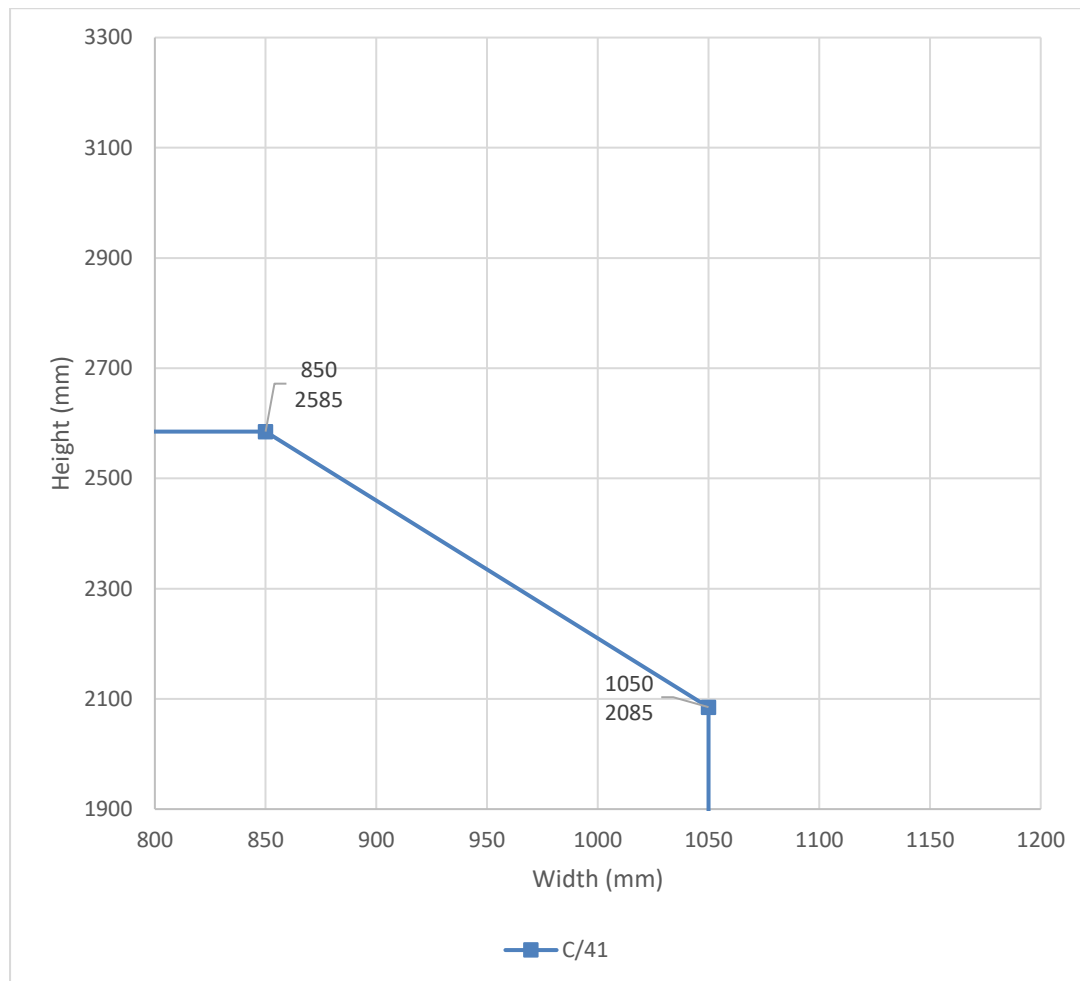
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Halspan Intumescent Specification for DASD, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
C/3 (Chilt/RF13063 Revision A)	Halspan SLS	Head: 2no 15x4: Fitted 7mm apart and centrally to frame head reveal Jambs: 1no 15x4. Fitted in frame jambs reveal
C/6 (Chilt/RF08039)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal

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

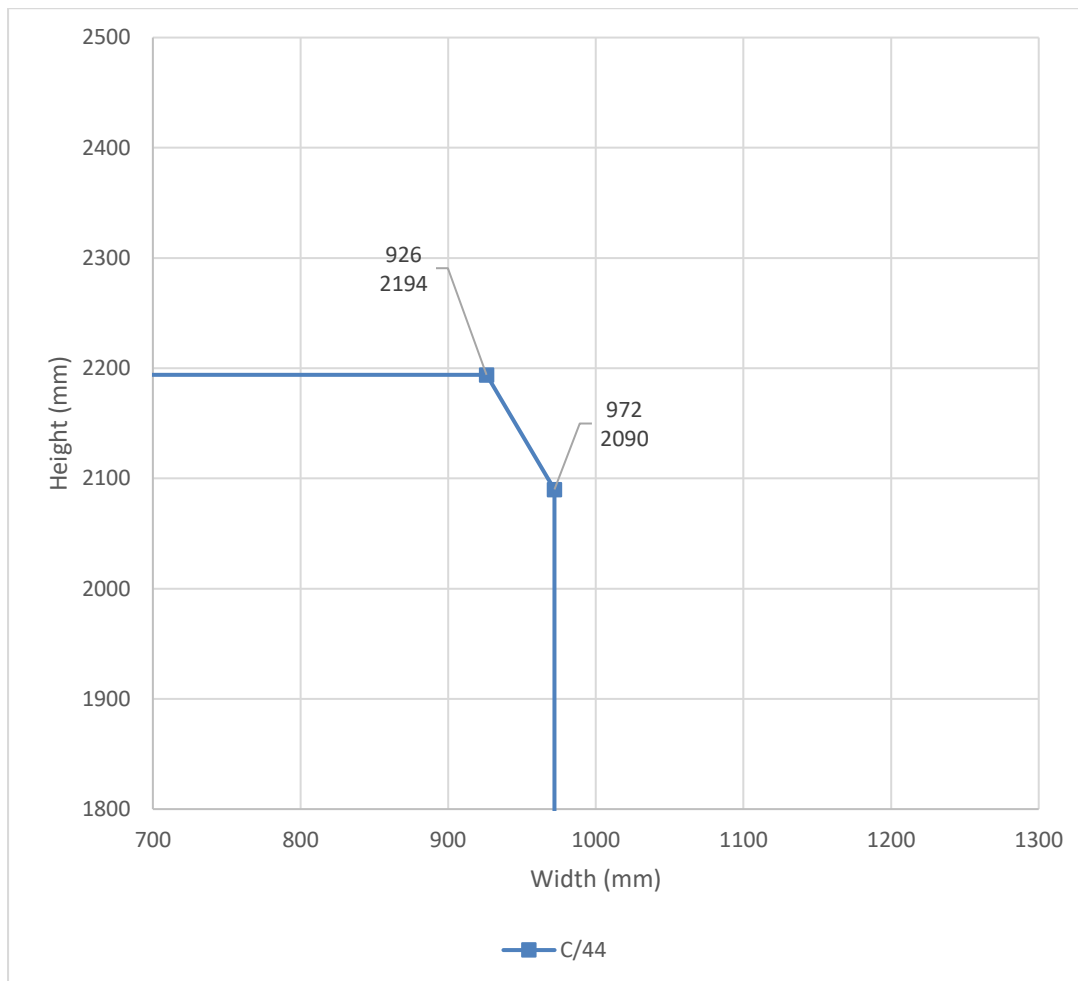
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Intumescent Seals Limited Intumescent Specification for DASD, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
C/41 (Chilt/RF01103)	Intumescent Seals Limited 20x4 Therm-A- Seal 10x4 Therm-A- Seal	Head: 1no 20x4. Fitted in frame head reveal Jambs: 1no 10x4. Fitted in frame jamb reveal

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

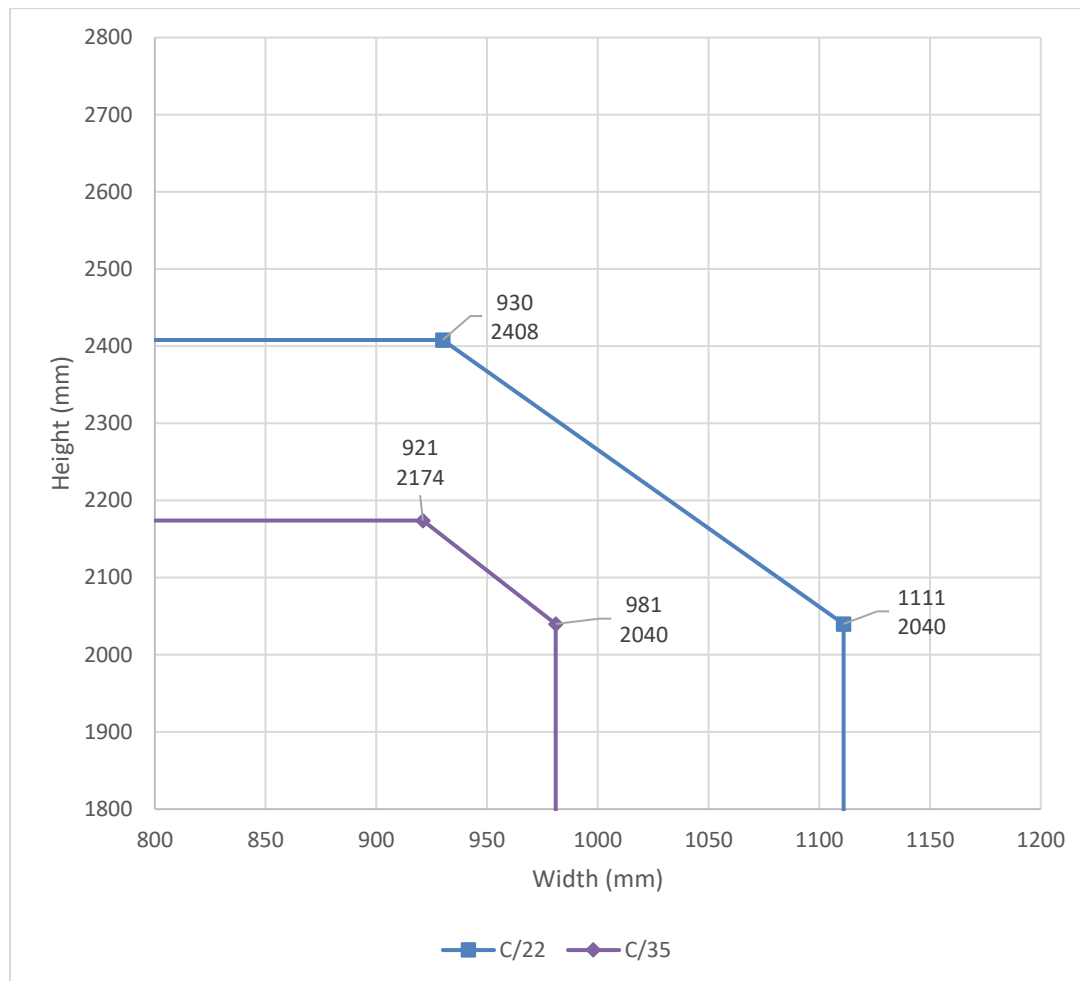
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Intumescent Seals Limited Intumescent Specification for DASD, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
C/44 (Chilt/RF06068 B)	Intumescent Seals Limited 15x4 Therm-A- Seal	Head & Jambs: 1no 15x4. Fitted in frame reveal

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

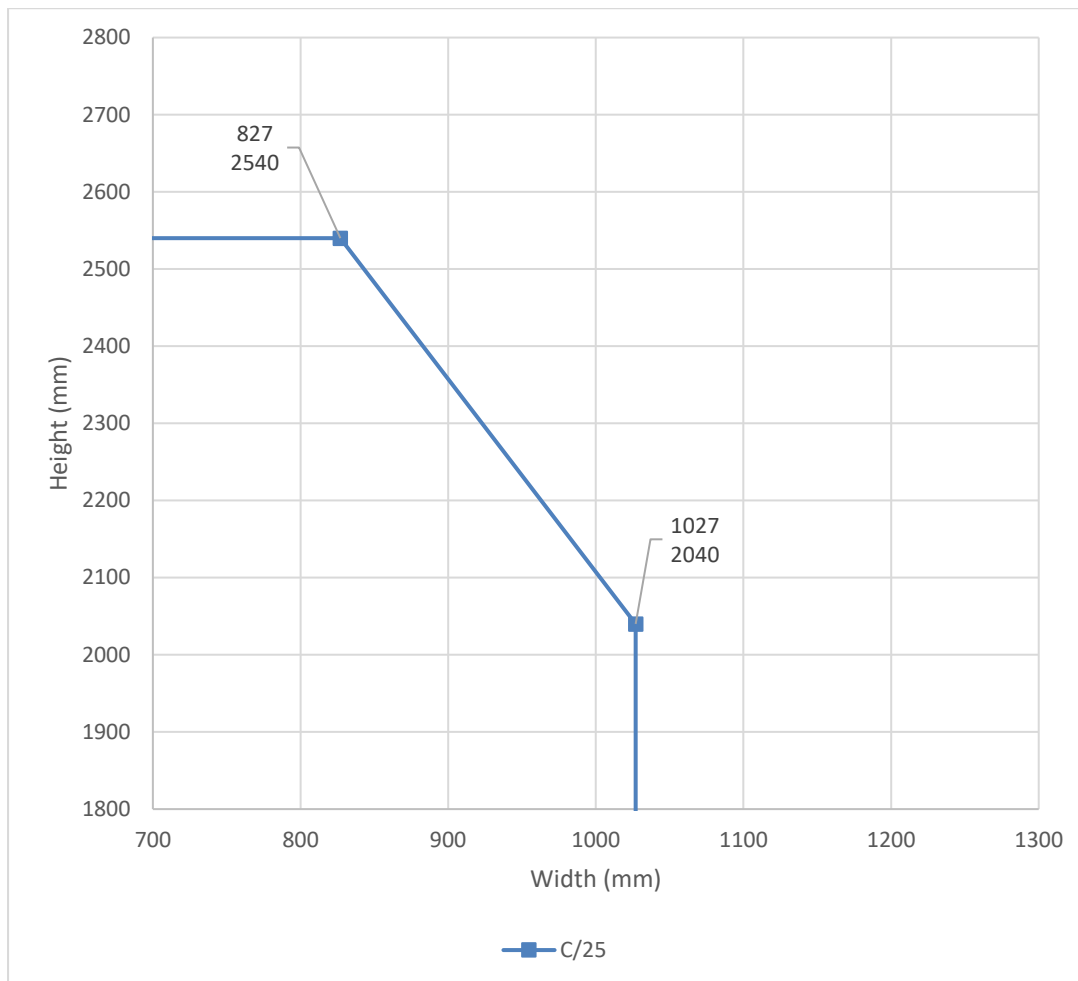
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Lorient Intumescent Specification for DASD, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
C/22 (WARRES 131998 B)	Lorient LP1004 617	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal
C/35 (WF 135011)	Lorient LP1504 617 LP1004 617	Head: 1no 15x4 centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

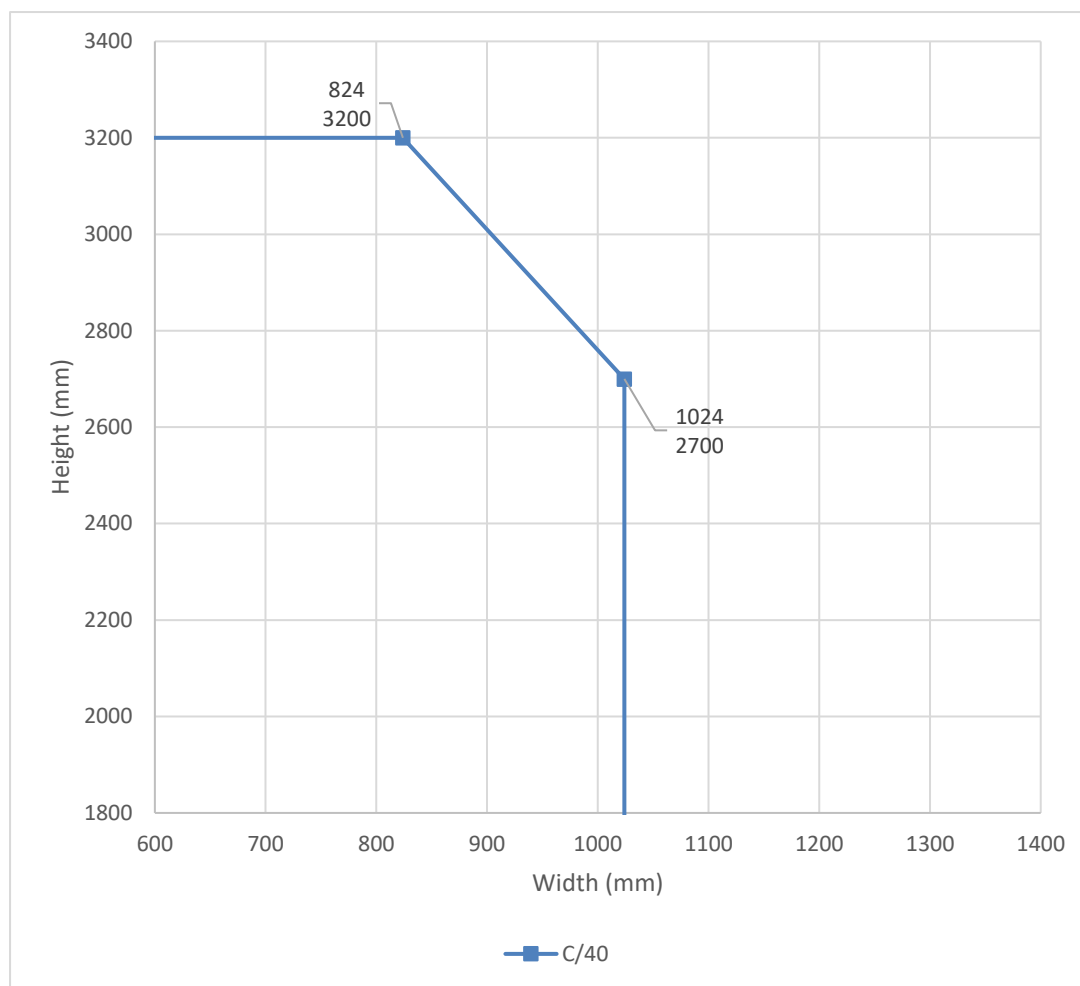


Lorient Intumescent Specification for DASD, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
C/25 (RF07008 B)	Lorient LP1504 617	Head & Jambs: 1no 15x4. Fitted in frame reveal

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.7.2 Leaf 2 + Frame 2, 3 Doorset



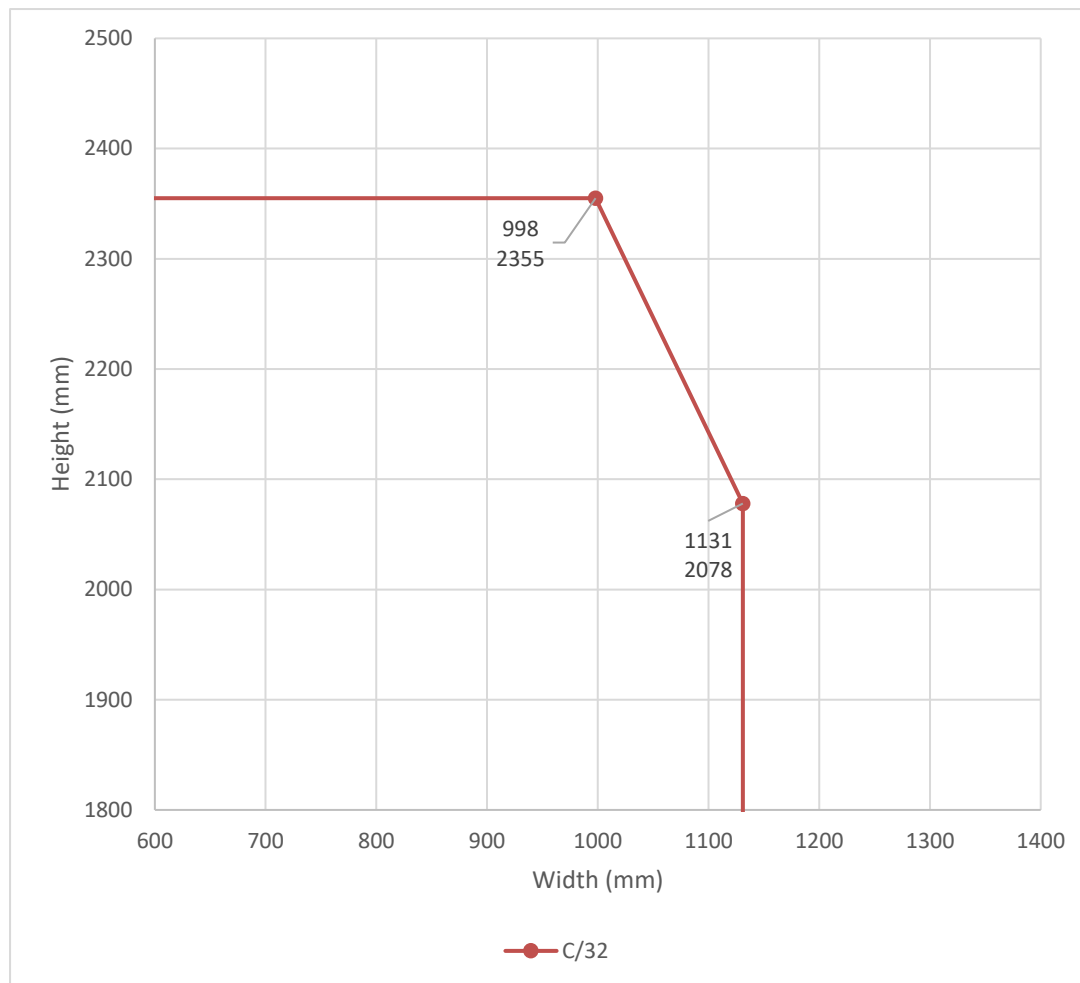
Intumescent Seals Limited Intumescent Specification for DASD, Leaf 2 with Frame 2 or 3

Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
C/40 (Chilt/RF02081)	Intumescent Seals Limited 15x4 Therm-A- Seal 10x2 Therm-A- Flex	Head: 2no 15x4. Fitted centrally and 10mm apart to frame head. 1no 10x2. Fitted centrally to leaf head Jambs: 2no 15x4. Fitted centrally and 10mm apart in frame jambs reveal

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.7.3 Leaf 3 + Frame 1, 2 Doorset



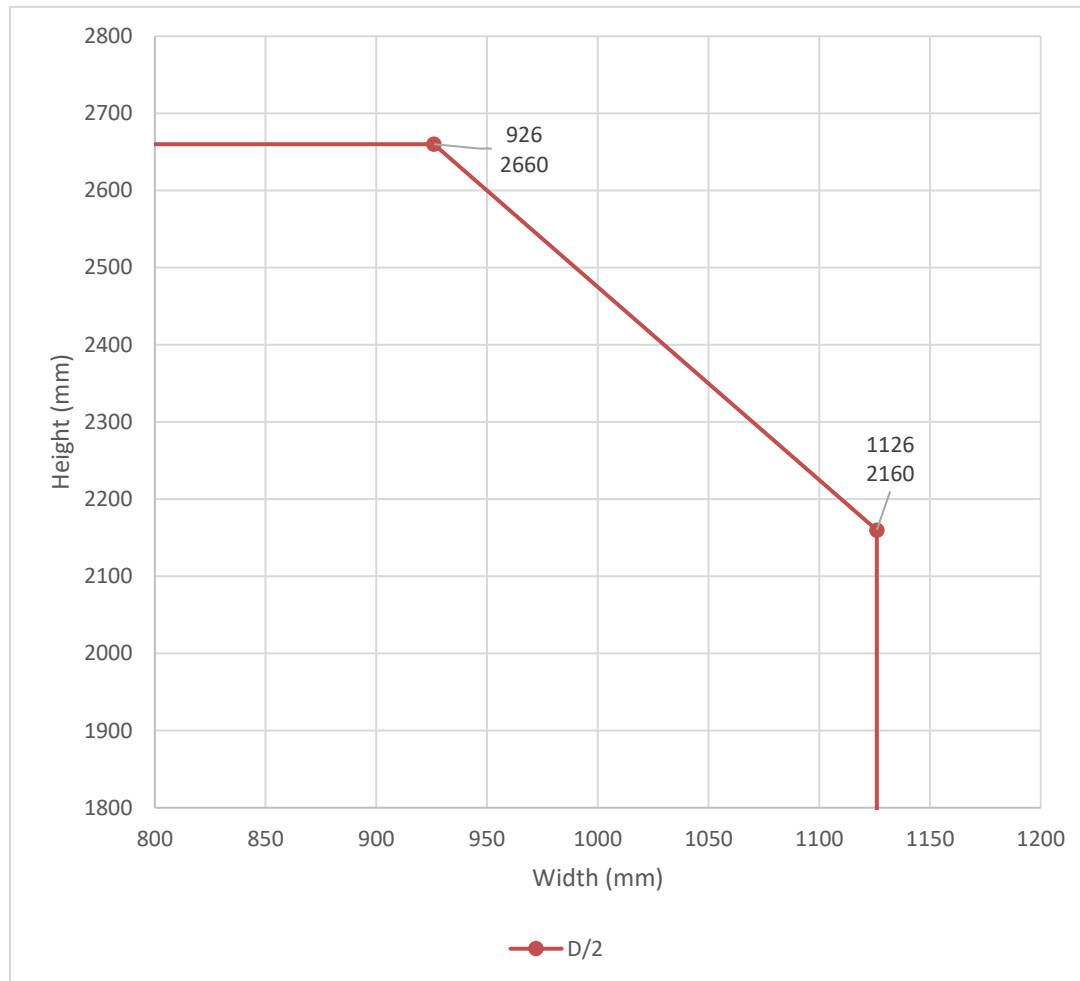
Lorient Intumescent Specification for DASD, Leaf 3 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
C/32 (WF145632 A)	Lorient LP1504 617	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges

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4.5.8 LSASD+OP Configuration: Leaf Sizes & Intumescent Specification

4.5.8.1 Leaf 1, 2 + Frame 1, 2, 3 Doorset



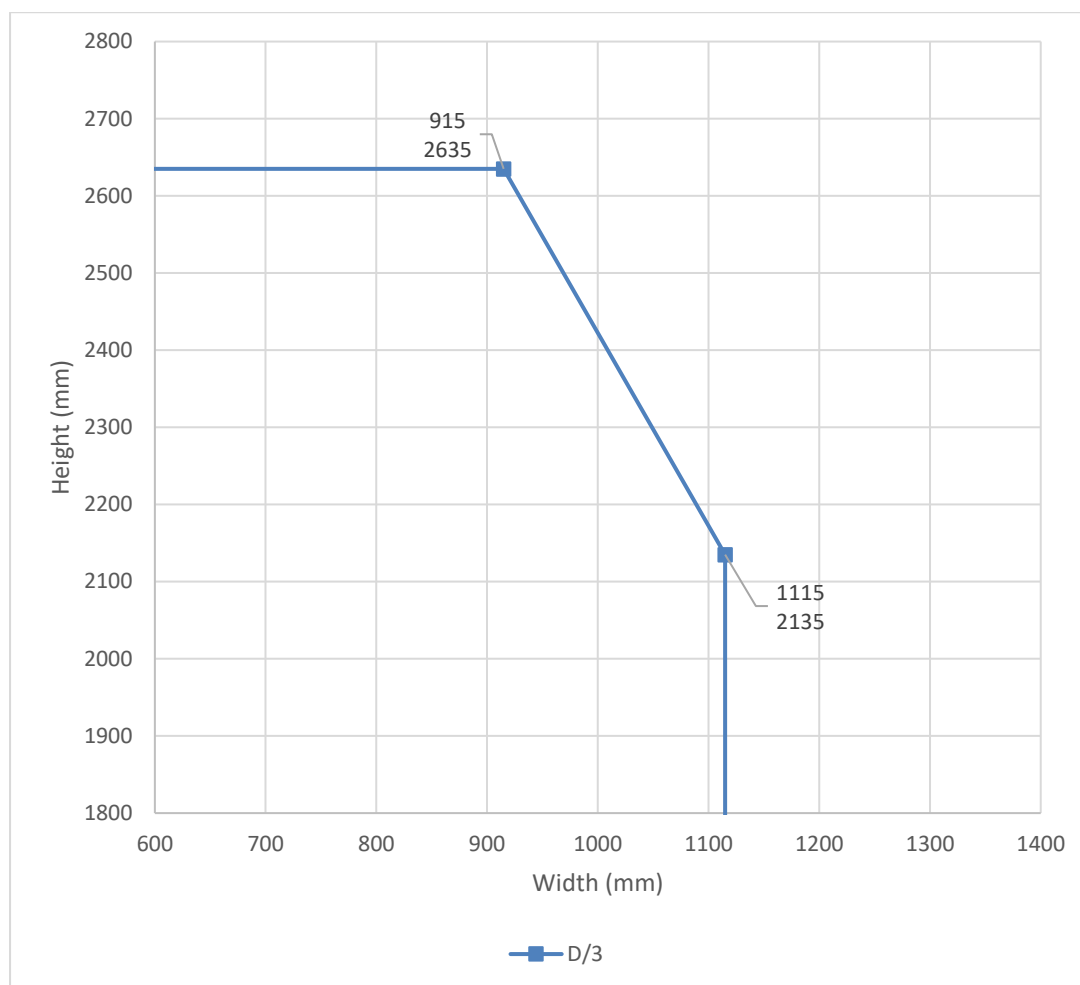
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Halspan Intumescent Specification for LSASD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
D/2 (Chilt/RF09069)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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

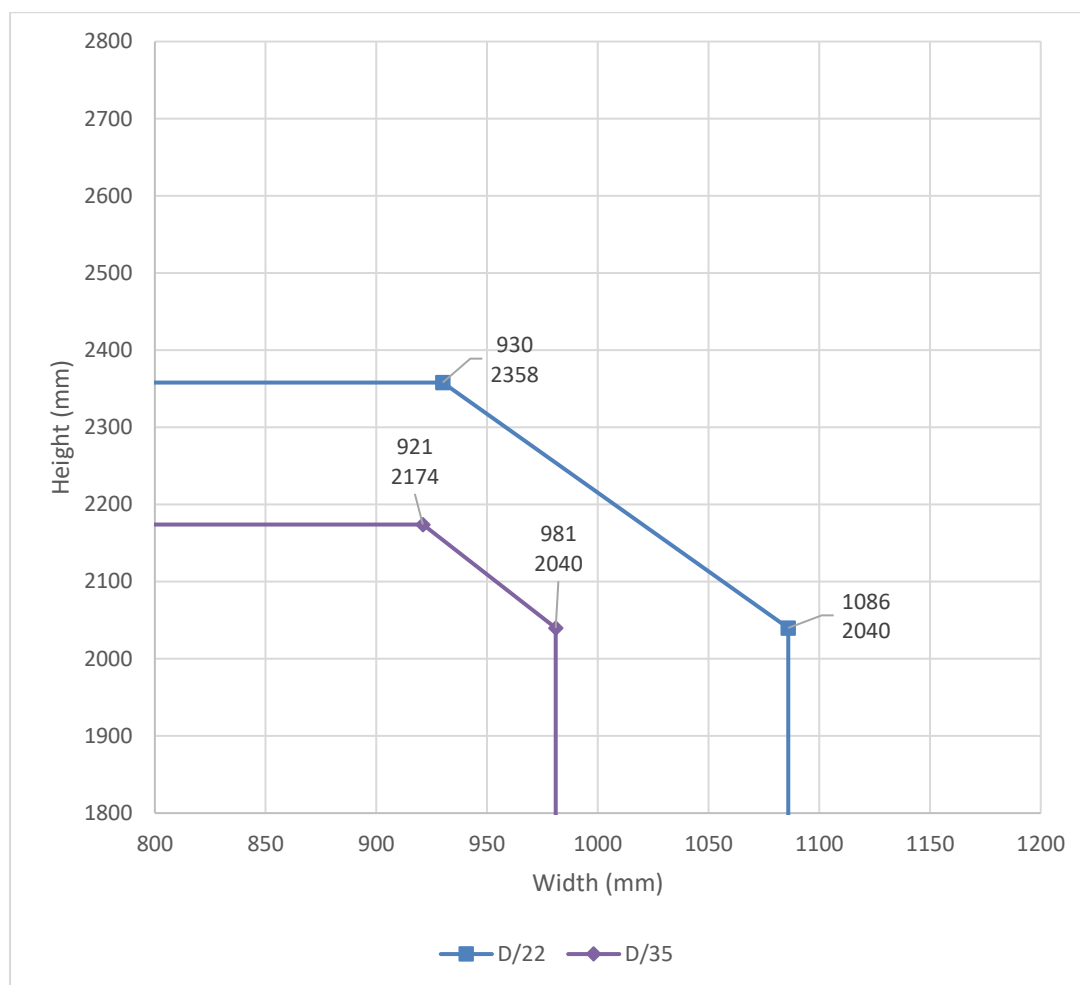
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Halspan Intumescent Specification for LSASD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
D/3 (Chilt/RF13063 Revision A)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 15x4. Fitted centrally in rebate of overpanel bottom edge 1no 15x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 15x4: Fitted 7mm apart and centrally to overpanel bottom edge.

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Lorient Intumescent Specification for LSASD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
D/22 (WARRES 131998 B)	Lorient LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

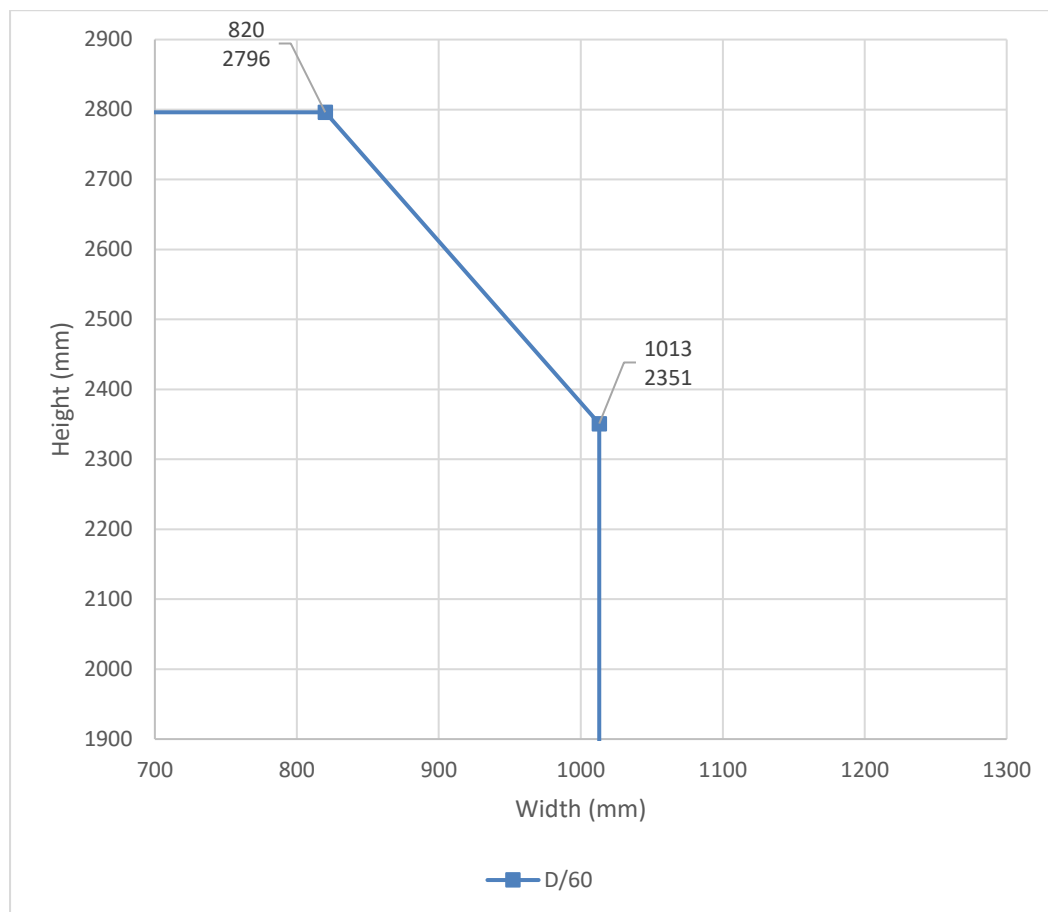
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

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Lorient Intumescent Specification for LSASD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
D/35 (WF 135011)	Lorient LP1004 617 LP1504 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 1no 15x4 centrally to centrally to overpanel bottom edge.

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

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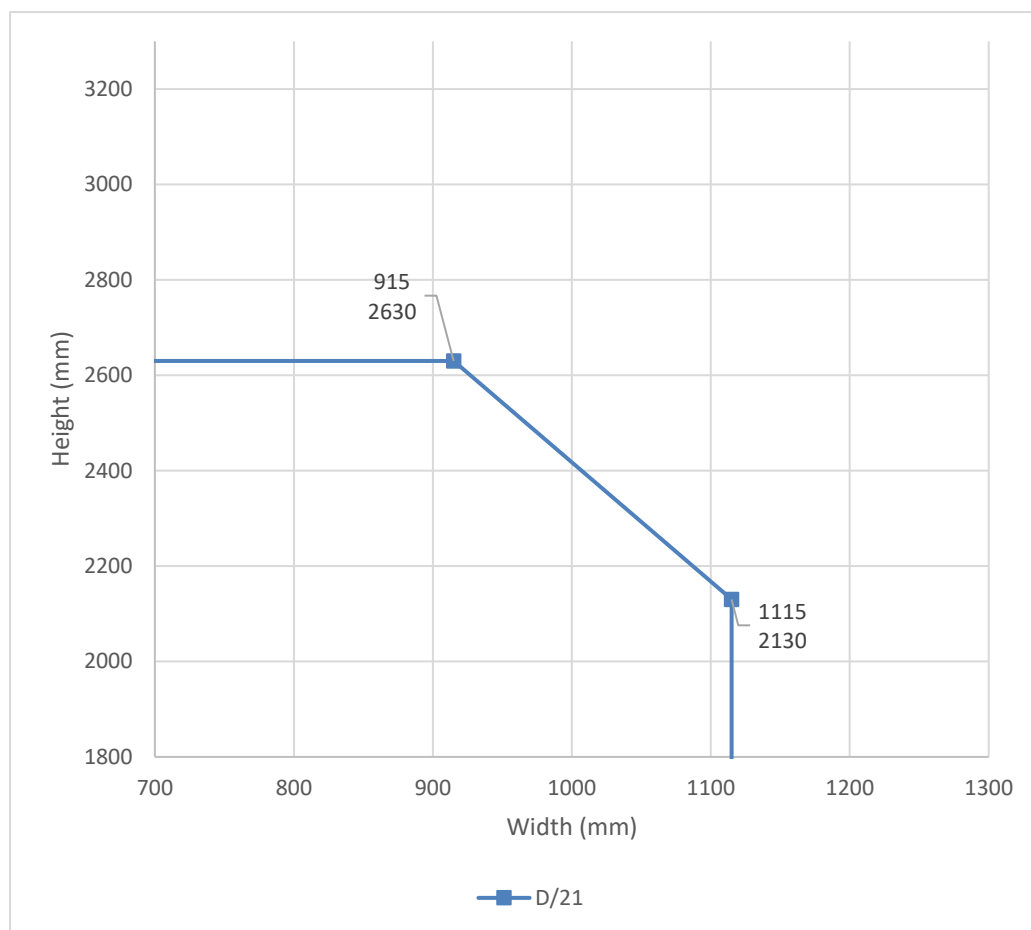


Pyroplex Intumescent Specification for LSASD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
D/60 (CFR2210051)	Pyroplex 8500 8700	Head & Jambs: 1no 15x4. Fitted in frame reveal Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in upstand of overpanel bottom edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 13mm apart and centrally to overpanel bottom edge.

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4.5.8.2 Leaf 1, 2 + Frame 2 Doorset

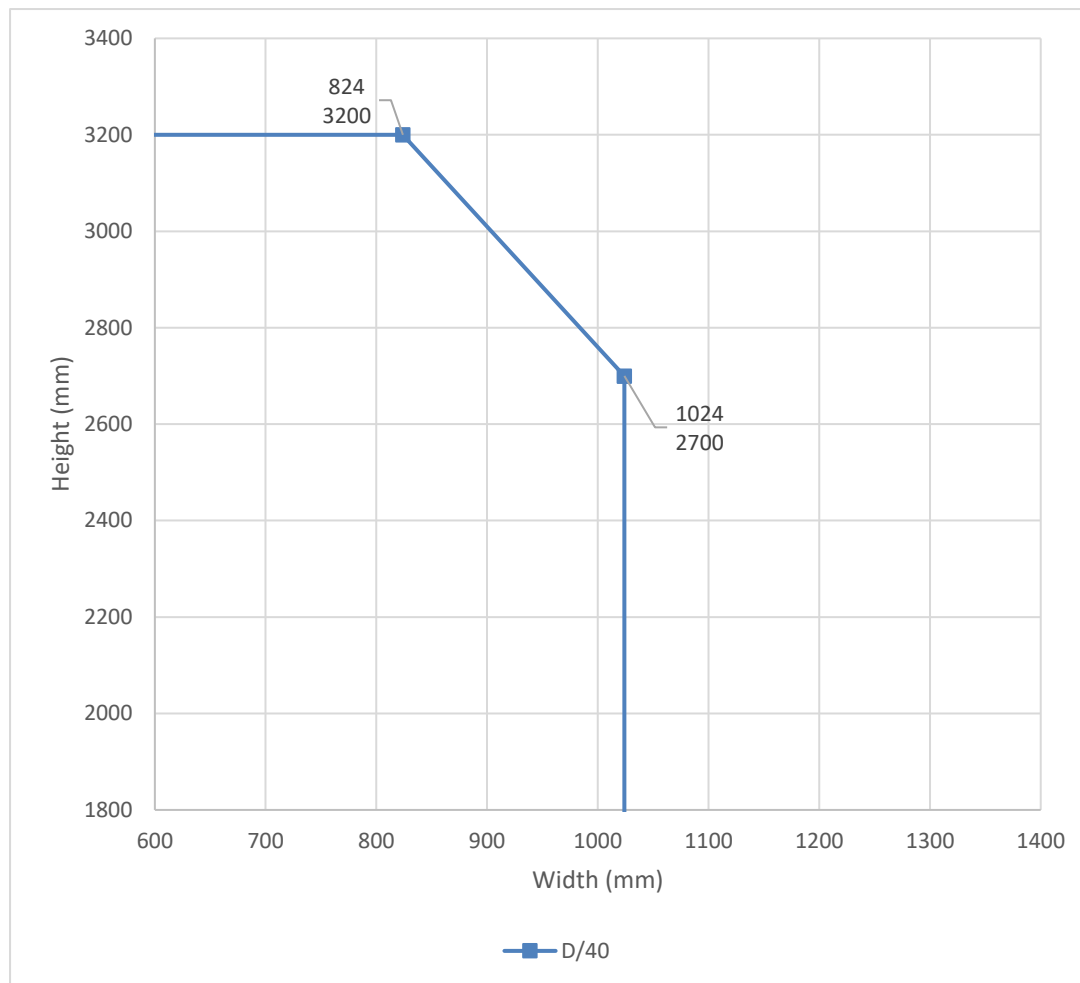


Lorient Intumescent Specification for LSASD+OP, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
D/21 (RF97091)	Lorient LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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4.5.8.3 Leaf 2 + Frame 2, 3 Doorset



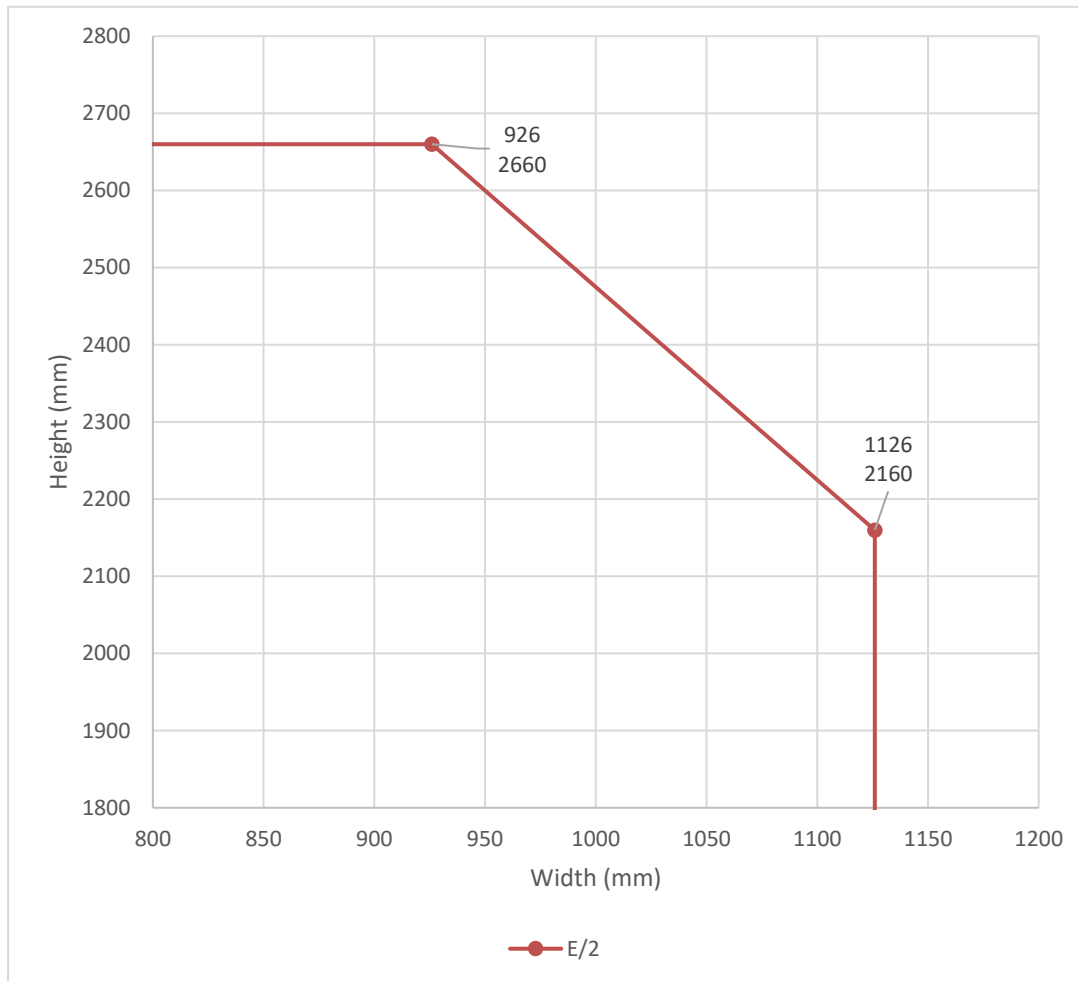
Intumescent Seals Limited Intumescent Specification for LSASD+OP, Leaf 2 with Frame 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
D/40 (Chilt/RF02081)	Intumescent Seals Limited 15x4 Therm-A- Seal 10x2 Therm-A- Flex	Head & Jambs: 2no 15x4. Fitted centrally and 10mm apart in frame reveal Overpanel and leaf head: 2no 15x4. Fitted centrally and 10mm apart to overpanel bottom edge. 1no 10x2. Fitted centrally to leaf head

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4.5.9 ULSASD+OP Configuration: Leaf Sizes & Intumescent Specification

4.5.9.1 Leaf 1, 2 + Frame 1, 2, 3 Doorset



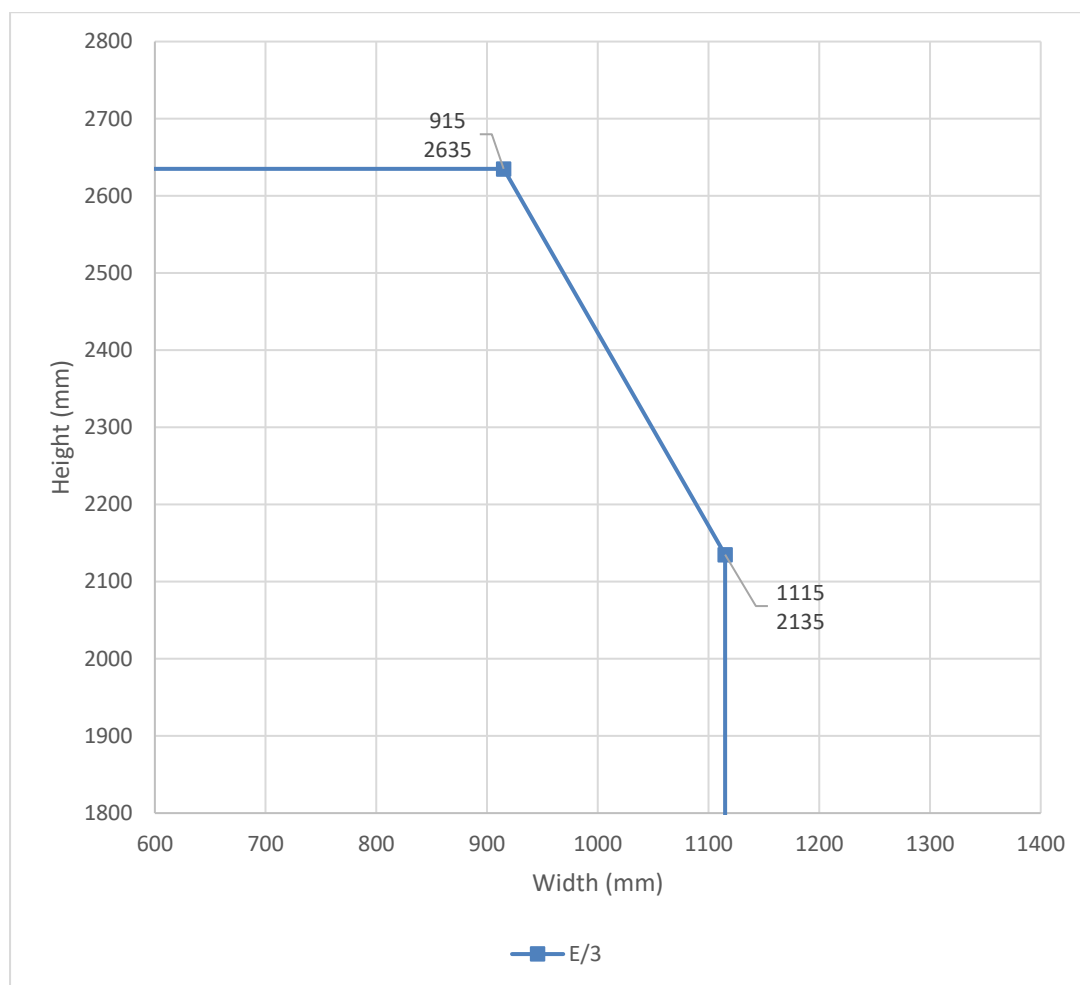
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Halspan Intumescent Specification for ULSASD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
E/2 (Chilt/RF09069)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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

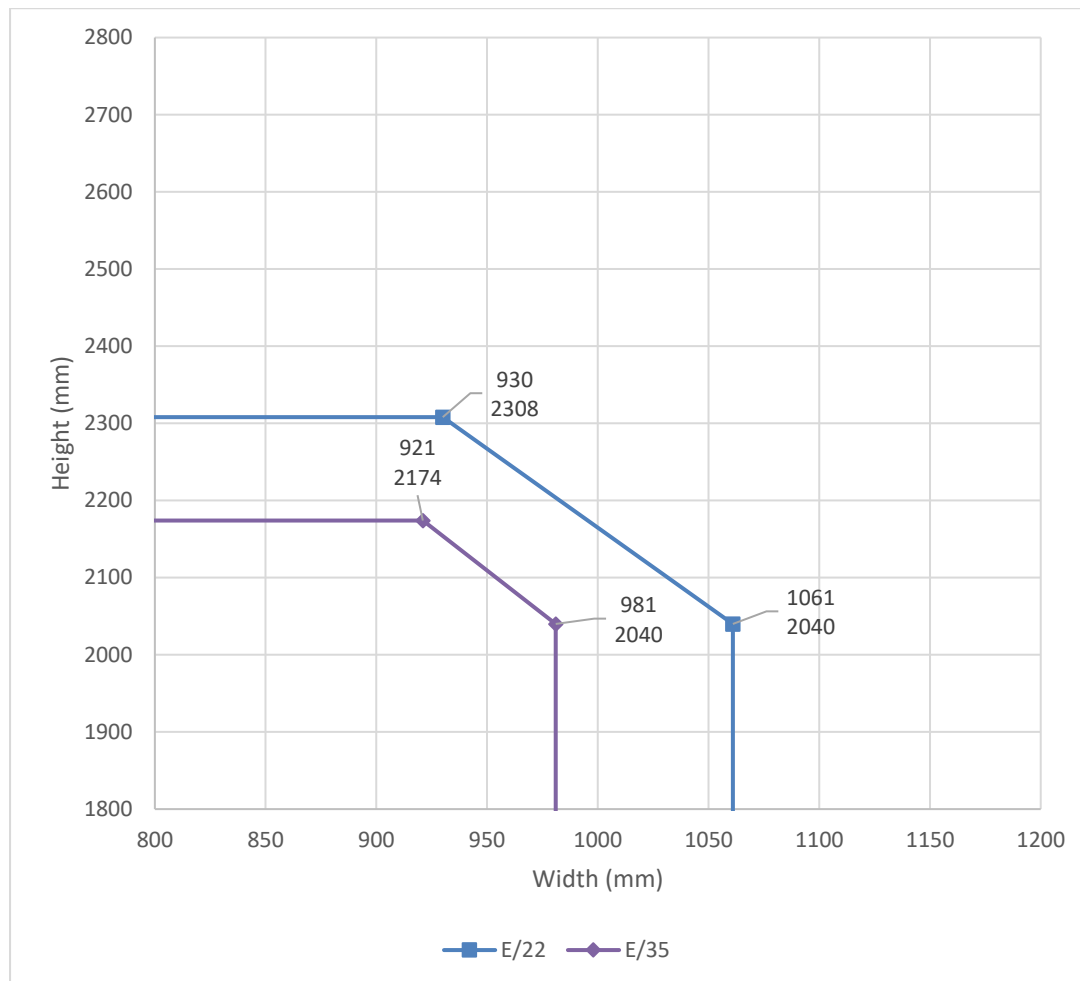
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Halspan Intumescent Specification for ULSASD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
E/3 (Chilt/RF13063 Revision A)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 15x4. Fitted centrally in rebate of overpanel bottom edge 1no 15x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 15x4: Fitted 7mm apart and centrally to overpanel bottom edge.

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Lorient Intumescent Specification for ULSASD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
E/22 (WARRES 131998 B)	Lorient LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

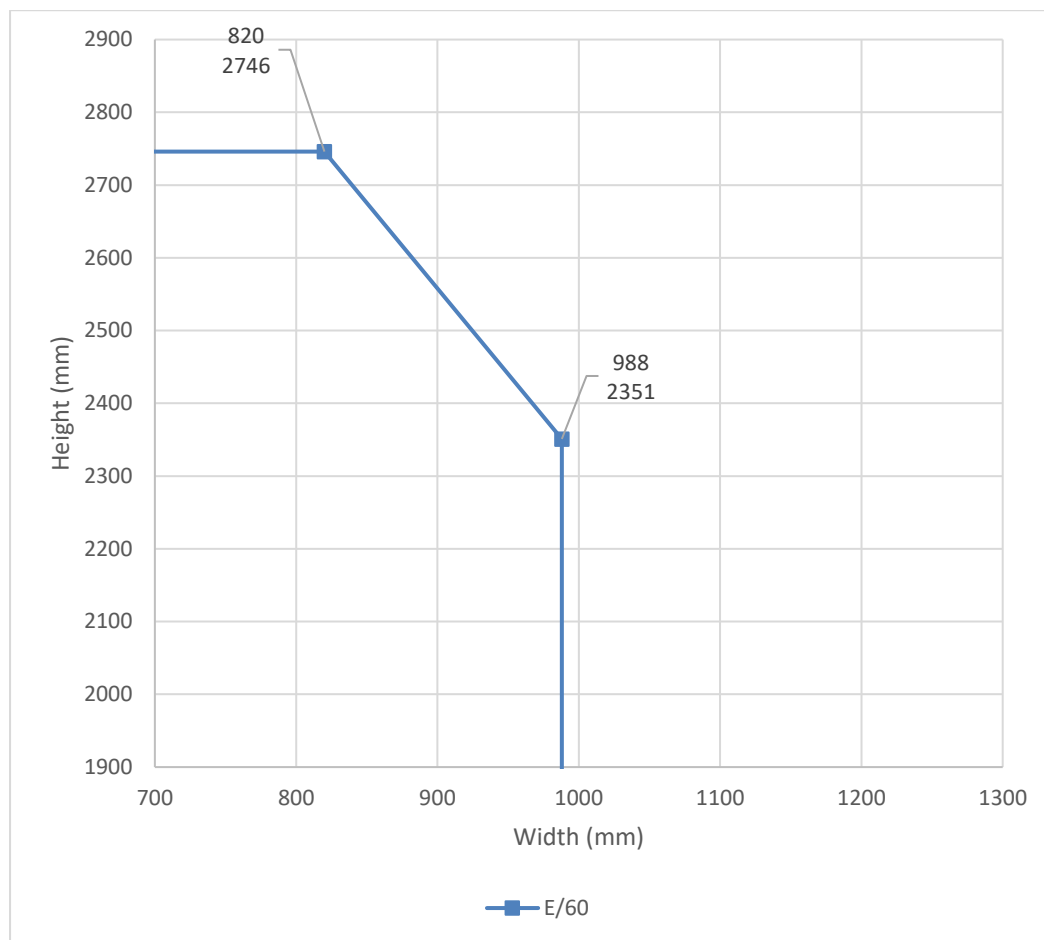
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Lorient Intumescent Specification for ULSASD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
E/35 (WF 135011)	Lorient LP1004 617 LP1504 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 1no 15x4 centrally to centrally to overpanel bottom edge.

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

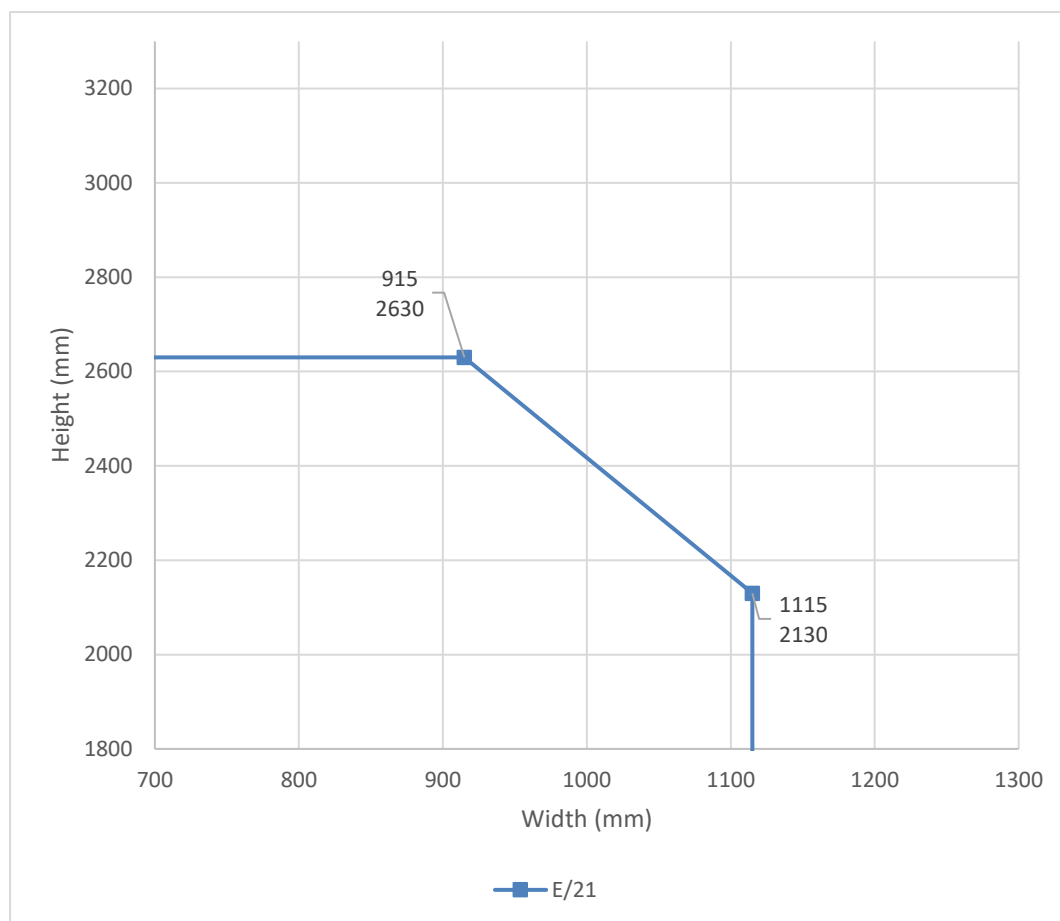


Pyroplex Intumescent Specification for ULSASD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
E/60 (CFR2210051)	Pyroplex 8500 8700	Head & Jambs: 1no 15x4. Fitted in frame reveal Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in upstand of overpanel bottom edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 13mm apart and centrally to overpanel bottom edge.

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4.5.9.2 Leaf 1, 2 + Frame 2 Doorset

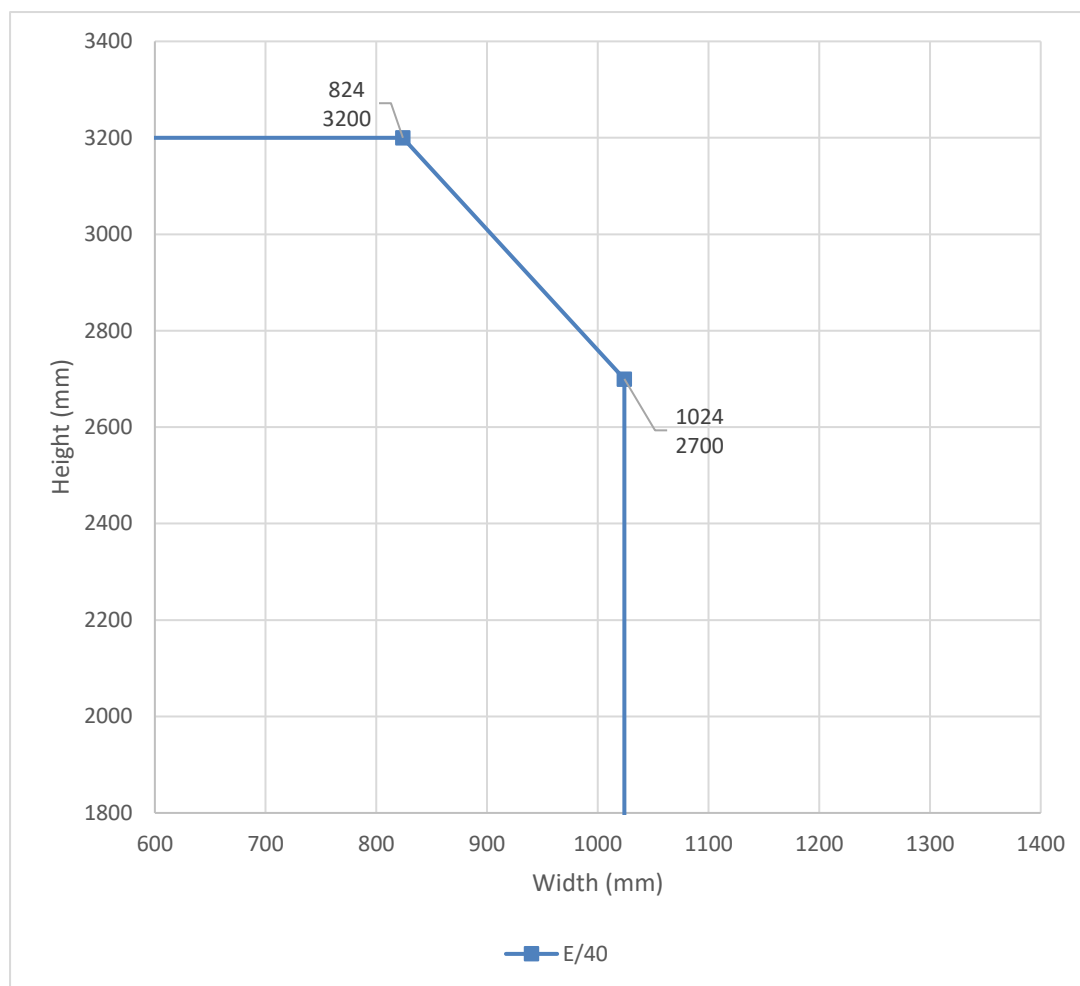


Lorient Intumescent Specification for ULSASD+OP, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
E/21 (RF97091)	Lorient LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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4.5.9.3 Leaf 2 + Frame 2, 3 Doorset



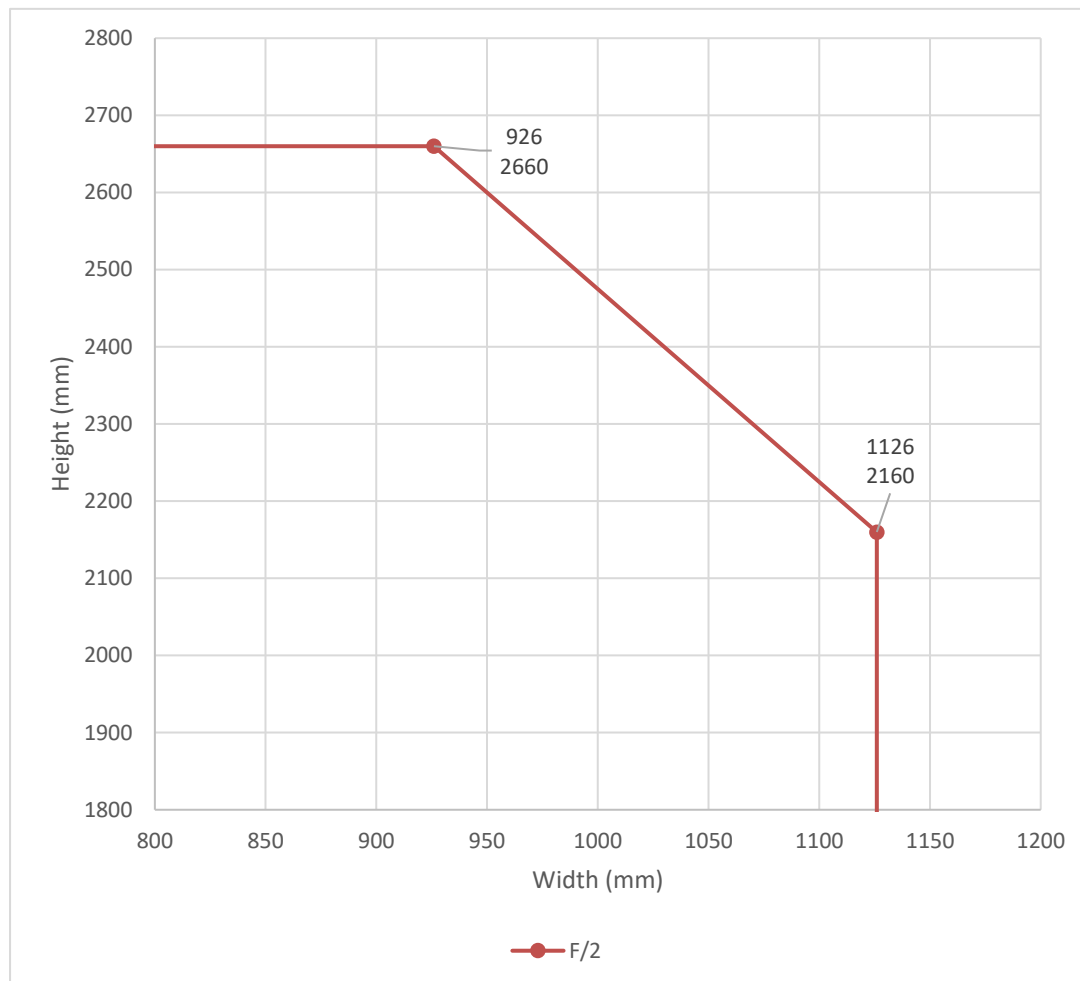
Intumescent Seals Limited Intumescent Specification for ULSASD+OP, Leaf 2 with Frame 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
E/40 (Chilt/RF02081)	Intumescent Seals Limited 15x4 Therm-A- Seal 10x2 Therm-A- Flex	Head & Jambs: 2no 15x4. Fitted centrally and 10mm apart in frame reveal Overpanel and leaf head: 2no 15x4. Fitted centrally and 10mm apart to overpanel bottom edge. 1no 10x2. Fitted centrally to leaf head

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4.5.10 DASD+OP Configuration: Leaf Sizes & Intumescent Specification

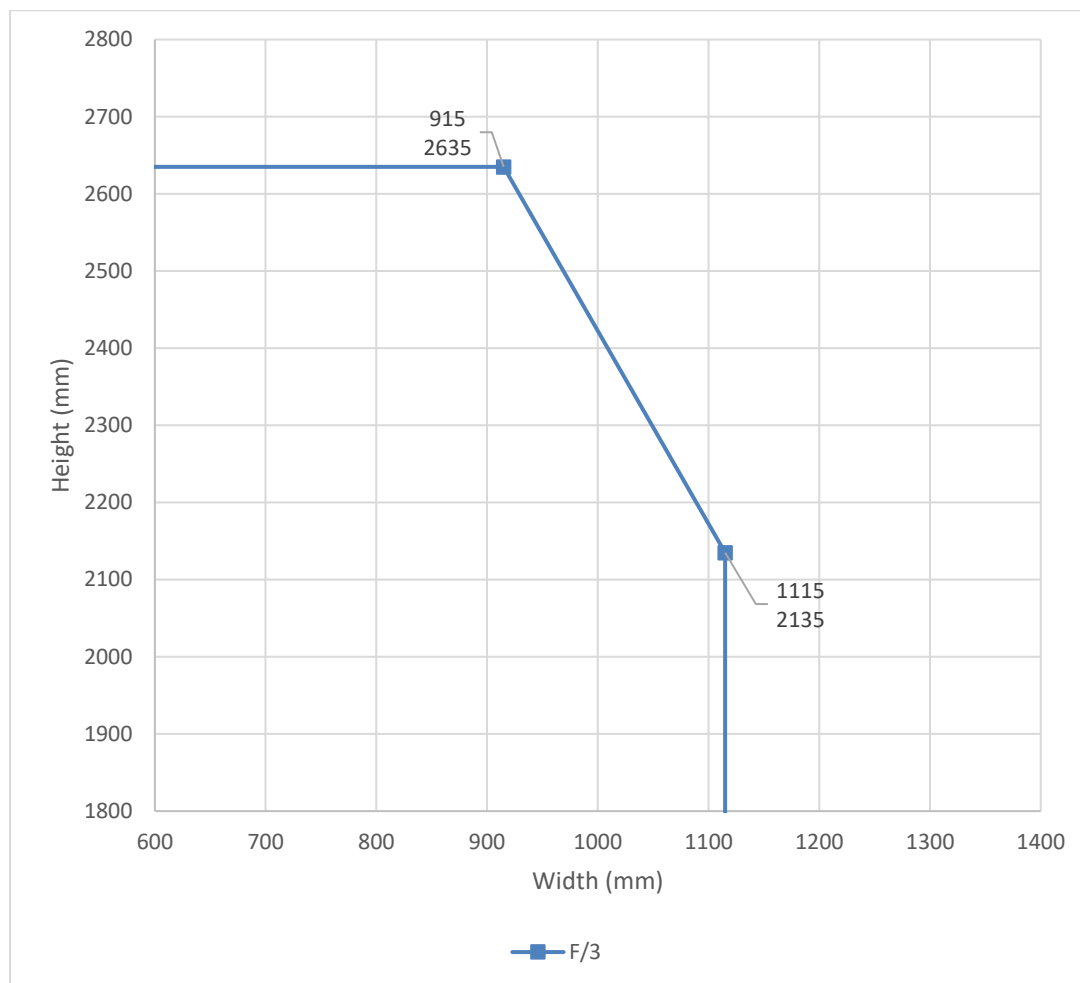
4.5.10.1 Leaf 1, 2 + Frame 1, 2 Doorset



Halspan Intumescent Specification for DASD+OP, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
F/2 (Chilt/RF09069)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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

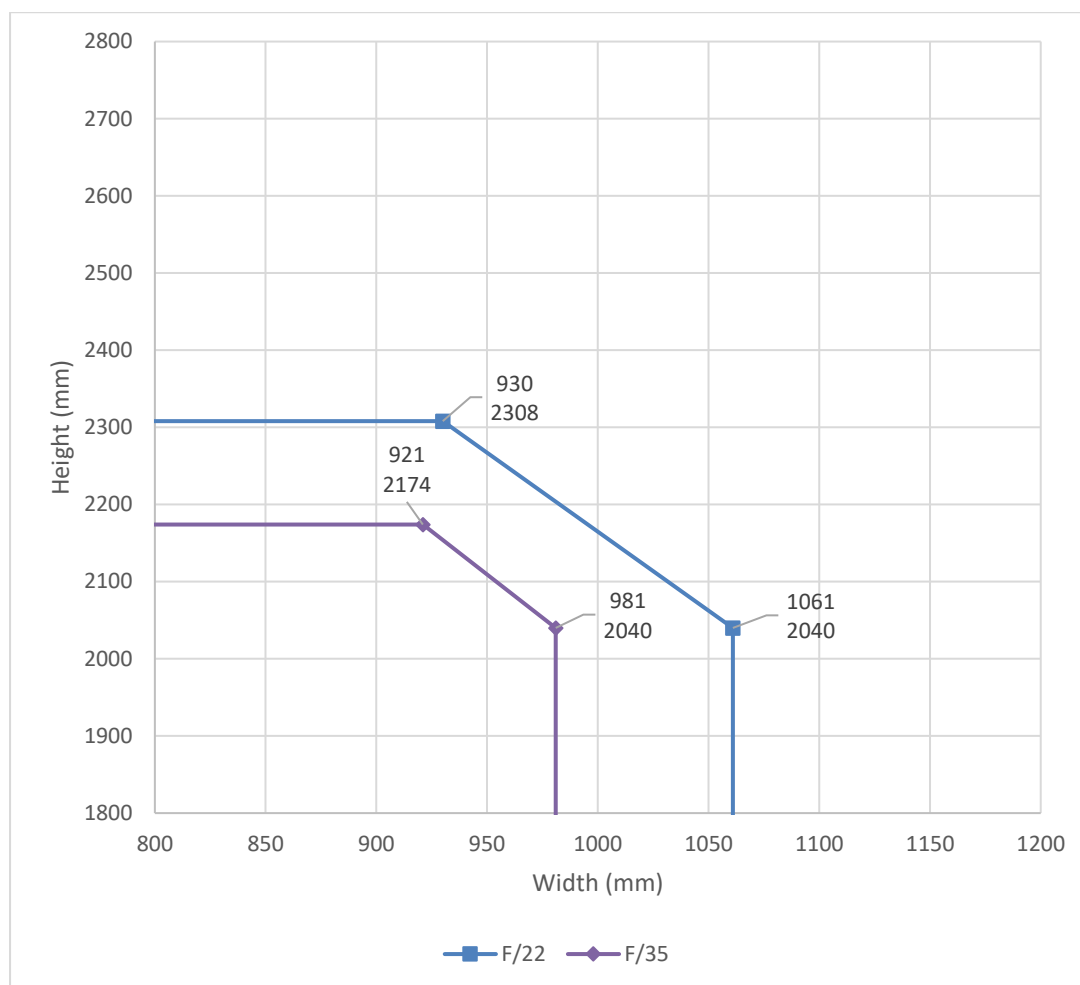
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Halspan Intumescent Specification for DASD+OP, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
F/3 (Chilt/RF13063 Revision A)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 2no 15x4: Fitted 7mm apart and centrally to overpanel bottom edge.

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

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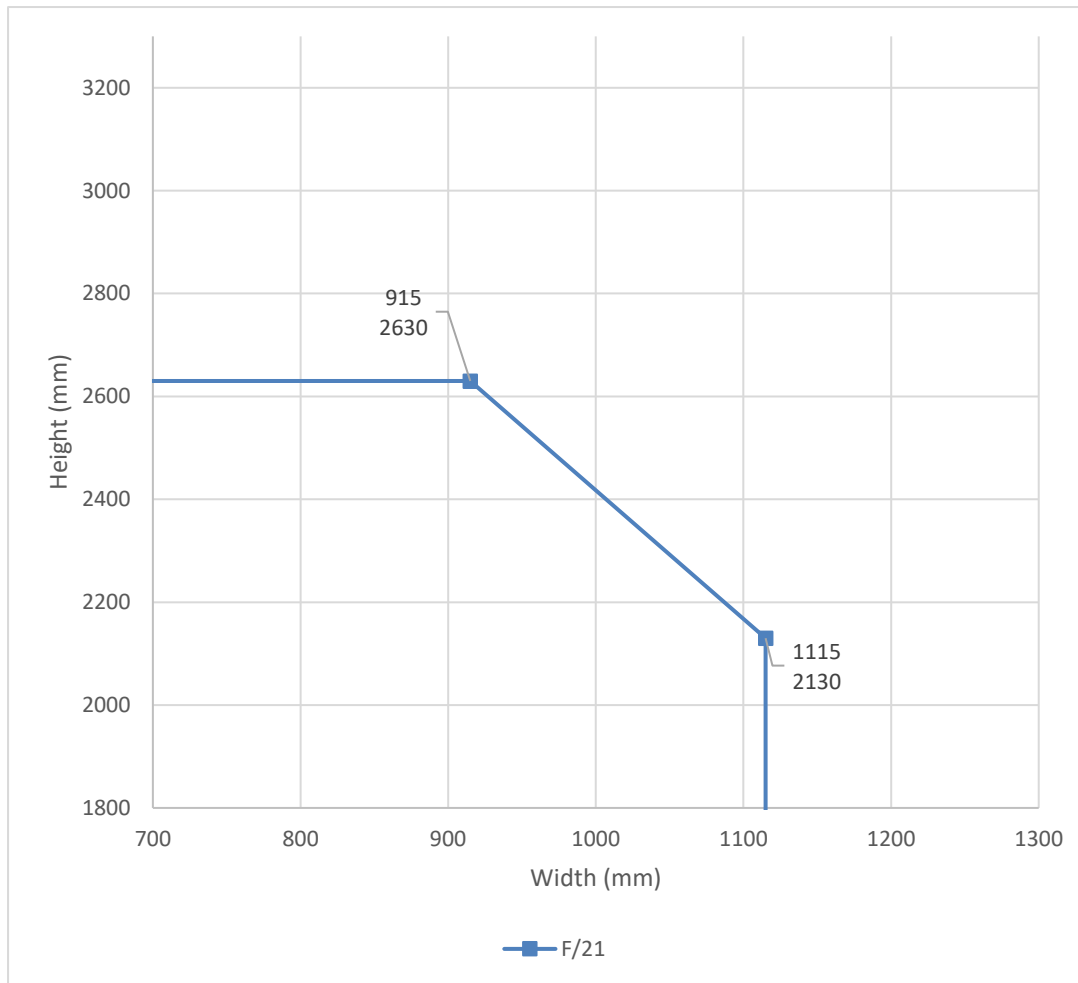


Lorient Intumescent Specification for DASD+OP, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
F/22 (WARRES 131998 B)	Lorient LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.
F/35 (WF 135011)	Lorient LP1004 617 LP1504 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 1no 15x4 centrally to centrally to overpanel bottom edge.

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4.5.10.2 Leaf 1, 2 + Frame 2 Doorset

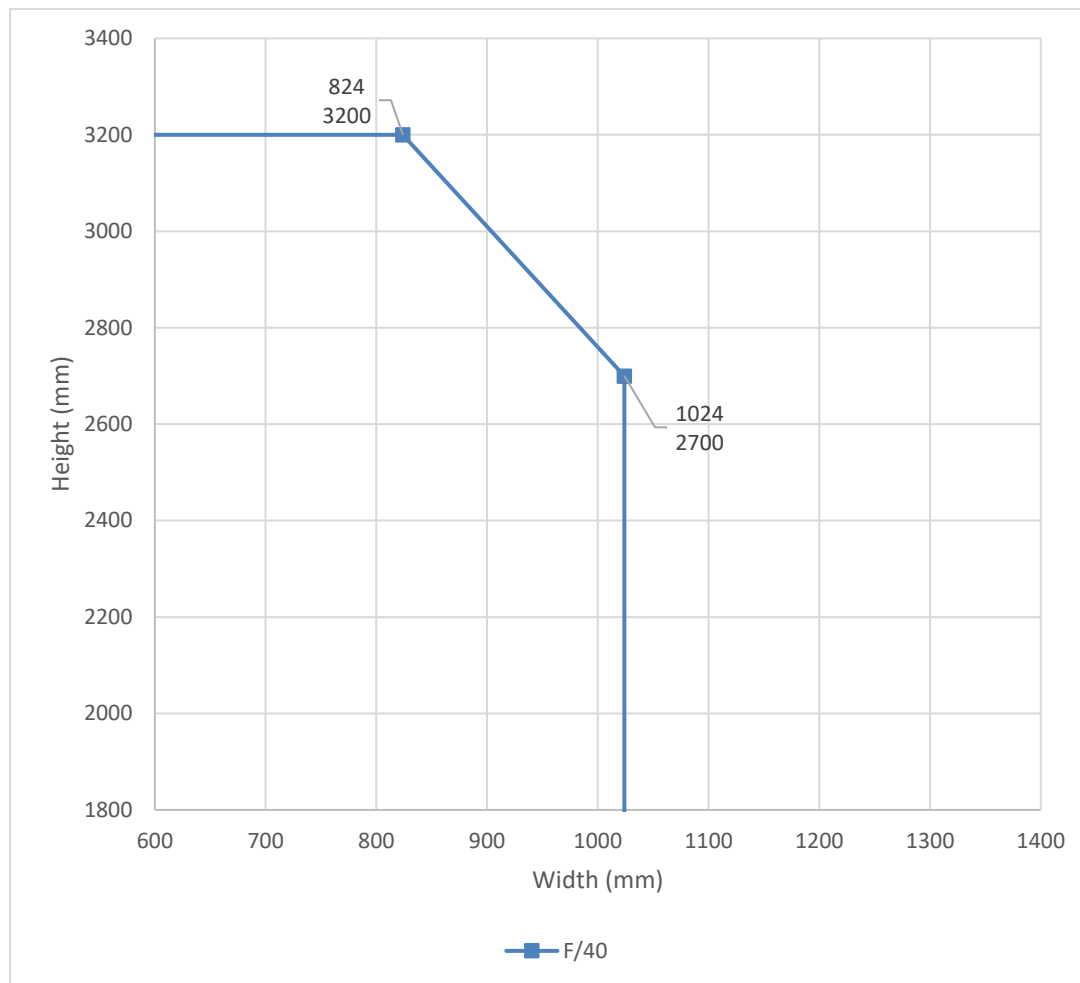


Lorient Intumescent Specification for DASD+OP, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
F/21 (RF97091)	Lorient LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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4.5.10.3 Leaf 2 + Frame 2, 3 Doorset



Intumescent Seals Limited Intumescent Specification for DASD+OP, Leaf 2 with Frame 2 or 3

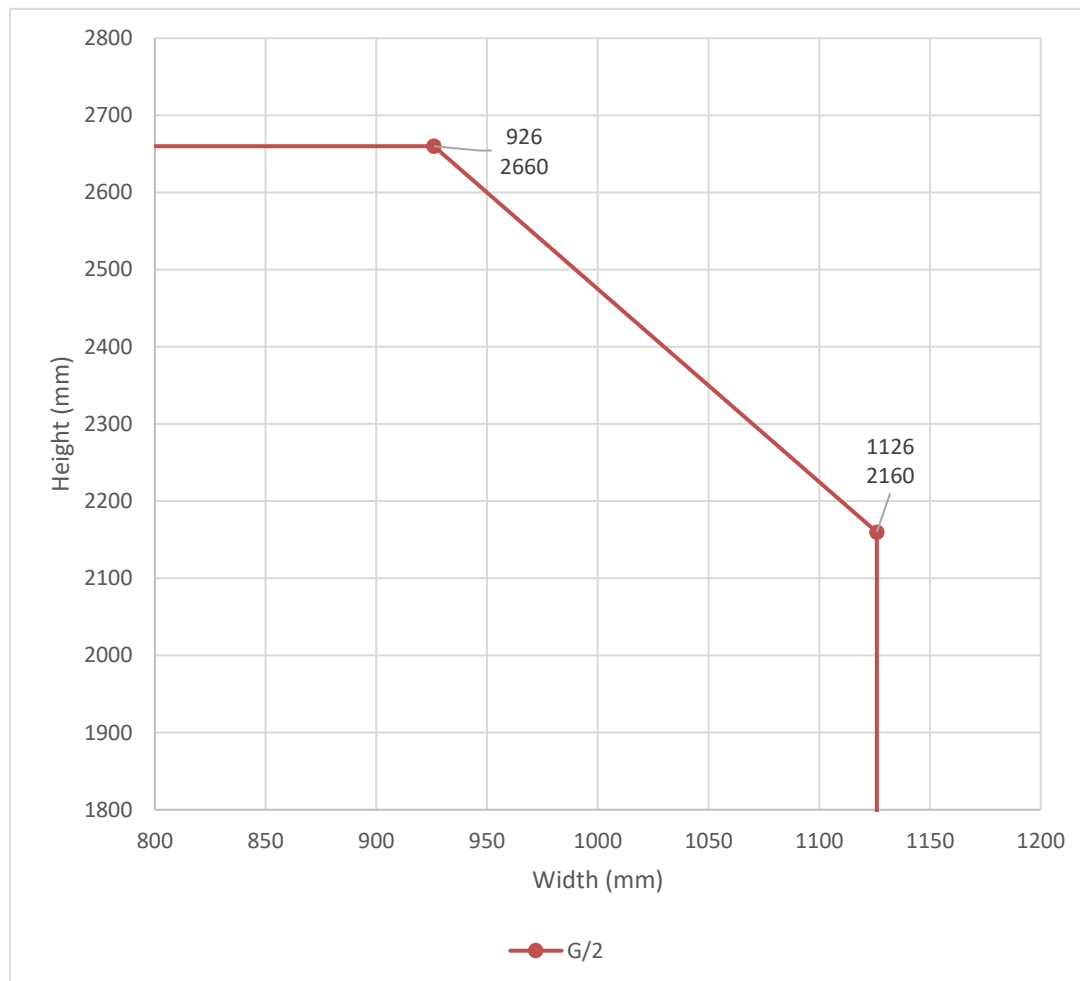
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
F/40 (Chilt/RF02081)	Intumescent Seals Limited 15x4 Therm-A- Seal 10x2 Therm-A- Flex	Head & Jambs: 2no 15x4. Fitted centrally and 10mm apart in frame reveal Overpanel and leaf head: 2no 15x4. Fitted centrally and 10mm apart to overpanel bottom edge. 1no 10x2. Fitted centrally to leaf head

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4.5.11 LSADD Configuration: Leaf Sizes & Intumescent Specification

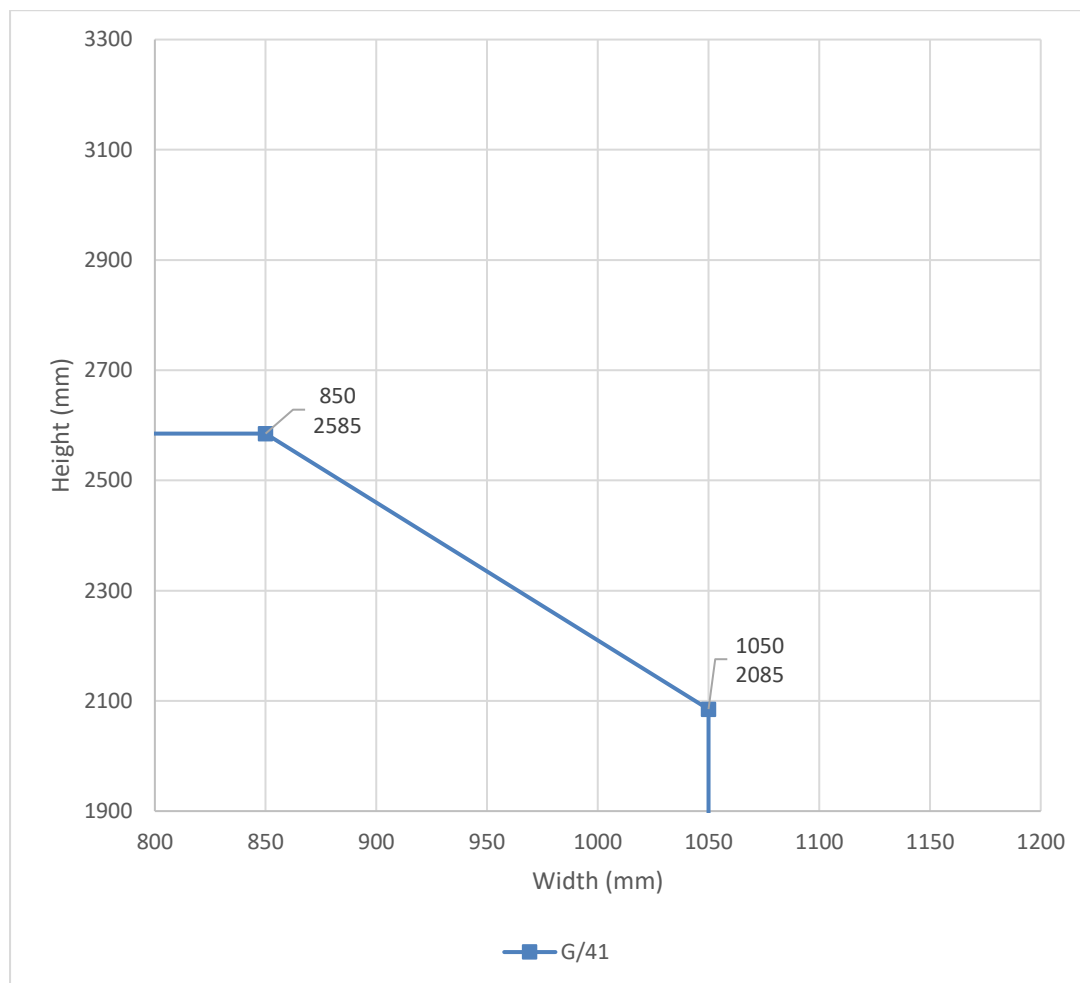
4.5.11.1 Leaf 1, 2 + Frame 1, 2, 3 Doorset



Halspan Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/2 (Chilt/RF09069)	Halspan SLS	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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

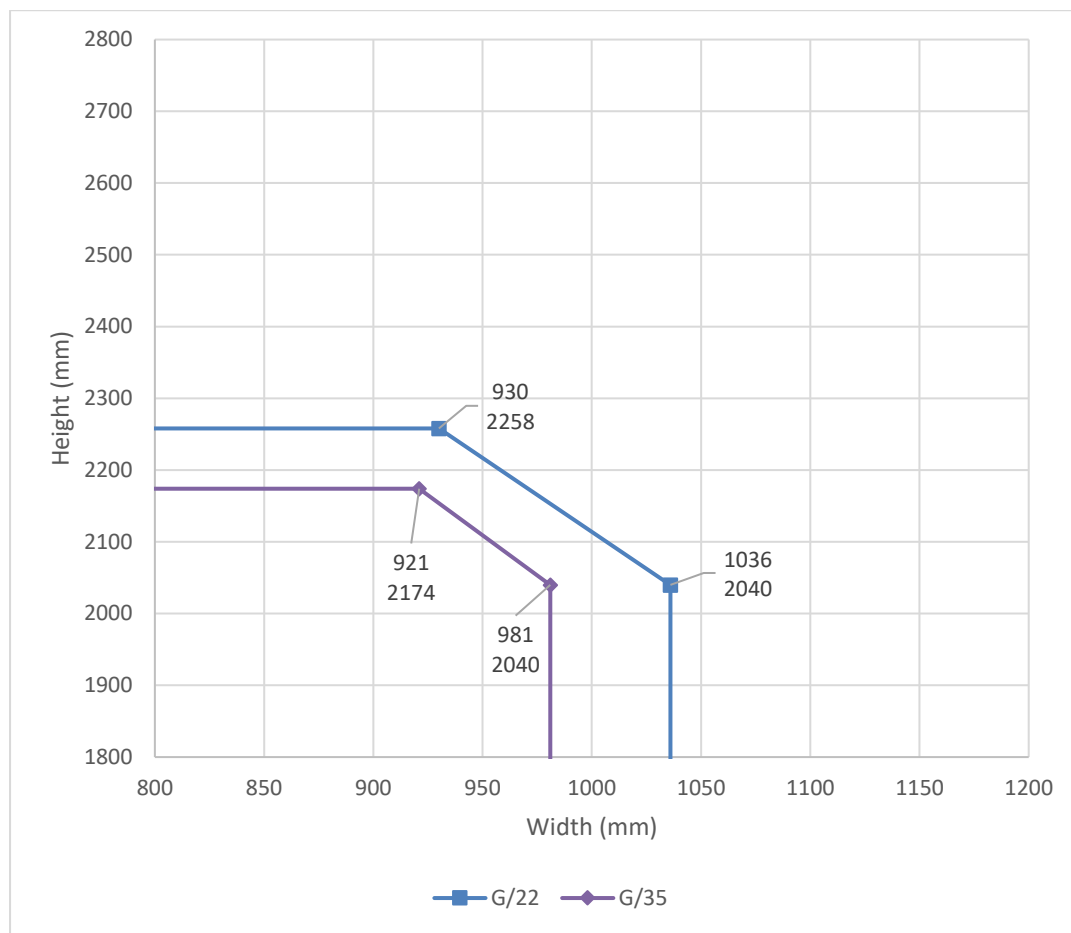
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Intumescent Seals Limited Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/41 (Chilt/RF01103)	Intumescent Seals Limited 20x4 Therm-A- Seal 10x4 Therm-A- Seal	Head: 1no 20x4. Fitted in frame head reveal or leaf edge Jambs: 1no 10x4. Fitted in frame jamb reveal or leaf edges Meeting Edge: 2no 10x4. 1no fitted centrally in each leaf

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Lorient Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/22 (WARRES 131998 B)	Lorient LP1004 617	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal Meeting edge junction: Option 1) With equal rebated meeting edge: Meeting Edge: 2no 10x4. 1no fitted centrally in rebate of each leaf meeting edge Option 2) With flat lipping meeting edge: Meeting Edge: 2no 10x4. Fitted 12mm apart and centrally in primary leaf

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

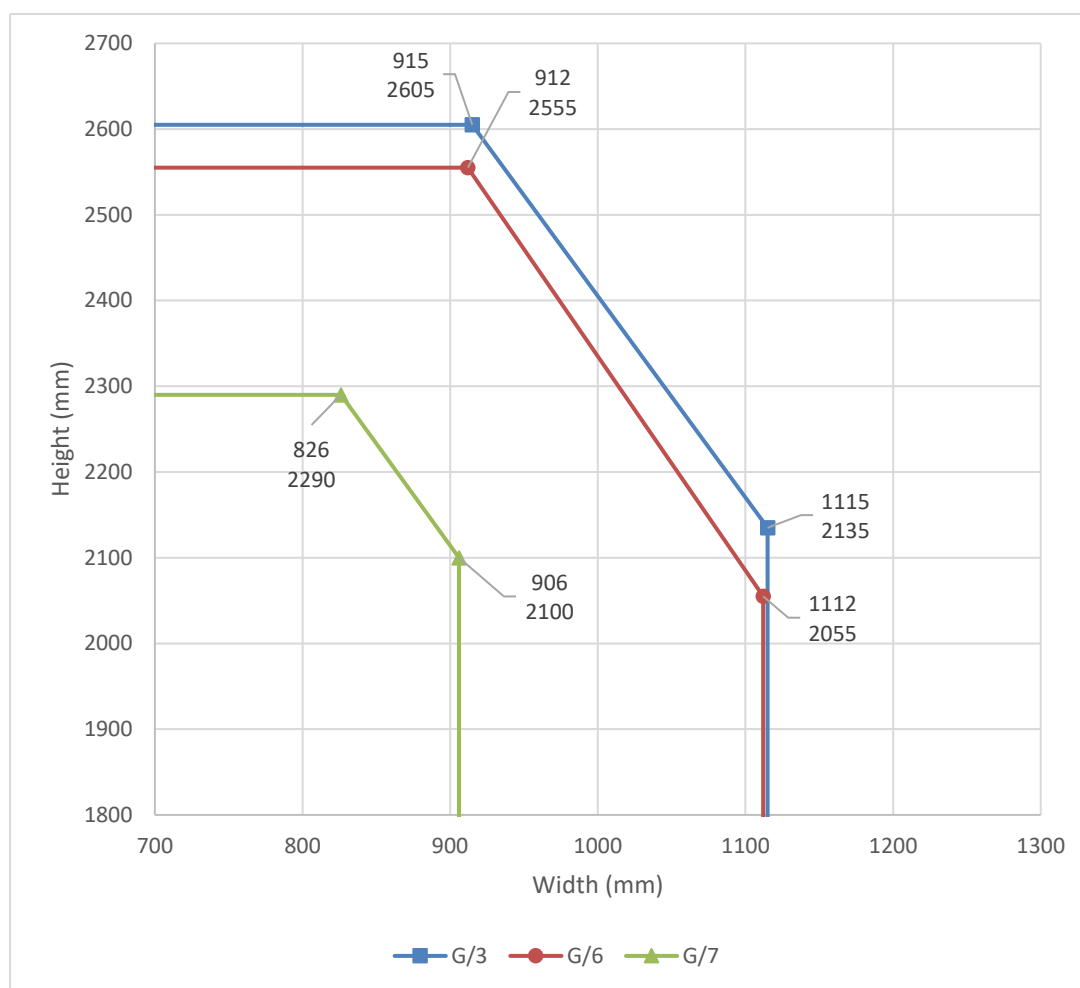
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Lorient Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/35 (WF 135011)	Lorient LP1504 617 LP1004 617	Head: 1no 15x4 centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal Meeting Edge: 2no 10x4. 1no fitted centrally in each leaf

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4.5.11.2 Leaf 1, 2 + Frame 1, 2, 3, 7 Doorset



Halspan Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/3 (Chilt/RF13063 Revision A)	Halspan SLS	Head: 2no 15x4: Fitted 7mm apart and centrally to frame head reveal or leaf head edge Jambs: 1no 15x4. Fitted in frame jambs reveal or vertical leaf hanging edges Meeting Edge: 1no 15x4. Fitted centrally in primary leaf
G/6 (Chilt/RF08039)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 1no 15x4. Fitted in primary leaf

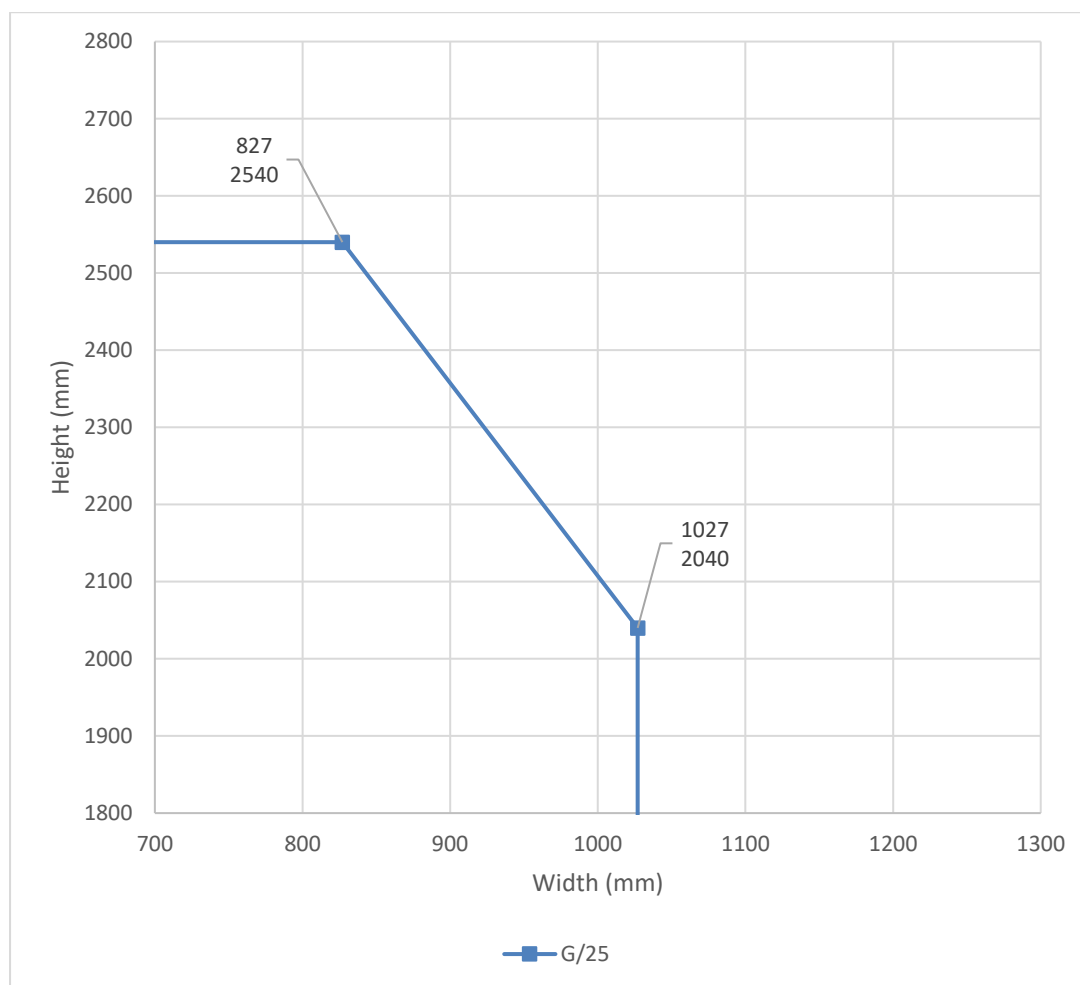
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Halspan Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/7 (WF523942/MR Iss2)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf 1no 10x4. Fitted centrally in the other leaf

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

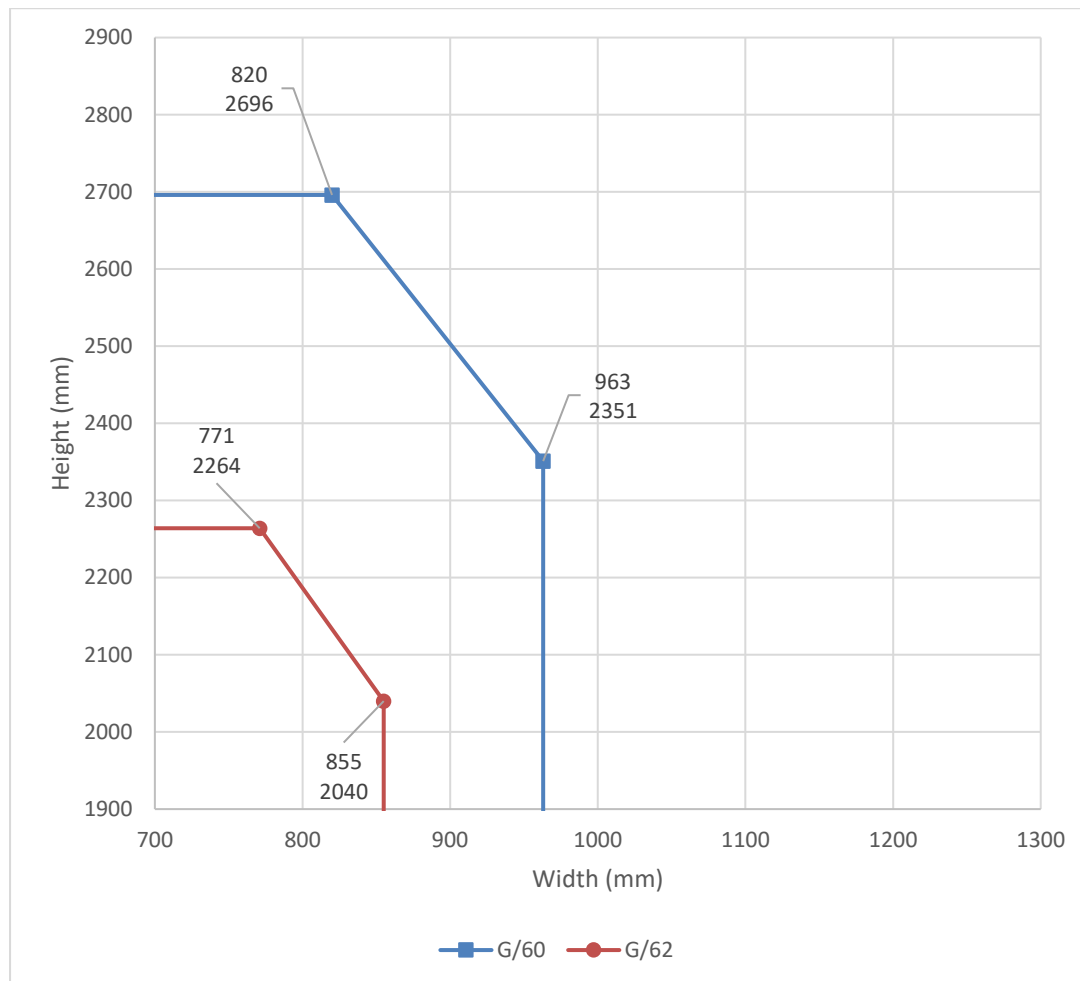
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Lorient Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/25 (RF07008 B)	Lorient LP1504 617 LP1004 617	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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

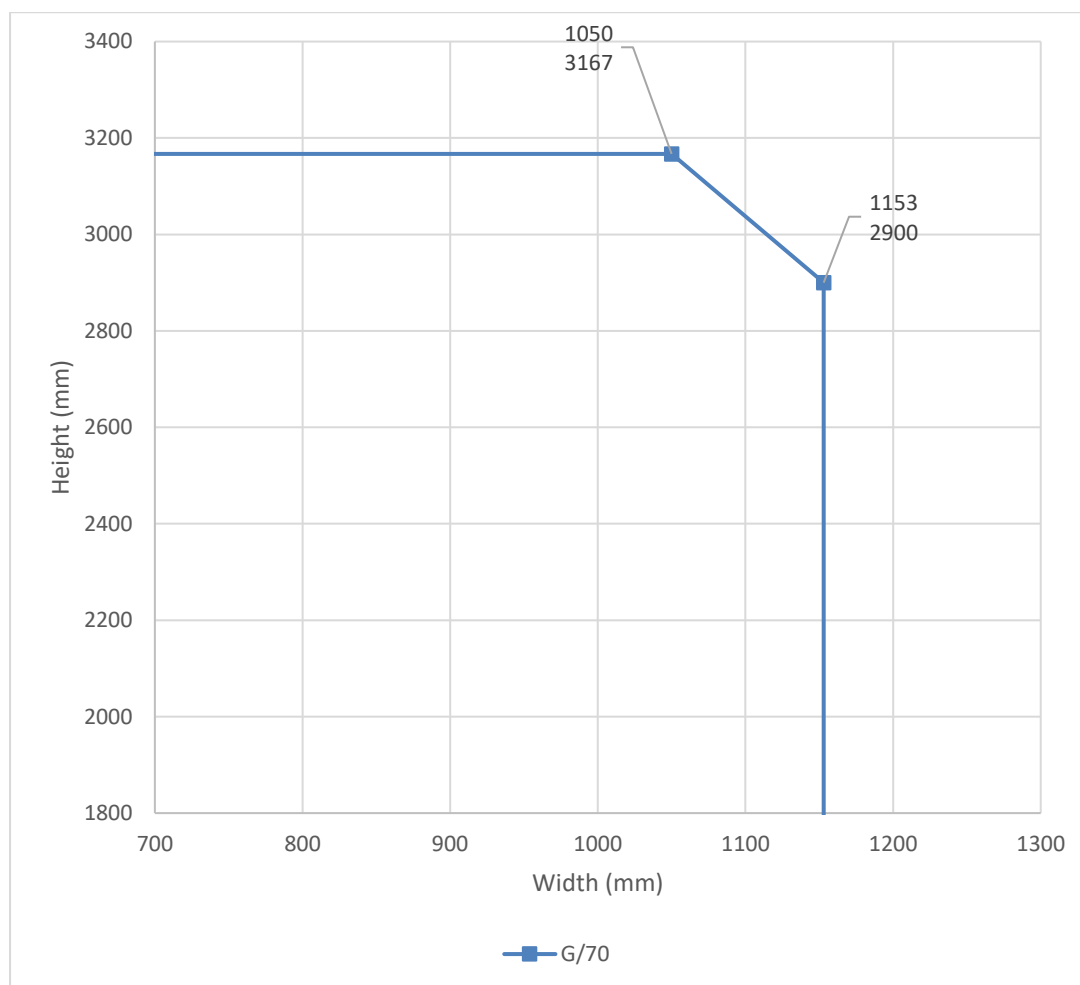
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Pyroplex Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/60 (CFR2210051)	Pyroplex 8500 8700	Head: 2no 10x4. Fitted 13mm apart and centrally to frame head reveal Jambs: 1no 15x4. Fitted in frame jambs reveal Meeting Edge: 2no 10x4. Fitted 10mm apart and centrally in primary leaf
G/62 (WF522390 Version 2 B)	Pyroplex 8700 8500	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted 10mm apart and centrally in primary leaf

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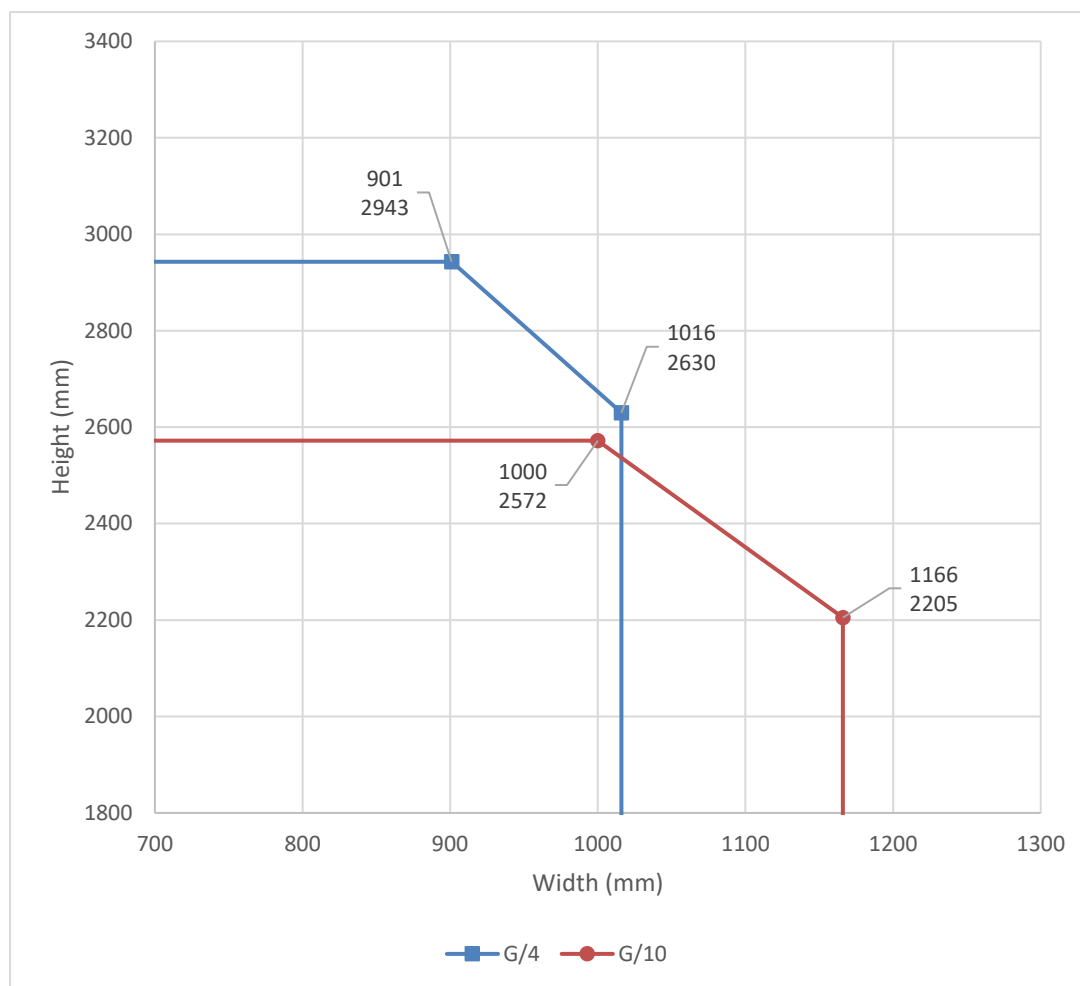


Sealed Tight Solutions Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/70 (BMT/FEP/F15097)	Sealed Tight Solutions ST1504FO ST1004FO	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

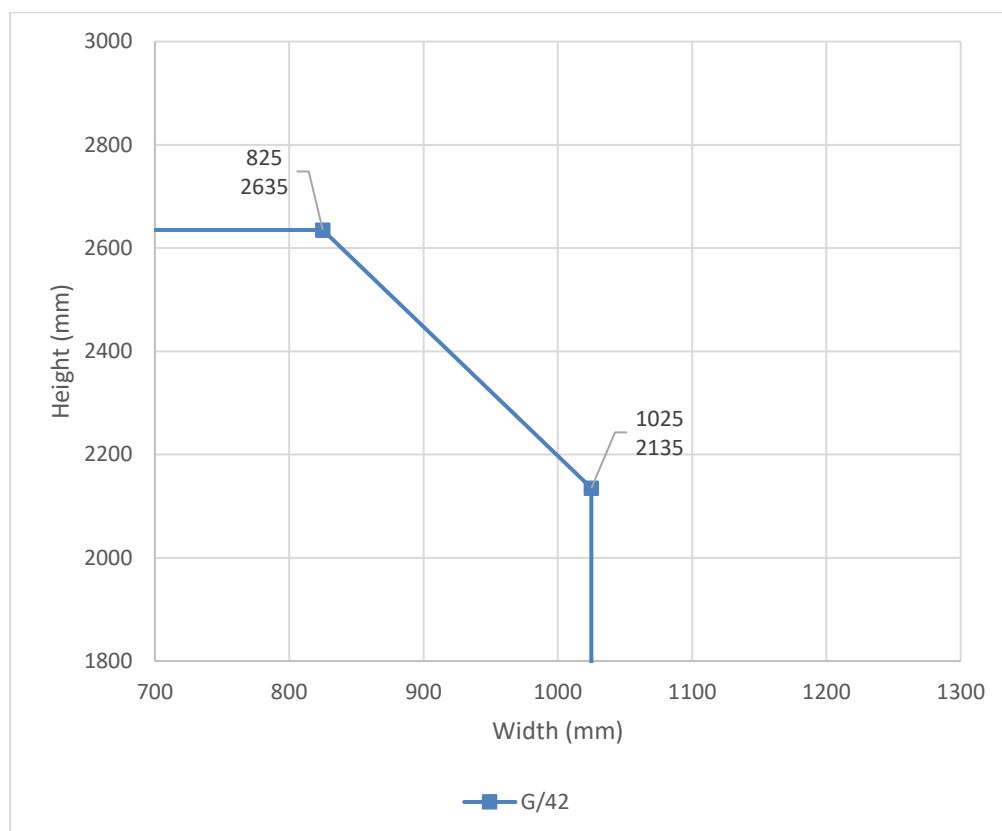
4.5.11.3 Leaf 1, 2 + Frame 2 Doorset



Halspan Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/4 (BMT/FEP/F15272 AR1)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf
G/10 (BMT/FEP/F15214 AR1)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. 1no fitted centrally in each leaf.

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

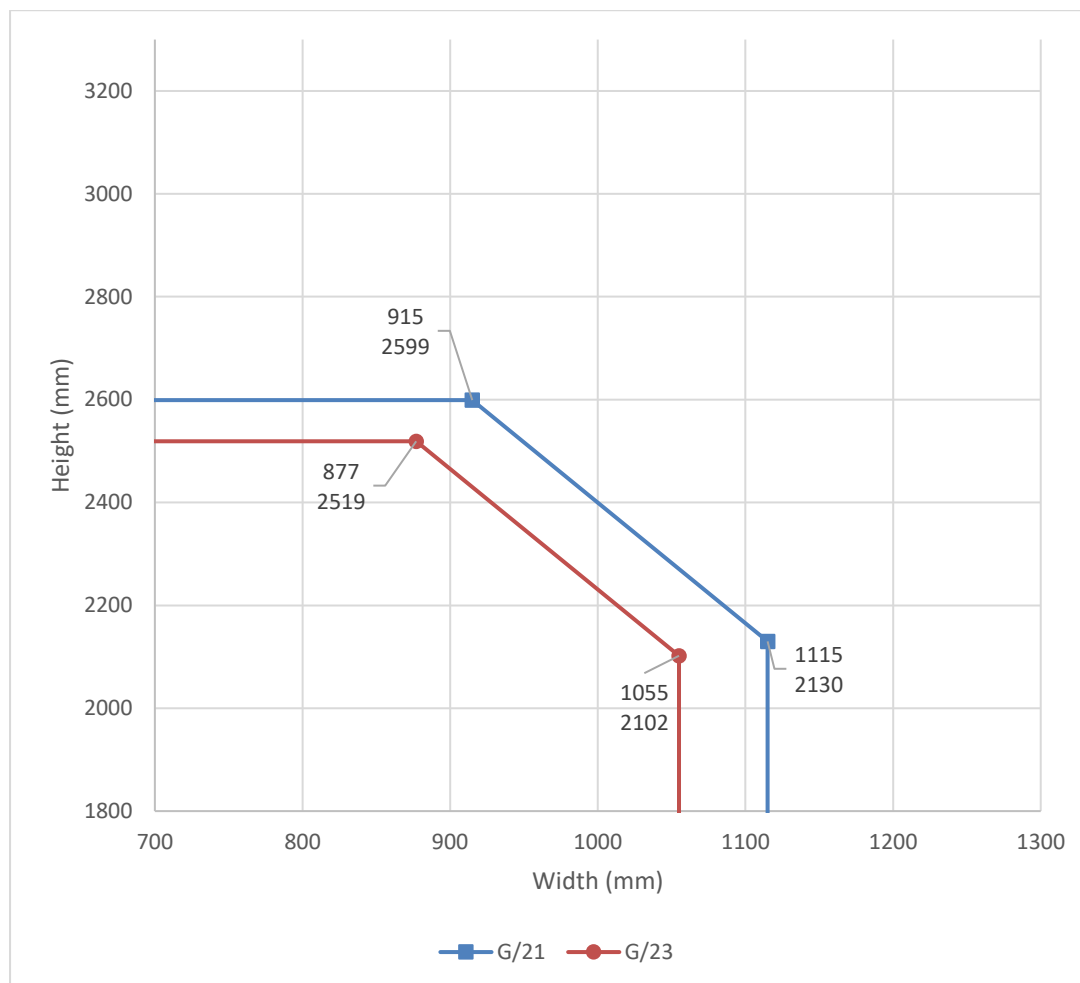
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Intumescent Seals Limited Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/42 (Chilt/RF04021 A)	Intumescent Seals Limited 10x4 Therm-A- Seal 20x4 Therm-A- Stop	Head & Jambs (with Leaf 1 doorset): 1no 10x4. Fitted 5mm from opening face in frame reveal 1no 20x4. Fitted 8mm apart from the 1no10x4 seal in apart in frame reveal Meeting Edge (with Leaf 1 doorset): 1no 10x4. Fitted 5mm from opening face of primary leaf 1no 20x4. Fitted 5mm apart from the 1no10x4 seal in the primary leaf
		Head & Jambs (with Leaf 2 doorset): 1no 10x4. Fitted 10mm from opening face in frame reveal 1no 20x4. Fitted 8mm apart from the 1no10x4 seal in apart in frame reveal Meeting Edge (with Leaf 2 doorset): 1no 10x4. Fitted 10mm from opening face of primary leaf 1no 20x4. Fitted 5mm apart from the 1no10x4 seal in the primary leaf

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

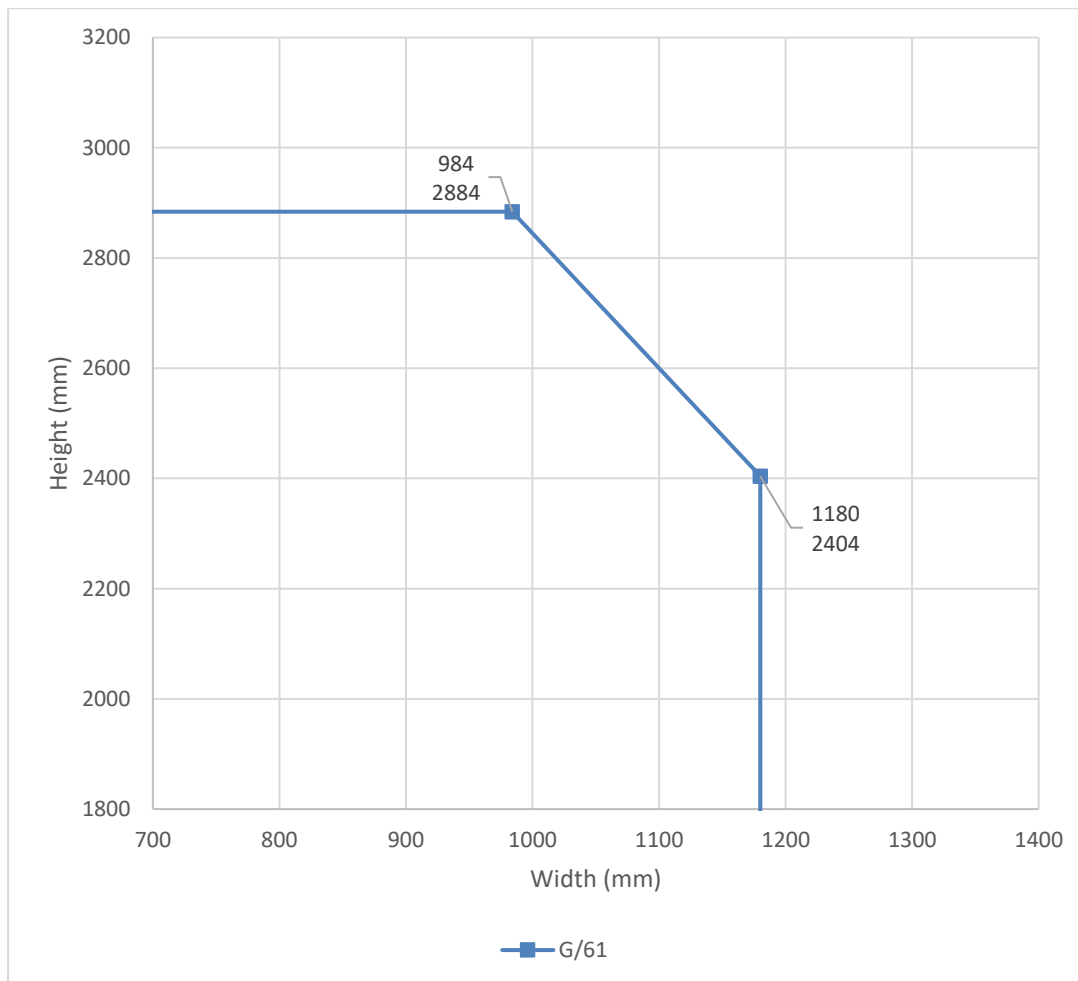
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Lorient Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/21 (RF97091)	Lorient LP1004 617	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal Meeting Edge: 2no 10x4. Fitted centrally and 12mm apart in primary leaf
G/23 (RF00067 A)	Lorient LP2004 617 LP1004 617	Head: 1no 20x4. Fitted in frame head reveal or leaf edge Jambs: 1no 10x4. Fitted in frame jamb reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 8mm apart in primary leaf

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

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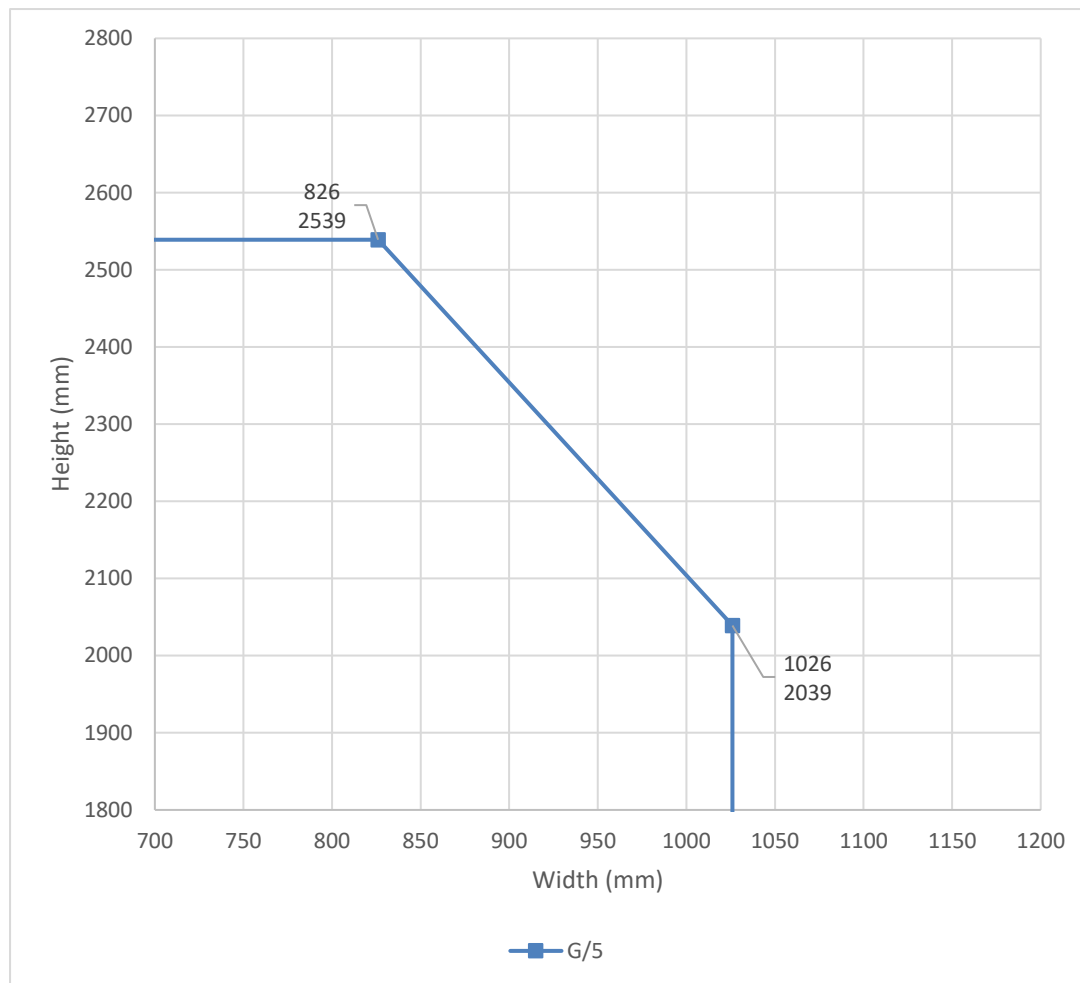


Pyroplex Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/61 (WF372220 AR1)	Pyroplex 8700 8500	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted 8mm apart and centrally in primary leaf

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4.5.11.4 Leaf 1, 2 + Frame 5 Doorset

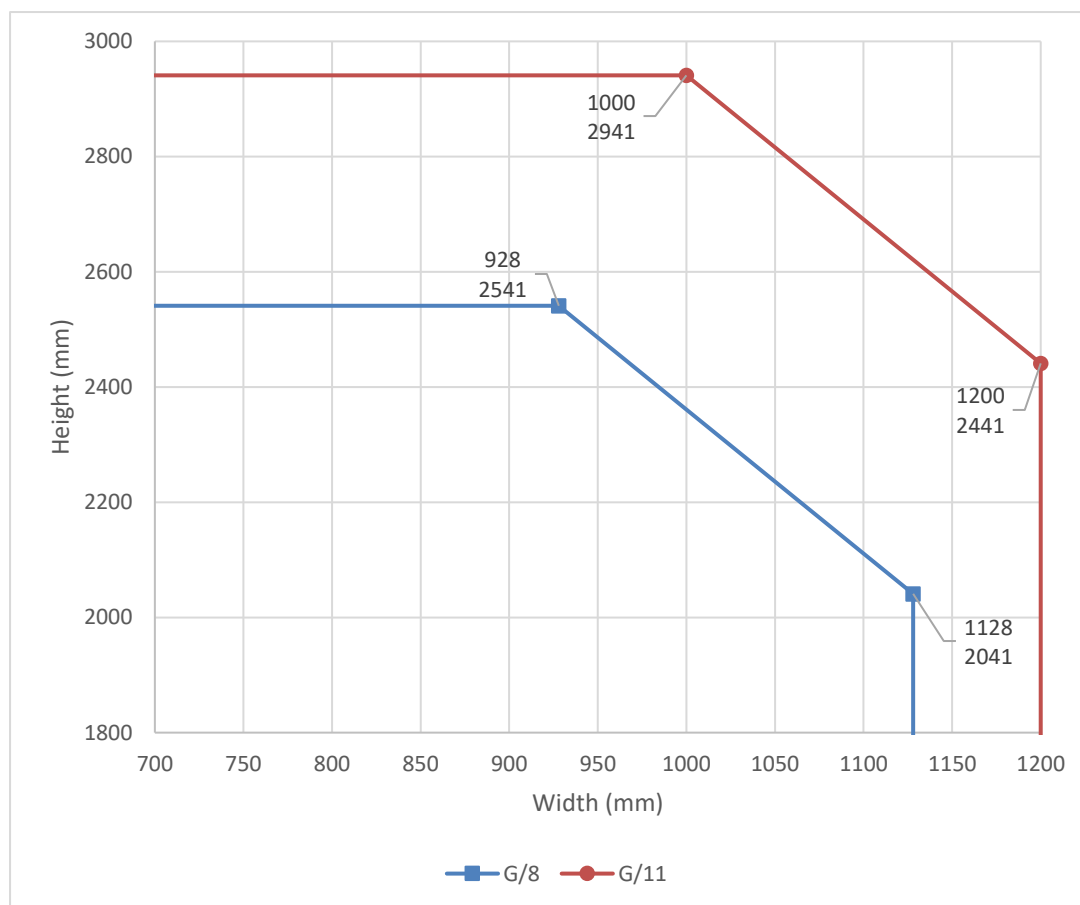


Halspan Intumescent Specification for LSADD, Leaf 1 or 2 with Frame 5		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/5 (CFR2109021 LH)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.11.5 Leaf 2 + Frame 1, 2, 3, 7 Doorset

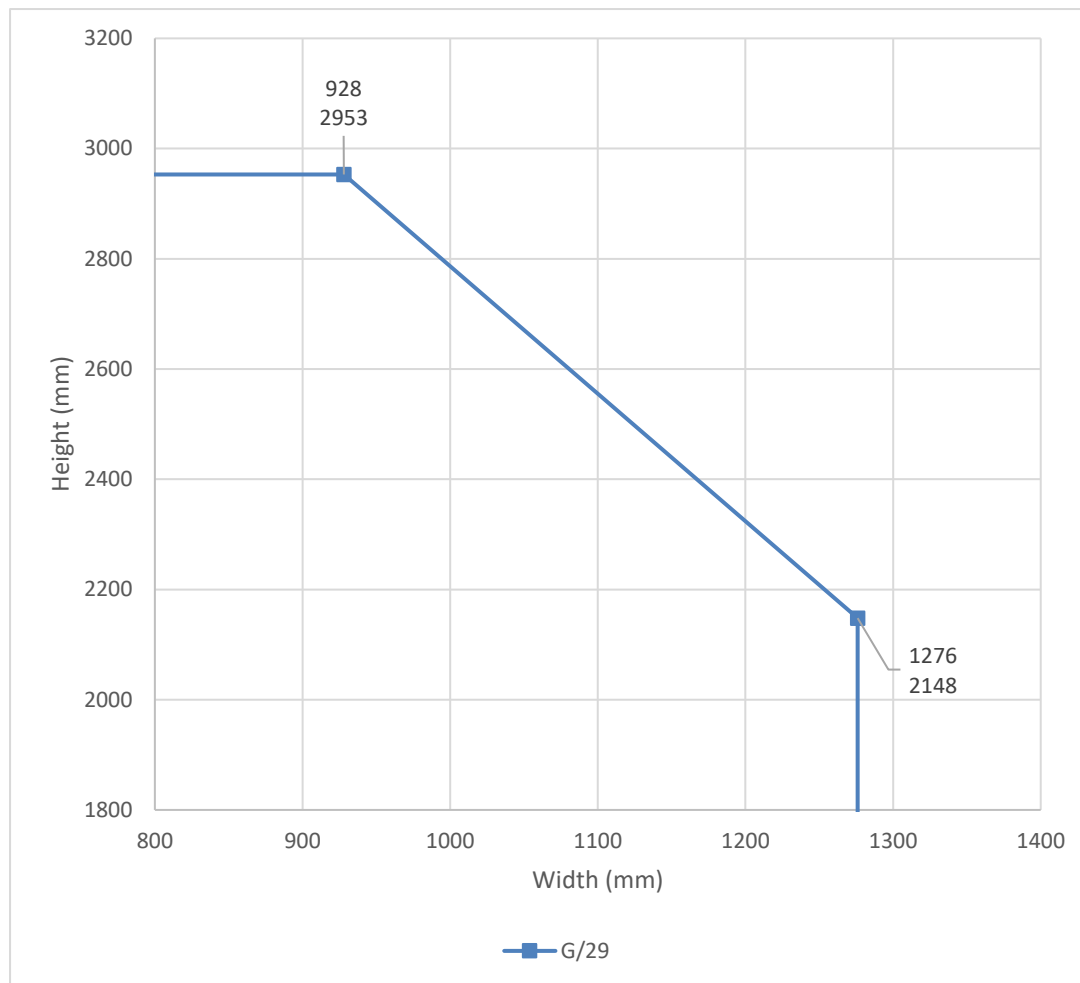


Halspan Intumescent Specification for LSADD, Leaf 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/8 (CFR2307031)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or in leaf head and hanging edges. and 2no 15x4. Fitted centrally and 10mm apart in leaf head and hanging edges or in the frame reveal. The above seals must be located such that the 2no seals oppose the 1no seal at the head and jambs. Meeting Edge: 2no 15x4. Fitted centrally and 10mm apart in primary leaf 1no 15x4. Fitted centrally in the other leaf
G/11 (CFR1909021)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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4.5.11.6 Leaf 2 + Frame 2 Doorset

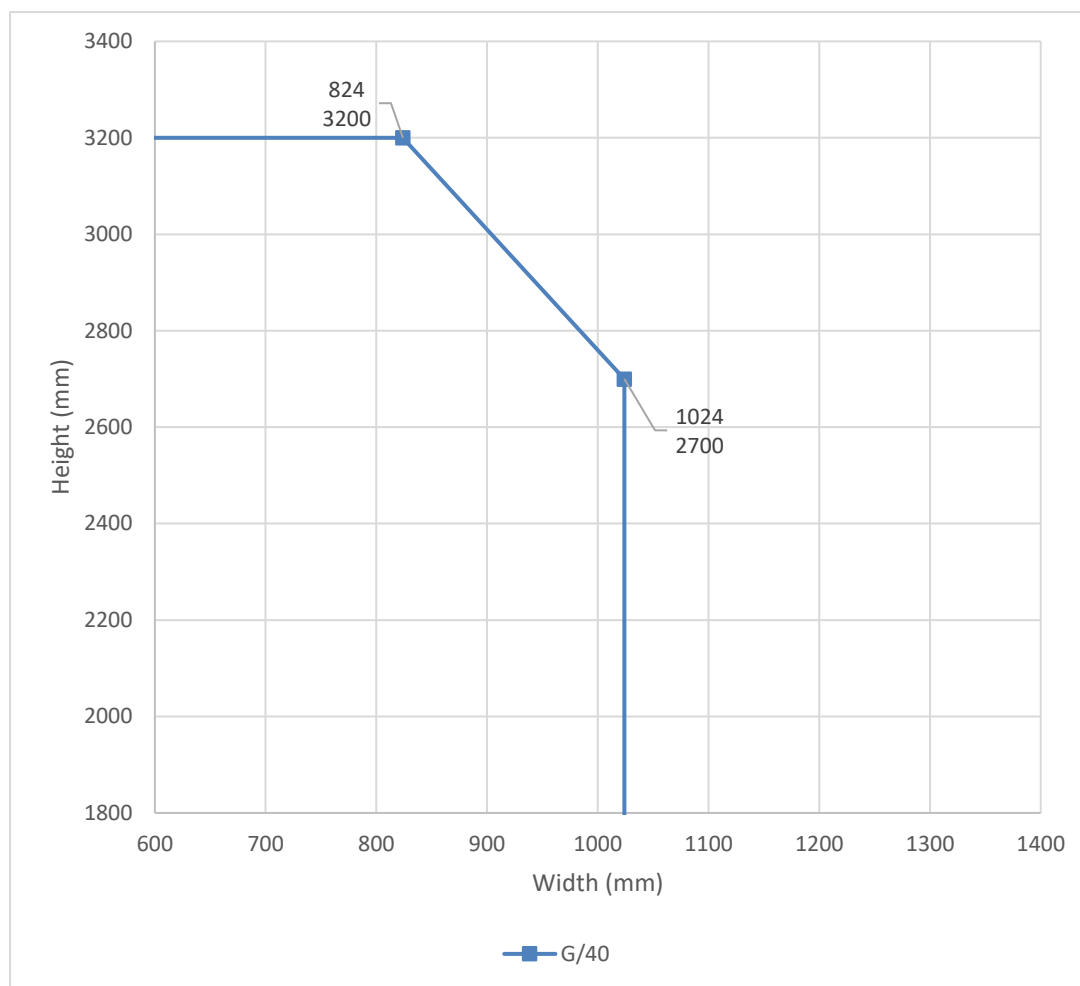


Lorient Intumescent Specification for LSADD, Leaf 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/29 (WF545612)	Lorient LP1504 617	Head & Jambs: 2no 15x4. Fitted centrally and 8mm apart in frame reveal or leaf edges Meeting Edge: 2no 15x4. Fitted centrally and 8mm apart in primary leaf

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4.5.11.7 Leaf 2 + Frame 2, 3 Doorset



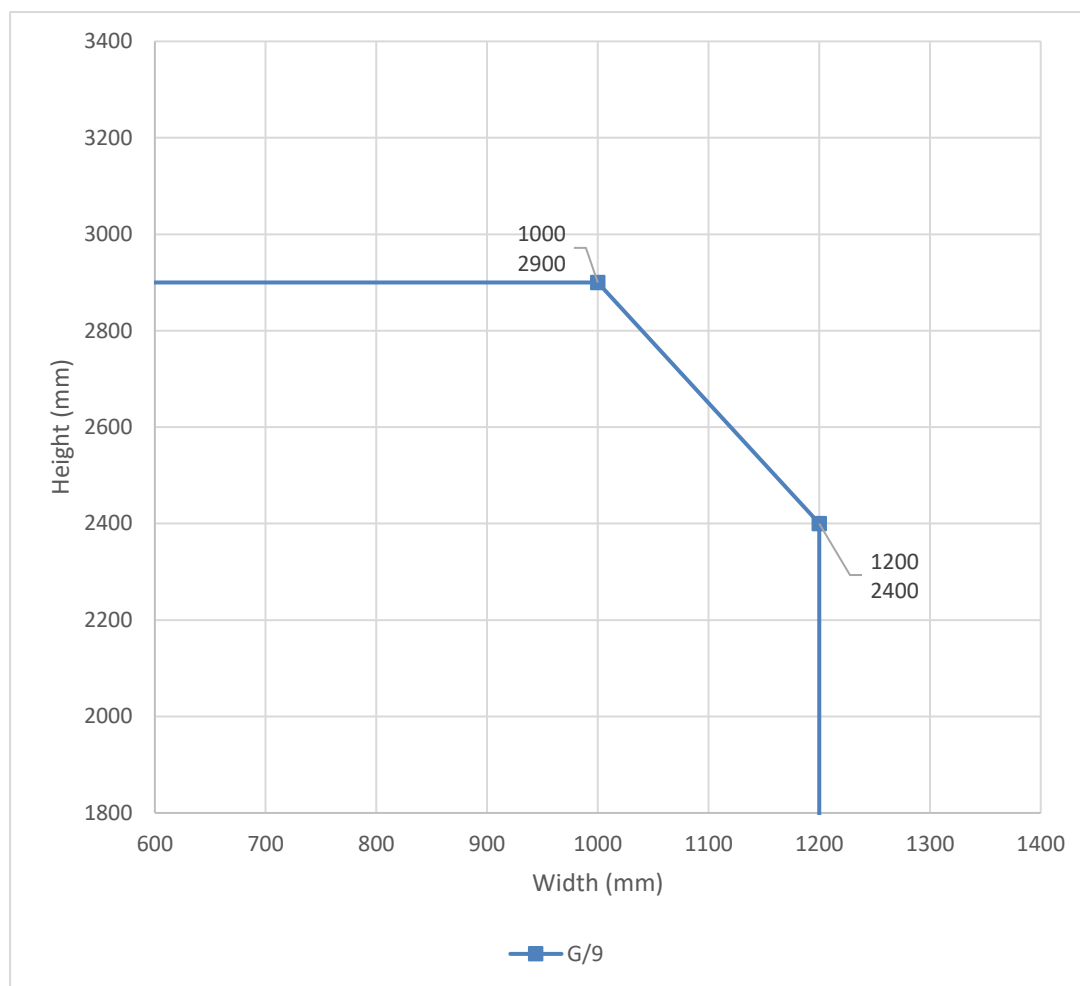
Intumescent Seals Limited Intumescent Specification for LSADD, Leaf 2 with Frame 2 or 3

Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/40 (Chilt/RF02081)	Intumescent Seals Limited 15x4 Therm-A- Seal 10x2 Therm-A- Flex	Head: 2no 15x4. Fitted centrally and 10mm apart to frame head. 1no 10x2. Fitted centrally to leaf head Jambs: 2no 15x4. Fitted centrally and 10mm apart in frame jambs reveal Meeting Edge: 2no 15x4. Fitted centrally and 10mm apart in primary leaf

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

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4.5.11.8 Leaf 2 + Frame 6 Doorset

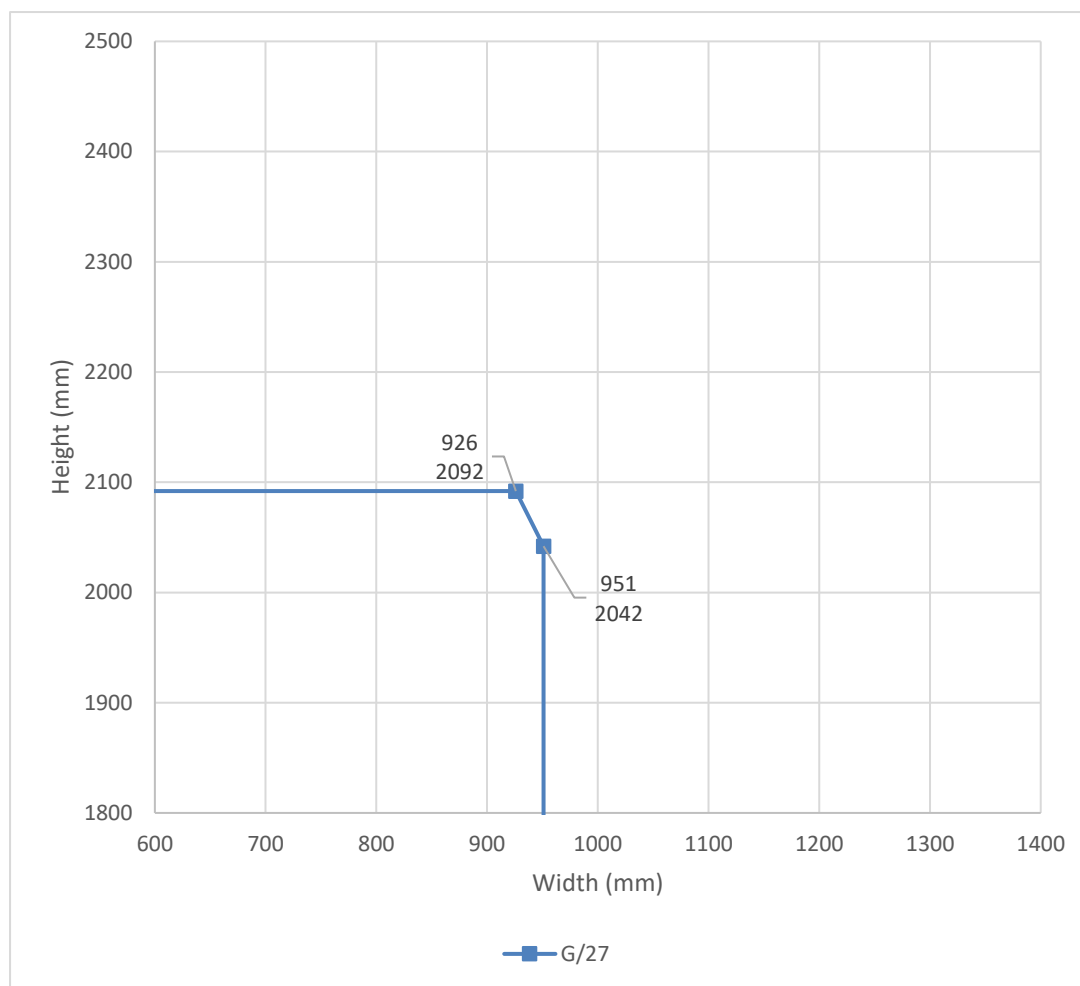


Halspan Intumescent Specification for LSADD, Leaf 2 with Frame 6		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/9 (CFR1808101)	Halspan SLS	Head & Jambs: 2no 15x4. Fitted in the larger frame reveal rebate at 5mm and 27mm from the opening face of the leaf. Meeting Edge: 2no 15x4. Fitted 5mm and 27mm from the opening face of the leaf, in larger rebate of unequal rebated lipping, in the secondary leaf

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4.5.11.9 Leaf 3 + Frame 1, 2, 3, 7 Doorset



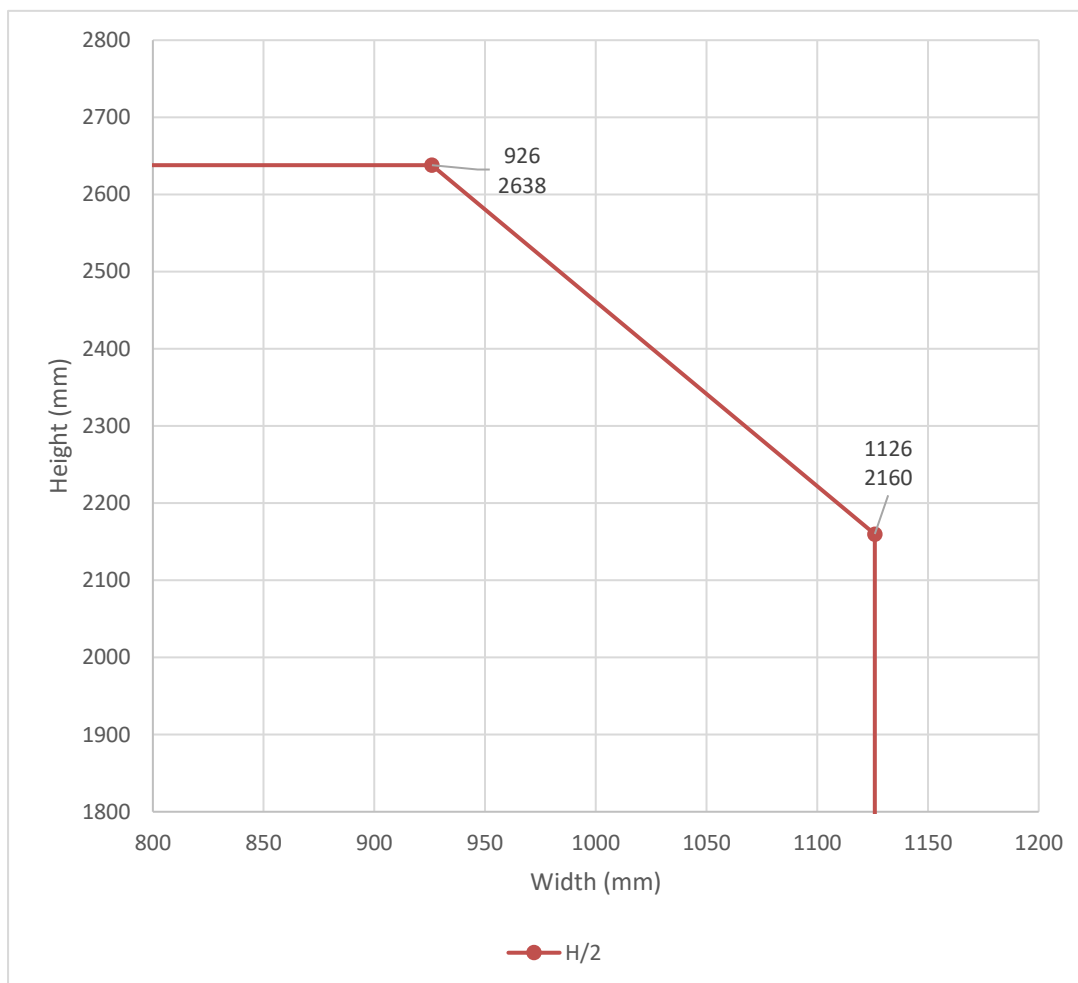
Lorient Intumescent Specification for LSADD, Leaf 3 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
G/27 (WF150116)	Lorient LP1504 617 LP1004 617	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.12 ULSADD Configuration: Leaf Sizes & Intumescent Specification

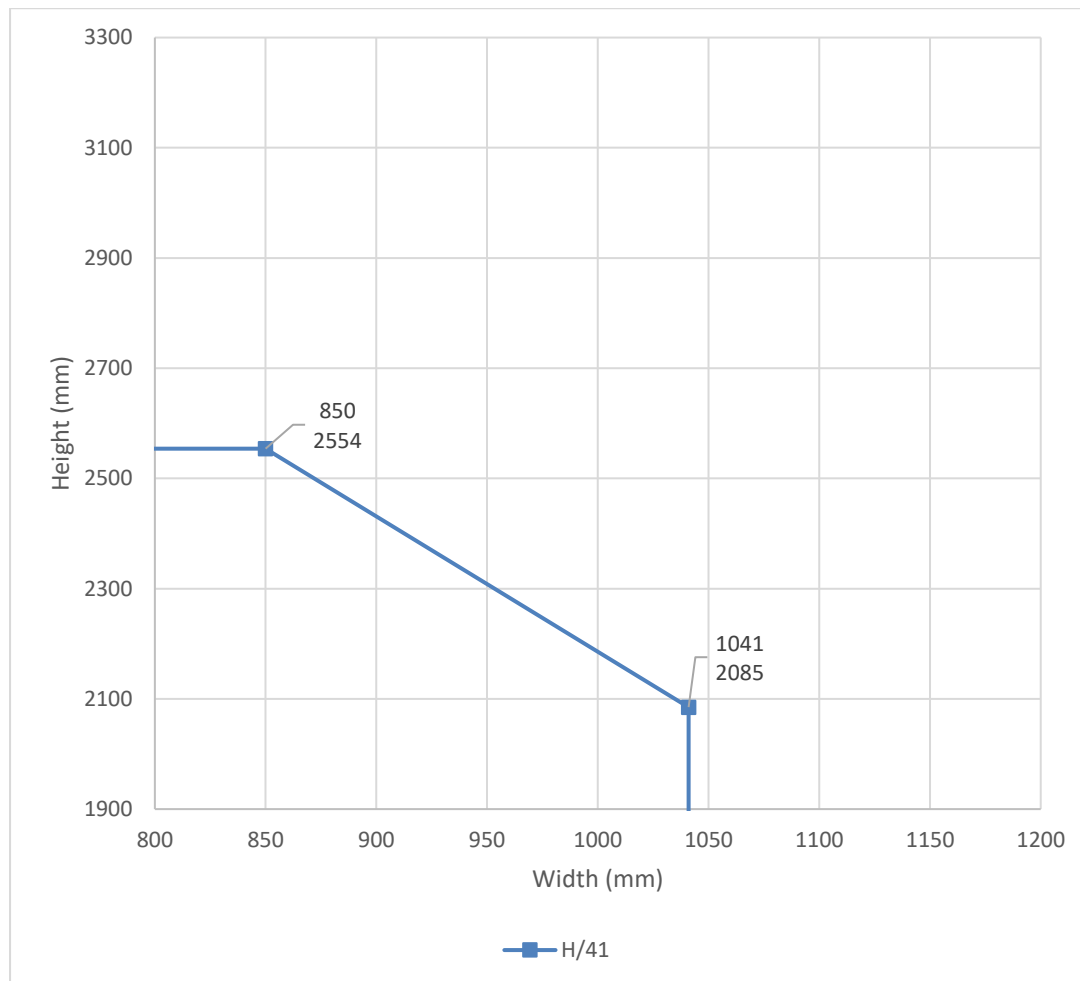
4.5.12.1 Leaf 1, 2 + Frame 1, 2, 3 Doorset



Halspan Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/2 (Chilt/RF09069)	Halspan SLS	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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Intumescent Seals Limited Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/41 (Chilt/RF01103)	Intumescent Seals Limited 20x4 Therm-A- Seal 10x4 Therm-A- Seal	Head: 1no 20x4. Fitted in frame head reveal or leaf edge Jambs: 1no 10x4. Fitted in frame jamb reveal or leaf edges Meeting Edge: 2no 10x4. 1no fitted centrally in each leaf

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Lorient Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/22 (WARRES 131998 B)	Lorient LP1004 617	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal Meeting edge junction: Option 1) With equal rebated meeting edge: Meeting Edge: 2no 10x4. 1no fitted centrally in rebate of each leaf meeting edge Option 2) With flat lipping meeting edge: Meeting Edge: 2no 10x4. Fitted 12mm apart and centrally in primary leaf

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

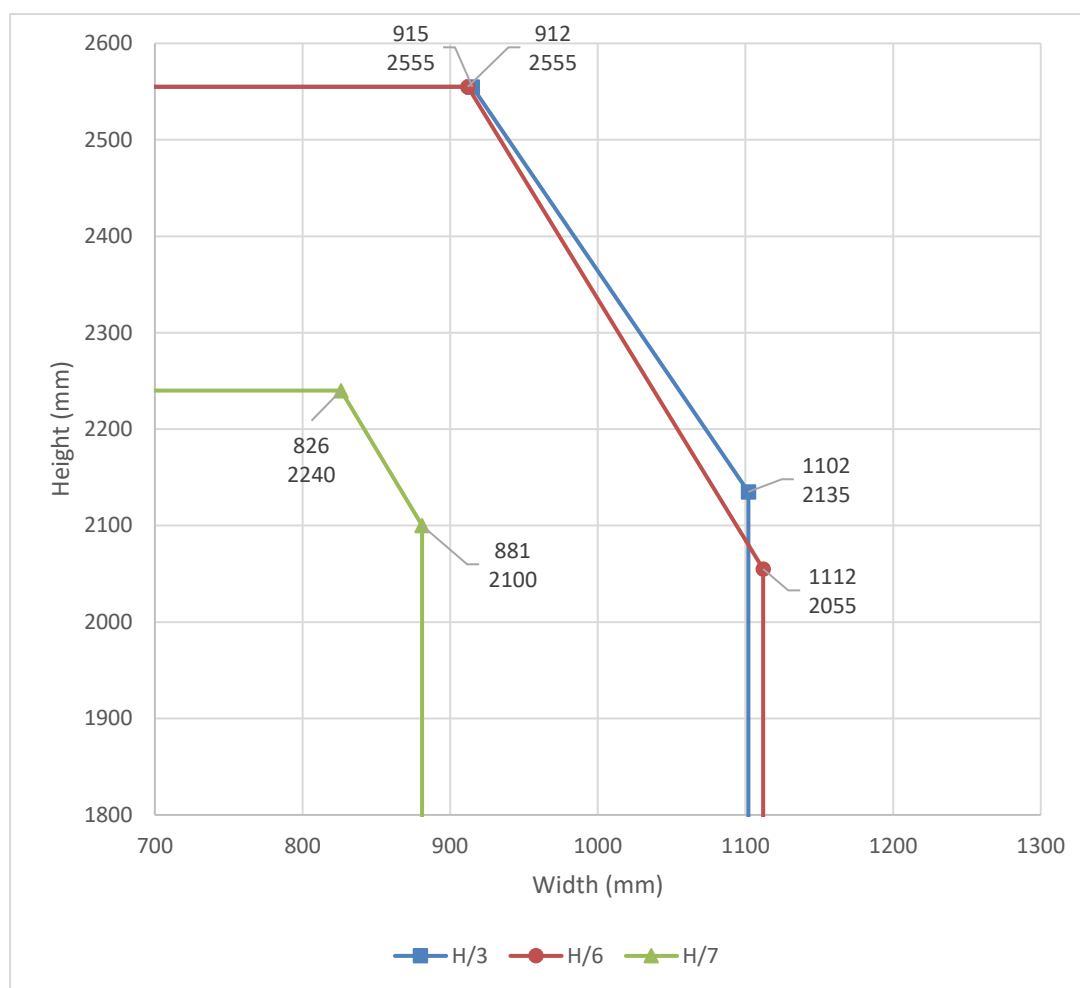
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Lorient Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/35 (WF 135011)	Lorient LP1504 617 LP1004 617	Head: 1no 15x4 centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal Meeting Edge: 2no 10x4. 1no fitted centrally in each leaf

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4.5.12.2 Leaf 1, 2 + Frame 1, 2, 3, 7 Doorset



Halspan Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/3 (Chilt/RF13063 Revision A)	Halspan SLS	Head: 2no 15x4: Fitted 7mm apart and centrally to frame head reveal or leaf head edge Jambs: 1no 15x4. Fitted in frame jambs reveal or vertical leaf hanging edges Meeting Edge: 1no 15x4. Fitted centrally in primary leaf
H/6 (Chilt/RF08039)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 1no 15x4. Fitted in primary leaf

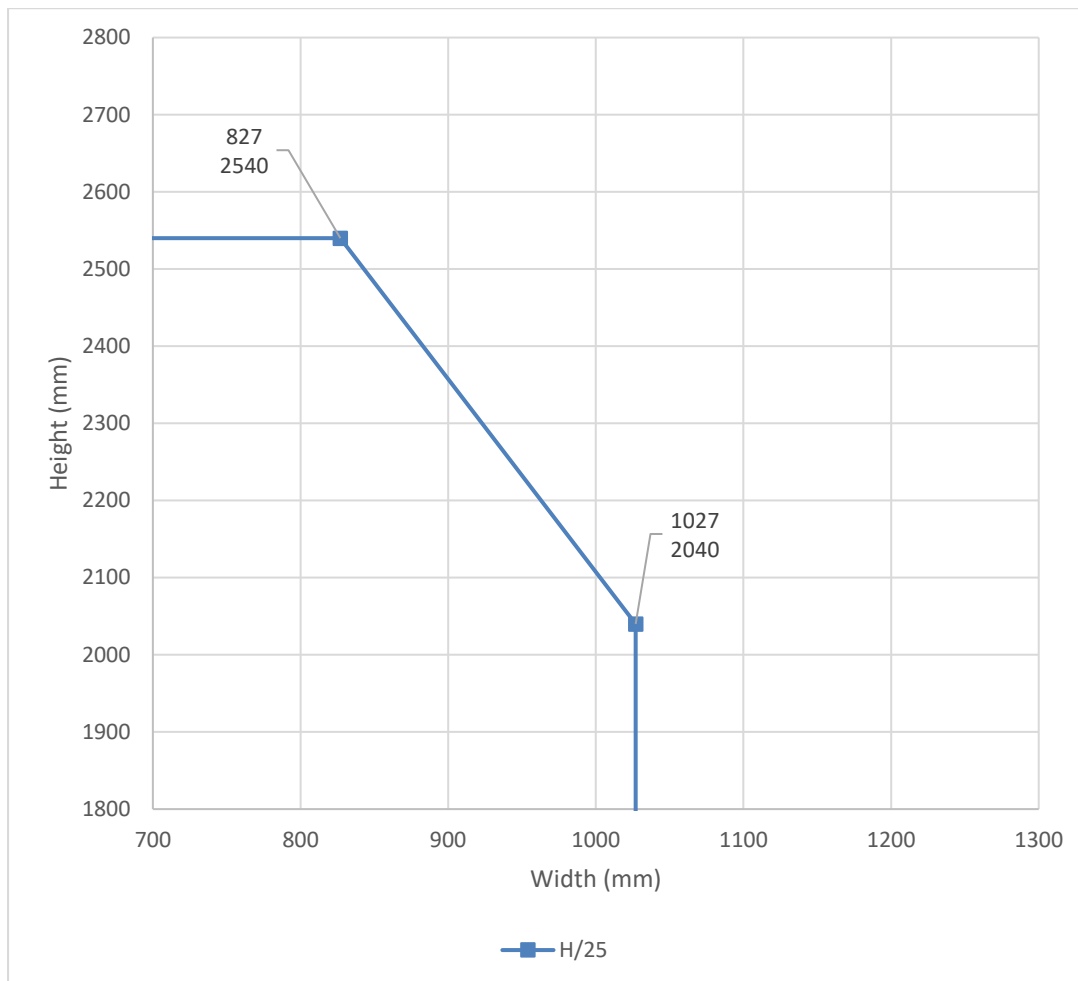
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Halspan Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/7 (WF523942/MR Iss2)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf 1no 10x4. Fitted centrally in the other leaf

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

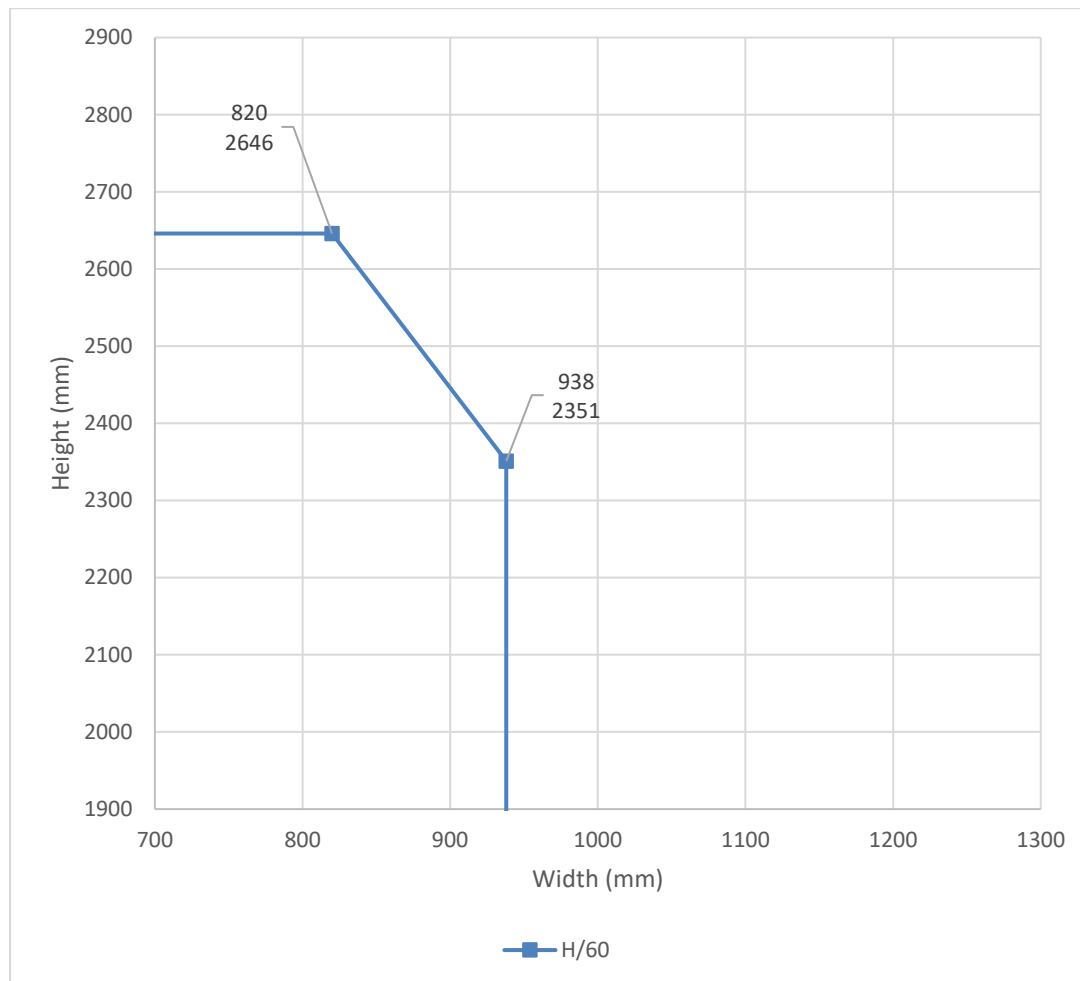
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Lorient Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/25 (RF07008 B)	Lorient LP1504 617 LP1004 617	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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

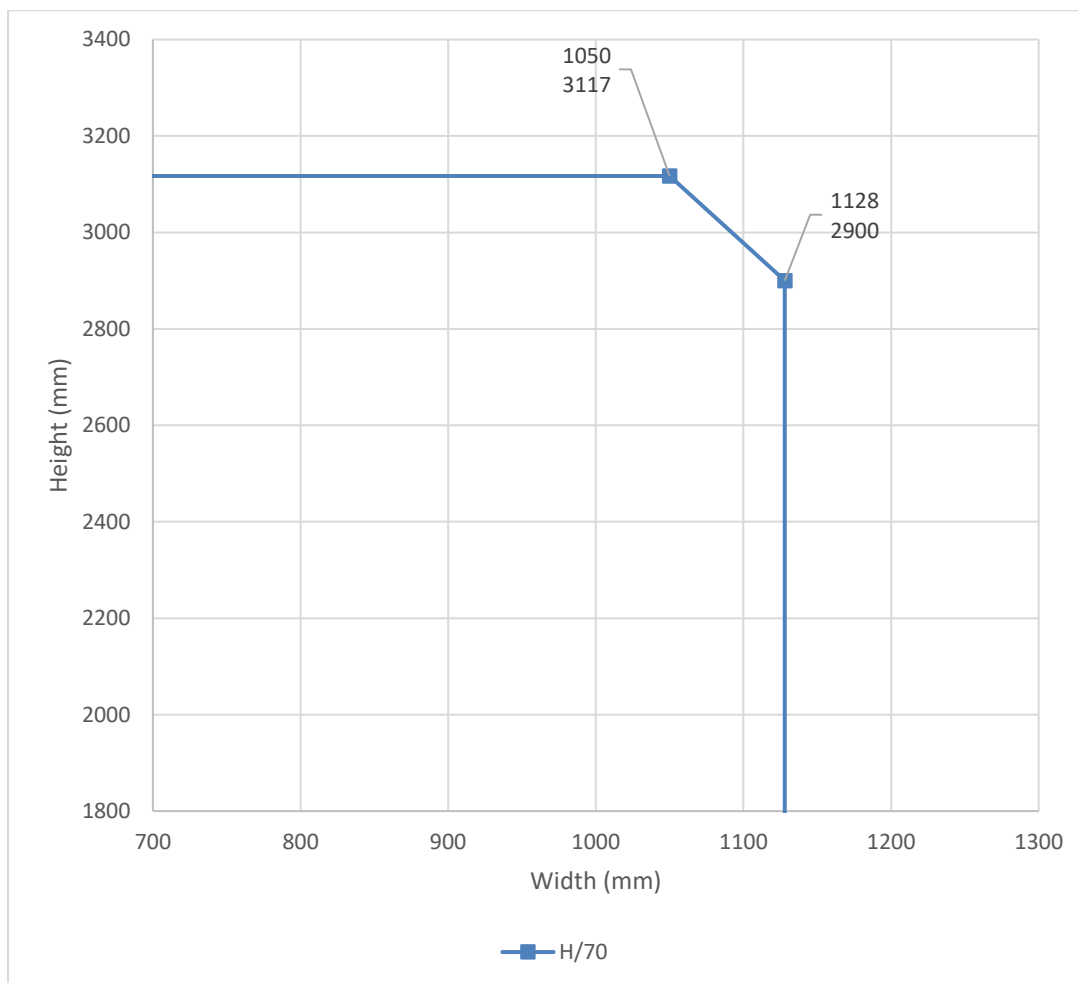
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Pyroplex Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/60 (CFR2210051)	Pyroplex 8500 8700	Head: 2no 10x4: Fitted 13mm apart and centrally to frame head reveal Jambs: 1no 15x4. Fitted in frame jambs reveal Meeting Edge: 2no 10x4. Fitted 10mm apart and centrally in primary leaf

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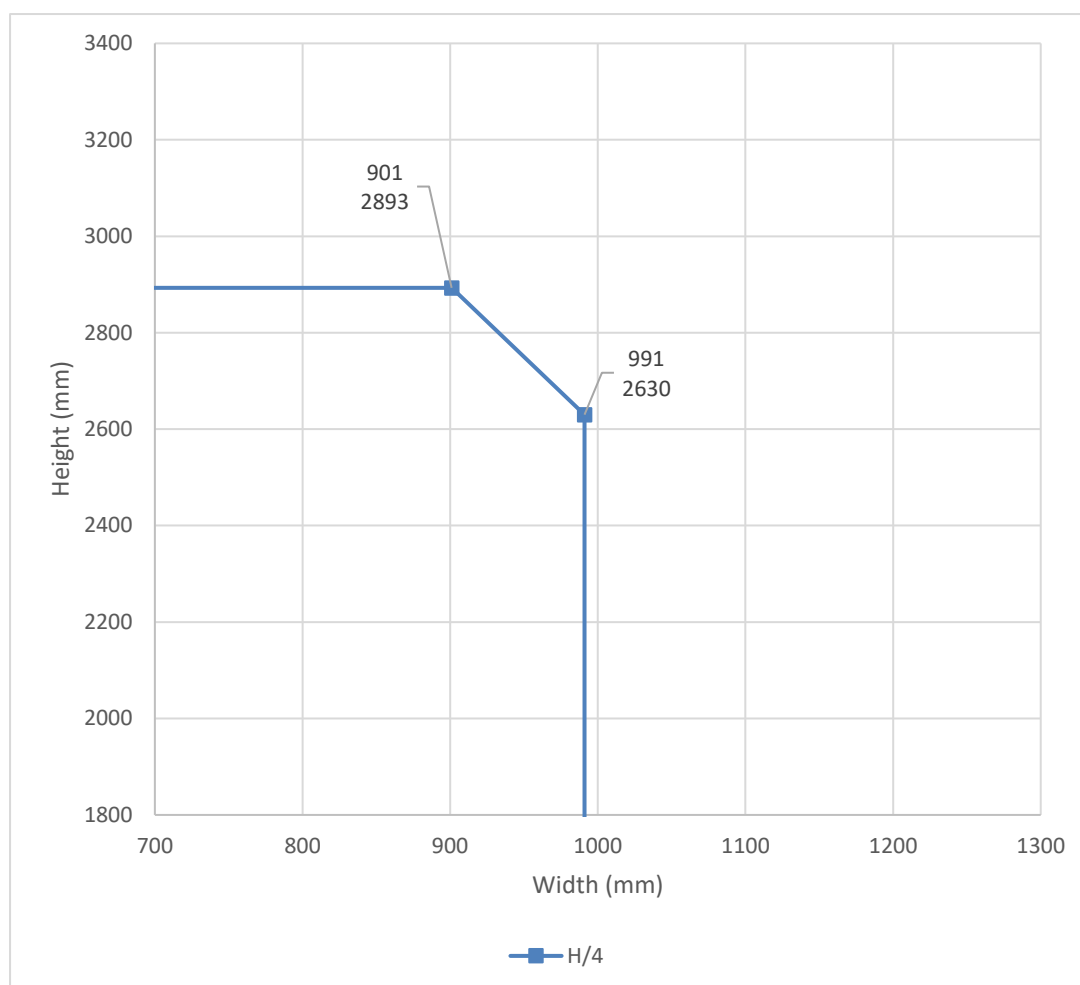


Sealed Tight Solutions Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/70 (BMT/FEP/F15097)	Sealed Tight Solutions ST1504FO ST1004FO	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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4.5.12.3 Leaf 1, 2 + Frame 2 Doorset

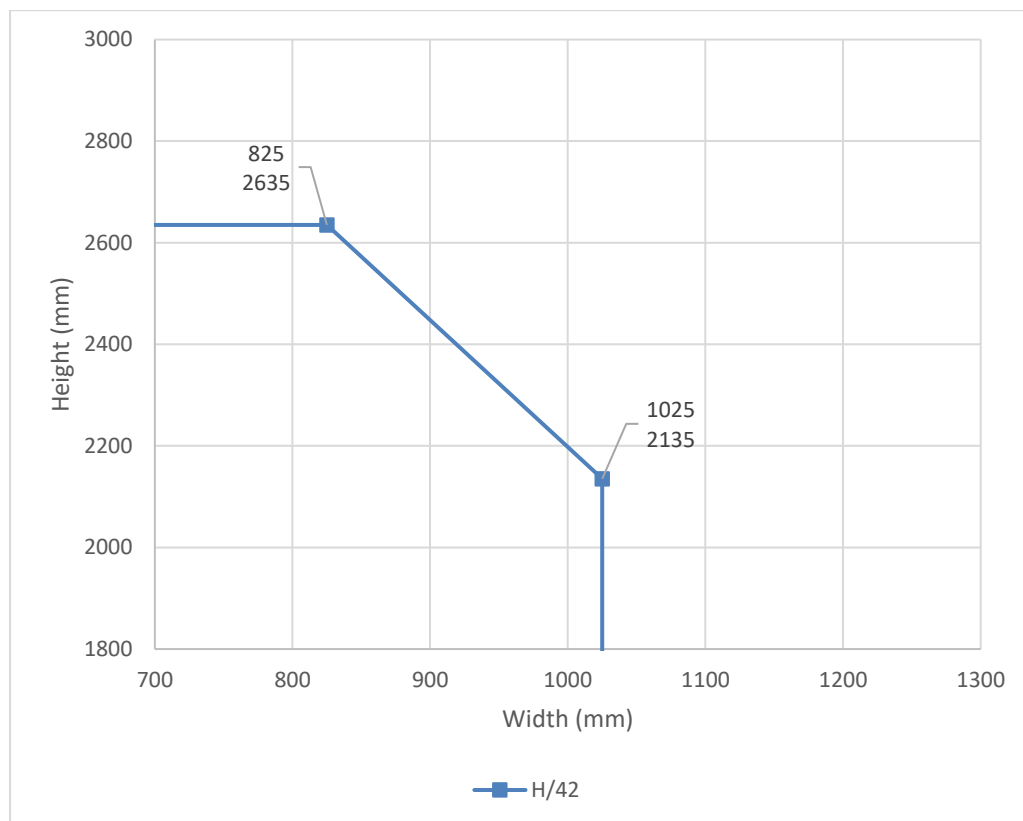


Halspan Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 2

Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/4 (BMT/FEP/F15272 AR1)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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

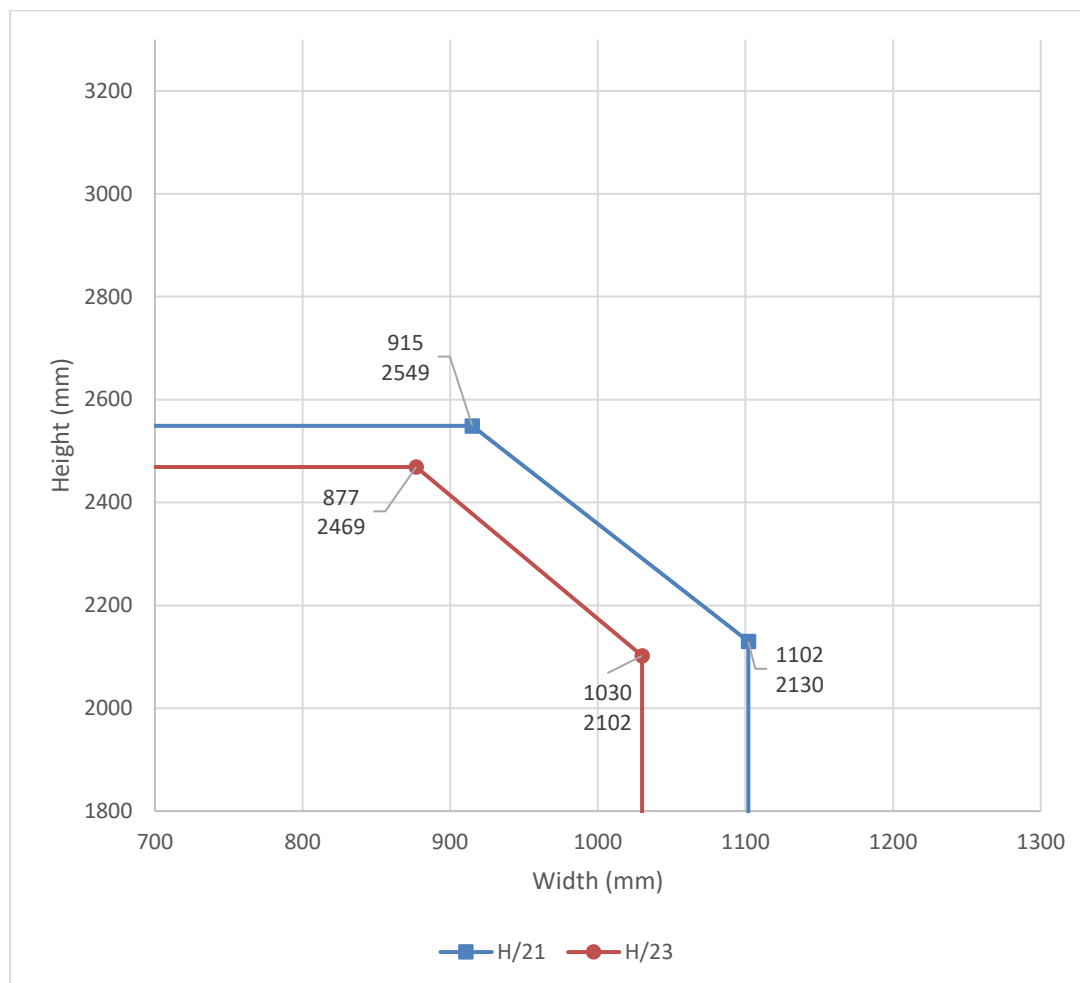
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Intumescent Seals Limited Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/42 (Chilt/RF04021 A)	Intumescent Seals Limited 10x4 Therm-A- Seal 20x4 Therm-A- Stop	Head & Jambs (with Leaf 1 doorset): 1no 10x4. Fitted 5mm from opening face in frame reveal 1no 20x4. Fitted 8mm apart from the 1no10x4 seal in apart in frame reveal Meeting Edge (with Leaf 1 doorset): 1no 10x4. Fitted 5mm from opening face of primary leaf 1no 20x4. Fitted 5mm apart from the 1no10x4 seal in the primary leaf
		Head & Jambs (with Leaf 2 doorset): 1no 10x4. Fitted 10mm from opening face in frame reveal 1no 20x4. Fitted 8mm apart from the 1no10x4 seal in apart in frame reveal Meeting Edge (with Leaf 2 doorset): 1no 10x4. Fitted 10mm from opening face of primary leaf 1no 20x4. Fitted 5mm apart from the 1no10x4 seal in the primary leaf

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

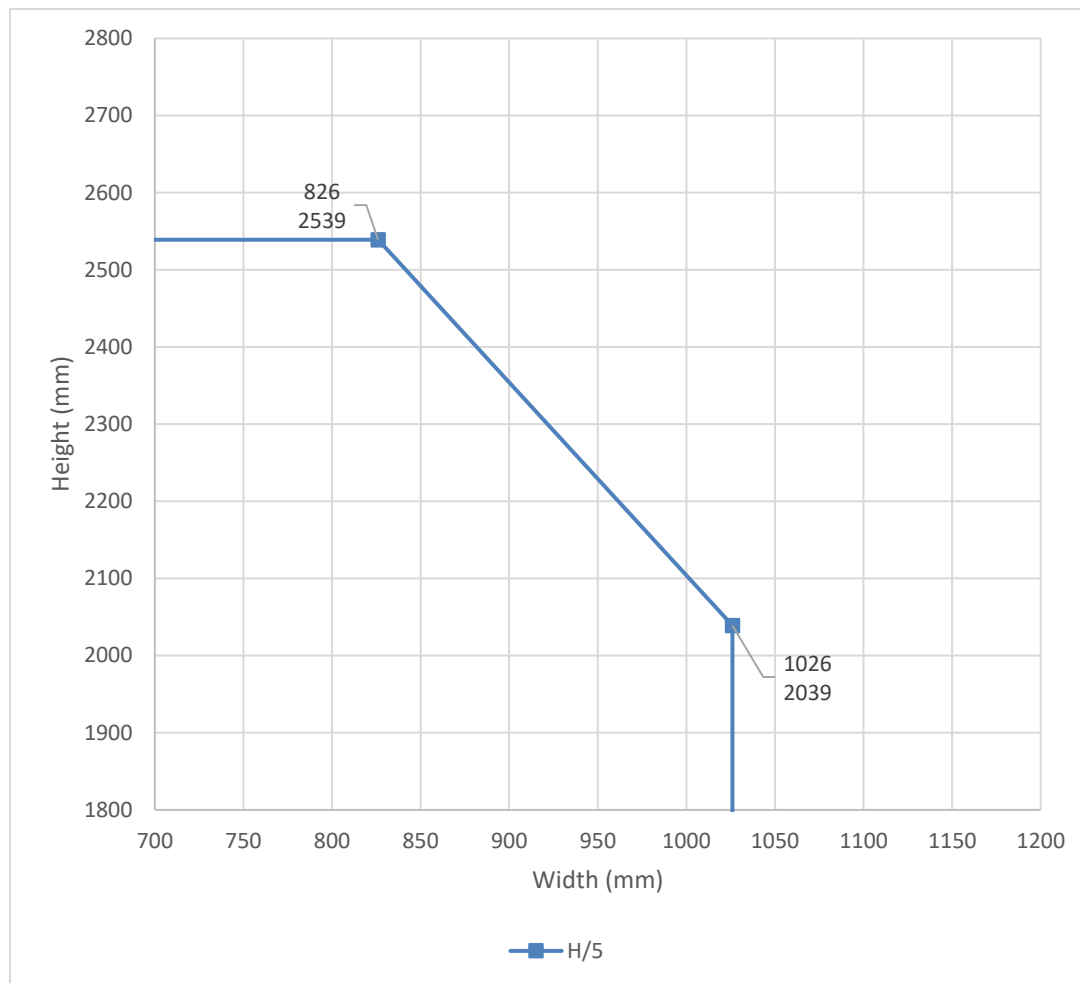


Lorient Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/21 (RF97091)	Lorient LP1004 617	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal Meeting Edge: 2no 10x4. Fitted centrally and 12mm apart in primary leaf
H/23 (RF00067 A)	Lorient LP2004 617 LP1004 617	Head: 1no 20x4. Fitted in frame head reveal or leaf edge Jambs: 1no 10x4. Fitted in frame jamb reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 8mm apart in primary leaf

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4.5.12.4 Leaf 1, 2 + Frame 5 Doorset

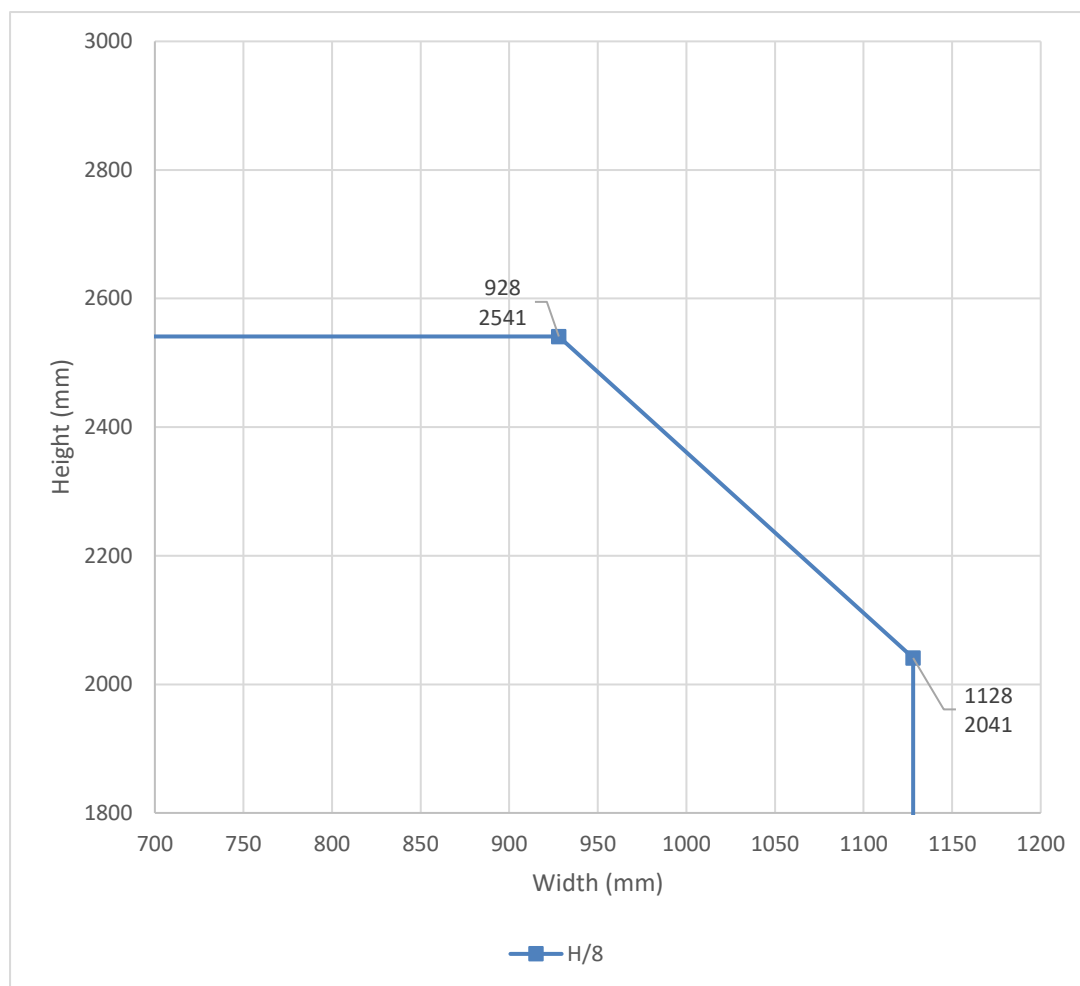


Halspan Intumescent Specification for ULSADD, Leaf 1 or 2 with Frame 5		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/5 (CFR2109021 LH)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.12.5 Leaf 2 + Frame 1, 2, 3, 7 Doorset

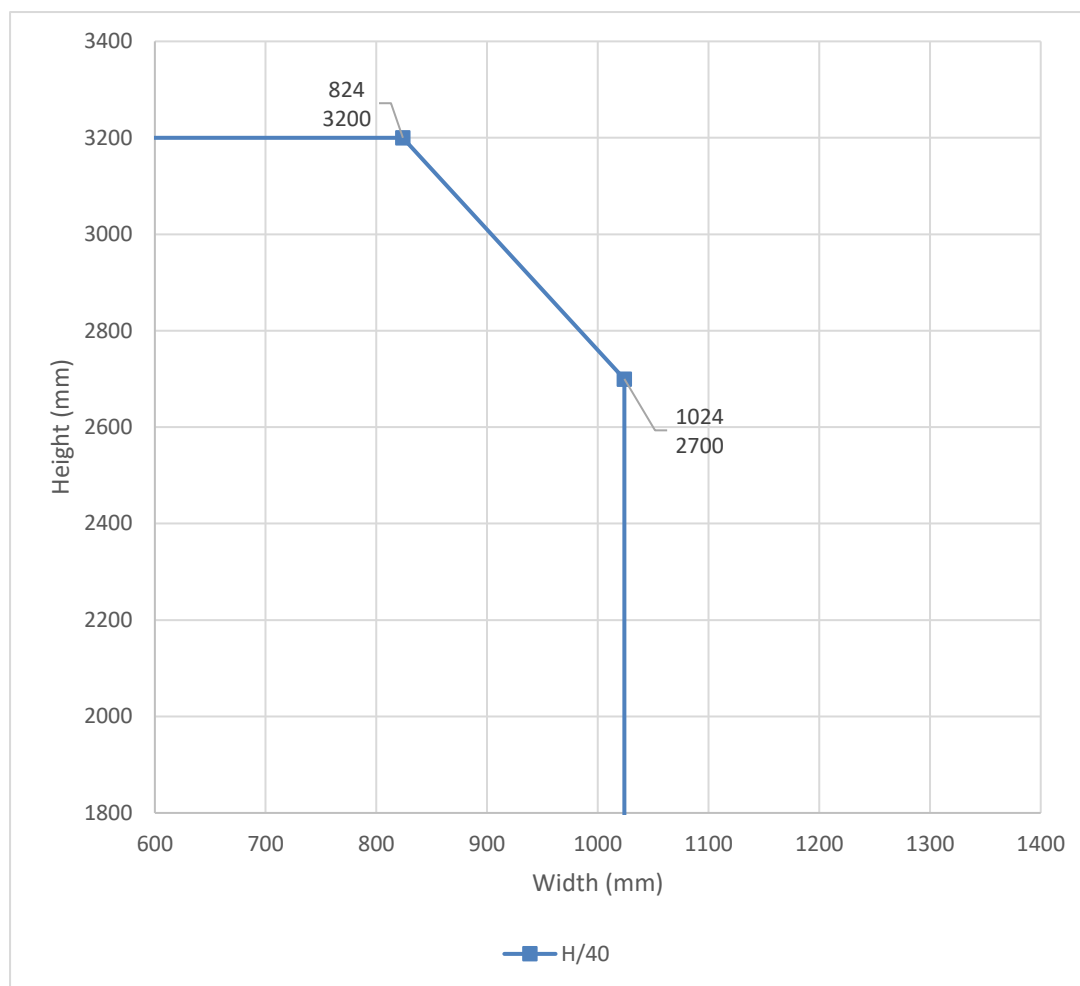


Halspan Intumescent Specification for ULSADD, Leaf 2 with Frame 1, 2, 3 or 7		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/8 (CFR2307031)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or in leaf head and hanging edges. and 2no 15x4. Fitted centrally and 10mm apart in leaf head and hanging edges or in the frame reveal. The above seals must be located such that the 2no seals oppose the 1no seal at the head and jambs. Meeting Edge: 2no 15x4. Fitted centrally and 10mm apart in primary leaf 1no 15x4. Fitted centrally in the other leaf

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

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4.5.12.6 Leaf 2 + Frame 2, 3 Doorset



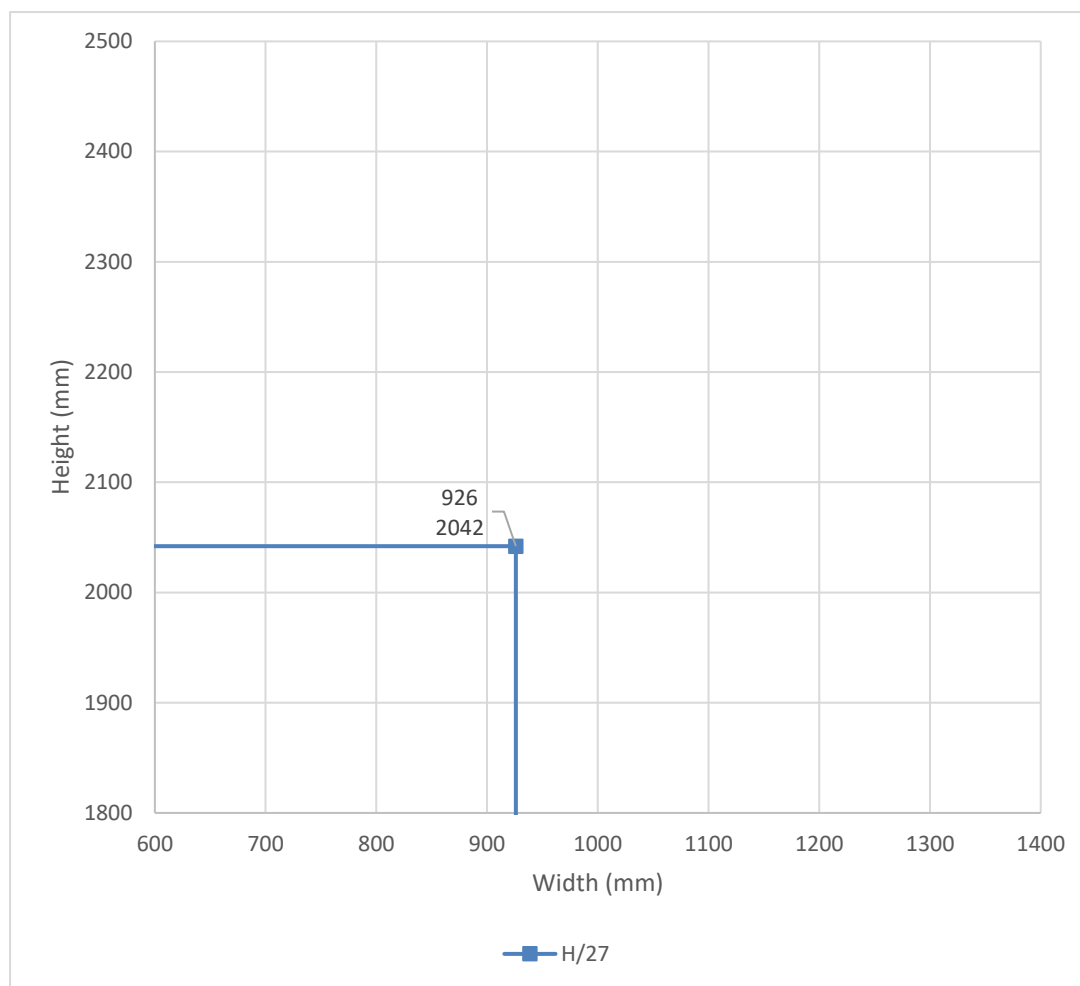
Intumescent Seals Limited Intumescent Specification for ULSADD, Leaf 2 with Frame 2 or 3

Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/40 (Chilt/RF02081)	Intumescent Seals Limited 15x4 Therm-A- Seal 10x2 Therm-A- Flex	Head: 2no 15x4. Fitted centrally and 10mm apart to frame head. 1no 10x2. Fitted centrally to leaf head Jambs: 2no 15x4. Fitted centrally and 10mm apart in frame jambs reveal Meeting Edge: 2no 15x4. Fitted centrally and 10mm apart in primary leaf

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.12.7 Leaf 3 + Frame 1, 2, 3, 7 Doorset



Lorient Intumescent Specification for ULSADD, Leaf 3 with Frame 1, 2, 3 or 7

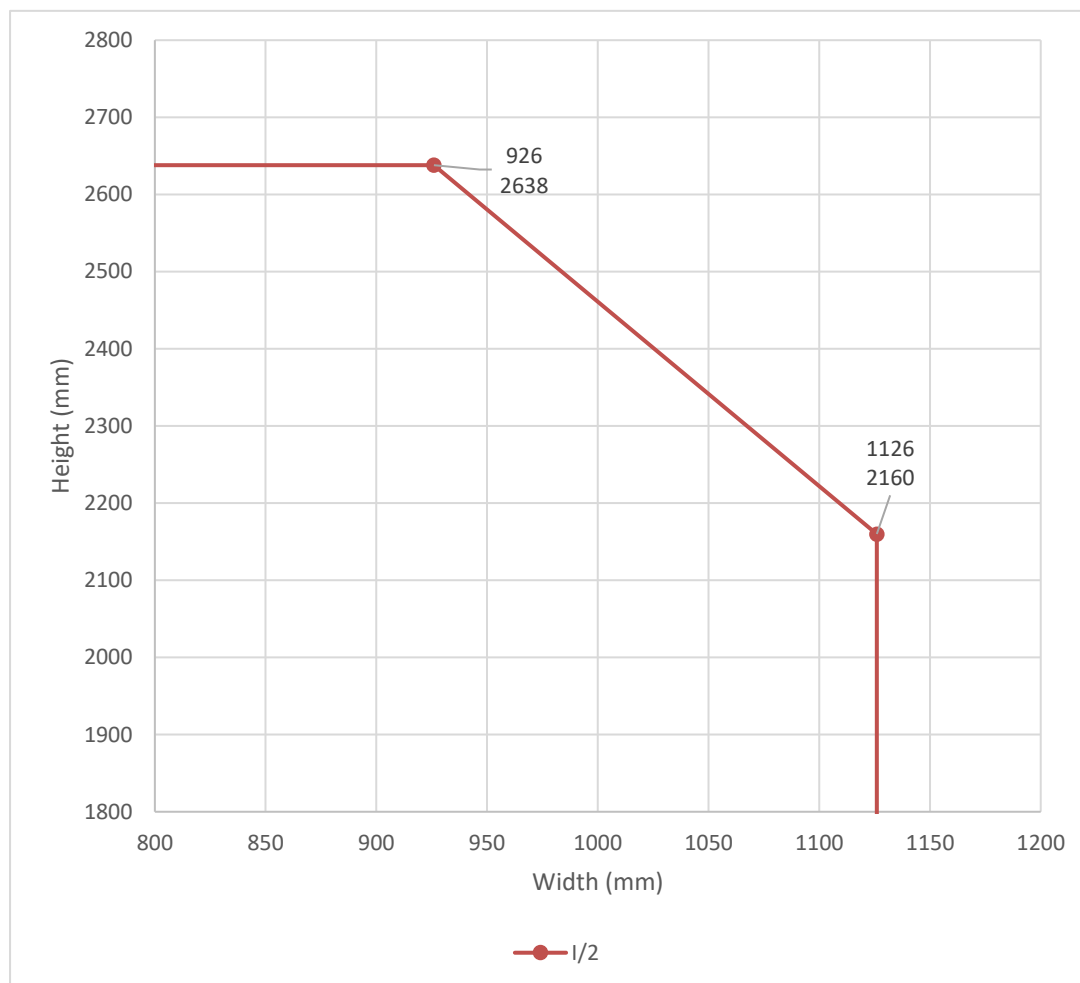
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
H/27 (WF150116)	Lorient LP1504 617 LP1004 617	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.13 DADD Configuration: Leaf Sizes & Intumescent Specification

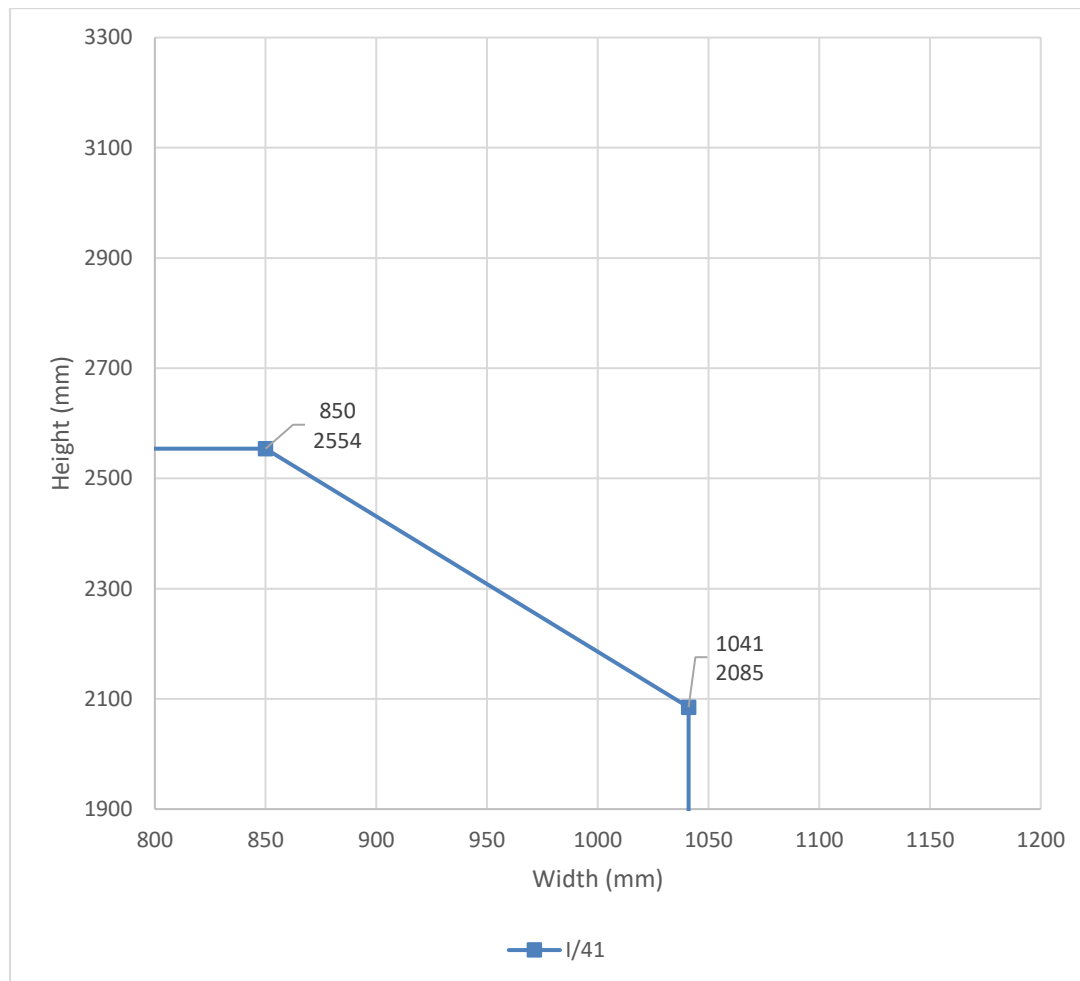
4.5.13.1 Leaf 1, 2 + Frame 1, 2 Doorset



Halspan Intumescent Specification for DADD, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
I/2 (Chilt/RF09069)	Halspan SLS	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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

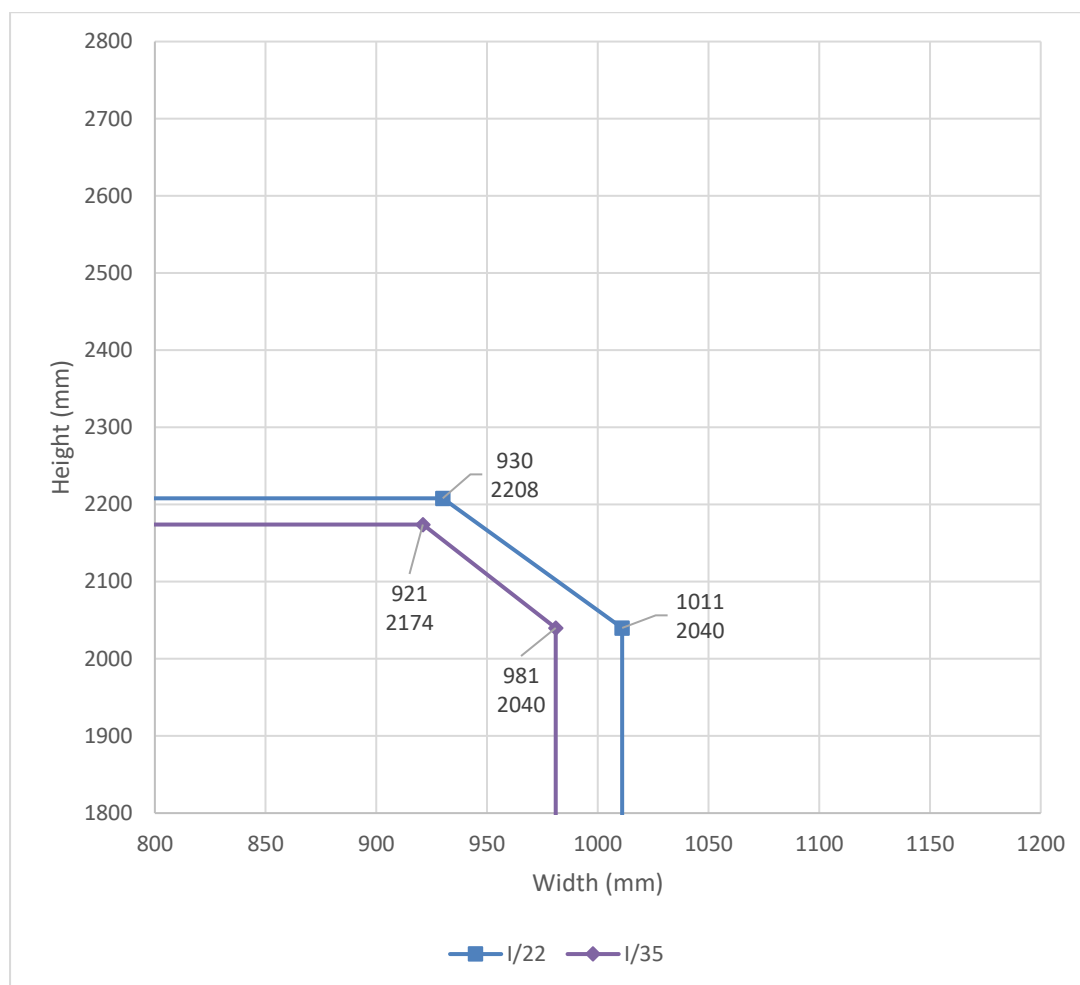
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Intumescent Seals Limited Intumescent Specification for DADD, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
I/41 (Chilt/RF01103)	Intumescent Seals Limited 20x4 Therm-A- Seal 10x4 Therm-A- Seal	Head: 1no 20x4. Fitted in frame head reveal or leaf edge Jambs: 1no 10x4. Fitted in frame jamb reveal or leaf edges Meeting Edge: 2no 10x4. 1no fitted centrally in each leaf

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

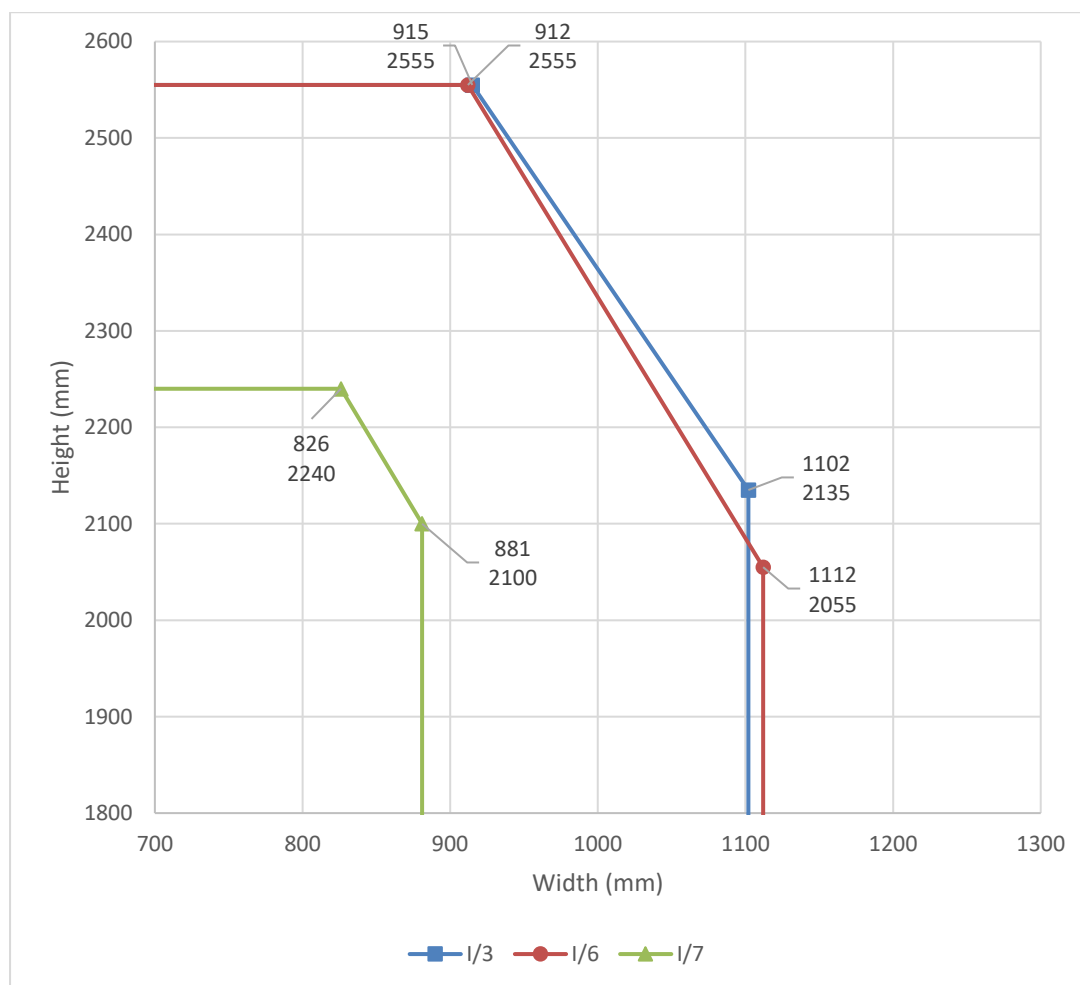
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Lorient Intumescent Specification for DADD, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
I/22 (WARRES 131998 B)	Lorient LP1004 617	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal Meeting Edge: 2no 10x4. Fitted 12mm apart and centrally in primary leaf
I/35 (WF 135011)	Lorient LP1504 617 LP1004 617	Head: 1no 15x4 centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal Meeting Edge: 2no 10x4. 1no fitted centrally in each leaf

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Halspan Intumescent Specification for DADD, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
I/3 (Chilt/RF13063 Revision A)	Halspan SLS	Head: 2no 15x4: Fitted 7mm apart and centrally to frame head reveal Jambs: 1no 15x4. Fitted in frame jambs reveal Meeting Edge: 1no 15x4. Fitted centrally in primary leaf
I/6 (Chilt/RF08039)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 1no 15x4. Fitted in primary leaf

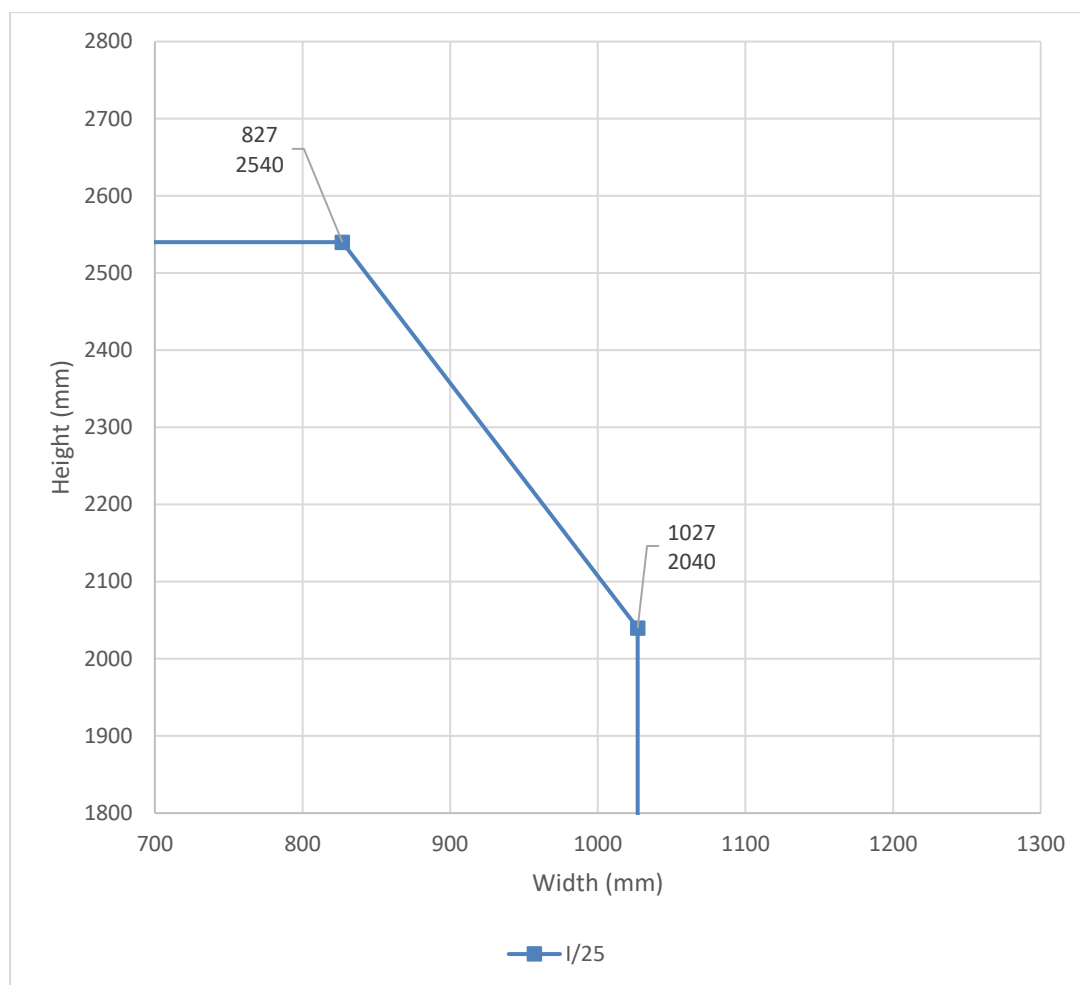
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Halspan Intumescent Specification for DADD, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
I/7 (WF523942/MR Iss2)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in one leaf 1no 10x4. Fitted centrally in the other leaf

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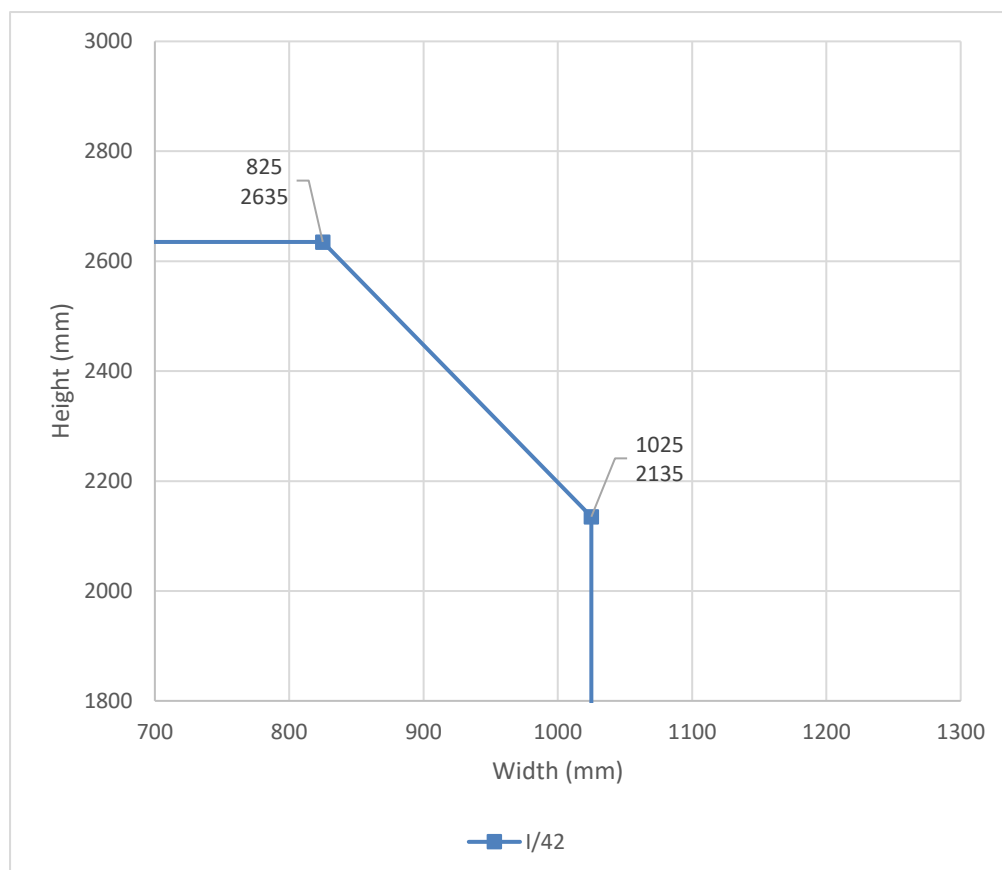


Lorient Intumescent Specification for DADD, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
I/25 (RF07008 B)	Lorient LP1504 617 LP1004 617	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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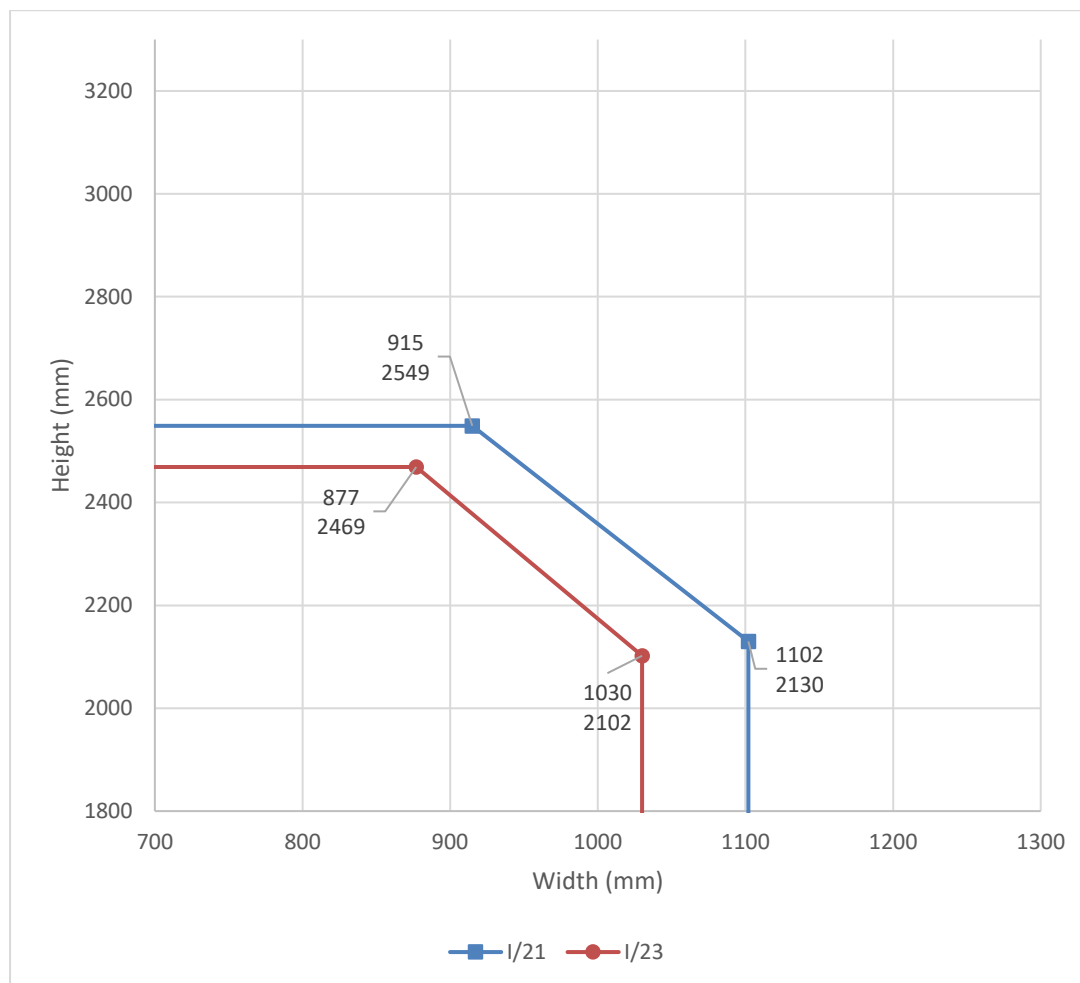
4.5.13.2 Leaf 1, 2 + Frame 2 Doorset



Intumescent Seals Limited Intumescent Specification for DADD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
I/42 (Chilt/RF04021 A)	Intumescent Seals Limited 10x4 Therm-A- Seal 20x4 Therm-A- Stop	Head & Jambs (with Leaf 1 doorset): 1no 10x4. Fitted 5mm from opening face in frame reveal 1no 20x4. Fitted 8mm apart from the 1no10x4 seal in apart in frame reveal Meeting Edge (with Leaf 1 doorset): 1no 10x4. Fitted 5mm from opening face of primary leaf 1no 20x4. Fitted 5mm apart from the 1no10x4 seal in the primary leaf
		Head & Jambs (with Leaf 2 doorset): 1no 10x4. Fitted 10mm from opening face in frame reveal 1no 20x4. Fitted 8mm apart from the 1no10x4 seal in apart in frame reveal Meeting Edge (with Leaf 2 doorset): 1no 10x4. Fitted 10mm from opening face of primary leaf 1no 20x4. Fitted 5mm apart from the 1no10x4 seal in the primary leaf

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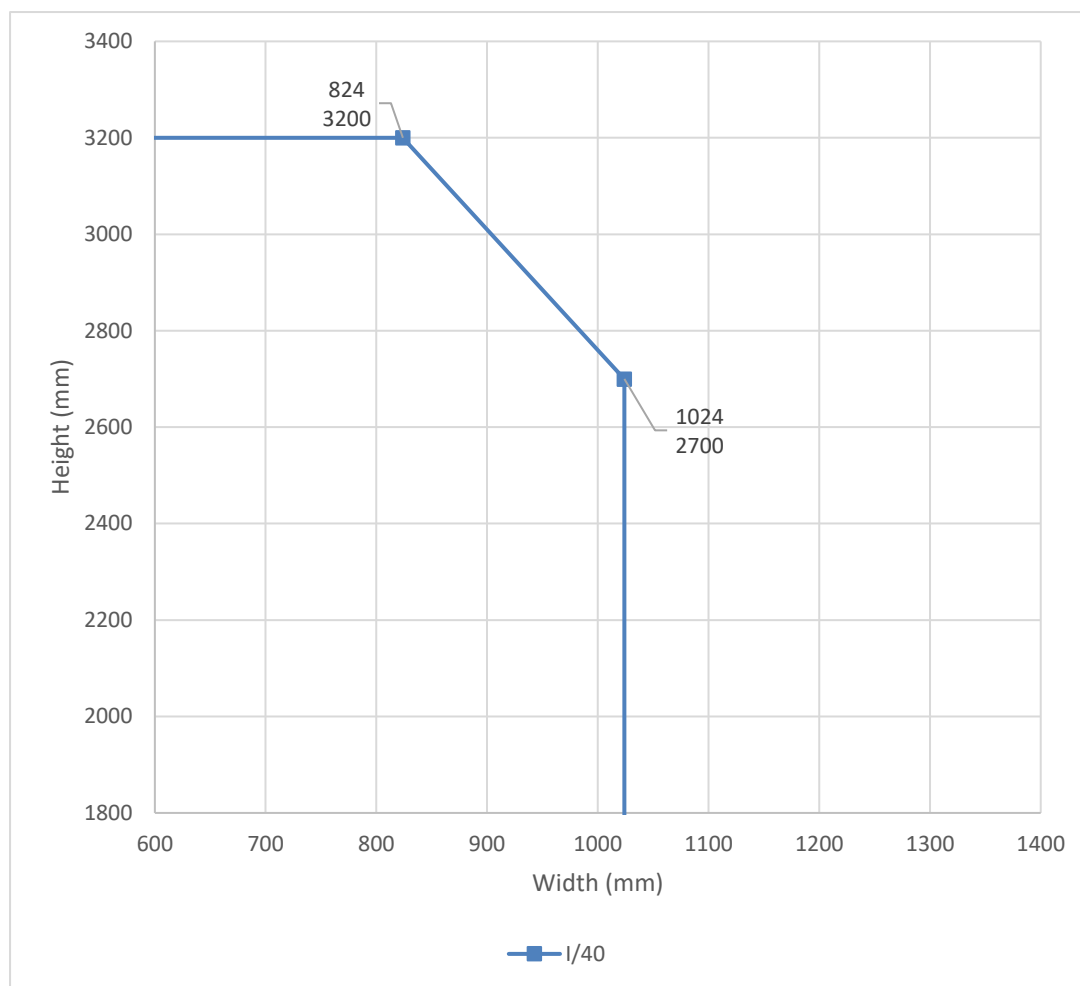


Lorient Intumescent Specification for DADD, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
I/21 (RF97091)	Lorient LP1004 617	Head: 2no 10x4: Fitted 12mm apart and centrally to frame head reveal Jambs: 1no 10x4. Fitted in frame jambs reveal Meeting Edge: 2no 10x4. Fitted centrally and 12mm apart in primary leaf
I/23 (RF00067 A)	Lorient LP2004 617 LP1004 617	Head: 1no 20x4. Fitted in frame head reveal or leaf edge Jambs: 1no 10x4. Fitted in frame jamb reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 8mm apart in primary leaf

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4.5.13.3 Leaf 2 + Frame 2, 3 Doorset

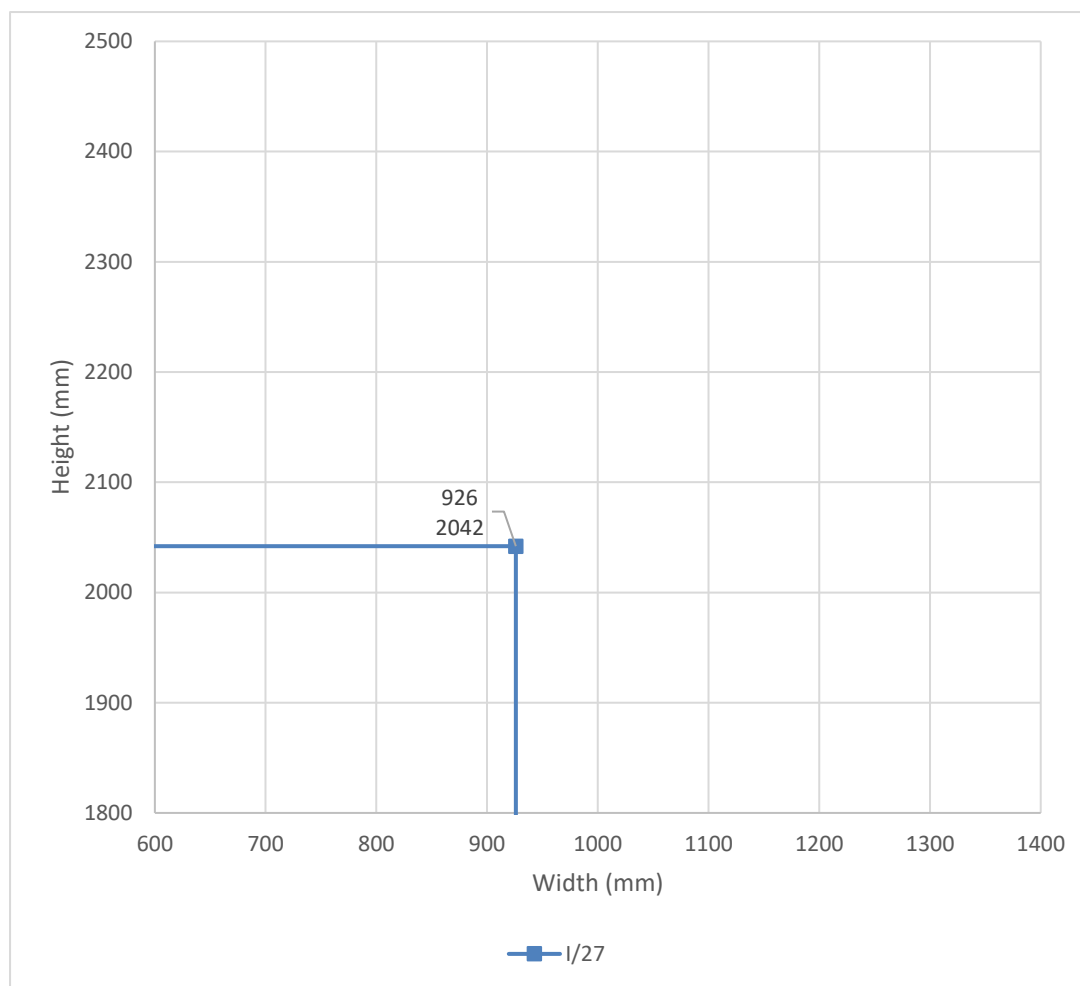


Intumescent Seals Limited Intumescent Specification for DADD, Leaf 2 with Frame 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
I/40 (Chilt/RF02081)	Intumescent Seals Limited 15x4 Therm-A- Seal 10x2 Therm-A- Flex	Head: 2no 15x4. Fitted centrally and 10mm apart to frame head. 1no 10x2. Fitted centrally to leaf head Jambs: 2no 15x4. Fitted centrally and 10mm apart in frame jambs reveal Meeting Edge: 2no 15x4. Fitted centrally and 10mm apart in primary leaf

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4.5.13.4 Leaf 3 + Frame 1, 2 Doorset



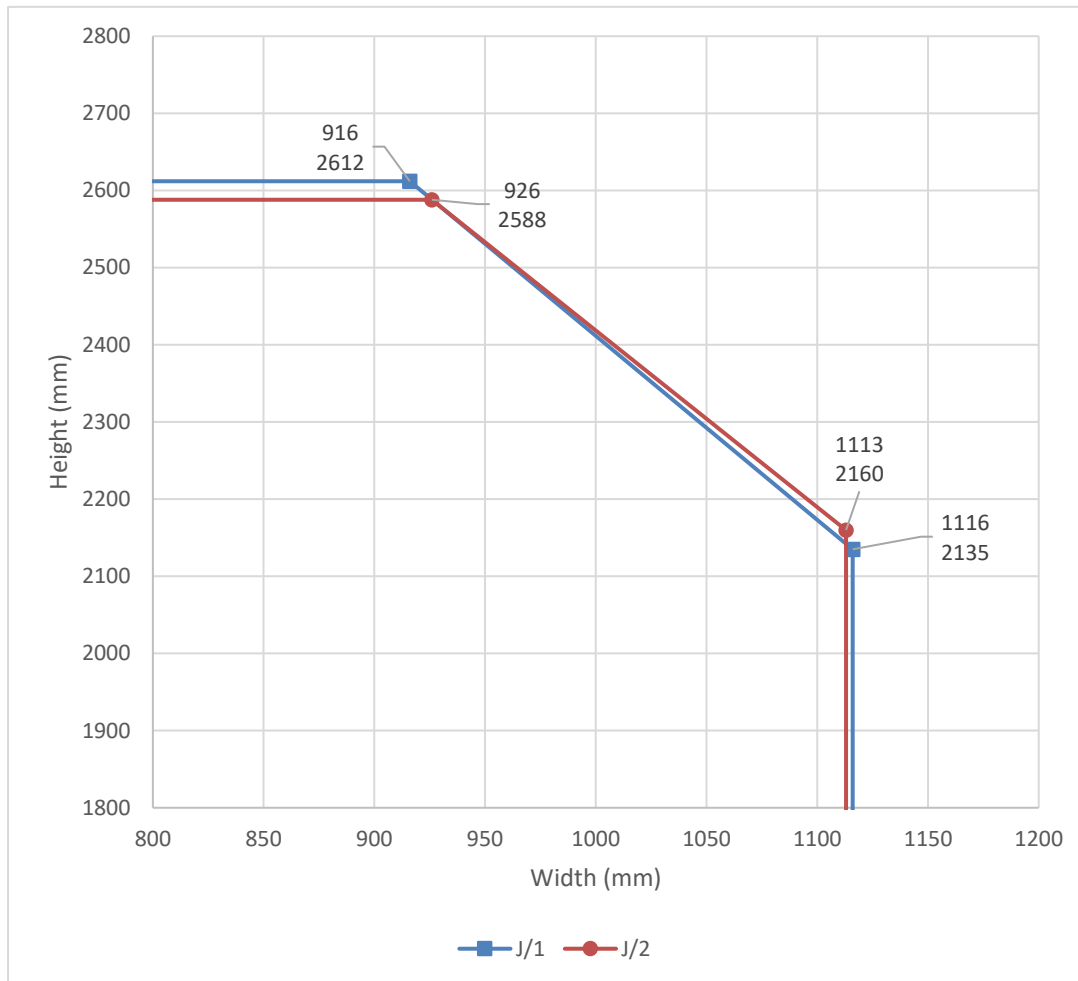
Lorient Intumescent Specification for DADD, Leaf 3 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
I/27 (WF150116)	Lorient LP1504 617 LP1004 617	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf

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4.5.14 LSADD+OP Configuration: Leaf Sizes & Intumescent Specification

4.5.14.1 Leaf 1, 2 + Frame 1, 2, 3 Doorset



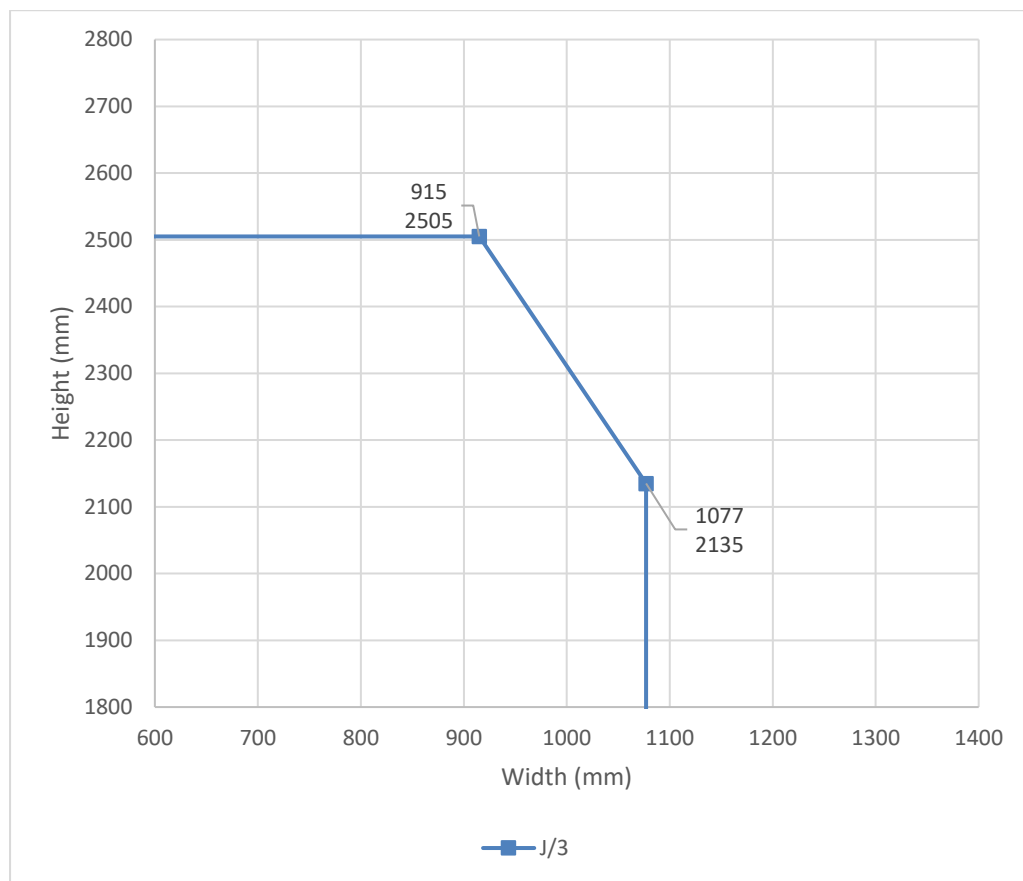
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Halspan Intumescent Specification for LSADD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
J/1 (Chilt/RF08127)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in upstand of overpanel bottom edge 1no 10x4. Fitted centrally in upstand of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.
J/2 (Chilt/RF09069)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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

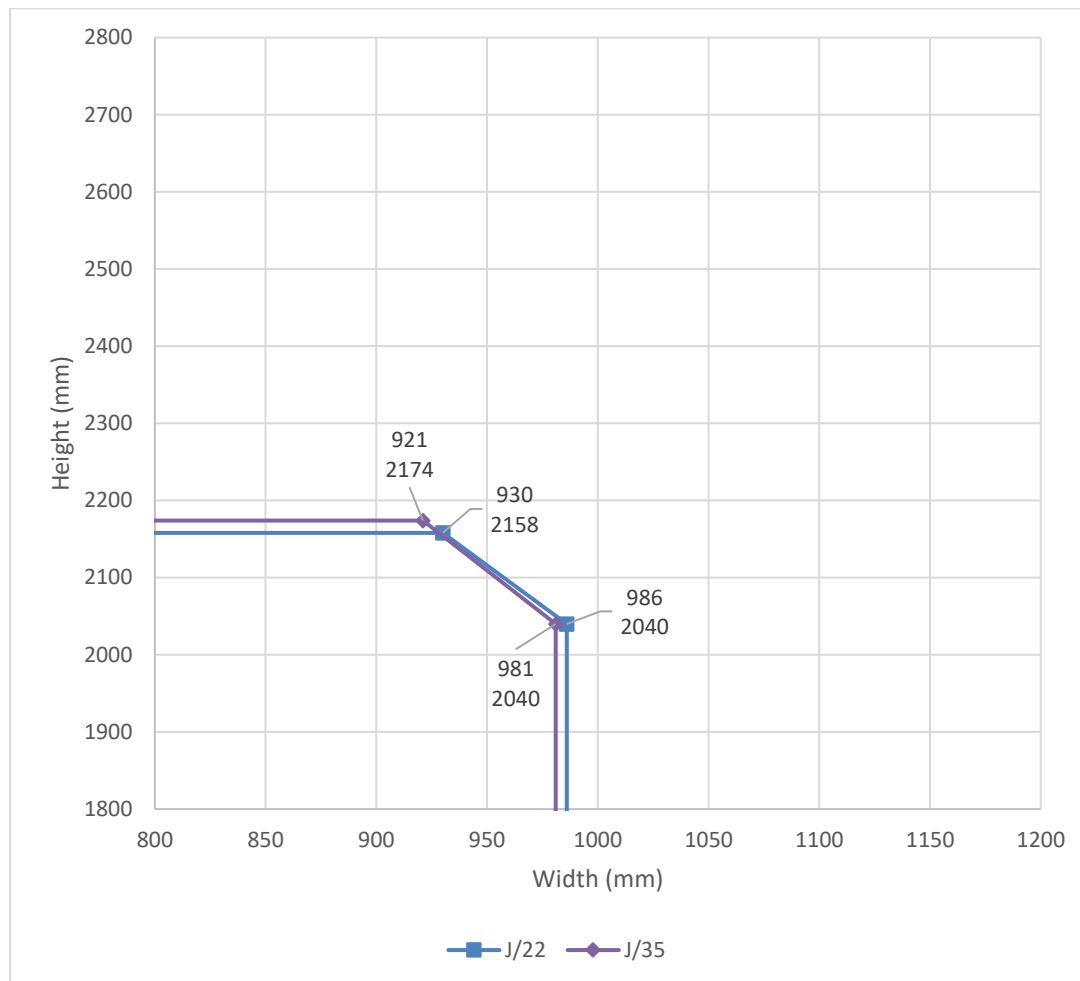
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Halspan Intumescent Specification for LSADD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
J/3 (Chilt/RF13063 Revision A)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal Meeting Edge: 1no 15x4. Fitted centrally in primary leaf Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 15x4. Fitted centrally in rebate of overpanel bottom edge 1no 15x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 15x4: Fitted 7mm apart and centrally to overpanel bottom edge.

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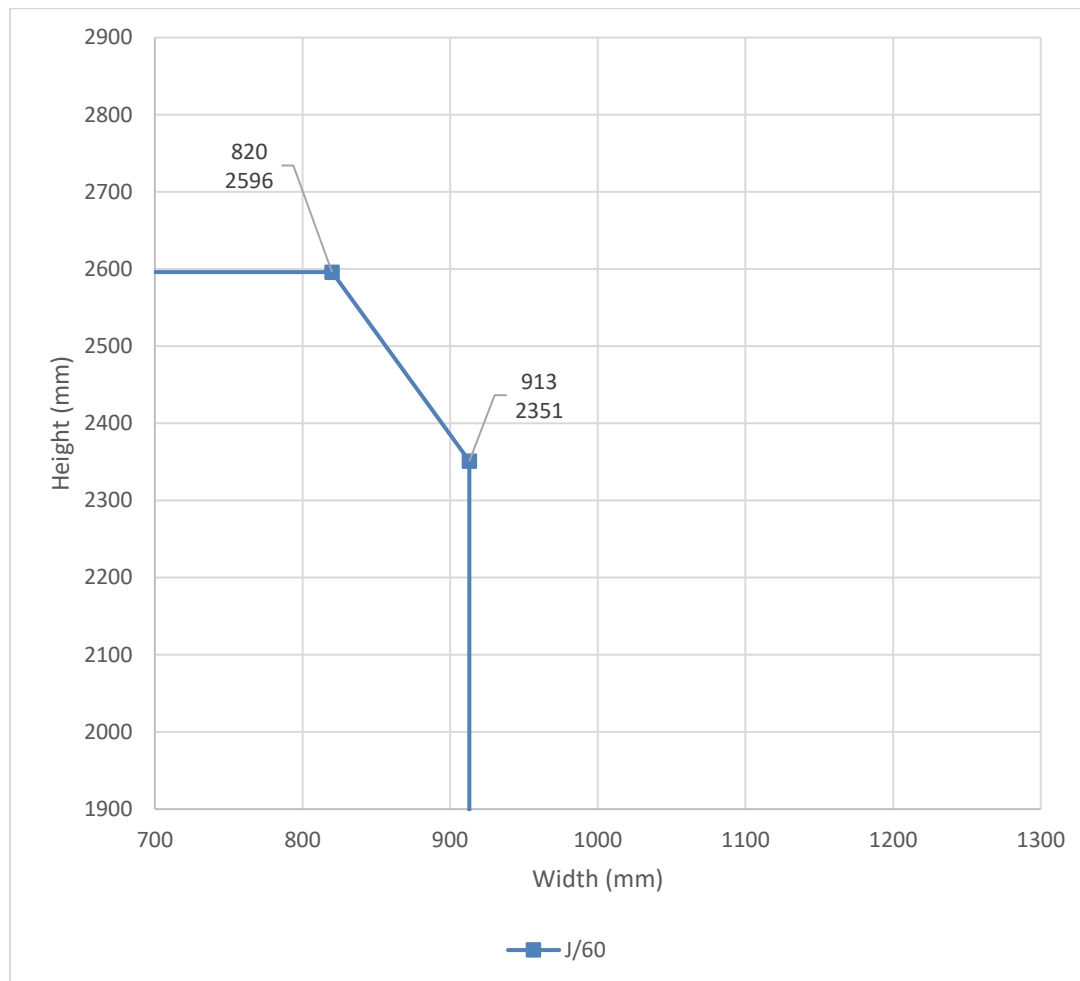
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

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Lorient Intumescent Specification for LSADD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
J/22 (WARRES 131998 B)	Lorient LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting edge junction: Option 1) With equal rebated meeting edge: Meeting Edge: 2no 10x4. 1no fitted centrally in rebate of each leaf meeting edge Option 2) With flat lipping meeting edge: Meeting Edge: 2no 10x4. Fitted 12mm apart and centrally in primary leaf Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.
J/35 (WF 135011)	Lorient LP1504 617 LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. 1no fitted centrally in each leaf Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 1no 15x4 centrally to centrally to overpanel bottom edge.

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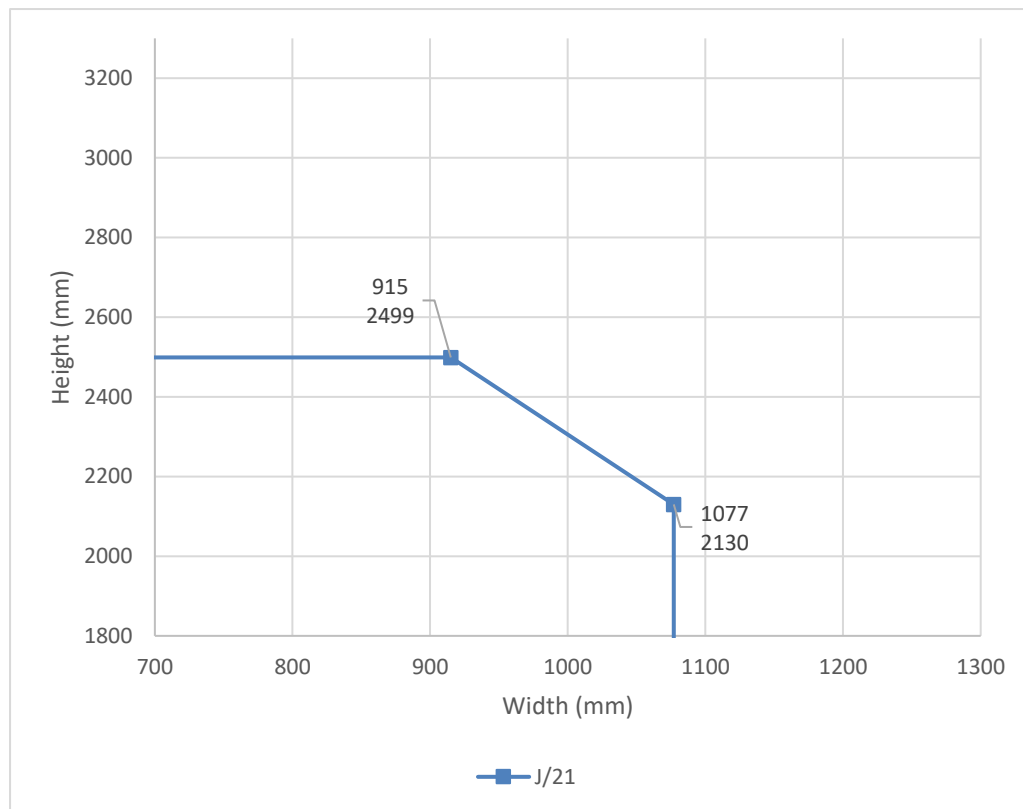
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Pyroplex Intumescent Specification for LSADD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
J/60 (CFR2210051)	Pyroplex 8500 8700	Head & Jambs: 1no 15x4. Fitted in frame reveal Meeting Edge: 2no 10x4. Fitted 10mm apart and centrally in primary leaf Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in upstand of overpanel bottom edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 13mm apart and centrally to overpanel bottom edge.

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4.5.14.2 Leaf 1, 2 + Frame 2 Doorset

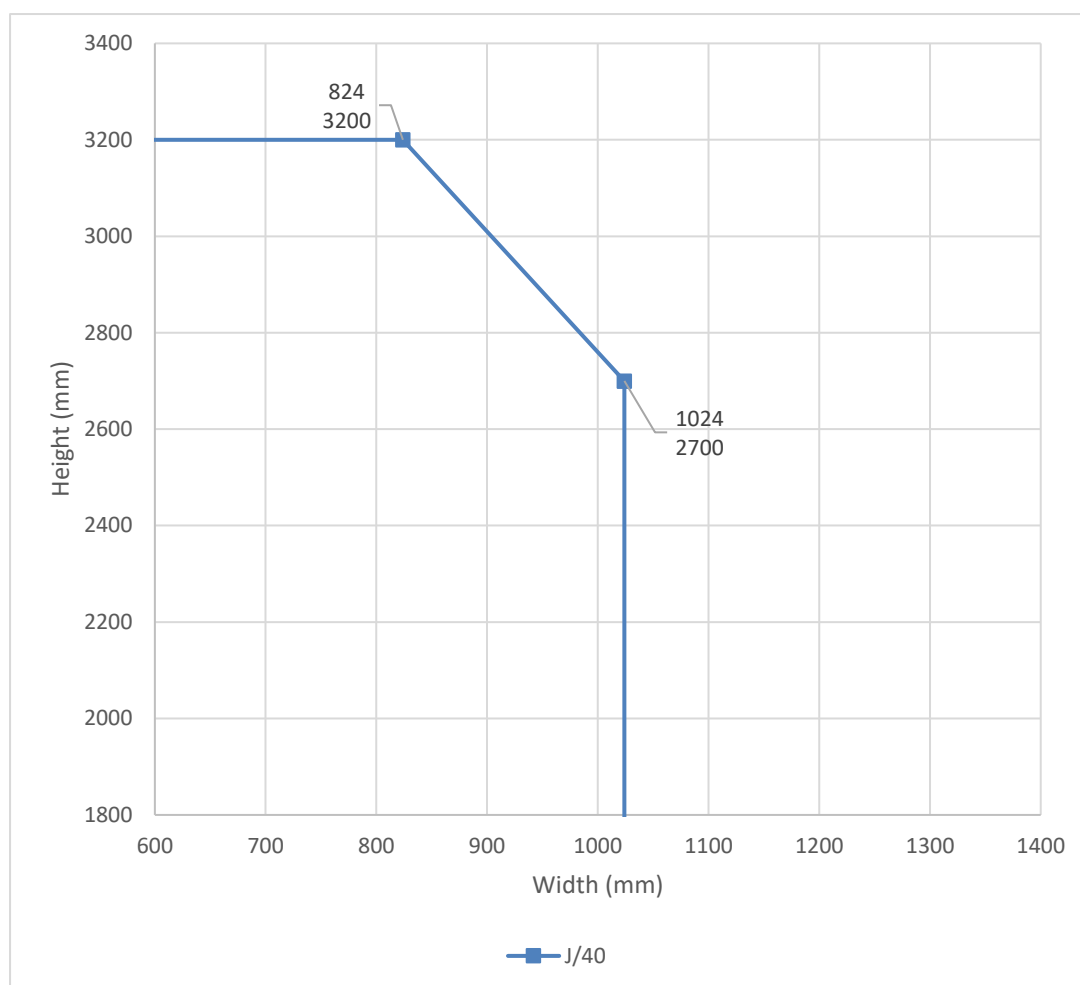


Lorient Intumescent Specification for LSADD+OP, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
J/21 (RF97091)	Lorient LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. Fitted centrally and 12mm apart in primary leaf Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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4.5.14.3 Leaf 2 + Frame 2, 3 Doorset



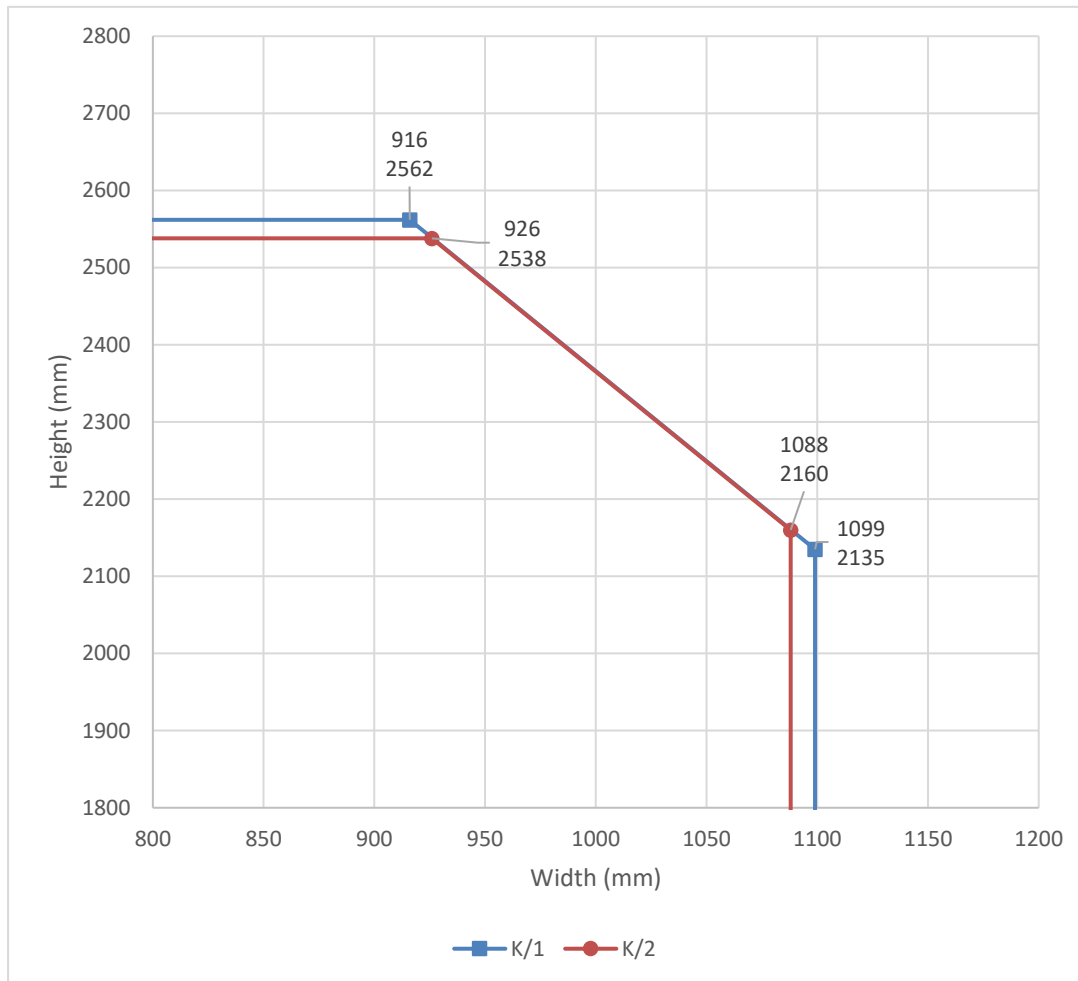
Intumescent Seals Limited Intumescent Specification for LSADD+OP, Leaf 2 with Frame 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
J/40 (Chilt/RF02081)	Intumescent Seals Limited 15x4 Therm-A- Seal 10x2 Therm-A- Flex	Head & Jambs: 2no 15x4. Fitted centrally and 10mm apart in frame reveal Meeting Edge: 2no 15x4. Fitted centrally and 10mm apart in primary leaf Overpanel and leaf head: 2no 15x4. Fitted centrally and 10mm apart to overpanel bottom edge. 1no 10x2. Fitted centrally to leaf head

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4.5.15 ULSADD+OP Configuration: Leaf Sizes & Intumescent Specification

4.5.15.1 Leaf 1, 2 + Frame 1, 2, 3 Doorset



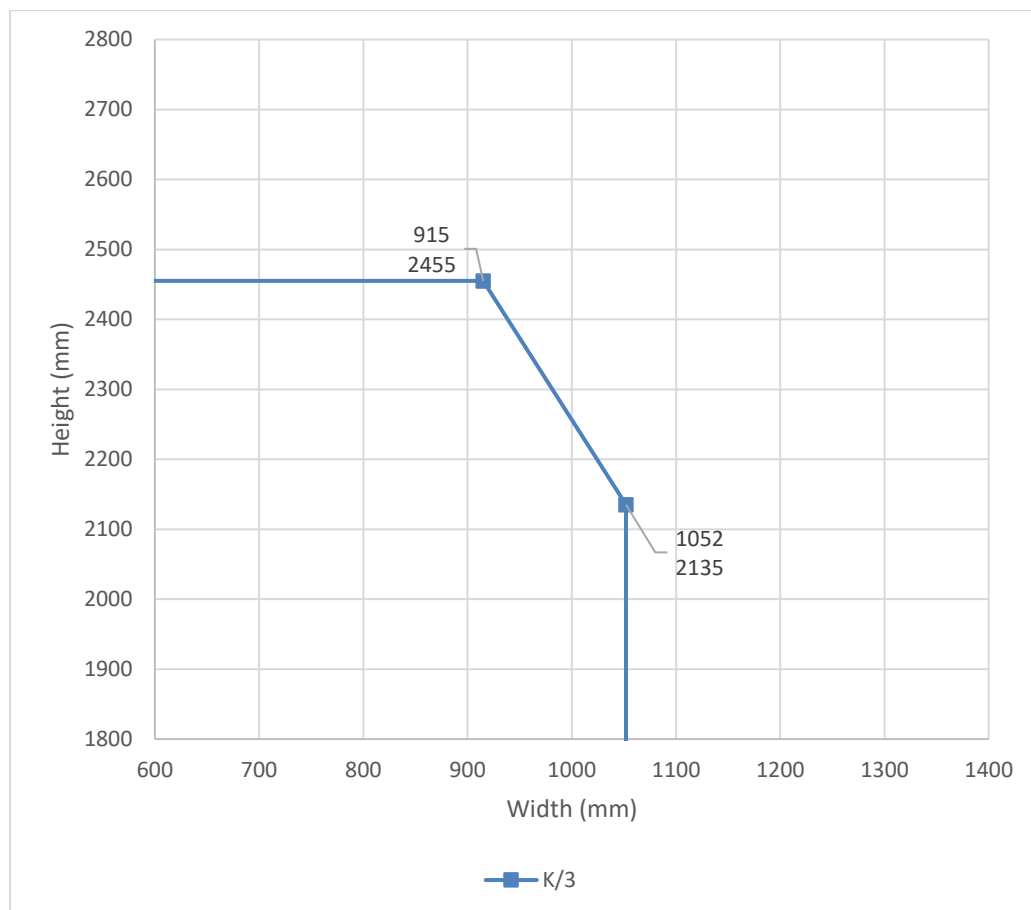
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Halspan Intumescent Specification for ULSADD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
K/1 (Chilt/RF08127)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in upstand of overpanel bottom edge 1no 10x4. Fitted centrally in upstand of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.
K/2 (Chilt/RF09069)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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

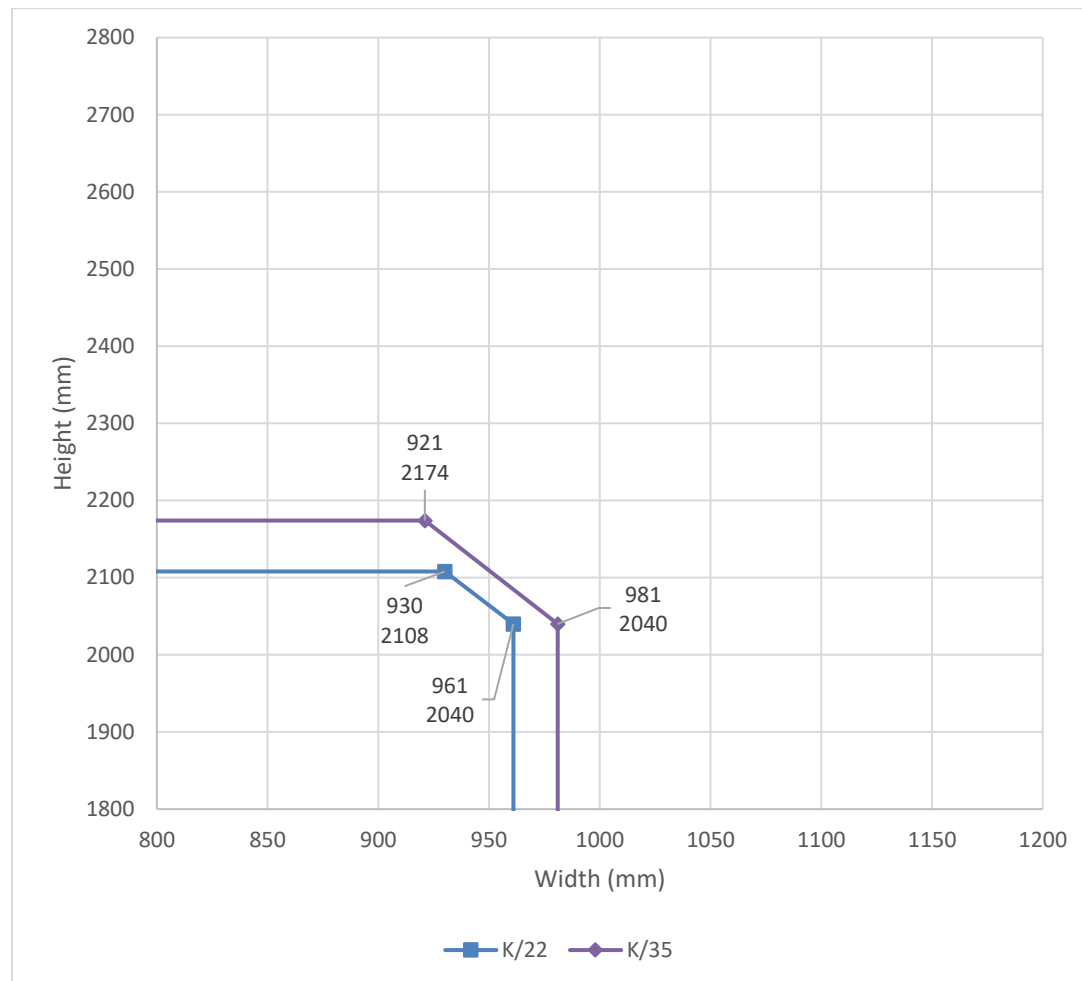
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Halspan Intumescent Specification for ULSADD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
K/3 (Chilt/RF13063 Revision A)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal Meeting Edge: 1no 15x4. Fitted centrally in primary leaf Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 15x4. Fitted centrally in rebate of overpanel bottom edge 1no 15x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 15x4: Fitted 7mm apart and centrally to overpanel bottom edge.

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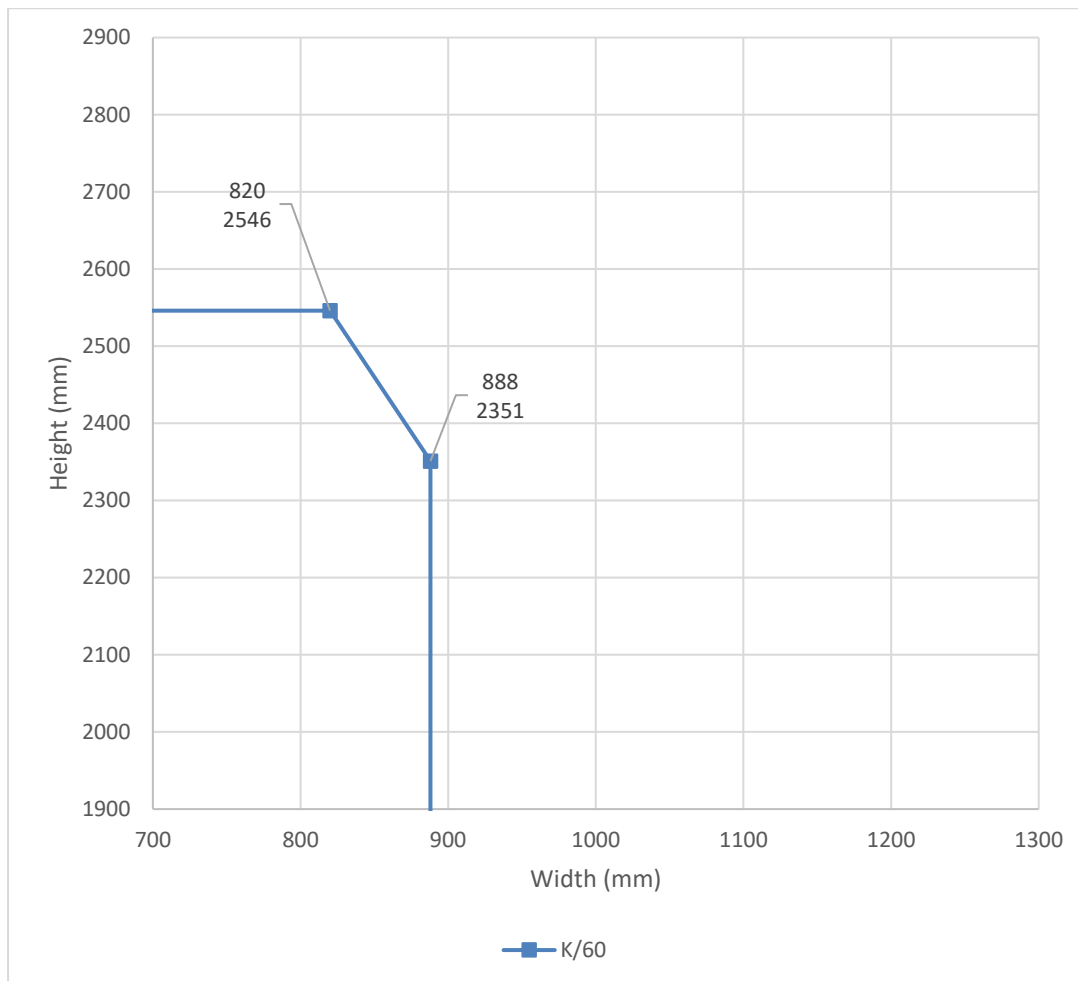
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Lorient Intumescent Specification for ULSADD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
K/22 (WARRES 131998 B)	Lorient LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting edge junction: Option 1) With equal rebated meeting edge: Meeting Edge: 2no 10x4. 1no fitted centrally in rebate of each leaf meeting edge Option 2) With flat lipping meeting edge: Meeting Edge: 2no 10x4. Fitted 12mm apart and centrally in primary leaf Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.
K/35 (WF 135011)	Lorient LP1504 617 LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. 1no fitted centrally in each leaf Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 1no 15x4 centrally to centrally to overpanel bottom edge.

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

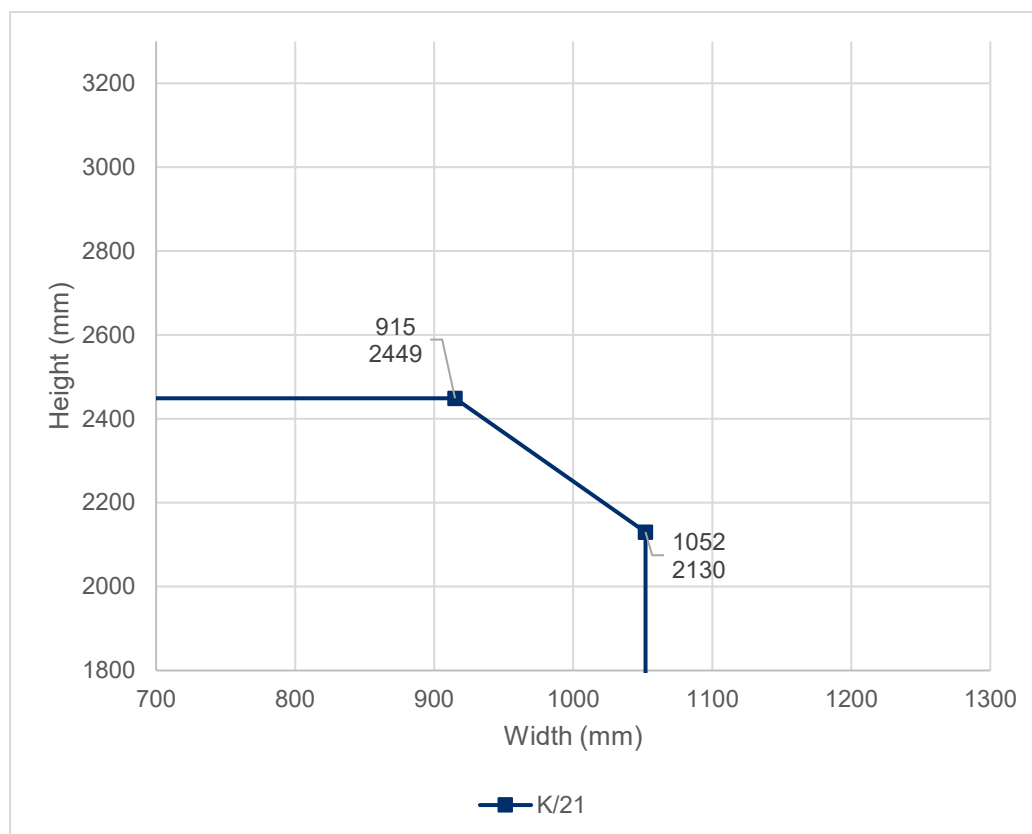
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Pyroplex Intumescent Specification for ULSADD+OP, Leaf 1 or 2 with Frame 1, 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
K/60 (CFR2210051)	Pyroplex 8500 8700	Head & Jambs: 1no 15x4. Fitted in frame reveal Meeting Edge: 2no 10x4. Fitted 10mm apart and centrally in primary leaf Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in upstand of overpanel bottom edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 13mm apart and centrally to overpanel bottom edge.

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4.5.15.2 Leaf 1, 2 + Frame 2 Doorset

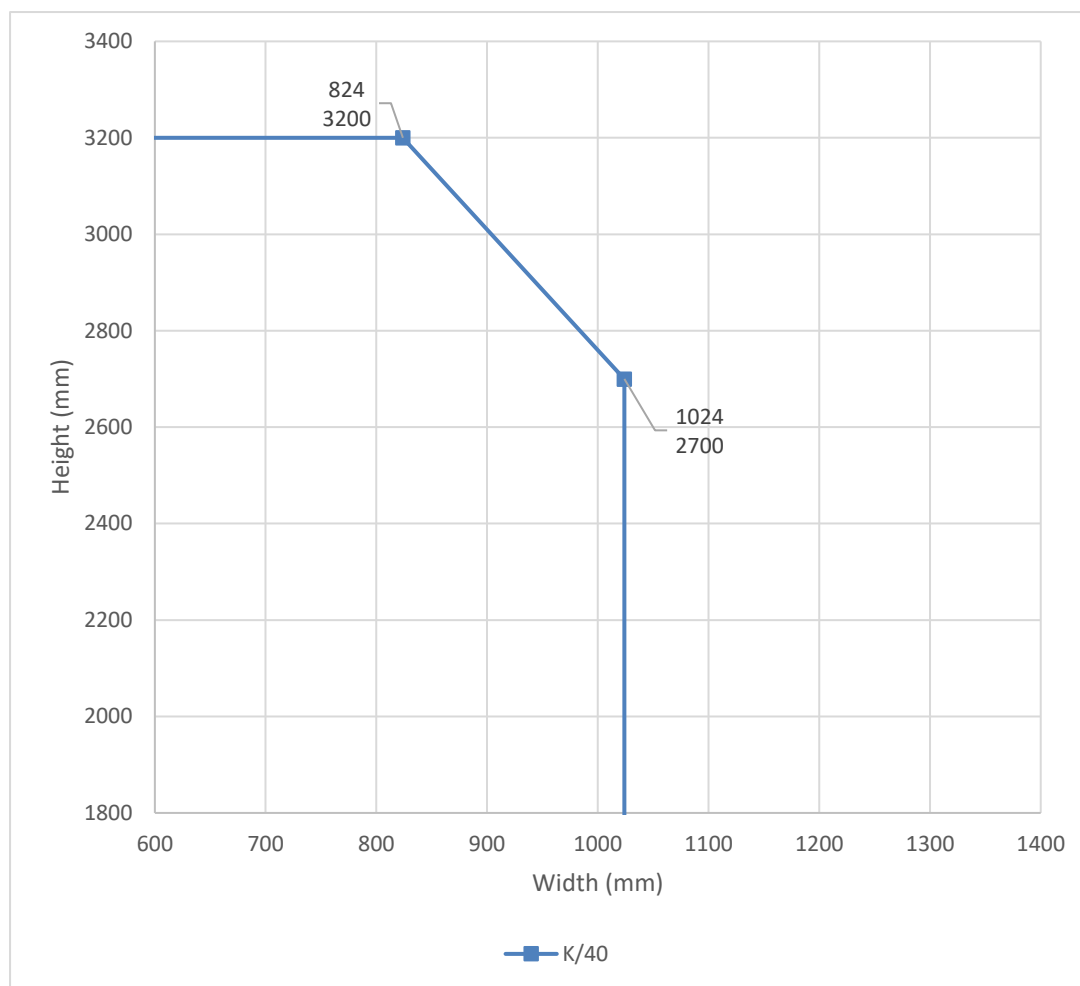


Lorient Intumescent Specification for ULSADD+OP, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
K/21 (RF97091)	Lorient LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. Fitted centrally and 12mm apart in primary leaf Leaf head to overpanel junction: Option a) With equal rebated flush overpanel: Overpanel and leaf head: 1no 10x4. Fitted centrally in rebate of overpanel bottom edge 1no 10x4. Fitted centrally in rebate of leaf top edge Option b) With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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4.5.15.3 Leaf 2 + Frame 2, 3 Doorset



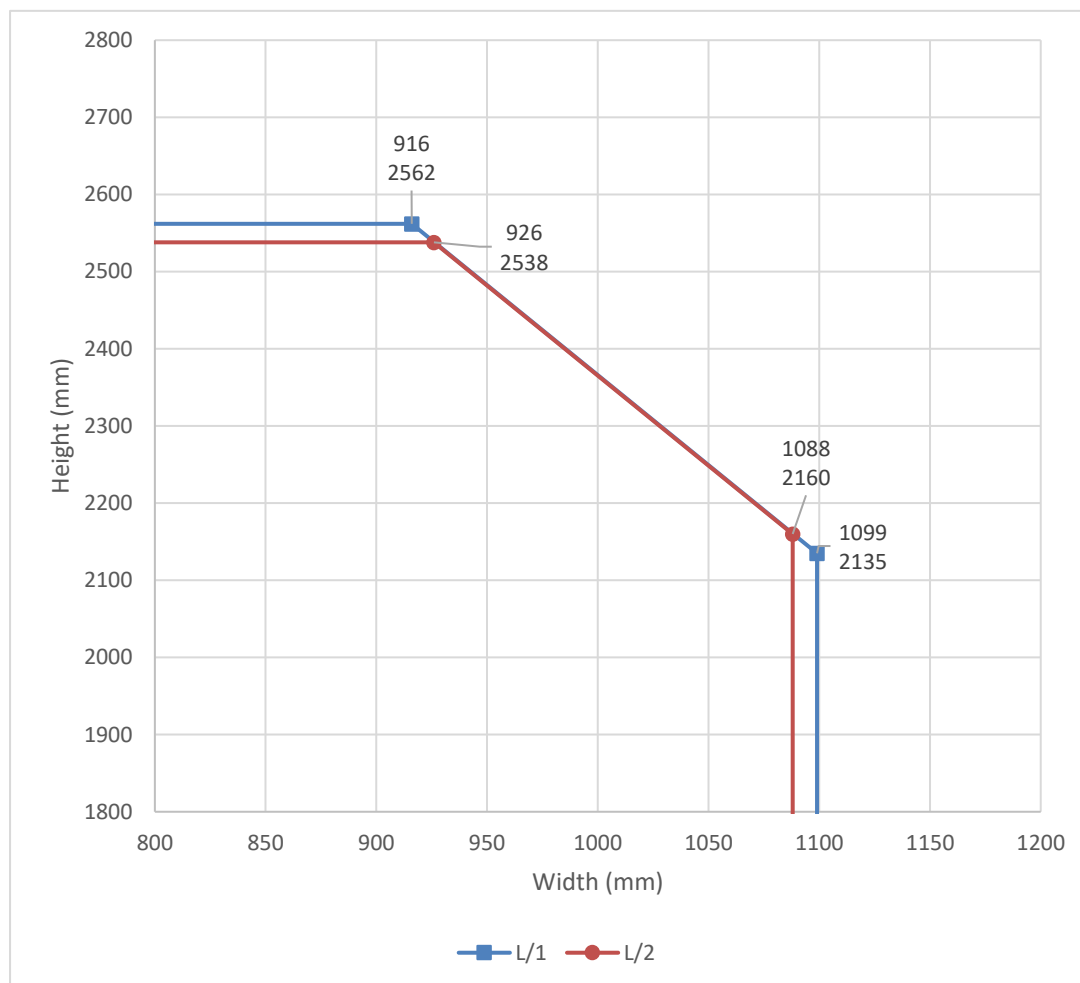
Intumescent Seals Limited Intumescent Specification for ULSADD+OP, Leaf 2 with Frame 2 or 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
K/40 (Chilt/RF02081)	Intumescent Seals Limited 15x4 Therm-A- Seal 10x2 Therm-A- Flex	Head & Jambs: 2no 15x4. Fitted centrally and 10mm apart in frame reveal Meeting Edge: 2no 15x4. Fitted centrally and 10mm apart in primary leaf Overpanel and leaf head: 2no 15x4. Fitted centrally and 10mm apart to overpanel bottom edge. 1no 10x2. Fitted centrally to leaf head

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4.5.16 DADD+OP Configuration: Leaf Sizes & Intumescent Specification

4.5.16.1 Leaf 1, 2 + Frame 1, 2 Doorset



Halspan Intumescent Specification for DADD+OP, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
L/1 (Chilt/RF08127)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

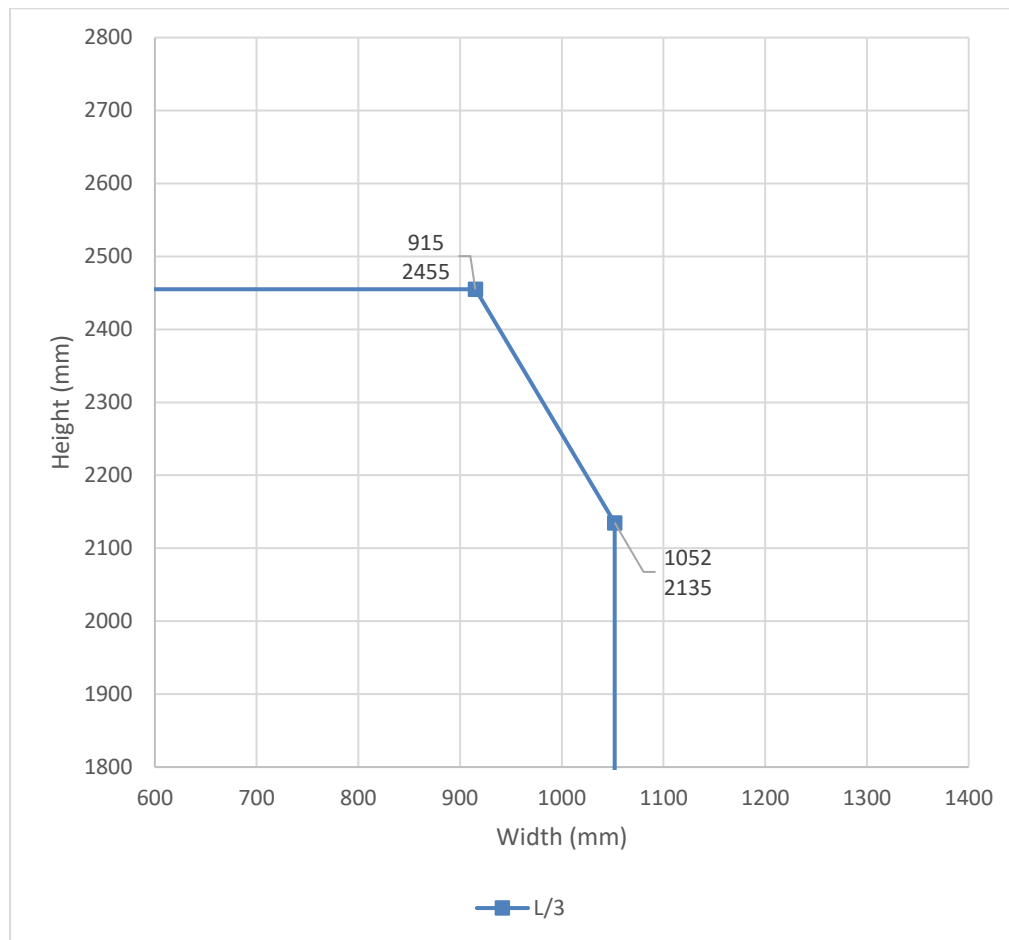
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Halspan Intumescent Specification for DADD+OP, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
L/2 (Chilt/RF09069)	Halspan SLS	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. Fitted centrally and 10mm apart in primary leaf Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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

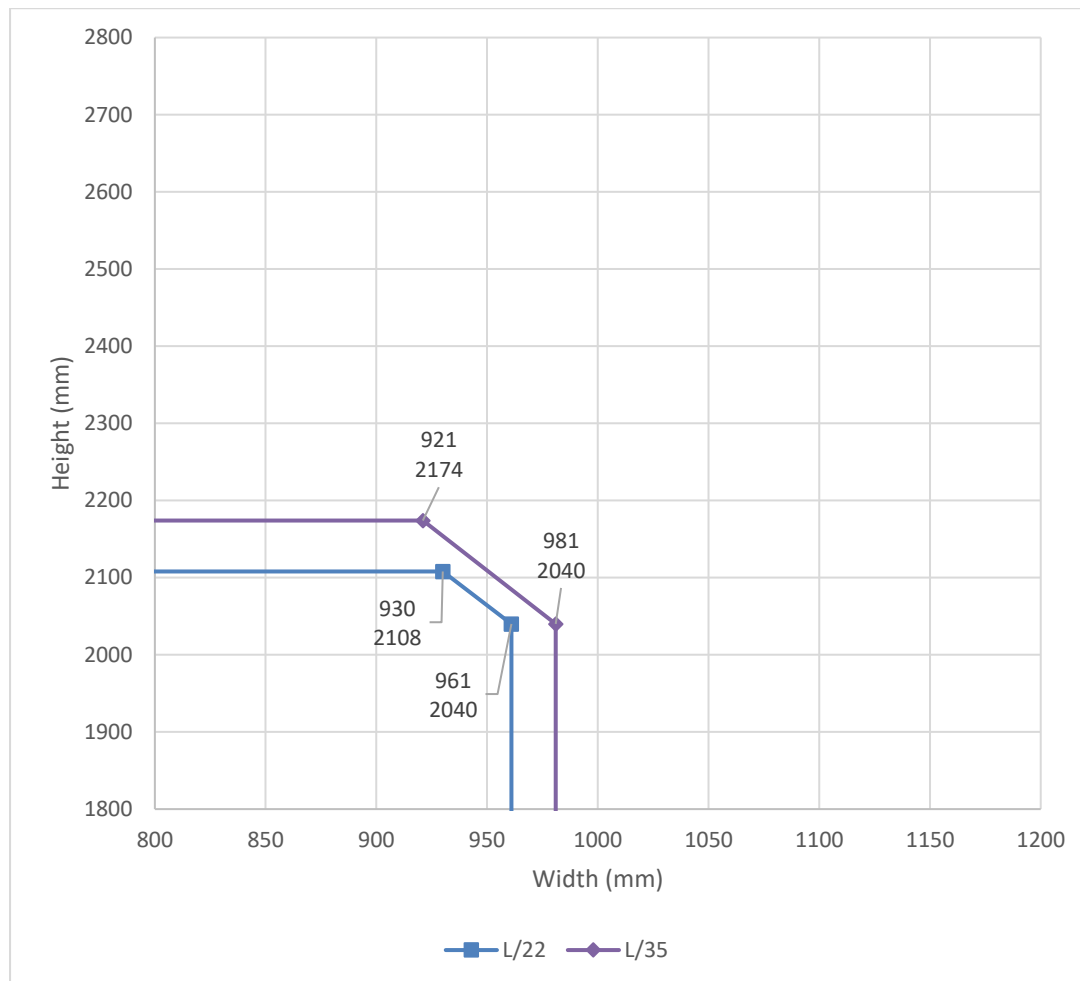
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.



Halspan Intumescent Specification for DADD+OP, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
L/3 (Chilt/RF13063 Revision A)	Halspan SLS	Head & Jambs: 1no 15x4. Fitted in frame reveal Meeting Edge: 1no 15x4. Fitted centrally in primary leaf Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 2no 15x4: Fitted 7mm apart and centrally to overpanel bottom edge.

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Lorient Intumescent Specification for DADD+OP, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
L/22 (WARRES 131998 B)	Lorient LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. Fitted 12mm apart and centrally in primary leaf Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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

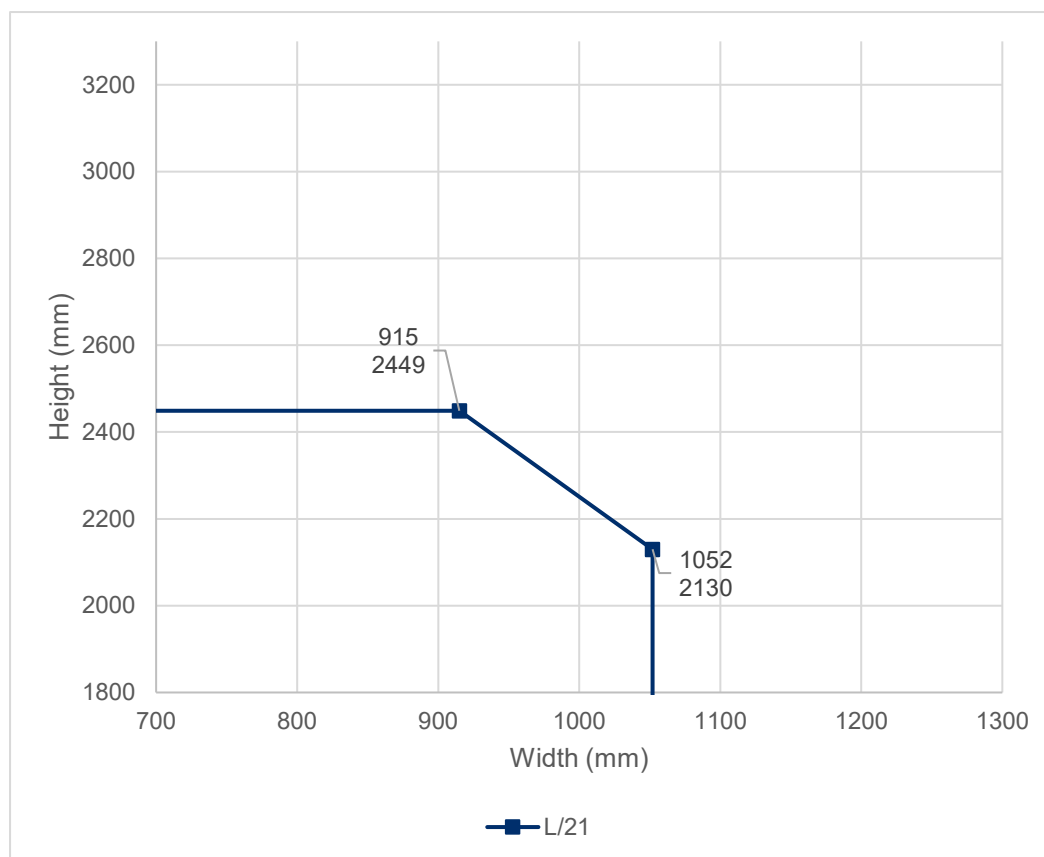
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Lorient Intumescent Specification for DADD+OP, Leaf 1 or 2 with Frame 1 or 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
L/35 (WF 135011)	Lorient LP1504 617 LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. 1no fitted centrally in each leaf Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 1no 15x4 centrally to centrally to overpanel bottom edge.

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

4.5.16.2 Leaf 1, 2 + Frame 2 Doorset

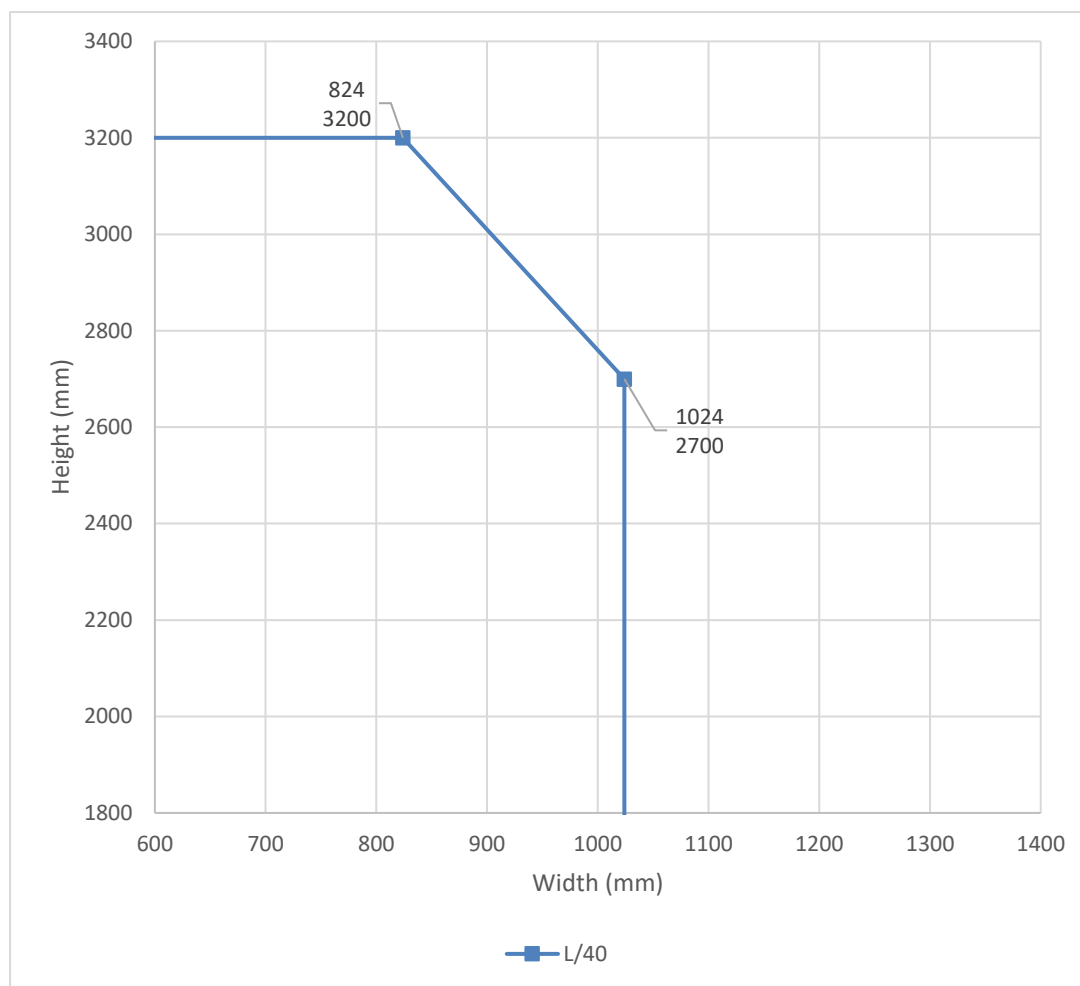


Lorient Intumescent Specification for DADD+OP, Leaf 1 or 2 with Frame 2		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
L/21 (RF97091)	Lorient LP1004 617	Head & Jambs: 1no 10x4. Fitted in frame reveal Meeting Edge: 2no 10x4. Fitted centrally and 12mm apart in primary leaf Leaf head to overpanel junction: With flat lipping flush overpanel: Overpanel and leaf head: 2no 10x4: Fitted 12mm apart and centrally to overpanel bottom edge.

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4.5.16.3 Leaf 2 + Frame 3 Doorset



Intumescent Seals Limited Intumescent Specification for DADD+OP, Leaf 2 with Frame 3		
Intumescent Spec. Reference (Test Reference)	Make / Type	Location & Size
L/40 (Chilt/RF02081)	Intumescent Seals Limited 15x4 Therm-A- Seal 10x2 Therm-A- Flex	Head & Jambs: 2no 15x4. Fitted centrally and 10mm apart in frame reveal Meeting Edge: 2no 15x4. Fitted centrally and 10mm apart in primary leaf Overpanel and leaf head: 2no 15x4. Fitted centrally and 10mm apart to overpanel bottom edge. 1no 10x2. Fitted centrally to leaf head

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5. General Description of Construction

5.1 Leaf Core Construction

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

In all cases the leaf shall be constructed as a balanced construction.

5.1.1 Leaf 1 – Optima 30 – 44mm thick

The basic tested construction of this door leaf design comprises the following:

Element	Material	Dimensions (mm)	Minimum Density (kg/m ³)
Core	3-layer solid core particleboard	44 (t)	620±10%

The leaf must be lipped as specified in section 5.4 and/or fitted with edge protection as specified in section 5.5.

The minimum leaf thickness after calibration is 43mm (i.e. a maximum of 0.5mm from both sides).

The minimum leaf thickness after finishes applied is 44mm.

5.1.2 Leaf 2 – Optima 30 – 54mm thick

The basic tested construction of this door leaf design comprises the following:

Element	Material	Dimensions (mm)	Minimum Density (kg/m ³)
Core	3-layer solid core particleboard	54 (t)	620±10%

The leaf must be lipped as specified in section 5.4 and/or fitted with edge protection as specified in section 5.5.

The minimum leaf thickness after calibration is 53mm (i.e. a maximum of 0.5mm from both sides).

The minimum leaf thickness after finishes applied is 54mm.

5.1.3 Leaf 3 – Optima 30 – 44mm thick bond up based on 38mm thick core

The Leaf 3 designs based on a 38mm (t) core, have been successfully tested as double leaf configurations with 3mm (t) MDF facings bonded with UF (WF150116); as single leaf configurations with 3 (t) MDF bonded with UF (WF145632 A) or MCPU (WF412654 B); and with 3 (t) 650 kg/m³ plywood faces bonded with resorcinol resin (Chilt/RF03076).

The 38mm (t) particleboard core has been tested without additional facings as a double leaf doorset and provided in excess of 40 minutes integrity performance (test Chilt/RF02082A). The Leaf 3 design considered in this assessment uses the same core but with outer facings bonded to the core. Thicker leaves are known to be more stable in fire test conditions as the additional material helps to reduce thermally induced distortion and bow as the door leaf begins to char and dehydrate. This test therefore supports the Leaf 3 design.

On the basis of the test evidence that demonstrates the performance of the 38mm thick core with no additional facing material, and that facings of 3mm thick are not considered to have a significant structural function, it is the opinion of Warringtonfire that the tested plywood density can be reduced without expected detrimental effects on the fire resistance performance of doorset designs with Leaf 3.

The basic tested and assessed construction of this door leaf design comprises the following:

Element	Material	Dimensions (mm)	Minimum Density (kg/m ³)
Core	3-layer solid core particleboard	38 (t)	620±10%
Facing	Plywood	3 (t)	650
	MDF		700

See section 9 for adhesives for the bonding of facings.

The leaf must be lipped as specified in section 5.4 and may be fitted with edge protection as specified in section 5.5.1.2.

The minimum leaf thickness after calibration is 43mm (i.e. a maximum of 0.5mm from both sides).

The minimum leaf thickness after finishes applied is 44mm.

5.1.4 Leaf 4 – Optima 30 – Up to 62mm thick bond up based on 44mm thick core

The basic tested construction of this door leaf design (test reference WF533900 B) comprises the following:

Element	Material	Dimensions (mm)	Minimum Density (kg/m ³)
Core	3-layer solid core particleboard	44 (t)	620±10%
Facing	MDF	Maximum 9 (t)	799

See section 9 for adhesives for the bonding of facings.

The leaf must be lipped as specified in section 5.4 and may be fitted with edge protection as specified in section 5.5.1.2.

Once facings have been applied the leaf may be calibrated by a maximum of 0.5mm from both sides.

5.2 Comparison of Door Core Designs

Leaf 2 is of the same construction as Leaf 1 except that it is 54mm thick rather than 44mm thick. The evaluation of the permitted leaf sizes for the 54mm thick leaf has been generated based on either test evidence carried out with the 44mm or 54mm leaf.

The 44mm leaf tests can support 54mm leaves in this was as in the opinion of Warringtonfire they will be conservative. This is because thicker timber leaves are generally accepted to be less onerous due to increased resistance to thermally induced distortion and bow as a greater percentage of the leaf thickness remains uncharred throughout the test. Thicker leaves therefore deflect less during a fire test, providing a more stable junction between the leaf edge and frame reveal.

Leaf 3 is the same core construction as Leaf 1, except at 38mm thick and includes facings.

Leaf 4 is the same core construction as Leaf 1 and includes facings.

Leaf 3 and 4 each have their own permitted leaf sizes based on test evidence carried out with the appropriate leaf type.

5.3 Leaf Size Adjustment During Manufacture – All Leaf Options

Door leaves may be altered as follows prior to the machining for hardware.

Pre-Machining Leaf Size Adjustment Specification	
Element	Reduction
Leaf	The size of the leaf may be reduced in height or width without restriction for manufacturing purposes, providing the finished leaf is lipped in accordance with section 5.4 and any edge protection is applied once resizing has been completed.
Timber Lipping	The timber lipping thickness can be reduced after it has been glued in place, providing it is not reduced below the minimum stated in section 5.4.

5.4 Lipping

The following sections detail the permitted lippings for the Optima 30 doorset design covered herein.

5.4.1 Timber Lipping – Leaf 1, 2, 3, 4 + Frame 1, 2, 3, 4, 5, 7

The testing documented in Appendix A has generally been undertaken using 6-10mm thick flat lippings applied to either the vertical edges, top and vertical edges, or all edges using hardwood of various species at varying densities. A number of different adhesives have also been used to bond the lippings to the core.

Additionally, equal rebated lippings have been included in testing, such as at the meeting edges of double leaf doorsets, and/or at the leaf head to flush overpanel junction (including Chilt/RF08127, Chilt/RF09069, Chilt/RF13063 Revision A, Chilt/RF97091, WARRES 131998 B, CFR2210051).

Rounded lippings of maximum 10mm thick reduced to a minimum 5 x 54mm have been demonstrated with Leaf 2 within test Chilt/RF02081 and of a maximum 8mm thick reduced to 3x44mm have been demonstrated with Leaf 1 within test Chilt/RF06048A.

T-section lippings have been tested successfully in single leaf doorsets as follows: Leaf 3 and Frame 2 to all leaf edges (Chilt/RF03076); Leaf 1 and Frame 1 to top and bottom edges of leaf (Chilt/RF06048A, Chilt/RF06074).

On the above basis, Optima 30 door blanks (leaf type 1, 2, 3, 4) used with Frame 1, 2, 3, 4, 5 or 7 must be lipped with the following specification, for all leaves and solid panels (overpanels or sidepanels), where appropriate.

Timber Lipping Specification for Optima 30 door blanks (Leaf 1, 2, 3, 4)		
Material	Size (mm)	Min Density (kg/m ³)
Hardwood	1. Flat = 6-18 thick 2. Flat "T section" = 6-10 thick (exposed) with a tongue centrally into the core material with maximum dimensions of 38mm x 15mm deep, the tongue may be integral to the exposed element or separate. 3. Rounded¹⁰ = 8 – 18 thick with a radius matching the distance between leaf edge and floor pivot (see section 7.1.2, 7.2.2, 7.3.2) 4. Rebated = 18 - 28 thick with an equal rebate 12 – 13mm deep	640

Notes:

1. For Leaf 1, 2 and 3: All lippings are to be the same thickness as the door leaf either prior to the application of decorative facing materials or once they have been applied.
2. For Leaf 4: Lippings may either be the thickness of the door leaf (either prior to the application of decorative facing materials or once they have been applied) or the same thickness as the core and over sailed by the leaf facing (WF533900 B).
3. Overpanels separated from the leaf heads with a transom do not need to be lipped.
4. Overpanels flush with the leaf heads must be lipped on their bottom edge but may additionally be lipped on all edges if required, lippings to top three edges where applied must be of type 1 (flat) from the table above.
5. Leaves to doorsets with flush overpanels must be lipped on the vertical edges and additionally at the top edge of the doors, they may additionally be lipped on the bottom edges if required.
6. Single and double doorsets without flush overpanels only require lipping on the vertical edges but may be additionally lipped on the top and bottom edges if required.
7. Rebated lippings (to leaf head/ overpanel junction and/or meeting edge of double leaf doorsets) are only permitted when detailed as an option within the applicable intumescent specification

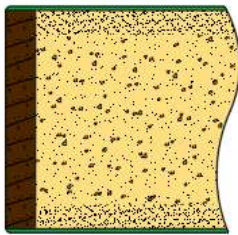
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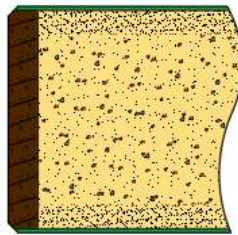
in section 4.5. Where not specifically detailed the leaf lipping must be flat at the leaf head/overpanel junction and/or meeting edge of double leaf doorsets.

8. See section 9 for permitted lipping adhesives.
9. For flat lippings it is permitted to apply one of the following:
 - a. Maximum 3mm radius to the corners of the lippings at vertical edges to create edge profiling. (Based upon test reference CFR2307031).
 - b. Maximum of 3mm x 3mm chamfer applied to the corners of the lippings at vertical edges to create edge profiling.
 - c. Maximum 2mm wide x 5mm deep chamfer to the vertical leading edges of the leaves, if this would result in a conflict with intumescent positioning this option is not permitted.
10. For rounded lippings a minimum of 3mm thickness of lipping shall be measured at the face of the door leaf where the lipping is its minimum thickness. This lipping type may only be applied to the hanging edges of the leaves, with a scalloped frame jamb.
11. For doorsets which includes a flush overpanel refer to section 5.9 for astragal requirements.

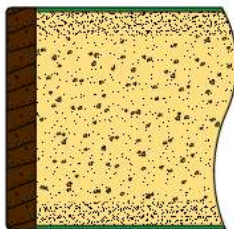
Concealed



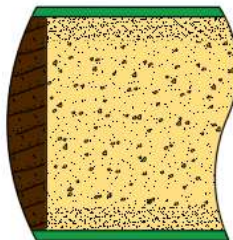
Semi-Concealed



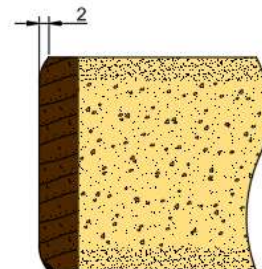
Exposed



Scalloped



2mm Edge Profiling



5.4.2 Timber Lipping – Leaf 2 + Frame 6

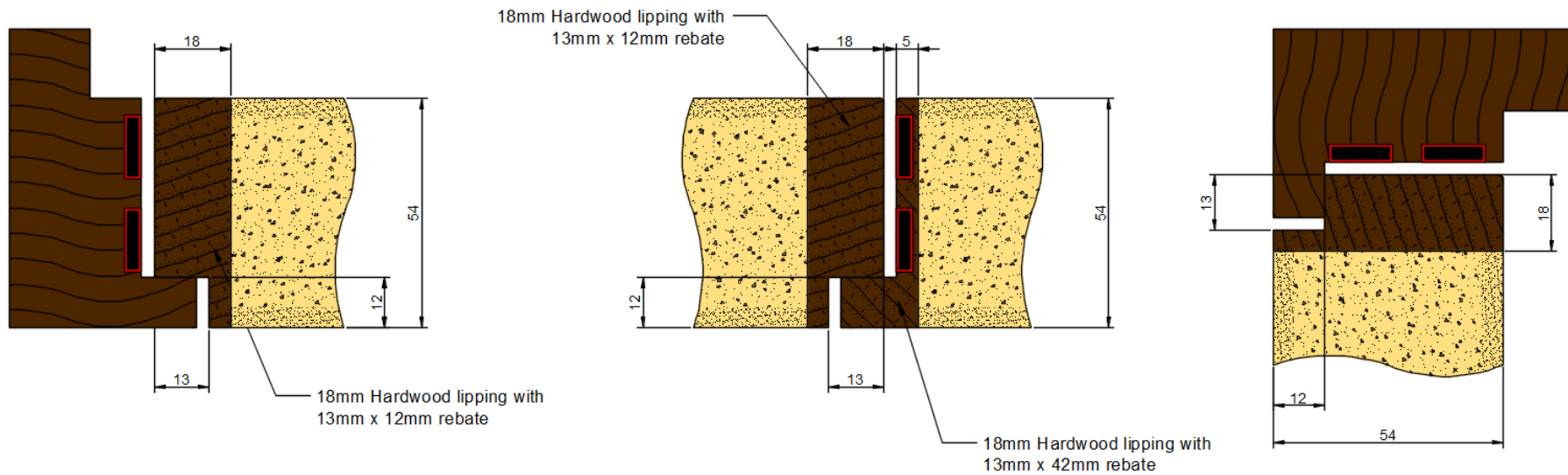
Test reference CFR1808101, supporting Leaf 2 designs with Frame 6, included unequal rebated lippings to the vertical edges and top edges of the leaves.

On the above basis, Optima 30 door blanks (Leaf 2) used with Frame 6 must be lipped with the following specification, for all leaf types.

Timber Lipping Specification for Optima 30 door blanks (Leaf 2)		
Material	Size (mm)	Min Density (kg/m ³)
Hardwood	1. Flat = 6 – 18 thick 2. Unequal rebated = 18-23mm thick with a 13x12 mm rebate^{3,4} as shown in the drawings below. 3. Unequal rebated for secondary leaf⁵ = 18-23mm thick with a 42x12 mm rebate	640

Notes:

1. All lippings are to be the same thickness as the door leaf either prior to the application of decorative facing materials or once they have been applied.
2. Single and double doorsets without flush overpanels require lipping on the vertical edges and the head with Type 2 (Unequal rebated) and may be optionally lipped on the bottom edge with Type 1 (Flat).
3. For Single leaf doorsets the 13 x 12mm rebate must be applied to the closing face side of the leaf lipping at the top and vertical edges.
4. For Double leaf doorsets the 13 x 12mm rebate must be applied to the closing face side of the leaf lipping at the top and hanging edges and to the meeting edge of the primary leaf.
5. For Double leaf doorsets the meeting edge of the secondary leaf must be fitted with corresponding Type 3 lipping (unequal rebated for secondary leaf).
6. See section 9 for permitted lipping adhesives.



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5.5 Edge Protection

5.5.1 General PVC and ABS Edge Protection

The following tests have demonstrated 2mm PVC material applied directly to the core material of Leaf 1 with Frame 1 doorset designs. Tests Chilt/RF08039 and Chilt/RF09010 A successfully included 2mm PVC material to all leaf edges and to the top and vertical edges respectively.

WF393430 successfully included 2mm ABS material to all edges of timber based single leaf doorsets in conjunction with Frame 4.

PVC materials have also been tested within Chilt/RF02083 and Chilt/RF02048 and these tests provide further supporting evidence for the designs permitted.

On the basis of this testing PVC and ABS general edge protection is suitable in the following applications:

5.5.1.1 Applied Directly to Core Material

Leaf options: 1 and 2

Frame options: 1 and 2

Configurations & Intumescent Specification (Defined in Section 4.5):

LSASD: A/6

ULSASD: B/6

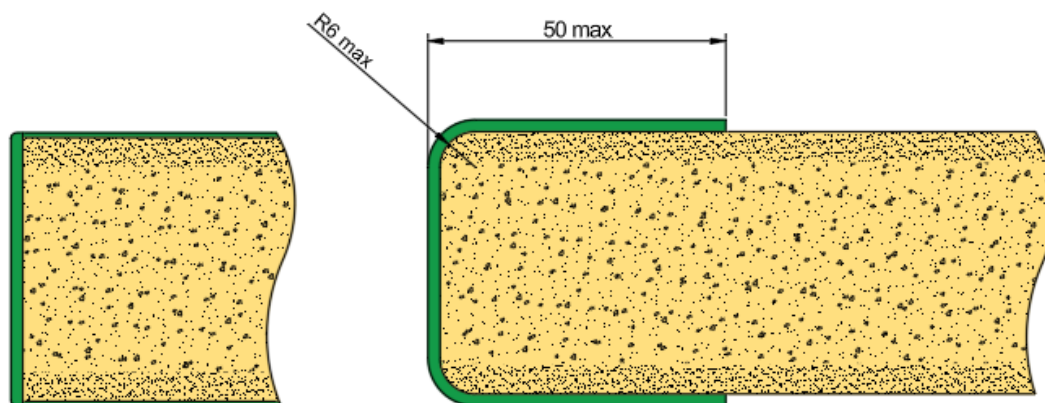
LSADD: G/6

ULSADD: H/6

General Edge Protection Specification applied directly to Core		
Material	Maximum Size (mm)	Min Density (kg/m ³)
PVC or ABS	2 thick	-

Notes:

1. When applied to the vertical edges of the door leaf the edge protection may incorporate up to a 50mm return across the leaf face.
2. When applied to the horizontal edges of the door leaf the material must not return onto the leaf face.
3. When applied to the vertical edge of the door leaf it is permitted to have up to a R6 radius applied to each vertical corner of the door leaf.
4. See section 9 for permitted adhesives.



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5.5.1.2 Applied to Flat Hardwood Lippings (defined in 5.4.1)

Leaf options: 1, 2, 3 and 4

Frame options: 1, 2, 3, 4, 5 and 7

Configurations: LSASD, ULSASD, LSADD, ULSADD

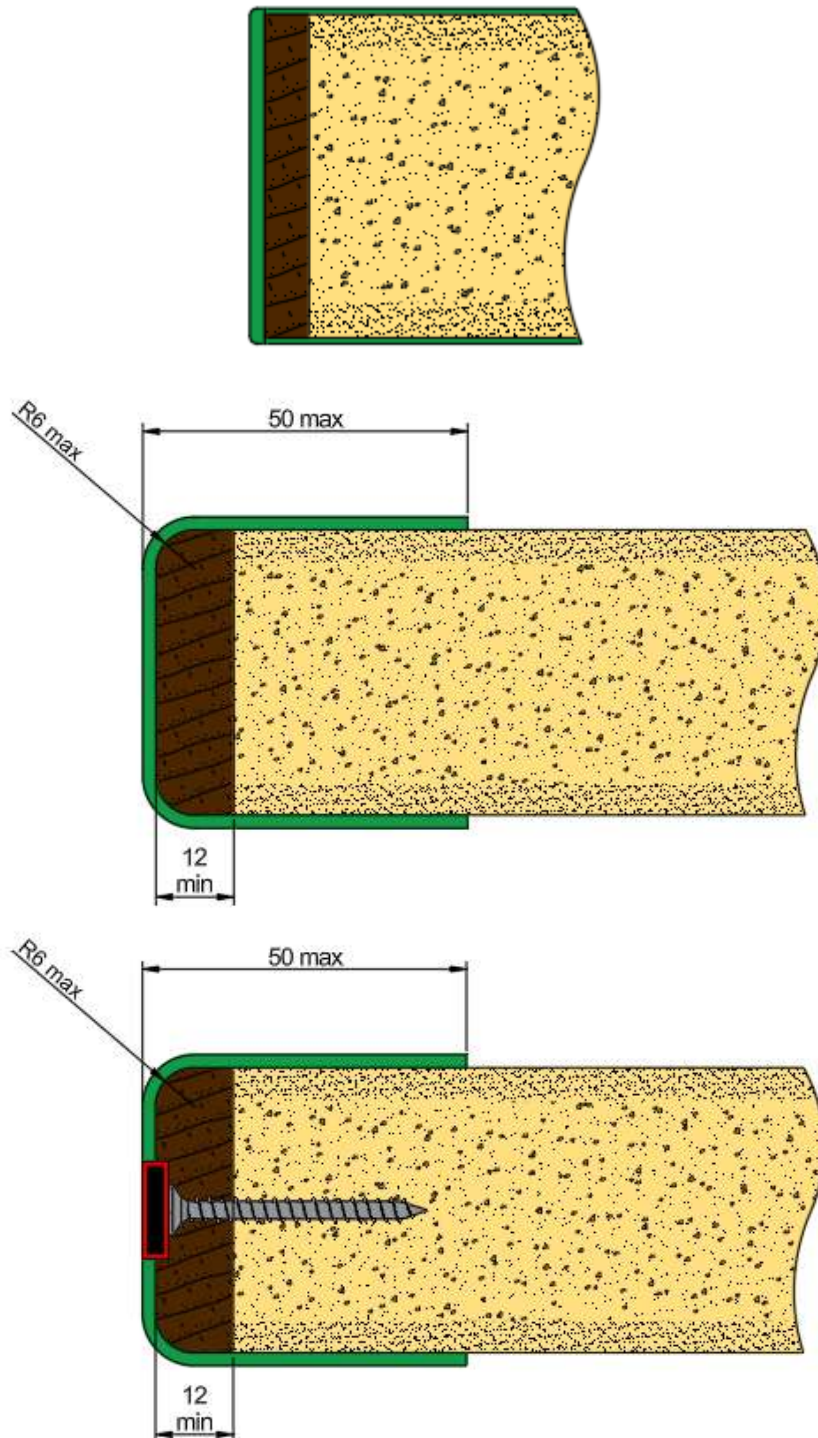
Intumescent Specification:

As defined in Section 4.5, providing the specification includes a minimum of 1No. 15mm x 4mm seals or minimum of 2No. 10mm x 4mm seals applied to the vertical edges and head of the frame reveal or leaf.

General Edge Protection Specification applied to Flat Hardwood Lippings		
Material	Maximum Size (mm)	Min Density (kg/m ³)
PVC or ABS	2 thick	-

Notes:

- When applied to the vertical edges of the door leaf the edge protection may incorporate up to a 50mm return across the leaf face.
- When applied to the horizontal edges of the door leaf the material must not return onto the leaf face.
- When applied to the vertical edges of the door leaf must be lipped with Flat Hardwood lippings in accordance with section 5.4.1. When used in this circumstance:
 - the vertical hardwood lippings must be no smaller than 12mm thick
 - the vertical hardwood lippings are permitted to have up to a R6 radius applied to each edge.
 - the vertical lippings may be fixed to the core in one of the following methods:
 - adhered to the core as specified in section 5.4.1 or
 - adhered with PVA and screwed with minimum 50mm long, steel, wood screws, applied at no less than 200mm centres. When applied the screws must be applied under intumescent strips, where present. When 2No. strips are present, the fixings must alternate between the strips. When an intumescent strip is not present, the screws must be fitted centrally within the width of the edge protection, and it is permitted to apply a cap of the same material as the edge protection which must finish flush to the face of the edge protection.
- When applied to the horizontal edges of the door leaf this can be direct to the core material or optionally hardwood lippings in accordance with section 5.4.1.
- See section 9 for permitted PVC or ABS lipping adhesives.



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5.6 Decorative & Protective Facings – All Leaf Options

Relatively thin leaf facing materials are deemed to be decorative and their application is not considered to be of detriment to the overall stability or performance of the doorset design. In fact, when applied as an additional component on top of the minimum facing material required by the door blank, they are likely to provide a small enhancement in performance as an additional barrier to fire spread, although, this is likely to be negligible.

The scope of application provided below is permitted for use with lippings as specified within section 5.4 and / or edge protection as specified in section 5.5.

The following additional facing materials are therefore permitted to the leaf for this door design since they would have limited influence under fire resistance test conditions.

Decorative & Protective Facing Specification	
Facing Material	Maximum Permitted Thickness (mm)
Paint ⁵	0.2
Timber veneers ³	2
Plastic laminates ³	2
PVC ³	2
Cellulosic and non-metallic foils and paper ³	0.4

Notes:

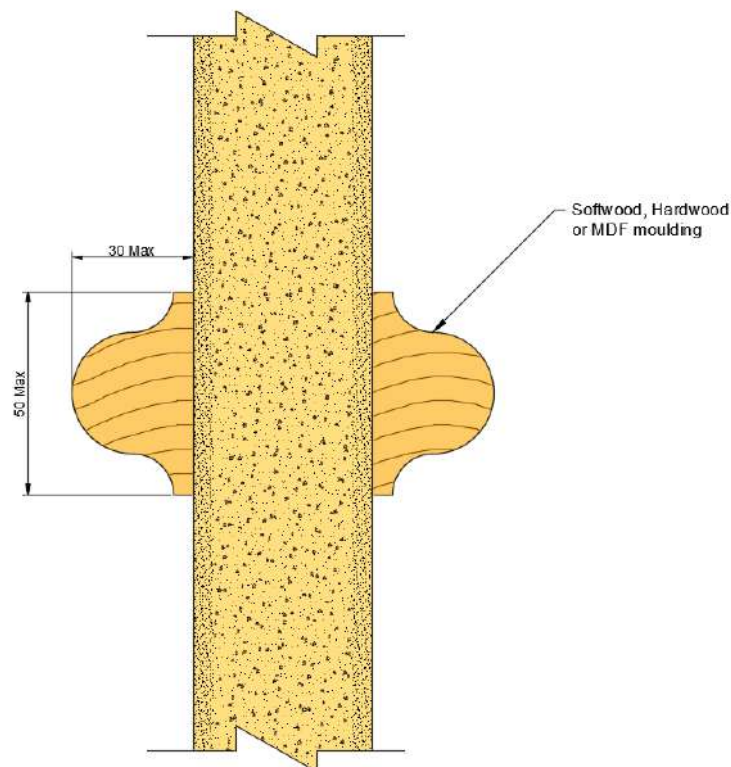
1. Metallic facings are not permitted except for push plates and kick plates.
2. See section 5.1 for calibration and leaf thickness requirements.
3. Materials may over sail lippings but must not return around leaf edges. Except:
 - a. Timber veneers (with a minimum density of 640kg/m³) or HPL up to 0.8mm thick applied with UF adhesive, which may be applied to the leaf edges on top of timber based lippings defined in section 5.4.1 only.
4. For all options, materials must not conceal intumescent strips.
5. Intumescent paints are not permitted.
6. Decorative finishes listed above may be painted within the limits for paint finish, above.
7. See section 9 for permitted decorative facing adhesives.

5.7 Decorative Planted on Timber based Mouldings

On the basis that decorative timber based planted on mouldings would not be expected to have a negative effect on the burn through of the leaf, it is the opinion of Warringtonfire that decorative mouldings can be applied to Optima 30 door leaves considered herein providing the following criteria is adhered to: -

The mouldings:

1. Are surface applied to the door
2. Are no higher than 30mm i.e. proud of the door
3. Are no wider than 50mm
4. Cover no more than 20% of the door leaf area
5. Are no closer than 80mm to the door leaf edge or apertures within the leaf
6. Are bonded into position and small pins may be used up to 12mm penetration into the door core.
7. Are bonded using any glue which is suitable for bonding the lipping of the door.
8. Once applied the visible surfaces of timber-based mouldings may be clad in materials which are permitted for application to the leaf face. (section 5.6). Alternatively, the timber-based moulding may be clad (on the surfaces which will be visible once applied) with the materials in section 5.6 prior to fitting the moulding to the leaf face.



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5.8 Feature Grooves

Feature grooves were included within Leaf 1 designs within test references Chilt/RF01056 A, WF426991, CFR1803021 LH & RH, WF529765 A & B without being of detriment to the overall performance of the doorset. The doorsets they were included within achieved 39, 37, 38, 38, 39 & 34 minutes integrity performance respectively.

Feature grooves were included within Leaf 3 designs within test reference WF412654 B without being of detriment to the overall performance of the doorset. The doorset achieved 30 minutes integrity performance.

Additionally, the 38mm (t) particleboard core of the Leaf 3 design has been tested without additional facings as a double leaf doorset and provided in excess of 40 minutes integrity performance (test Chilt/RF02082A).

Feature grooves were included within Leaf 4 designs within test references WF533900 A & B without being of detriment to the overall performance of the doorset. The doorsets they were included within achieved 54 & 53 minutes integrity performance.

Feature grooves cannot be located within **20mm** of any mortice for hardware (i.e. any item which requires material to be removed from the door, including cableways), unless otherwise stated for the specific groove option.

Grooves may be applied to the leaf faces of glazed and unglazed doorsets. When applied to the face of a doorset including a glazed aperture the grooves shall not continue under the minimum dimensions provided for selected glazing bead elements, however groove option D may run adjacent to all beads (including square quirk beads). This is supported by the evidence contained within Chilt/RF01056 A.

Groove option E may coincide with glazed apertures which are fitted with glazing system 7 (See section 6.3), when fitted as tested in WF412654 B.

If the glazing aperture includes a glazing liner of 6 to 10mm thick, which is not grooved, then grooves may be applied up to the aperture in the leaf.

Where maximum leaf dimensions are given in the specifications for feature grooving below the guidance in section 4.5.4.1 must be followed.

Note for the following sections:

Grooves which are in the same linear plane but are not continuous are considered to count as one single groove.

When edge protection is applied to doorsets which include grooves, the edge protection may be applied over the grooves but may not be grooved themselves.

Both sides of the door leaves may be grooved to the following specifications, which also provide limitations on the application of the desired groove option.

The following section details the tested grooving arrangement and the limitations associated with each groove option.

5.8.1 Groove Option A

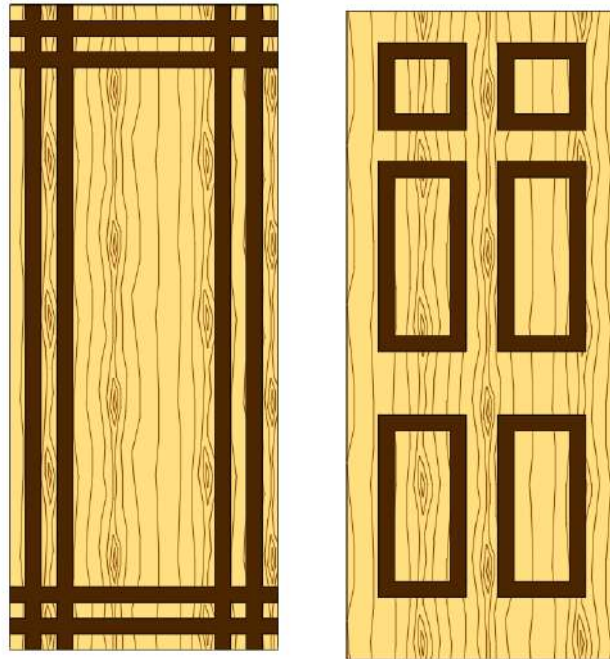
This grooving option has not been explicitly tested but is based on test Chilt/RF02082A where a 38mm thick core was successfully tested. The opinion of Warringtonfire is that as the 38mm core of Leaf 3 would not be affected by the following groove of maximum 3mm deep the application of the following groove would not be expected to be detrimental to the fire resistance performance of doorsets considered herein.

Groove Option A		
Element	Details	
Max. groove size (mm)	50mm wide x 3mm deep Note: when applied to Leaf 4, groove depth is only permitted into the facing and not into the 44mm core.	
Inserts	Not Required. Full depth inserts are optionally permitted to provide a decorative detail if required. Inserts must be Hardwood (minimum density 640kg/m ³) or MDF (minimum density 700 kg/m ³). Where an insert is applied this may be grooved with any shape, subject to restrictions given below.	
Adhesive	See Section 9 (Adhesives)	
Proximity to door edges (mm)	Horizontal Grooves	No closer than 50mm to top or bottom edge of leaf. May extend full width.
	Vertical Grooves	No closer than 50mm to vertical edge of leaf edge of leaf. May extend full height.
Maximum Number of grooves	12 No. grooves, divided between horizontal and vertical orientations as required.	
Groove spacing (mm)	No closer than 50mm apart. Vertical and horizontal grooves may intersect each other and terminate at corners.	
Orientation	Horizontal & Vertical	
Configuration	LSASD, ULSASD, DASD, LSADD, ULSADD, DADD	
Leaf option	Leaf 3 & 4	
Maximum Leaf size (mm)	No insert applied or insert includes grooving, or full depth hardwood or MDF insert applied	No specified Limit
Minimum Perimeter intumescent seal dimensions (mm)	As defined in Section 4.5, providing the specification includes a minimum of 1No. 15mm x 4mm seals or minimum of 2No. 10mm x 4mm seals applied to the vertical edges and head of the frame reveal or leaf, and a minimum of 2No. 10mm x 4mm seals to one meeting edge of double leaf doorsets Subject to the permitted configurations for this groove option	
Frame option	Frame 1, 2, 3	

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5.8.1.1 Example Groove A Drawings



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5.8.2 Groove Option B

This groove design is supported by WF529765 A&B and CFR1803021 RH.

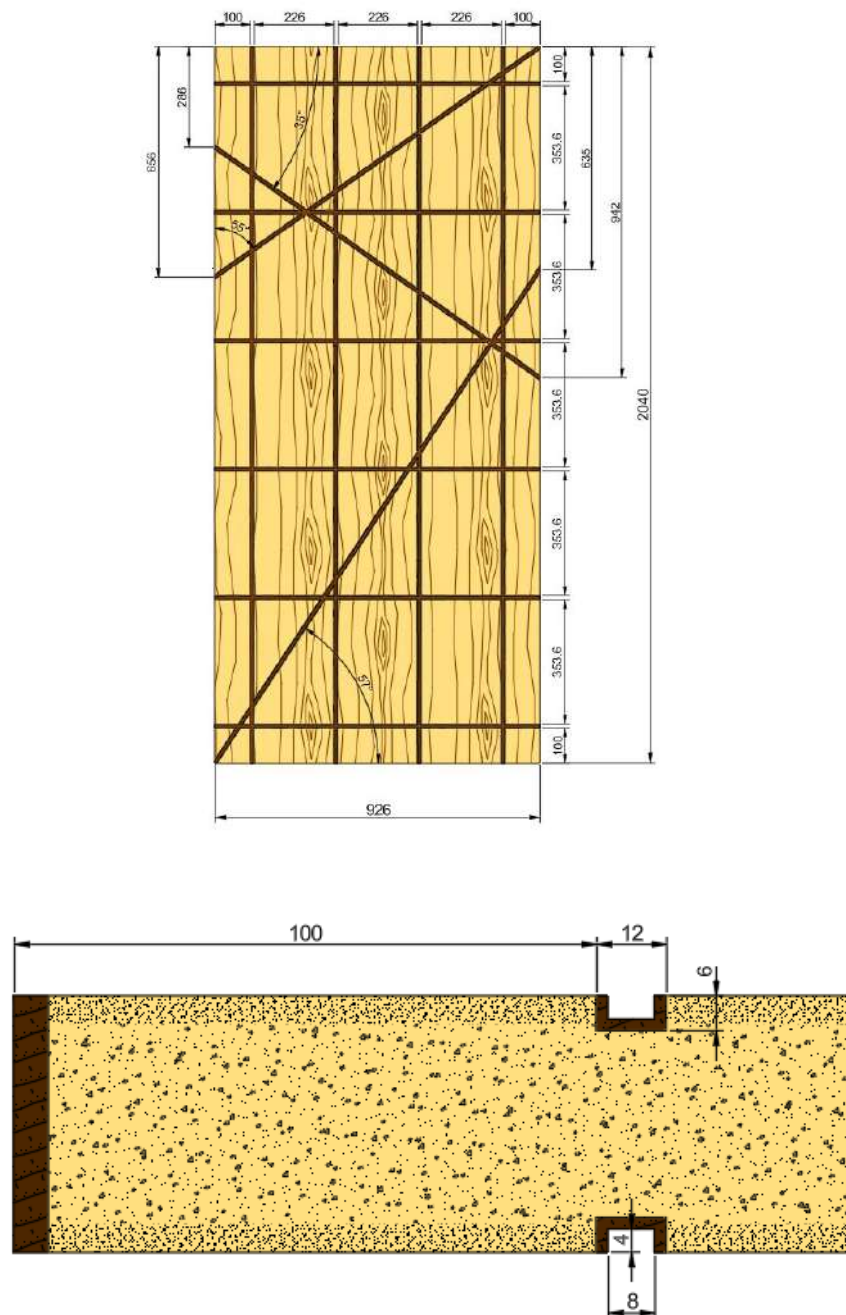
Groove Option B		
Element	Details	
Max. groove size (mm)	12mm wide x 6mm deep	
Inserts	Required. Full depth inserts are required to be fitted within the groove. Inserts must be Hardwood (minimum density 500kg/m ³) or MDF (minimum density 700 kg/m ³). The insert may be optionally grooved with a maximum of 8mm wide x 4mm deep groove of any shape required.	
Adhesive	See Section 9 (Adhesives)	
Proximity to door edges (mm)	Horizontal Grooves	No closer than 100mm to top or bottom edge of leaf. May extend full width.
	Vertical Grooves	No closer than 100mm to vertical edge of leaf edge of leaf. May extend full height.
	Diagonal Grooves	May extend to corners of leaf.
Maximum Number of grooves	13No. grooves divided between horizontal, vertical and diagonal orientations as required.	
Groove spacing (mm)	Insert includes grooving	Parallel grooves, no closer than 226mm apart. Vertical, horizontal and diagonal grooves may intersect each other and terminate at corners.
	Full depth hardwood insert applied	Parallel grooves, no closer than 100mm apart. Vertical, horizontal and diagonal grooves may intersect each other and terminate at corners.
Orientation	Horizontal, Vertical & Diagonal	
Groove proximity to hardware	Grooves are permitted to extend over the mortice for multi-point or single point locks, as long as the lock case(s) are protected with 1mm or 2mm intumescent around the cases. Grooves are permitted to intersect the cylinders and escutcheons as tested in WF529765. Up to 6No. occasions are permitted for grooves to extend to the letterplate aperture, when the tested letterplate design is fitted (Halspan TS008 Certified Letter plate FD30) as tested in WF529765.	
Configuration	LSASD, ULSASD, DASD	
Leaf option	Leaf 1, 2, 4	
Maximum Leaf size (mm)	Insert includes grooving	2244 high x 1019 wide
	Full depth hardwood insert without grooving applied	No specified Limit
Minimum Perimeter	As defined in Section 4.5, providing the specification includes a minimum of 2No. seals of minimum 10mm x 4mm seals applied to the vertical edges and head of the frame reveal or leaf.	

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Groove Option B		
intumescent seal dimensions (mm)	Subject to the permitted configurations for this groove option.	
Frame option	Insert includes grooving	Frame 1, 2, 3
	Full depth hardwood insert without grooving applied	All frame options

5.8.2.1 Example Groove B Drawings



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5.8.3 Groove Option C

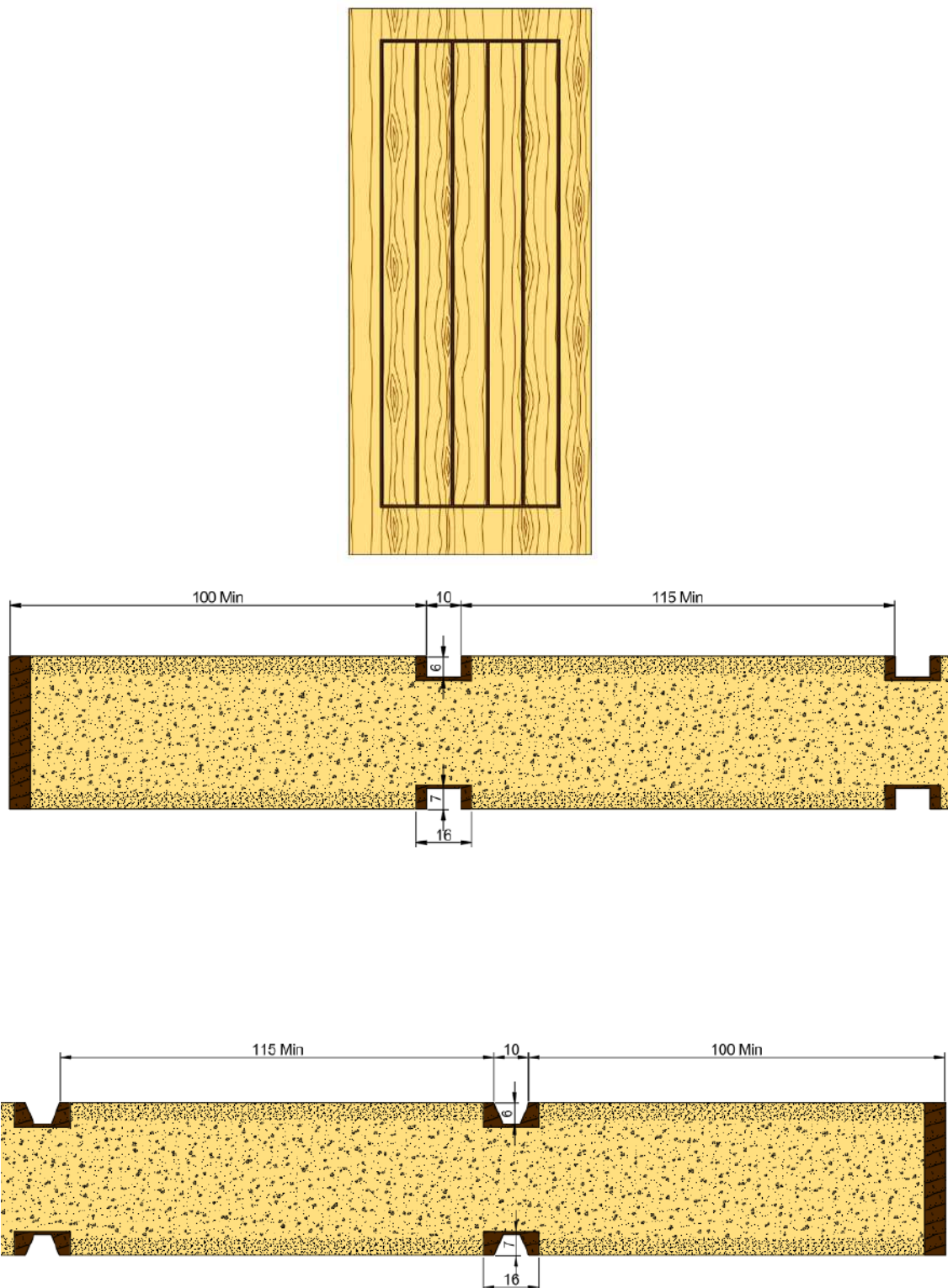
This groove design is supported by CFR1803021 LH.

Groove Option C		
Element	Details	
Max. groove size (mm)	16mm wide x 7mm deep	
Inserts	Required. Full depth inserts are required to be fitted within the groove. Inserts must be Hardwood (minimum density 770kg/m³). The insert may be optionally grooved with a maximum of 10mm wide x 6mm deep groove of any shape required.	
Adhesive	See Section 9 (Adhesives)	
Proximity to door edges (mm)	Horizontal Grooves	No closer than 100mm to top or bottom edge of leaf. Must not extend full width and are not permitted closer than 100mm to the vertical edges of the leaf.
	Vertical Grooves	No closer than 100mm to vertical edge of leaf edge of leaf. May extend full height.
Maximum Number of grooves	8No. grooves divided between horizontal and vertical orientations as required.	
Groove spacing (mm)	Insert includes grooving	Parallel grooves, no closer than 115mm apart. Vertical and horizontal grooves may intersect each other.
	Full depth hardwood insert without grooving applied	Parallel grooves, no closer than 100mm apart. Vertical and horizontal grooves may intersect each other.
Orientation	Horizontal & Vertical	
Configuration	LSASD, ULSASD, DASD, LSADD, ULSADD, DADD	
Leaf option	Leaf 1, 2, 4	
Maximum Leaf size (mm)	Insert includes grooving	2448 high x 1112 wide
	Full depth hardwood insert applied	No specified Limit
Minimum Perimeter intumescent seal dimensions (mm)	As defined in Section 4.5, providing the specification includes a minimum of 1No. 15mm x 4mm seals or minimum of 2No. 10mm x 4mm seals applied to the vertical edges and head of the frame reveal or leaf, and a minimum of 2No. 10mm x 4mm seals to one meeting edge of double leaf doorsets Subject to the permitted configurations for this groove option.	
Frame option	Insert includes grooving	Frame 1, 2, 3
	Full depth hardwood insert without grooving applied	All frame options

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5.8.3.1 Example Groove C Drawings



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5.8.4 Groove Option D

This groove design is supported by Chilt/RF01056 A.

Groove Option D		
Element	Details	
Max. groove size (mm)	5mm wide x 4mm deep	
Inserts	Not Required. Full depth inserts are optionally permitted to provide a decorative detail if required. Inserts must be Hardwood (minimum density 640kg/m³). Where an insert is applied this may be grooved with any shape, subject to restrictions given below.	
Adhesive	See Section 9 (Adhesives)	
Proximity to door edges (mm)	Horizontal Grooves	No closer than 100mm to top or bottom edge of leaf. May extend full width
Maximum Number of grooves	3No. grooves, horizontal orientation.	
Groove spacing (mm)	No closer than 100mm apart.	
Orientation	Horizontal	
Groove proximity to hardware	Grooves are permitted to extend up to the blade and over the mortice for the blade at the position of butt hinges) as tested in Chilt/RF01056 A.	
Configuration	LSASD, ULSASD, DASD	
Leaf option	Leaf 1, 2, 4	
Maximum Leaf size (mm)	No insert applied or insert includes grooving	2499 high x 1012 wide
	Full depth hardwood insert without grooving applied	No specified Limit
Minimum Perimeter intumescent seal dimensions (mm)	All perimeter intumescent specifications given in section 4.5, subject to the permitted configurations for this groove option.	
Frame option	No insert applied or insert includes grooving	Frame 1, 2, 3
	Full depth hardwood insert without grooving applied	All frame options

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5.8.5 Groove Option E

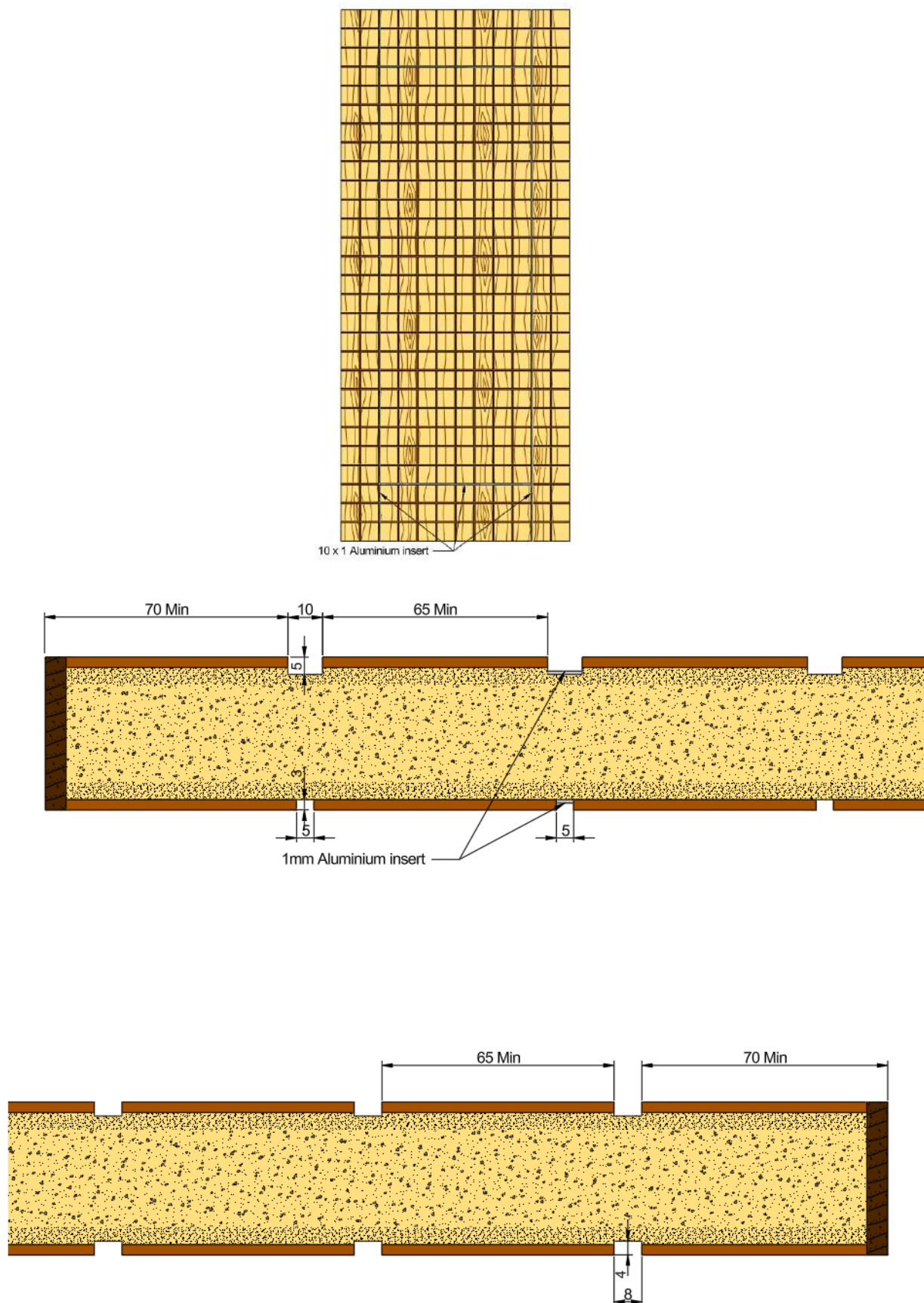
This groove design is supported by WF412654 B, with additional consideration made based on the test evidence which supports groove Option B.

Groove Option E		
Element	Details	
Max. groove size (mm)	Groove Option E - 1	10mm wide x 5mm deep on one face of the leaf 5mm wide x 3mm deep on the other face of the leaf
	Groove Option E - 2	8mm wide x 4mm deep to both faces
	Note: when applied to Leaf 4, groove depth is only permitted into the facing and not into the 44mm core.	
Inserts	Not Required. Aluminium inserts of maximum 1mm thick are optionally permitted to provide a decorative detail if required. Aluminium inserts are not permitted to be proud of the leaf face.	
Adhesive	Aluminium inserts bonded to the base of the groove with thermally softening adhesive.	
Proximity to door edges (mm)	Horizontal Grooves	No closer than 70mm to top or bottom edge of leaf. May extend full width.
	Vertical Grooves	No closer than 70mm to vertical edge of leaf edge of leaf. May extend full height.
Maximum Number of grooves	39No. grooves, divided between horizontal and vertical orientations as required.	
Groove spacing (mm)	No closer than 65mm apart. Vertical and horizontal grooves may intersect each other and terminate at corners.	
Orientation	Horizontal & Vertical,	
Groove proximity to hardware	Grooves are permitted to extend over the mortice for single point locks, as long as the lock case(s) are protected with 1mm or 2mm intumescent around the cases. Grooves are permitted to be positioned 10mm from the escutcheons for handles or cylinders but may not run under the escutcheon. Grooves without inserts are permitted to extend to glazing apertures as tested Aluminium inserts are not permitted to extend under glazing beads.	
Configuration	LSASD, ULSASD, DASD	
Leaf option	Leaf 3 & 4	
Maximum Leaf size (mm)	No insert applied or aluminium insert applied	2135 high x 926 wide
Minimum Perimeter intumescent seal dimensions (mm)	As defined in Section 4.5, providing the specification includes a minimum of 1No. 15mm x 4mm seals or minimum of 2No. 10mm x 4mm seals applied to the vertical edges and head of the frame reveal or leaf, and a minimum of 2No. 10mm x 4mm seals to one meeting edge of double leaf doorsets Subject to the permitted configurations for this groove option	
Frame option	Frame 1, 2, 3	

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5.8.5.1 Example Groove E Drawings



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5.8.6 Groove Option F

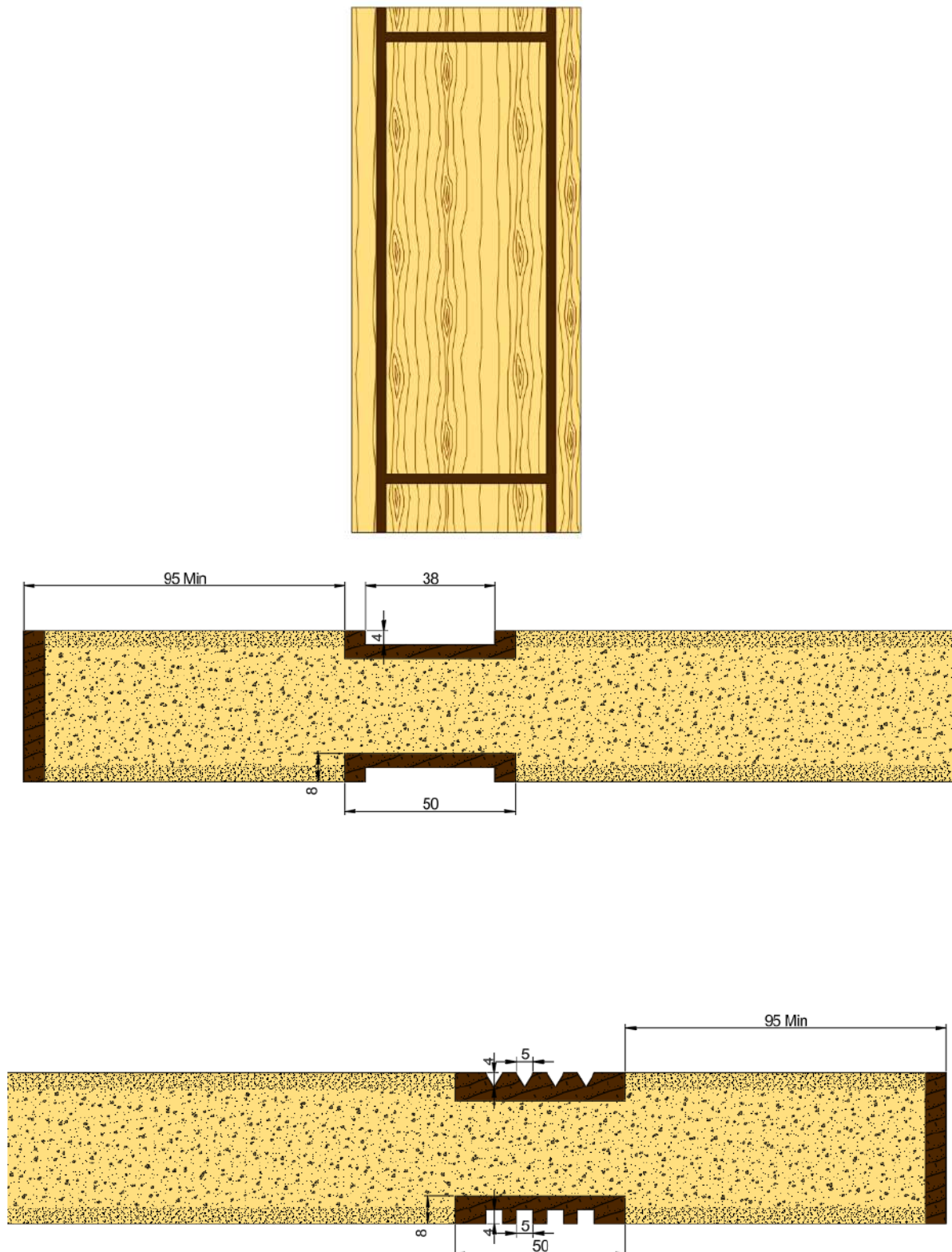
This groove design is supported by WF426991.

Groove Option F		
Element	Details	
Max. groove size (mm)	50mm wide x 8mm deep	
Inserts	Required. Full depth inserts are required to be fitted within the groove. Inserts must be Hardwood (minimum density 510kg/m ³). The insert may be optionally grooved with a maximum of 38mm wide x 4mm deep groove of any shape required.	
Adhesive	See Section 9 (Adhesives)	
Proximity to door edges (mm)	Horizontal Grooves	No closer than 95mm to top or bottom edge of leaf. Must not extend full width and are not permitted closer than 95mm to the vertical edges of the leaf.
	Vertical Grooves	No closer than 95mm to vertical edge of leaf edge of leaf. May extend full height.
Maximum Number of grooves	4No. grooves divided between horizontal and vertical orientations as required.	
Groove spacing (mm)	Insert includes grooving	No closer than 600mm apart. Vertical and horizontal grooves may intersect each other and terminate at corners.
	Full depth hardwood insert applied	No closer than 100mm apart. Vertical and horizontal grooves may intersect each other and terminate at corners.
Orientation	Horizontal & Vertical	
Configuration	LSASD	
Leaf option	Leaf 1, 2, 4	
Maximum Leaf size (mm)	Insert includes grooving	2509 high x 1088 wide
	Full depth hardwood insert applied	No specified Limit
Minimum Perimeter intumescent seal dimensions (mm)	As defined in Section 4.5, providing the specification includes a minimum of 1No. 15mm x 4mm seals or minimum of 2No. 10mm x 4mm seals applied to the vertical edges and head of the frame reveal or leaf, and a minimum of 2No. 10mm x 4mm seals to one meeting edge of double leaf doorsets Subject to the permitted configurations for this groove option.	
Frame option	Insert includes grooving	Frame 1, 2, 3
	Full depth hardwood insert applied	All frame options

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5.8.6.1 Example Groove F Drawings



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5.8.7 Groove Option G

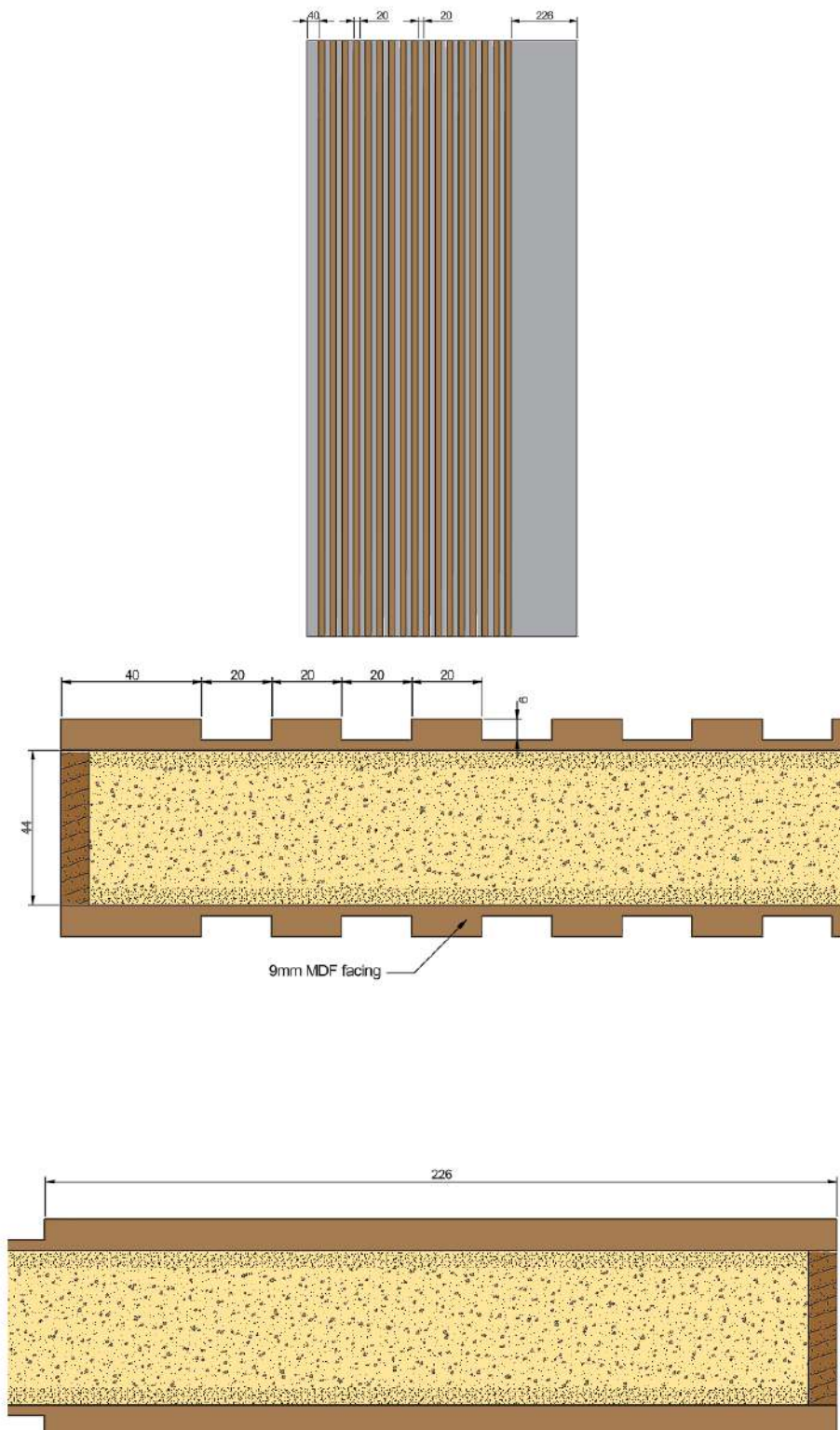
This groove design is supported by WF533900 A & B.

Groove Option G		
Element	Details	
Max. groove size (mm)	20mm wide x 6mm deep Note: when applied to Leaf 4, groove depth is only permitted into the facing and not into the 44mm core.	
Inserts	Not Required. Full depth inserts are optionally permitted to provide a decorative detail if required. Inserts must be Hardwood (minimum density 640kg/m ³). Where an insert is applied this may be grooved with any shape, subject to restrictions given below.	
Adhesive	See Section 9 (Adhesives)	
Proximity to door edges (mm)	Vertical Grooves	No closer than 40mm to vertical edge of leaf. May extend full height
Maximum Number of grooves	17No. grooves, vertical orientation.	
Groove spacing (mm)	No closer than 20mm apart.	
Orientation	Vertical	
Groove proximity to hardware	Grooves are permitted to be positioned 2mm from the through hole for door viewers.	
Configuration	LSASD	
Leaf option	Leaf 4	
Maximum Leaf size (mm)	No specified Limit	
Minimum Perimeter intumescent seal dimensions (mm)	All perimeter intumescent specifications given in section 4.5, subject to the permitted configurations for this groove option.	
Frame option	Frame 2, 3	

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5.8.7.1 Example Groove G Drawings



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5.8.8 Groove Option H

This groove design is supported by WF533900 A & B.

Groove Option G	
Element	Details
Max. groove size (mm)	Unlimited mm wide x 9mm deep Note: when applied to Leaf 4, groove depth is only permitted into the facing and not into the 44mm core.
Inserts	Not Required. Inserts are optionally permitted to provide a decorative detail if required. Inserts must be Hardwood (minimum density 640kg/m ³) or MDF (minimum density 700 kg/m ³). Where an insert is applied this may be grooved without restriction.
Adhesive	See Section 9 (Adhesives)
Proximity to door edges (mm)	No closer than 20mm to vertical edge of leaf.
	No closer than 20mm to horizontal edge of leaf.
Maximum Number of grooves	Unlimited number of grooves up to 20mm away from the door leaf edge.
Groove spacing (mm)	Not applicable.
Orientation	Not applicable.
Groove proximity to hardware	Grooves are permitted to be positioned 2mm from the through hole for door viewers.
Configuration	LSASD
Leaf option	Leaf 4
Maximum Leaf size (mm)	No specified Limit
Minimum Perimeter intumescent seal dimensions (mm)	All perimeter intumescent specifications given in section 4.5, subject to the permitted configurations for this groove option.
Frame option	Frame 2, 3

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5.9 Astragal

The inclusion of timber astragals is permitted providing they meet the following specification:

- The astragal shall consist of the same material as the door frame with at least the same or greater density.
- The astragal shall be mechanically fixed using steel screws at no greater than 250mm centres, the screws shall penetrate into the substrate by at least 15mm and no greater than ½ the thickness of the substrate.
- The astragal shall measure 50mm wide x 18mm thick and shall be positioned centrally over the junction.

Other materials or dimensions of astragals are not permitted.

It has been considered possible to include the above specified astragal based on the fact that the effective rebate of the doorset design will remain unchanged. The addition of the astragal element will provide further protection at the perimeter gaps increasing the time in which failure modes may develop.

Astragals are permitted in the following designs:

- Optionally permitted at meeting edges of double doors.
- See table below for astragal requirements for doorsets with flush overpanels. When fitted at the flush overpanel junction, the astragal shall be fixed to the overpanel.

Astragals may only be fitted to one side of any individual doorset design.

When fitted to the meeting edges of double leaf doorsets, a door selector as defined within section 10.13 shall be fitted to the doorset to ensure functionality.

Astragal requirements for flush overpanel configurations		
Leaf Configuration	Edge Condition	Astragal Requirement
LSASD+OP or ULSASD+OP	Flat lipping overpanel junction	Optional
	Rebated lipping overpanel junction	Not permitted
LSADD+OP or ULSADD+OP	Flat lipping overpanel junction with flat meeting edge	Required at overpanel junction.
	Rebated lipping overpanel junction with flat meeting edge	Optional at meeting edge
	Rebated lipping overpanel junction with rebated meeting edge	Not applicable

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6. Glazing within the Leaf

6.1 General

The testing conducted on doorset design has demonstrated that they are capable of tolerating glazed apertures, whilst providing a margin of over performance, this is supported by the summarised test evidence within Appendix A.

Glazing is therefore acceptable within the following parameters.

Apertures must not be less than 100mm from top and side edges and 200mm from the bottom edge. (Supported by Chilt/RF11005).

Aperture shapes considered herein are rectilinear and as such are permitted unless alternative shapes are detailed within this document for specific glass or glazing systems.

Apertures cannot be rotated (e.g. a square to be rotated to create a diamond effect) unless explicitly stated within this document for specific glass or glazing systems.

Based on the testing undertaken within Chilt/RF02081 circular apertures may be utilised within leaf type 2 only when covered by Certifire as defined within section 6.2 up to a maximum of 550mm diameter.

Multi pane units are only permitted where they have been directly tested and must be installed as tested and detailed in the following sub sections.

6.1.1 Maximum Permitted Glazed Aperture Dimensions

The maximum total assessed aperture area for any individual door leaf based on the test evidence detailed within Appendix A is as follows and is dependent on the leaf type utilised:

For leaf 1, 2 or 4, the maximum total assessed aperture area is as follows:

Maximum total permitted aperture within leaf 1, 2 or 4 (Test reference)		
Maximum Height (Chilt/RF06068 B) (mm)	Maximum Width (WF545611) (mm)	Maximum Area (Chilt/RF06068 B) (m ²)
2275	867	1.55

For leaf 3, the maximum total assessed aperture area is as follows:

Maximum total permitted aperture within leaf 3 (Test reference)		
Maximum Height (WF150116) (mm)	Maximum Width (WF150116) (mm)	Maximum Area (WF150116) (m ²)
1800	744	0.91

Multiple apertures are acceptable within the permitted total assessed aperture area, with a minimum dimension of 100mm of core between apertures. (As demonstrated in Chilt/RF03076 and WF507660.)

Maximum glass design thickness permitted is 16mm for single pane glazing.

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Minimum glass design thickness permitted is 6mm, as tested and may not be reduced.

The subsequent sections within this report detail the permitted glass and glazing systems with their associated size ranges permitted within the Optima 30 doorset design.

The maximum glazed areas given in each subsection supersede those given above and must be adhered to. However, the dimensional restrictions given above shall not be exceeded under any circumstance.

It is possible to include glass within the door leaf at smaller dimensions than given for any particular glass type or glazing system.

6.2 Certifire Single Pane Glass and Glazing System Options

Alternative glass and glazing systems with a Certifire certificate – valid at the date of manufacture of the doorset which has been written in accordance with Warringtonfire Testing & Certification Ltd, Technical Schedule TS25 - may be used to glaze the Optima 30 door design, subject to the following.

- The minimum design thickness of glass permitted for alternative glass types is 6mm.
- The maximum design thickness of glass permitted for alternative glass types is 23mm.
- Where a Certifire certificate is utilised to justify glazing the doorset, the full requirements given within that certificate for the glass and glazing system specified must be complied with.
- All parameters in section 6.1 above must take precedence over those in the supporting Certifire certificate, e.g. the glazed area, maximum height and width permitted in section 6.1 above may not be increased on the basis of the area, height and width permitted within the Certifire certificate. If the area, height and width in the proposed Certifire certificate is smaller than that in section 6.1, the smaller dimension will take precedence for the proposed glass or glazing system.
- The general requirements within the proposed Certifire certificate are still applicable, the Certifire certificate must include the option for the certificated glass and / or glazing system to be fitted within a timber / cellulosic based door leaf within a timber / cellulosic frame with a leaf thickness of 44mm. Where the Certifire certificate requires a timber aperture liner, these must always be fitted.
- Bead fixings – The required pin or screw specification as given in the supporting Certifire certificate must be used, alternatives fixing details are not permitted.

6.3 Single Pane Glass and Glazing Systems (Timber Beading)

The tested and assessed glass and glazing system(s) combinations, detailed within the table below may be used, subject to the limitations and scope detailed in section 6.1 above.

The table below specifies the maximum assessed height, width and area of glazing for each permitted glass type and glazing system.

The numerical figures in the main body of the table are the maximum height, width (m) & area of glass (in m²) that is considered acceptable for an individual glazed aperture, based upon the specific system. Where a '-' is applied the glass type and glazing system has not been considered compatible.

Glass & Glazing System Specification		Maximum Assessed Area (m ²), Height & Width (m)				
Glass Type Manufacturer	Thickness	System & Manufacturer →	1	2	3	4
			SLS-GLZ-111 10 (w) x 5 (t) applied between the glass and the bead on both faces.	Pyroglaze 30 10 (w) x 3 (t) applied between the glass and the bead on both faces.	Therm-A-Strip 10 (w) x 2 (t) applied between the glass and the bead on both faces.	Kerafix Ceramic Tape 15 (w) x 3 (t) applied between the glass and the bead on both faces and Interdens® 10 (w) x 1 (t) at the perimeter of the cavity
			Halspan	Mann McGowan	Intumescent Seals Limited	Kerafix Dufaylite
		Fire Test Reference	WF507669, TR20231213-000610 Revision A & WF523942/MR	BMT/FEP/F15214 AR1	CFR1903181	Chilt/RF08169
1	Pyrobelite 7 AGC Glass Europe	7	TR20231213-000610 Revision A, BMT/FEP/F15 097	Area: 1.55 Height: 2.275 Width: 0.867	Area: 0.148 Height: 0.762 Width: 0.224	Area: 0.517 Height: 1.212 Width: 0.492
2	Pyrobelite 12 AGC Glass Europe	12	WF507669	Area: 0.208 Height: 1.428 Width: 0.168	Area: 0.148 Height: 0.762 Width: 0.168	Area: 0.208 Height: 1.212 Width: 0.168
3	Pyrobel 16 AGC Glass Europe	16	BMT/FEP/F16 037	Area: 0.327 Height: 1.509 Width: 0.249	Area: 0.148 Height: 0.762 Width: 0.224	Area: 0.327 Height: 1.212 Width: 0.249
4	Pyrostem Pyroguard UK Ltd	7	WF545611	-	-	-

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Glass & Glazing System Specification		Maximum Assessed Area (m²), Height & Width (m)					
Glass Type Manufacturer		Thickness	System & Manufacturer →	1	2	3	4
				SLS-GLZ-111 10 (w) x 5 (t) applied between the glass and the bead on both faces.	Pyroglaze 30 10 (w) x 3 (t) applied between the glass and the bead on both faces.	Therm-A-Strip 10 (w) x 2 (t) applied between the glass and the bead on both faces.	Kerafix Ceramic Tape 15 (w) x 3 (t) applied between the glass and the bead on both faces and Interdens® 10 (w) x 1 (t) at the perimeter of the cavity
				Halspan	Mann McGowan	Intumescent Seals Limited	Kerafix Dufaylite
			Fire Test Reference	WF507669, TR20231213-000610 Revision A & WF523942/MR	BMT/FEP/F15214 AR1	CFR1903181	Chilt/RF08169
5	Pyroguard EW30 Pyroguard UK Ltd	7	WF412654, WF150116	-	Area: 0.148 Height: 0.762 Width: 0.224	-	-
6	Pyroguard 2-EW30/7-1 Advance Pyroguard UK Ltd	7	WF523942/M R	Area: 1.184 Height: 2.11 Width: 0.645	Area: 0.148 Height: 0.762 Width: 0.224	-	-
7	Pyrotech 630 with aluminium foil protection with 12mm (h) returns to both faces Essex Safety Glass Ltd - ESG	6	Chilt/RF08169	-	-	-	Area: 1.55 Height: 2.080 Width: 0.867
8	Pyroshield 2 Pilkington UK Limited	6	Chilt/RF11005	-	-	-	-
9	Pyrodur Plus 30-104 Pilkington UK Limited	7	Chilt/RF06068 , WF135011	Area: 1.55 Height: 2.275 Width: 0.787	Area: 0.148 Height: 0.762 Width: 0.224	Area: 0.517 Height: 1.212 Width: 0.492	-
10	Pyrodur 30-105 Pilkington UK Limited	7	CFR1903181	-	Area: 0.148 Height: 0.762 Width: 0.224	Area: 0.517 Height: 1.212 Width: 0.492	-
11	10mm Pyrodur Pilkington UK Limited	10	WF414679	Area: 0.5 Height: 1.2 Width: 0.48	Area: 0.148 Height: 0.762 Width: 0.224	Area: 0.5 Height: 1.2 Width: 0.48	-

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Glass & Glazing System Specification		Maximum Assessed Area (m²), Height & Width (m)					
Glass Type Manufacturer		Thickness	System & Manufacturer →	1	2	3	4
				SLS-GLZ-111 10 (w) x 5 (t) applied between the glass and the bead on both faces.	Pyroglaze 30 10 (w) x 3 (t) applied between the glass and the bead on both faces.	Therm-A-Strip 10 (w) x 2 (t) applied between the glass and the bead on both faces.	Kerafix Ceramic Tape 15 (w) x 3 (t) applied between the glass and the bead on both faces and Interdens® 10 (w) x 1 (t) at the perimeter of the cavity
				Halspan	Mann McGowan	Intumescent Seals Limited	Kerafix Dufaylite
			Fire Test Reference	WF507669, TR20231213-000610 Revision A & WF523942/MR	BMT/FEP/F15214 AR1	CFR1903181	Chilt/RF08169
12	Pyrostop 30-10 Pilkington UK Limited	15	WF531368	Area: 0.654 Height: 1.012 Width: 0.744	Area: 0.148 Height: 0.762 Width: 0.224	Area: 0.517 Height: 1.012 Width: 0.492	-
13	Pyran S Schott AG	6	BMT/FEP/F15214 AR1	-	Area: 0.148 Height: 0.762 Width: 0.224	-	-
14	Pyroswiss 'Classic' Vetrotech Saint Gobain International AG	6	Chilt/RF02110	-	-	-	-
15	Pyroguard EI30 Pyroguard UK Ltd	15	Chilt/RF13063 Rev A	Area: 0.474 Height: 0.828 Width: 0.66	Area: 0.148 Height: 0.762 Width: 0.224	Area: 0.474 Height: 0.828 Width: 0.492	-

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Glass & Glazing System Specification		Maximum Assessed Area (m²), Height & Width (m)						
Glass Type Manufacturer		Thickness	System & Manufacturer →	5	6	7	8	9
				Fireglaze compound fully filling the cavity x 2 (t) applied between the glass and the bead on both faces.	Therm-A-Strip 10 (w) x 2 (t) applied between the glass and the bead on both faces.	Therm-A-Strip 10 (w) x 2 (t) applied between the glass and the bead on both faces. [Cloaked]	Therm-A-Strip 10 (w) x 2 (t) applied between the glass and the bead on both faces & Fire & Acoustic Seals Ltd FR Silicone fully filling the glazing cavity	FF1 13.5 (h) x 2 (t) applied between the glass and the bead on both faces.
				Sealmaster	Intumescent Seals Limited	Intumescent Seals Limited	Intumescent Seals Limited & Fire & Acoustic Seals Ltd	Lorient Polyproducts Ltd
				Fire Test Reference	RF99036 & Chilt/RF11005	Chilt/RF06068 B, RF97091	WF412654	WF414679
1	Pyrobelite 7 AGC Glass Europe	7	TR20231213-000610 Revision A, BMT/FEP/F1 5097	Area: 0.398 Height: 1.21 Width: 0.378	Area: 0.562 Height: 1.08 Width: 0.6	Area: 0.75 Height: 1.8 Width: 0.48	-	Area: 0.911 Height: 1.412 Width: 0.744
2	Pyrobelite 12 AGC Glass Europe	12	WF507669	Area: 0.208 Height: 1.21 Width: 0.168	Area: 0.208 Height: 1.08 Width: 0.168	Area: 0.208 Height: 1.428 Width: 0.168	Area: 0.208 Height: 1.2 Width: 0.168	Area: 0.208 Height: 1.412 Width: 0.168
3	Pyrobel 16 AGC Glass Europe	16	BMT/FEP/F1 6037	Area: 0.327 Height: 1.21 Width: 0.249	Area: 0.327 Height: 1.08 Width: 0.249	Area: 0.327 Height: 1.509 Width: 0.249	Area: 0.327 Height: 1.2 Width: 0.249	Area: 0.327 Height: 1.509 Width: 0.249
4	Pyrostem Pyroguard UK Ltd	7	WF545611	Area: 0.398 Height: 1.05 Width: 0.378	Area: 0.562 Height: 1.05 Width: 0.6	-	-	Area: 0.79 Height: 1.05 Width: 0.867
5	Pyroguard EW30 Pyroguard UK Ltd	7	WF412654, WF150116	Area: 0.398 Height: 1.21 Width: 0.378	Area: 0.562 Height: 1.08 Width: 0.6	Area: 0.75 Height: 1.8 Width: 0.48	-	Area: 0.911 Height: 1.412 Width: 0.744
6	Pyroguard 2-EW30/7-1 Advance Pyroguard UK Ltd	7	WF523942/ MR	Area: 0.398 Height: 1.21 Width: 0.378	Area: 0.562 Height: 1.08 Width: 0.6	Area: 0.75 Height: 1.8 Width: 0.48	-	Area: 0.911 Height: 1.412 Width: 0.744
8	Pyroshield 2 Pilkington UK Limited	6	Chilt/RF1100 5	Area: 0.398 Height: 1.21 Width: 0.378	Area: 0.398 Height: 1.08 Width: 0.378	-	-	Area: 0.398 Height: 1.21 Width: 0.378

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Glass & Glazing System Specification		Maximum Assessed Area (m²), Height & Width (m)						
Glass Type Manufacturer		Thickness	System & Manufacturer →	5	6	7	8	9
				Fireglaze compound fully filling the cavity x 2 (t) applied between the glass and the bead on both faces.	Therm-A-Strip 10 (w) x 2 (t) applied between the glass and the bead on both faces.	Therm-A-Strip 10 (w) x 2 (t) applied between the glass and the bead on both faces. [Cloaked]	Therm-A-Strip 10 (w) x 2 (t) applied between the glass and the bead on both faces & Fire & Acoustic Seals Ltd FR Silicone fully filling the glazing cavity	FF1 13.5 (h) x 2 (t) applied between the glass and the bead on both faces.
				Sealmaster	Intumescent Seals Limited	Intumescent Seals Limited	Intumescent Seals Limited & Fire & Acoustic Seals Ltd	Lorient Polyproducts Ltd
				Fire Test Reference	RF99036 & Chilt/RF11005	Chilt/RF06068 B, RF97091	WF412654	WF414679
9	Pyrodur Plus 30-104 Pilkington UK Limited	7	Chilt/RF06068 B, WF135011	Area: 0.398 Height: 1.21 Width: 0.378	Area: 1.55 Height: 2.275 Width: 0.787	Area: 0.75 Height: 1.8 Width: 0.48	-	Area: 0.359 Height: 1.38 Width: 0.3
10	Pyrodur 30-105 Pilkington UK Limited	7	CFR1903181	Area: 0.398 Height: 1.21 Width: 0.378	Area: 0.517 Height: 1.08 Width: 0.492	Area: 0.517 Height: 1.212 Width: 0.48	-	Area: 0.517 Height: 1.212 Width: 0.492
11	10mm Pyrodur Pilkington UK Limited	10	WF414679	Area: 0.398 Height: 1.2 Width: 0.378	Area: 0.5 Height: 1.08 Width: 0.48	Area: 0.5 Height: 1.2 Width: 0.48	Area: 0.5 Height: 1.2 Width: 0.48	Area: 0.5 Height: 1.2 Width: 0.48
12	Pyrostop 30-10 Pilkington UK Limited	15	WF531368	Area: 0.398 Height: 1.21 Width: 0.378	Area: 0.562 Height: 1.012 Width: 0.6	Area: 0.654 Height: 1.012 Width: 0.48	Area: 0.5 Height: 1.012 Width: 0.48	Area: 0.654 Height: 1.012 Width: 0.744
13	Pyran S Schott AG	6	BMT/FEP/F1 5214 AR1	Area: 0.148 Height: 0.762 Width: 0.224	Area: 0.148 Height: 0.762 Width: 0.224	-	-	Area: 0.148 Height: 0.762 Width: 0.224
14	Pyroswiss 'Classic' Vetrotech Saint Gobain International AG	6	Chilt/RF02110	Area: 0.398 Height: 1.21 Width: 0.378	Area: 0.562 Height: 1.08 Width: 0.6	-	-	Area: 0.806 Height: 1.239 Width: 0.631
15	Pyroguard EI30 Pyroguard UK Ltd	15	Chilt/RF13063 Rev A	Area: 0.398 Height: 0.828 Width: 0.378	Area: 0.474 Height: 0.828 Width: 0.66	Area: 0.474 Height: 0.828 Width: 0.48	Area: 0.474 Height: 0.828 Width: 0.48	Area: 0.474 Height: 0.828 Width: 0.66

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Glass & Glazing System Specification		Maximum Assessed Area (m²), Height & Width (m)				
Glass Type Manufacturer	Thickness	System & Manufacturer →	10	11	12	13
			System 36 Applied cradling the edge of the glass	ST105GT 10 (w) x 5 (t) applied between the glass and the bead on both faces.	STS 105 GT (3) 9 (w) x 3 (t) applied between the glass and the bead on both faces.	Hodgson Firestrip 30 12 (w) x 3 (t) applied between the glass and the bead on both faces.
			Lorient Polyproducts Ltd	Sealed Tight Solutions	Sealed Tight Solutions	Hodgsons Sealant
		Fire Test Reference	RF95042	BMT/FEP/F15097	WF523943/MR A	Chilt/RF02110
1	Pyrobelite 7 AGC Glass Europe	7	TR20231213-000610 Revision A, BMT/FEP/F15097	Area: 0.109 Height: 0.535 Width: 0.235	Area: 0.862 Height: 1.38 Width: 0.72	Area: 1.346 Height: 2.084 Width: 0.744
2	Pyrobelite 12 AGC Glass Europe	12	WF507669	Area: 0.109 Height: 0.535 Width: 0.168	Area: 0.208 Height: 1.38 Width: 0.168	Area: 0.208 Height: 1.428 Width: 0.168
3	Pyrobel 16 AGC Glass Europe	16	BMT/FEP/F16037	Area: 0.109 Height: 0.535 Width: 0.235	Area: 0.327 Height: 1.38 Width: 0.249	Area: 0.327 Height: 1.509 Width: 0.249
4	Pyrostem Pyroguard UK Ltd	7	WF545611	Area: 0.109 Height: 0.535 Width: 0.235	-	Area: 0.79 Height: 1.05 Width: 0.631
5	Pyroguard EW30 Pyroguard UK Ltd	7	WF412654, WF150116	Area: 0.109 Height: 0.535 Width: 0.235	-	Area: 0.75 Height: 1.8 Width: 0.48
6	Pyroguard 2-EW30/7-1 Advance Pyroguard UK Ltd	7	WF523942/ MR A	Area: 0.109 Height: 0.535 Width: 0.235	-	Area: 1.346 Height: 2.084 Width: 0.744
8	Pyroshield 2 Pilkington UK Limited	6	Chilt/RF11005	Area: 0.109 Height: 0.535 Width: 0.235	-	Area: 1.078 Height: 1.968 Width: 0.631
9	Pyrodur Plus 30-104 Pilkington UK Limited	7	Chilt/RF06068, WF135011	Area: 0.109 Height: 0.535 Width: 0.235	Area: 0.862 Height: 1.38 Width: 0.72	Area: 1.346 Height: 2.084 Width: 0.744

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Glass & Glazing System Specification		Maximum Assessed Area (m²), Height & Width (m)					
Glass Type Manufacturer		Thickness	System & Manufacturer er→	10	11	12	13
				System 36 Applied cradling the edge of the glass	ST105GT 10 (w) x 5 (t) applied between the glass and the bead on both faces.	STS 105 GT (3) 9 (w) x 3 (t) applied between the glass and the bead on both faces.	Hodgson Firestrip 30 12 (w) x 3 (t) applied between the glass and the bead on both faces.
				Lorient Polyproducts Ltd	Sealed Tight Solutions	Sealed Tight Solutions	Hodgsons Sealant
			Fire Test Reference	RF95042	BMT/FEP/F15097	WF523943/MR A	Chilt/RF02110
10	Pyrodur 30-105 Pilkington UK Limited	7	CFR190318 1	Area: 0.109 Height: 0.535 Width: 0.235	-	Area: 0.517 Height: 1.212 Width: 0.492	Area: 0.517 Height: 1.212 Width: 0.492
11	10mm Pyrodur Pilkington UK Limited	10	WF414679	Area: 0.109 Height: 0.535 Width: 0.235	Area: 0.5 Height: 1.2 Width: 0.48	Area: 0.5 Height: 1.2 Width: 0.48	Area: 0.5 Height: 1.2 Width: 0.48
12	Pyrostop 30-10 Pilkington UK Limited	15	WF531368	Area: 0.109 Height: 0.535 Width: 0.235	Area: 0.654 Height: 1.012 Width: 0.72	Area: 0.654 Height: 1.012 Width: 0.744	Area: 0.654 Height: 1.012 Width: 0.631
13	Pyran S Schott AG	6	BMT/FEP/F15214 AR1	Area: 0.109 Height: 0.535 Width: 0.224	-	-	Area: 0.148 Height: 0.762 Width: 0.224
14	Pyroswiss 'Classic' Vetrotech Saint Gobain International AG	6	Chilt/RF02110	Area: 0.109 Height: 0.535 Width: 0.235	-	-	Area: 1.078 Height: 1.968 Width: 0.631
15	Pyroguard EI30 Pyroguard UK Ltd	15	Chilt/RF13063 Rev A	Area: 0.109 Height: 0.535 Width: 0.235	Area: 0.474 Height: 0.828 Width: 0.66	Area: 0.474 Height: 0.828 Width: 0.66	Area: 0.474 Height: 0.828 Width: 0.631

1. All glass types must be fitted fully in accordance with the manufacturers' tested details/installation requirements, particularly with respect to edge cover and expansion tolerances.
2. Glass types 2, 3, 11, 12 & 15 are fully insulating for 30 minutes in terms of the criteria set out BS 476: Part 20: 1987.

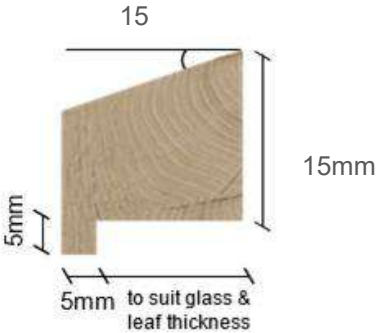
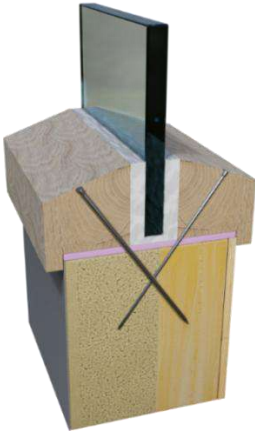
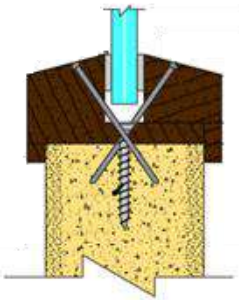
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6.3.1 Permitted Glazing Beading and Glass Retention (Timber Beads)

The following sections detail the permitted glazing beading, aperture lining requirements and minimum fixing details for the above detailed glass and glazing systems. Each section deals with a specific type of glazing bead and indicates which glass and or glazing system it is applicable to. Glazing beads shall only be used with the permitted glass and glazing system as identified.

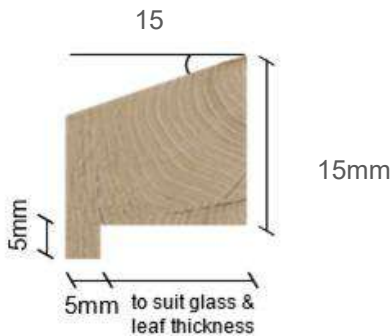
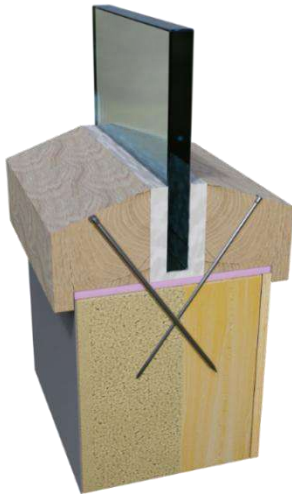
6.3.1.1 Chamfer Bead (Option 1)

Permitted Glazing Systems (Defined in Section 6.3)	1, 5, 6, 8, 9, 10 & 11
	
- The above detailed bolection may be increased in thickness and height if required, with the dimensions shown being the minimum. - The glazing beads must be created from hardwood of a minimum 640kg/m³ density. - Glazing beads must be retained in position with minimum length of 40mm long steel pins or 40mm long No. 6-8 screws, inserted at 35-40° to the vertical. - Fixings must be at 150mm maximum centres and no more than 50mm from each corner. Pneumatically fired pins are acceptable providing the pins meet the specification given in section 6.3.2 below. - A 6 – 10mm thick square aperture liner is optionally permitted for use with the above bead providing it is constructed from hardwood of minimum density 640kg/m³ and glued in position using a UF, PVA or PU type adhesive. - The fitting of the glazing seal between the bead and the glass should be in accordance with the manufacturer's instructions. - Glass shall be aligned within the aperture using hardwood or non-combustible setting blocks placed at the bottom horizontal edge only, sized to provide edge cover and expansion allowance as the specific system requires - Based on the testing undertaken in Chilt/RF02083 it is permitted to encase the glazing bead with up to 2mm thick PVC providing the glass type used is one of the following types: 1, 2, 3, 6, 9, 10, 11, 12 or 15. In all cases the glazing bead and glazing system must be compatible with the glass type used. - It is optionally permitted to include a 6mm thick 'L' section to one of the bead profiles to achieve a security bead arrangement (see image right, bottom). When fitted in this manner the bead must be adhered to the leaf using an adhesive permitted for the application of lippings, it is permitted to optionally screw the glazing bead through the platform as depicted. The bead fixings must be increased in direct proportion to the addition of the additional timber to ensure the same level of embedment within the door leaf.	

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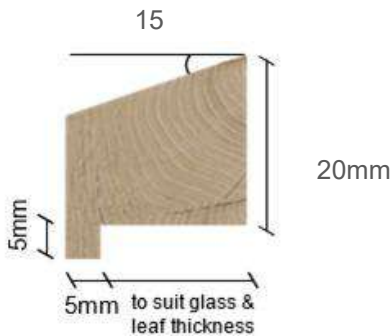
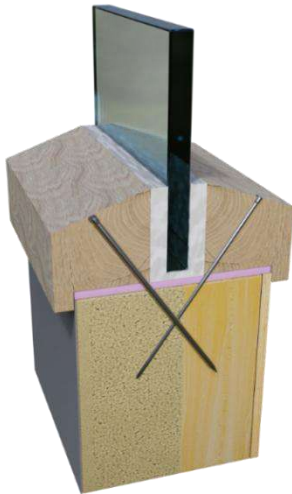
6.3.1.2 Chamfer Bead (Option 2)

Permitted Glazing Systems (Defined in Section 6.3)	1, 2, 3, 6 & 12
	
• The above detailed bevelation may be increased in thickness and height if required, with the dimensions shown being the minimum. • The glazing beads must be created from hardwood of a minimum 640kg/m³ density. • Glazing beads must be retained in position with minimum length of 50mm long steel pins or 50mm long No. 6-8 screws, inserted at 35-40° to the vertical. • Fixings must be at 150mm maximum centres and no more than 50mm from each corner. Pneumatically fired pins are acceptable providing the pins meet the specification given in section 6.3.2 below. • A 6 – 10mm thick square aperture liner is optionally permitted for use with the above bead providing it is constructed from hardwood of minimum density 640kg/m³ and glued in position using a UF, PVA or PU type adhesive. • The fitting of the glazing seal between the bead and the glass should be in accordance with the manufacturer's instructions. • Glass shall be aligned within the aperture using hardwood or non-combustible setting blocks placed at the bottom horizontal edge only, sized to provide edge cover and expansion allowance as the specific system requires. • Based on the testing undertaken in Chilt/RF02083 it is permitted to encase the glazing bead with up to 2mm thick PVC providing the glass type used is one of the following types: 1, 2, 3, 6, 9, 10, 11, 12 or 15. In all cases the glazing bead and glazing system must be compatible with the glass type used.	

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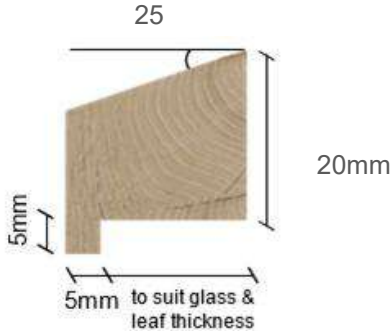
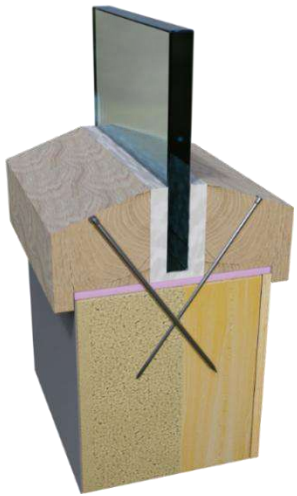
6.3.1.3 Chamfer Bead (Option 3)

Permitted Glazing Systems (Defined in Section 6.3)	9
	
• The above detailed bevelation may be increased in thickness and height if required, with the dimensions shown being the minimum. • The glazing beads must be created from MDF of a minimum 700kg/m³ density. • Glazing beads must be retained in position with minimum length of 38mm long steel pins or 38mm long No. 6-8 screws, inserted at 35-40° to the vertical. • Fixings must be at 150mm maximum centres and no more than 50mm from each corner. Pneumatically fired pins are acceptable providing the pins meet the specification given in section 6.3.2 below. • A 6 – 10mm thick square aperture liner is optionally permitted for use with the above bead providing it is constructed from hardwood of minimum density 640kg/m³ and glued in position using a UF, PVA or PU type adhesive. • The fitting of the glazing seal between the bead and the glass should be in accordance with the manufacturer's instructions. • Glass shall be aligned within the aperture using hardwood or non-combustible setting blocks placed at the bottom horizontal edge only, sized to provide edge cover and expansion allowance as the specific system requires • Based on the testing undertaken in Chilt/RF02083 it is permitted to encase the glazing bead with up to 2mm thick PVC providing the glass type used is one of the following types: 1, 2, 3, 6, 9, 10, 11, 12 or 15. In all cases the glazing bead and glazing system must be compatible with the glass type used.	

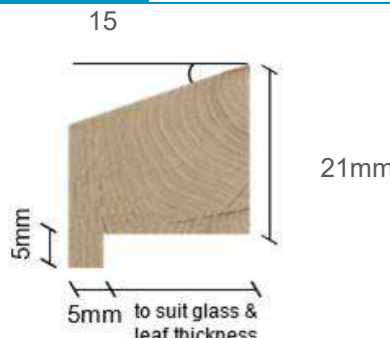
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6.3.1.4 Chamfer Bead (Option 4)

Permitted Glazing Systems (Defined in Section 6.3)	13
	
• The above detailed bolection may be increased in thickness and height if required, with the dimensions shown being the minimum. • The glazing beads must be created from hardwood of a minimum 640kg/m³ density. • Glazing beads must be retained in position with minimum length of 50mm long steel No. 6-8 screws, inserted at 35-40° to the vertical. • Fixings must be at 150mm maximum centres and no more than 50mm from each corner. • A 6 – 10mm thick square aperture liner is optionally permitted for use with the above bead providing it is constructed from hardwood of minimum density 640kg/m³ and glued in position using a UF, PVA or PU type adhesive. • The fitting of the glazing seal between the bead and the glass should be in accordance with the manufacturer's instructions. • Glass shall be aligned within the aperture using hardwood or non-combustible setting blocks placed at the bottom horizontal edge only, sized to provide edge cover and expansion allowance as the specific system requires • Based on the testing undertaken in Chilt/RF02083 it is permitted to encase the glazing bead with up to 2mm thick PVC providing the glass type used is one of the following types: 1, 2, 3, 6, 9, 10, 11, 12 or 15. In all cases the glazing bead and glazing system must be compatible with the glass type used.	

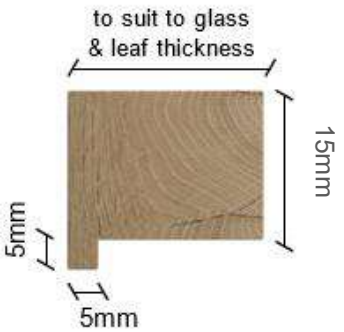
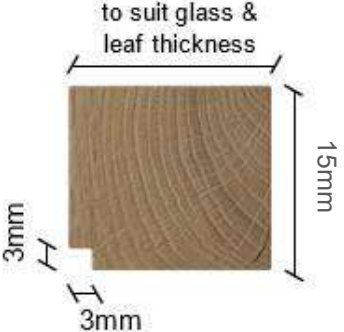
6.3.1.5 Chamfer Bead (Option 5)

Permitted Glazing Systems (Defined in Section 6.3)	4
	
- The above detailed belection may be increased in thickness and height if required, with the dimensions shown being the minimum. - The glazing beads must be created from hardwood of a minimum 640kg/m³ density. - Glazing beads must be retained in position with minimum length of 50mm long steel pins or 50mm long No. 6-8 screws, inserted at 30-35° to the vertical. - Fixings must be at 150mm maximum centres and no more than 50mm from each corner. Pneumatically fired pins are acceptable providing the pins meet the specification given in section 6.3.2 below. - A 6 – 10mm thick square aperture liner is optionally permitted for use with the above bead providing it is constructed from hardwood of minimum density 640kg/m³ and glued in position using a UF, PVA or PU type adhesive. - The fitting of the glazing seal between the bead and the glass should be in accordance with the manufacturer's instructions. - Glass shall be aligned within the aperture using hardwood or non-combustible setting blocks placed at the bottom horizontal edge only, sized to provide edge cover and expansion allowance as the specific system requires - An expansion allowance of 11.5mm is required on all edges.	

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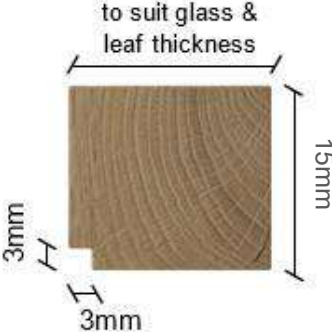
6.3.1.6 Square Bead (Option 1)

Permitted Glazing Systems (Defined in Section 6.3)	1 & 11	
		
- The above detailed bolection may be increased in thickness and height if required, with the dimensions shown being the minimum. In addition, it is permitted to apply up to a 15° splay to the bolected bead as detailed above. A splay must not be applied to the bead designs without a bolection. - The glazing beads must be created from hardwood of a minimum 640kg/m³ density. - Glazing beads must be retained in position with minimum of 40mm long steel pins or 40mm long No. 6-8 screws, inserted at 35-40° to the vertical. - Fixings must be at 150mm maximum centres and no more than 50mm from each corner. Pneumatically fired pins are acceptable providing the pins meet the specification given in section 6.3.2 below. - A 6 – 10mm thick square aperture liner is optionally permitted for use with the above bead providing it is constructed from hardwood of minimum density 640kg/m³ and glued in position using a UF, PVA or PU type adhesive. - The fitting of the glazing seal between the bead and the glass should be in accordance with the manufacturer's instructions. - Glass shall be aligned within the aperture using hardwood or non-combustible setting blocks placed at the bottom horizontal edge only, sized to provide edge cover and expansion allowance as the specific system requires - Based on the testing undertaken in Chilt/RF02083 it is permitted to encase the glazing bead with up to 2mm thick PVC providing the glass type used is one of the following types: 1, 2, 3, 6, 9, 10, 11, 12 or 15. In all cases the glazing bead and glazing system must be compatible with the glass type used.		

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6.3.1.7 Square Bead (Option 2)

Permitted Glazing Systems (Defined in Section 6.3)	1 & 12	
		
- The above detailed bolection may be increased in thickness and height if required, with the dimensions shown being the minimum. In addition, it is permitted to apply up to a 15° splay to the bolected bead as detailed above. A splay must not be applied to the bead designs without a bolection. - The glazing beads must be created from hardwood of a minimum 640kg/m³ density. - Glazing beads must be retained in position with minimum of 50mm long steel pins or 50mm long No. 6-8 screws, inserted at 35-40° to the vertical. - Fixings must be at 150mm maximum centres and no more than 50mm from each corner. Pneumatically fired pins are acceptable providing the pins meet the specification given in section 6.3.2 below. - A 6 – 10mm thick square aperture liner is optionally permitted for use with the above bead providing it is constructed from hardwood of minimum density 640kg/m³ and glued in position using a UF, PVA or PU type adhesive. - The fitting of the glazing seal between the bead and the glass should be in accordance with the manufacturer's instructions. - Glass shall be aligned within the aperture using hardwood or non-combustible setting blocks placed at the bottom horizontal edge only, sized to provide edge cover and expansion allowance as the specific system requires. - Based on the testing undertaken in Chilt/RF02083 it is permitted to encase the glazing bead with up to 2mm thick PVC providing the glass type used is one of the following types: 1, 2, 3, 6, 9, 10, 11, 12 or 15. In all cases the glazing bead and glazing system must be compatible with the glass type used.		

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6.3.1.8 Square Bead (Option 3)

Permitted Glazing Systems (Defined in Section 6.3)	7
	
- The above detailed bolection may be increased in thickness and height if required, with the dimensions shown being the minimum. In addition, it is permitted to apply up to a 15° splay to the bolected bead as detailed above. A splay must not be applied to the bead designs without a bolection. - The glazing beads must be created from hardwood of a minimum 640kg/m³ density. - Glazing beads must be retained in position with minimum of 50mm long steel pins or 50mm long No. 6-8 screws, inserted at 35-40° to the vertical. - Fixings must be at 125mm maximum centres and no more than 50mm from each corner. Pneumatically fired pins are acceptable providing the pins meet the specification given in section 6.3.2 below. - A 6 – 10mm thick square aperture liner is optionally permitted for use with the above bead providing it is constructed from hardwood of minimum density 640kg/m³ and glued in position using a UF, PVA or PU type adhesive. - The fitting of the glazing seal between the bead and the glass should be in accordance with the manufacturer's instructions. - Glass shall be aligned within the aperture using hardwood or non-combustible setting blocks placed at the bottom horizontal edge only, sized to provide edge cover and expansion allowance as the specific system requires - Based on the testing undertaken in Chilt/RF02083 it is permitted to encase the glazing bead with up to 2mm thick PVC providing the glass type used is one of the following types: 1, 2, 3, 6, 9, 10, 11, 12 or 15. In all cases the glazing bead and glazing system must be compatible with the glass type used.	

6.3.2 Pneumatically Fired Pins

The following pin specification is permitted and has been considered suitable for applications where a pin fixing is permitted for glazing beads:

Option 1 – Round, Oval & Rectangular Pins

The following dimension of pin has been approved for round, oval and rectangular shaped pins which are hand applied:

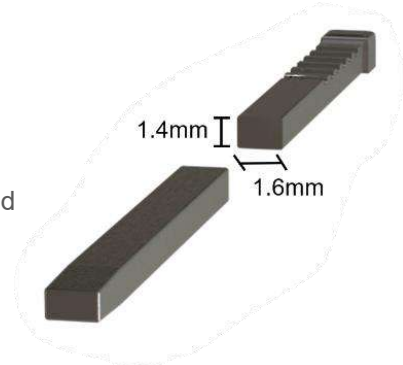
- Minimum Standard Wire Gauge (SWG) 16.
- Minimum cross section area of 2.03mm².
- Minimum linear dimension of 1.6mm in any direction, see figure below. The maximum pin diameter or any linear dimensions may be no greater than 2.0mm.



Option 2 – Gun (Pneumatically) Fired Rectangular Pins

The following dimension of rectangular pin has been deemed suitable for gun (pneumatically) fired applications.

- Minimum Standard Wire Gauge (SWG) 16.
- Minimum cross section area of 2.24mm².
- Minimum linear dimensions as shown in the figure.
- The 1.6mm dimension is predominately oriented perpendicular to the glass, where possible.
- The maximum pin diameter or any linear dimensions may be no greater than 2.0mm.



Pins with dimensions less than those stated above are not covered by this assessment.

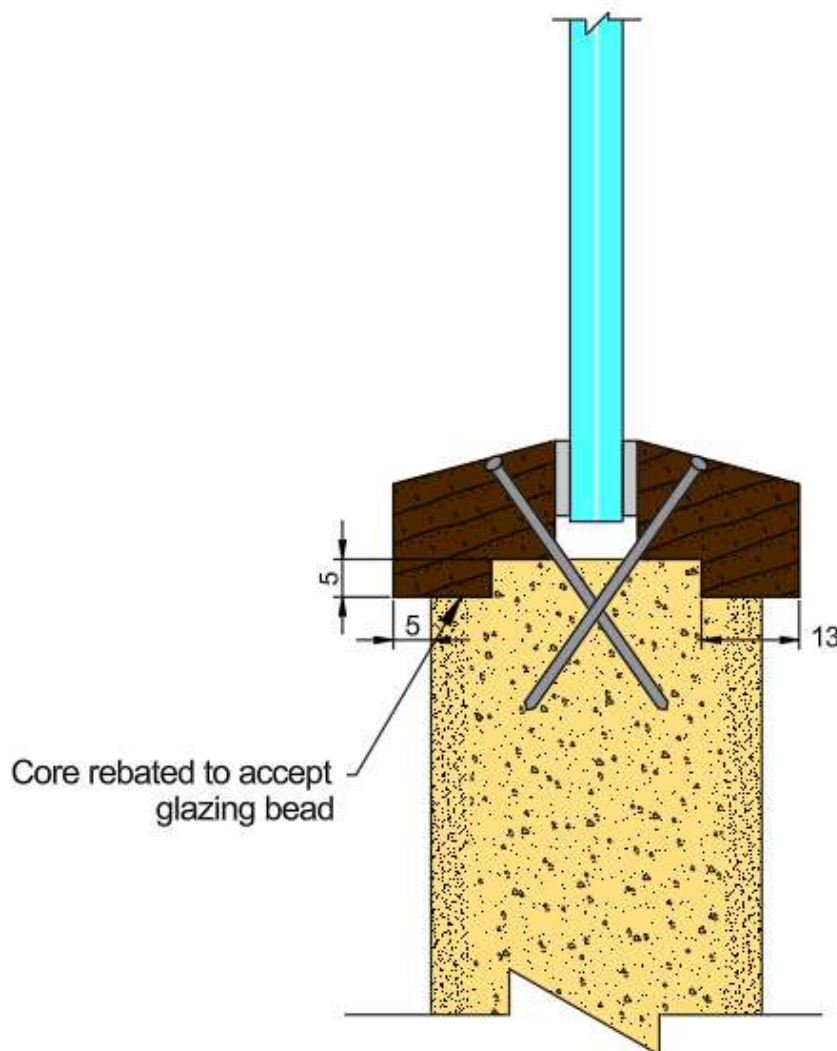
6.4 Glazing Doorsets Including Grooved faces

The square and chamfered beads defined in section 6.3.1 must be modified when applied to doorsets which include grooves that terminate at or run through where the glazed aperture is positioned in the door leaf.

- The bolected beads must be modified to result in the bolection dimensions being increased to 13mm x 5mm (without increasing the overall dimensions of the bead). This will result in the leaf requiring to be rebated to facilitate the increased dimensions of the glazing bead as detailed below.
- The beads which do not require a bolection must include a 6-10mm thick Hardwood (640kg/m³) aperture liner, fitted after the grooves have been machined in the leaf face (the liner must not be grooved).

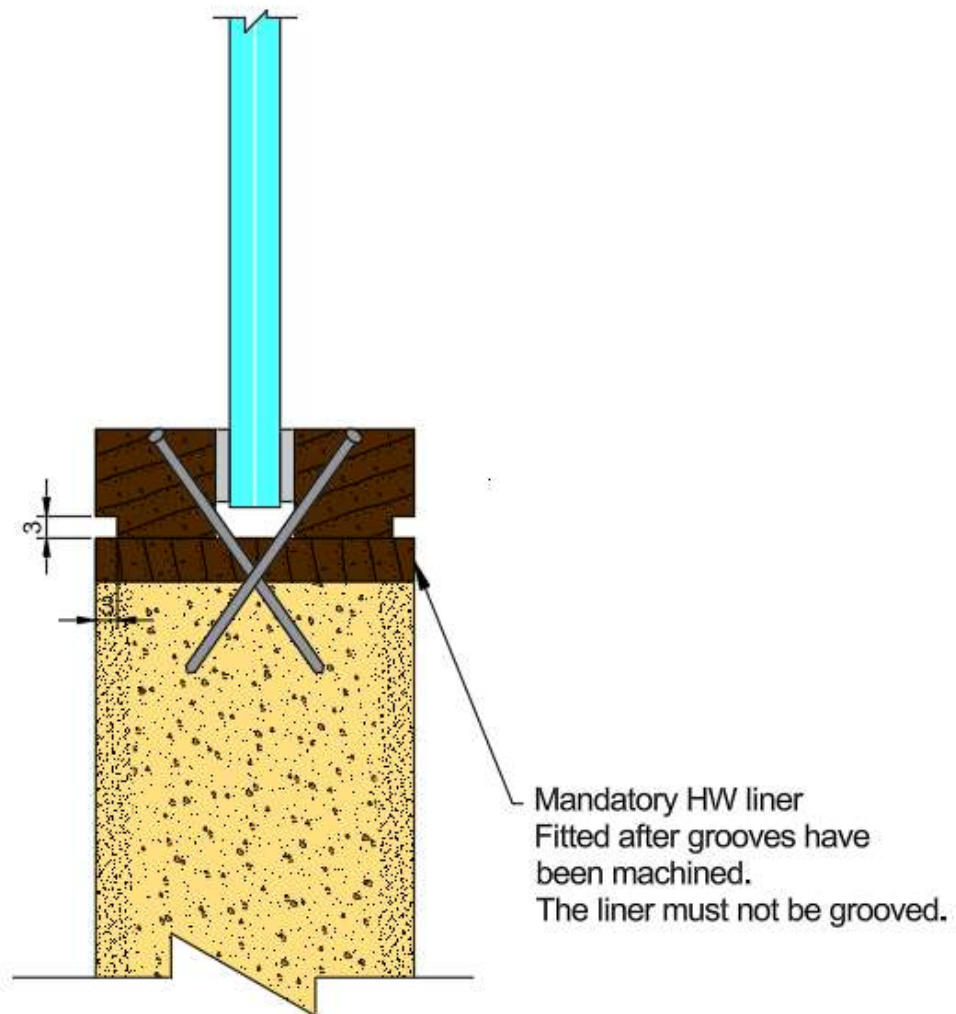
Doorsets which are grooved such that the groove does not run under the glazing bead do not need the above modifications.

The drawing below shows the modification to the glazing bead. In addition, the requirements of section 6.3.1 must be complied with.



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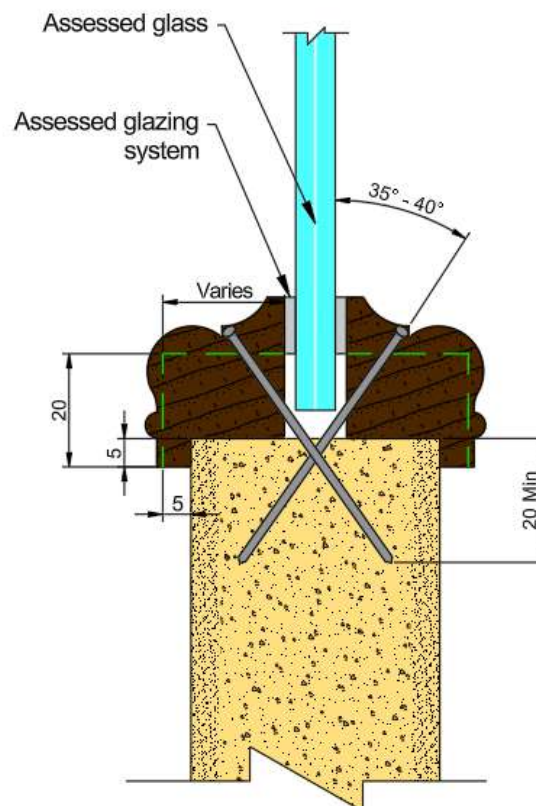
Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

6.5 Optional Glazing Bead Design Options

In addition to meeting the specification of glazing bead designs defined in section 6.3.1. It is permitted to increase the overall cross-section of the glazing bead above the dimensions defined, providing:

- The selected glazing bead includes a bolection return.
- The glazing bead is defined as compatible with the glazing system.
- The length of the required glazing fixings are increased in direct proportion to the increase in dimensions of the glazing bead such that the same level of fixity is achieved.
- The glass type utilised is one of the following options:
 - Pyrobelite 7
 - Pyrobelite 12
 - Pyrobel 16
 - Pyroguard 2-EW30/7-1 Advance
 - Pyroguard EI30
 - Pyrodur Plus
 - Pyrodur 30-105
 - 10mm Pyrodur
 - Pyrostop 30-10

An example of the permitted variation is depicted below based on a square bolected bead as defined within section 6.3.1.



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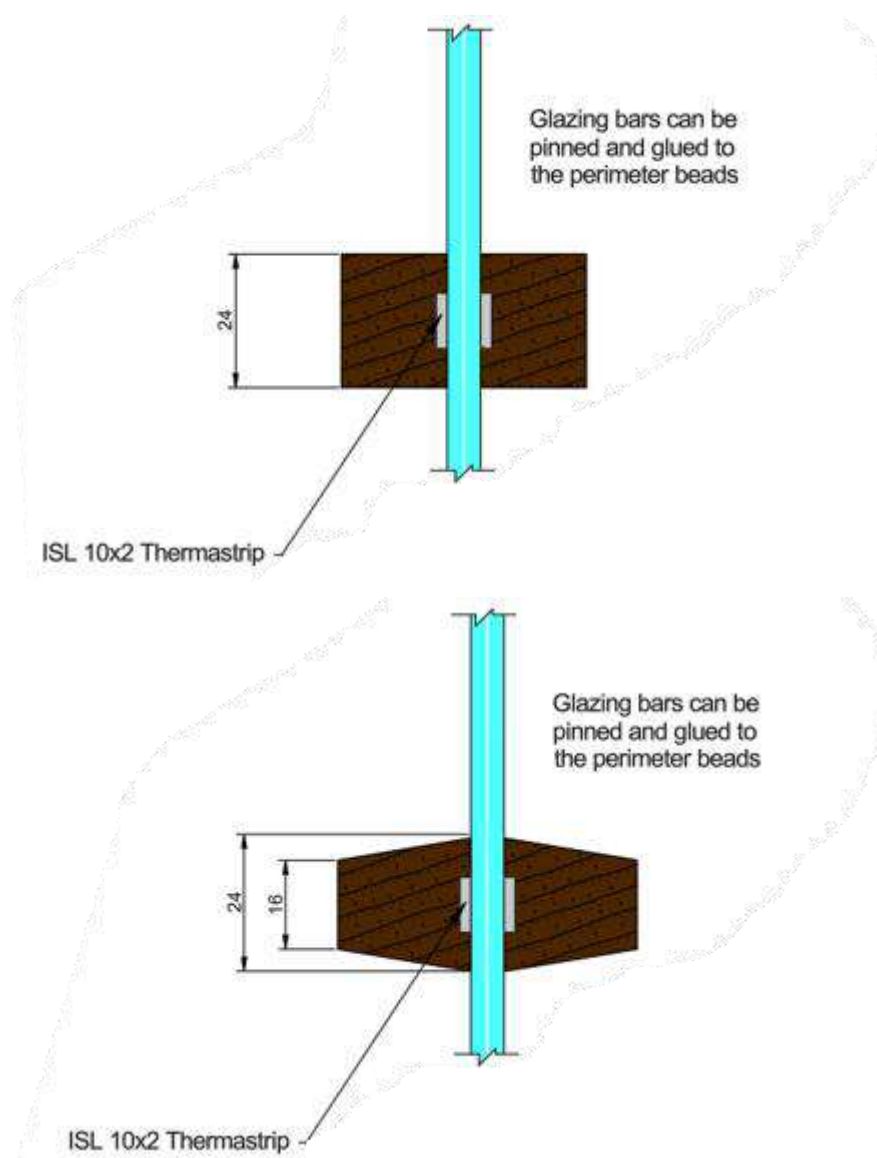
6.6 Halspan 30 Cassette System: False Beads

The testing as summarised within Appendix A, demonstrates that the Optima 30 doorset design is capable of accepting glazed apertures which include a false bead system. This is specifically tested in WF412654 doorset B which included a glazed aperture of 1500mm high x 400mm wide and achieved a fire resistance performance of 30 minutes when tested to BS EN 1634-1: 2014.

On the basis of this testing the following specified glazing cassette system may be utilised:

Perimeter Glazing Bead Specification	Glazing System at glass perimeter	Horizontal False Beads	Glazing System: False Beads
Square Bead (Option 3)	Glazing System 7 from section 6.3.1	Hardwood minimum density of 640 kg/m ³ 15mm – 25mm high 15mm – 23mm deep Including a 10mm x 2mm channel to accept the glazing seal.	Intumescent Seals Limited Therm-A-Strip 10 (w) x 2 (t) applied between the glass and the false bead on both faces as depicted below.

The permitted glass types and maximum permitted dimensions for glazing system 7 within section 6.3.1 may be used with the Halspan 30 Cassette System: False Beads.



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6.7 Halspan 30 Multi-Pane Glazing System

The following multi-pane glazing system has been assessed based on the tested detail within Chilt/RF99036. Which included a variation of this system which had not recorded a failure related to the glazing until 47 minutes had passed.

Based on this testing it is possible to include the following multi-pane glazing system into the Optima 30 doorset design providing:

The maximum overall aperture to which the multi-pane glazing system must not exceed:

1134mm high x 804mm wide and a maximum area of 0.79m²

The Multi-Pane Glazing System must be constructed from the addition of Hardwood (minimum density 640kg/m³) which measure 45mm deep x 20mm wide.

It is permitted to include a single cruciform arrangement. When this is done the assembly method must match those tested within Chilt/RF99036.

The transoms and mullions must be fixed within the door leaf as tested in Chilt/RF99036.

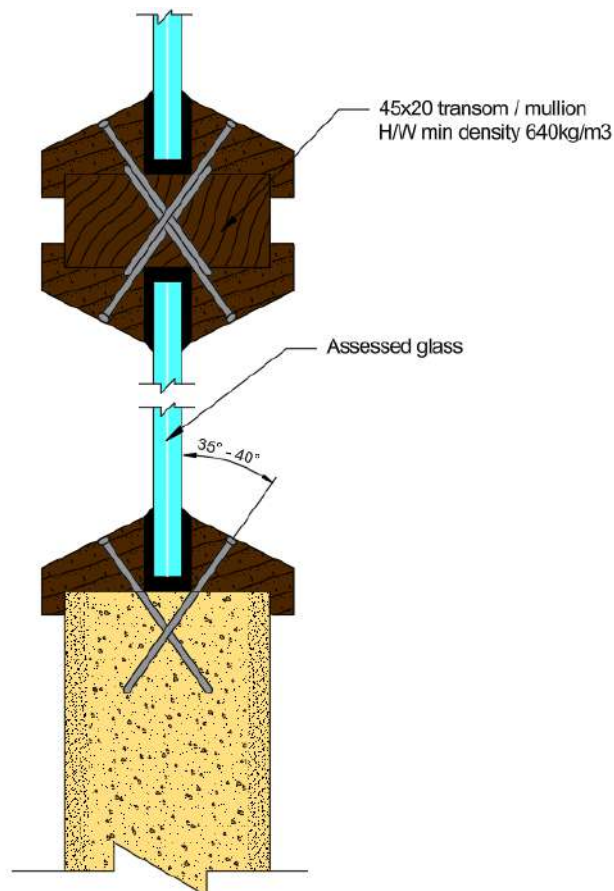
The Multi-Pane Glazing System must include one of the tested and permitted glazing systems and associated glazing beads as defined within section 6.3.1.

The following glass types may be utilised within the Multi-Pane Glazing System providing they are compatible with the glazing bead and glazing system and no individual aperture exceeds the maximum permitted dimensions identified within section 6.3.1:

Permitted Glass Types:

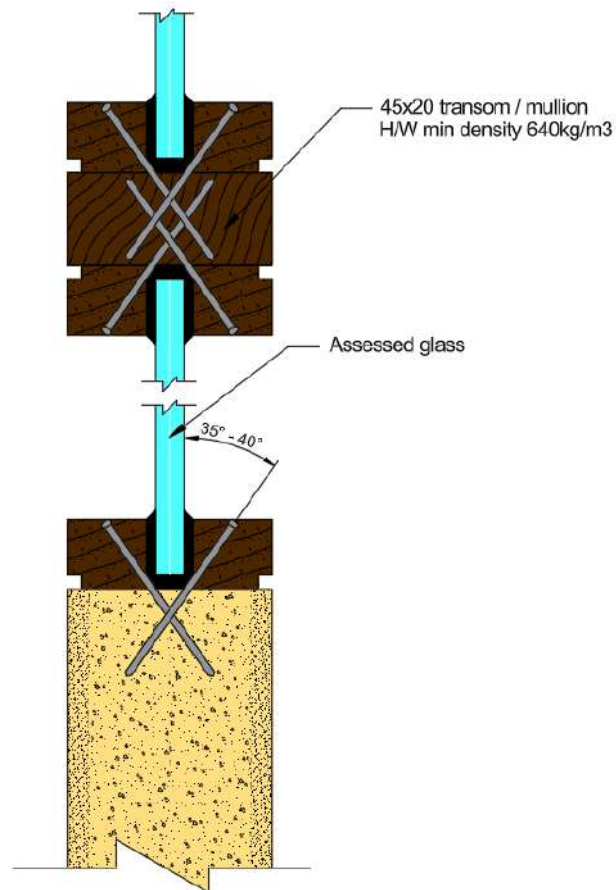
1, 2, 3, 6, 9, 10, 11 & 12

The Halspan multi-pane glazing system based on this principle is given below.



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6.8 Circular Glazed Apertures – Leaf 2 Only

The Halspan Optima 30, 54mm thick variant (Leaf 2) has been demonstrated to perform including circular glazed apertures within Chilt/RF02081. On this basis the following circular glazed aperture specifications are considered within this assessment:

6.8.1 Sealmaster Fireglaze & Therm-A-Line Liner

The testing in Chilt/RF02083 demonstrates the performance of the tested Sealmaster Fireglaze in conjunction with Therm-A-Line glazing liner with Pyrobel glass. With no failures associated with the glazed aperture observed until in excess of 60 minutes.

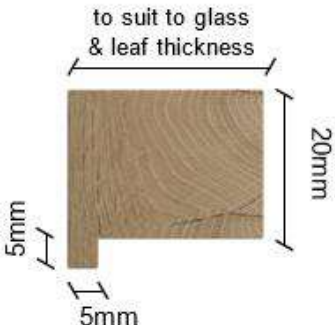
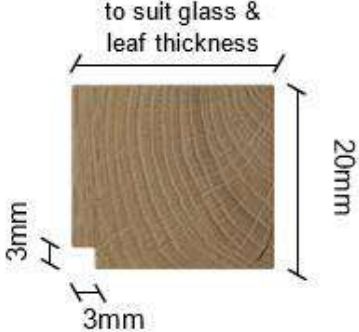
On this basis the following scope is permitted:

Maximum permitted aperture diameter: **550mm**.

Glass type: **Pyrobel 16, AGC Glass Europe**

Glazing System: 20mm x 4mm, **Sealmaster Fireglaze Mastic**, applied between the bead and the face of the glass on both faces.

Glazing Liner: 35mm x 2mm, **Intumescent Seals Limited, Therm-A-Line** liner applied rebated flush into the hardwood glazing liner (as demonstrated in Chilt/RF02081).

Permitted Glazing Bead		
		
- The above detailed bolection may be increased in thickness and height if required, with the dimensions shown being the minimum. In addition, it is permitted to apply up to a 15° splay to the bolected bead as detailed above. A splay must not be applied to the bead designs without a bolection. - The glazing beads must be created from hardwood of a minimum 640kg/m³ density. The circular glazing bead cassettes must be finger jointed with no gaps, with the joints bonded with UF. - Glazing beads must be retained in position with minimum of 50mm long steel screws, inserted at 30° to the vertical. - Fixings must be at 150mm maximum centres. - A 10mm thick rectangular section, circular aperture liner is required for use with the above bead and must be constructed from hardwood of minimum density 640kg/m³. The circular aperture liner must be finger jointed with no gaps, with the joints bonded with UF, and glued in position using a UF type adhesive. - The fitting of the glazing seal between the bead and the glass should be in accordance with the manufacturer's instructions. - Glass shall be aligned within the aperture using hardwood or non-combustible setting blocks, sized to provide edge cover and expansion allowance as the specific system requires. - Circular glazing bead cassettes and circular hardwood aperture liners must be finger jointed with no gaps. Finger jointing must be bonded with PVAc, PU or UF adhesive.		

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6.8.2 Zeroplus Slimport

The Zeroplus Slimport circular glazing system is constructed from steel and has been tested within WARRES 117483 as summarised within Appendix A. The test included a Zeroplus Slimport SP250 and a Zeroplus Slimport SP450 which was installed within a 54mm thick timber-based door leaf. It was observed that the first failure mode was recorded at 71 minutes test duration. Supporting the use of the glazing system.

The Zeroplus Slimport glazing system is permitted in the following dimensions:

- 250mm diameter
- 450mm diameter

When utilised the Zeroplus Slimport glazing system shall be positioned within the requirements of section 6.1.

The following intumescent specification shall be applied:

- Zero FS2002, 1.6mm (t) x 9.5mm (w), applied to both faces of the glass between the glass and the bead.
- Zero FS4004, 1.6mm (t) x 54mm (w), applied lining the aperture within the leaf.

The glass type permitted for the Zeroplus Slimport glazing system is as follows:

Pyrocel, 6mm thick, modified toughened glass.

When applied the glass diameter shall be 25mm smaller than the chosen Zeroplus Slimport glazing system to allow for expansion tolerances as tested.

Fixings and glass retention techniques shall be as tested within WARRES 117483.

6.9 Hygeno IntaVista & FlushView Units – Leaf 2 Only

These following glazing units have been successfully tested as shown in the table below. The table identifies the fire test reference, unit overall dimensions and the fire glass included within the Hygeno unit.

Test Report	Hygeno Product	Unit			Fire Glass
		Height	Width	Thickness	
CFR1909241	FlushView	750	500	54	5mm Firelite
	IntaVista	750	500	54	5mm Firelite

The Hygeno units are therefore permitted for use within the following specification as detailed below:

- Unit Dimensions:
 - a. Maximum height of glazing unit: 750mm
 - b. Maximum width of glazing unit: 500mm
 - c. Maximum glazed area: 0.375 m²

In all cases the overall unit thickness must be 54mm thick. The width of the spacers shall be kept in the same as tested.

Description of the units follows in sections 6.8.1 and 6.8.2 which include permitted installation details relevant for each of the units.

Additionally, to the above requirements, due to the complex nature of these glazing units, further installation guidance for both the FlushView and IntaVista glazing systems should be sought from the manufacturer.

6.9.1 Hygeno IntaVista Unit

Hygeno Flush Fit IntaVista is supplied as a unit and comprises a central 5mm Firelite pane, with one pane of 6mm toughened glass to one side and with 2 panes of 6mm toughened glass, with an extra layer of movable annealed obscuring glass with a stainless-steel handle to the other side.

This unit has been tested with the operating lever exposed to furnace conditions (CFR1909241).

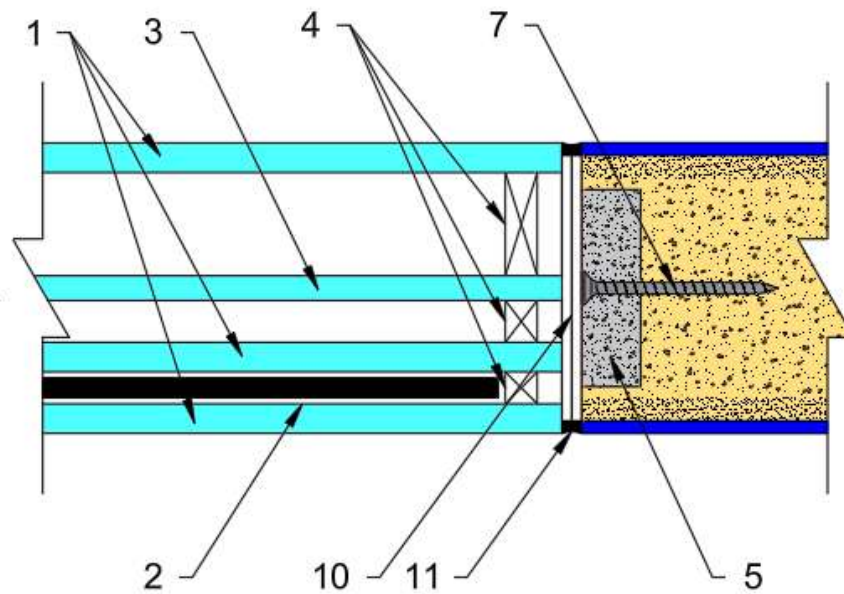
On the basis that the toughened glass layers may be considered sacrificial, and their presence throughout the entire test duration is not essential to maintain the integrity performance of the unit, and the assumption that the integrity performance will be maintained by the Firelite ceramic glass centrally within the build-up of the unit. It is assessed that providing the Firelite glass remains uninterrupted, the unit can be considered fire resisting from both sides.

	Make/type	Dimension (mm)	Key to figures
Triple glazed unit	Thermally Toughened to BS EN 12150 with Polished Edges ¹	6 thick	1
	Thermally Toughened to BS EN 12150 with Polished Edges ¹		
	Annealed glass ¹	4 thick	2
	Firelite ceramic glass	5 thick	3
	Aluminium spacer bar ¹	15.5 / 10 / 6 wide	4
Expansion allowance	4mm on all edges		-
Lining glazing aperture rebate	Vertical edges – MgO board 40mm wide x 12mm deep		5
	Horizontal edges – MgO board 2No 14mm wide x 12mm deep		6
Fixings	Vertical edges – 40mm long pins or No. 6 screw centrally fitted within the MgO board in line with the glass as depicted overleaf, located at 50mm from the corners and spaced at 150mm centres.		7
	Horizontal edges – 40mm long pins or No. 6 screws located at 50mm from the corners and spaced at 150mm centres at 30° to the plane of the glass. Fixing required for each of the calcium silicate blocks. As depicted overleaf.		8
	Horizontal edges – Central glass pane is bedded onto Everbuild Firemate mastic, which is applied fully filling the 12mm wide x 12mm deep void between the two MgO boards		9
Intumescent materials	50 x 2mm Interdens® (comprising 50 x 2mm liner + 1mm – 2mm packing sections) fitted centrally to the leaf thickness and interrupted by the central glazing pane at the horizontals		10
	All edges – bead of Otto Chemie S94 sealant applied between outer panes of toughened glass and door core around the perimeter of glazed unit (approx. 4mm deep bead)		11

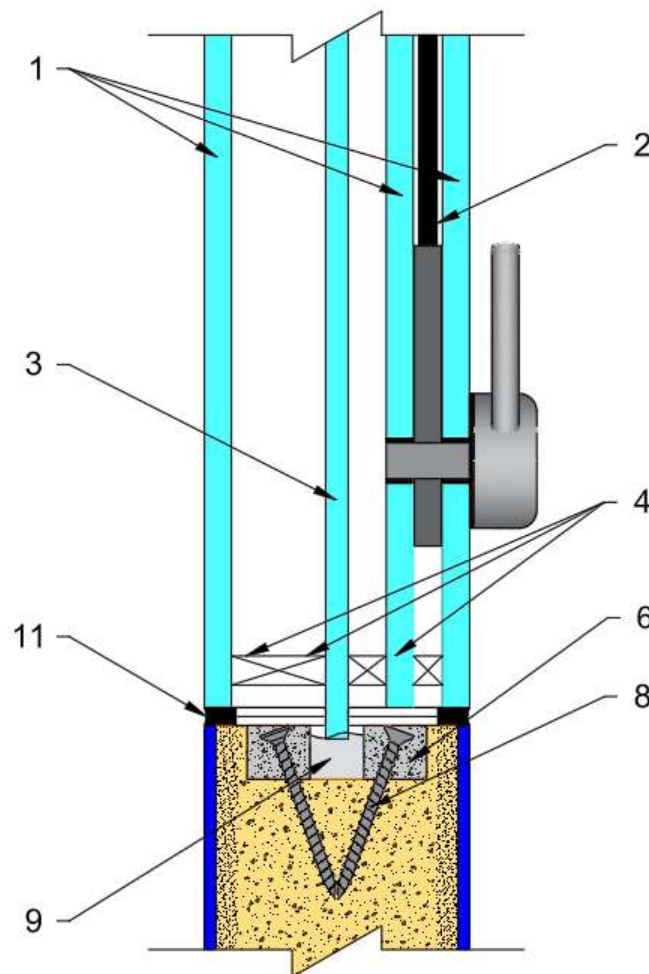
Notes:

- As detailed within section 3 the components must not be changed from the tested detail. Alternatives have not been considered.

Horizontal section detail



Vertical section detail



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6.9.2 Hygeno FlushView Unit

Hygeno FlushView is supplied as a unit and comprises a central 5mm FireLite pane with 6mm toughened glass to either face.

This unit is symmetrical and therefore can be considered fire resisting from both sides supported by the testing undertaken in CFR1909241.

The table below provides information on how the unit is constructed and installed.

	Make/type	Dimension (mm)	Key to figures
Triple glazed unit	Thermally Toughened to BS EN 12150 with Polished Edges ¹	6 thick	1
	Thermally Toughened to BS EN 12150 with Polished Edges ¹		
	Firelite ceramic glass	5 thick	2
	Aluminium spacer bar ¹	15 wide	3
Expansion allowance	4mm on all edges		-
Lining glazing aperture rebate	Vertical edges – MgO board 40mm wide x 12mm deep		4
	Horizontal edges – MgO board 2No 14mm wide x 12mm deep		5
Fixings	Vertical edges – 40mm long pins or No. 6 screw centrally fitted within the MgO board in line with the glass as depicted overleaf, located at 50mm from the corners and spaced at 150mm centres.		6
	Horizontal edges – 40mm long pins or No. 6 screws located at 50mm from the corners and spaced at 150mm centres at 30° to the plane of the glass. Fixing required for each of the calcium silicate blocks. As depicted overleaf.		7
Intumescent materials	Horizontal edges – Central glass pane is bedded onto Everbuild Firemate mastic, which is applied fully filling the 12mm wide x 12mm deep void between the two MgO boards		8
	50 x 2mm Interdens® (comprising 50 x 2mm liner + 1mm – 2mm packing sections) fitted centrally to the leaf thickness and interrupted by the central glazing pane at the horizontals		9
	All edges – bead of Otto Chemie S94 sealant applied between outer panes of toughened glass and door core around the perimeter of glazed unit (approx. 4mm deep bead)		10

Notes:

- As detailed within section 3 the components must not be changed from the tested detail. Alternatives have not been considered.

A technical cross-section diagram of a three-lane bridge deck. The deck consists of three horizontal cyan-colored lanes. On the left, a vertical line indicates the bridge's edge. On the right, the deck is supported by a structure. A central vertical line (1) separates the lanes. A horizontal line (2) is located within the top lane. A vertical line (3) is located within the middle lane. A vertical line (6) is located within the bottom lane. A vertical line (9) is located within the bottom lane. A vertical line (10) is located within the bottom lane. A vertical line (4) is located within the bottom lane. A vertical line (5) is located within the bottom lane.

[illegible]

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

7. Door Frame Construction

7.1 Details for Frame 1

Successful tests including, but not limited to, tests Chilt/RF01056A and Chilt/RF06074 have been used to support the scope for Frame 1.

The door frames listed below are the minimum size and density which have been successfully tested and assessed by this report. The frame must be constructed to meet the following specification for single and double acting frames, where applicable.

Frame 1 Specification		
Material	Minimum Section Size (mm)	Minimum Density (kg/m ³)
Softwood or Hardwood	Frame: 70 (d) x 30 (w) (excluding stop) Stop: 12 (w) (integral)	510
Softwood or Hardwood	Stop: 12 (w) (planted)	510
MDF		700

Note:

Minimum section size is subject to size of hardware, the use of transomed overpanel (see frame details below) and frame profile (see frame details below).

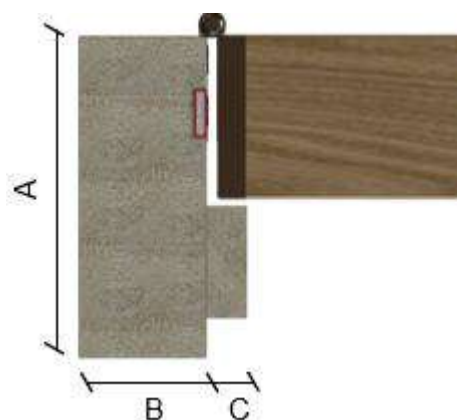
Minimum section size is also subject to the use of the shadow gap installation (see section 11.2.4).

Architraves may be rebated into the cross section of the frame in a tongue and groove arrangement providing:

- The tongue fully fills the groove provided within the frame material and the groove is no greater than 10mm wide x 10mm deep.
- The groove must be positioned no closer than 10mm from any frame edge.
- The groove must not coincide with the rebate for items of rebated building hardware. Hardware fixings are permitted to pass through the groove.
- The architrave when applied must be bonded on all edges with PU or PVA adhesive.
- The material of the architrave must be the same specification including species as the frame material.

7.1.1 Standard frame detail

The diagram below shows detail of the standard frame construction. Minimum section is permitted in two sizes subject to hardware size and the use of transom overpanel. Any radius to the lipping must comply with section 5.4.



A: Frame depth = 70mm minimum

B: Frame width = 30mm minimum

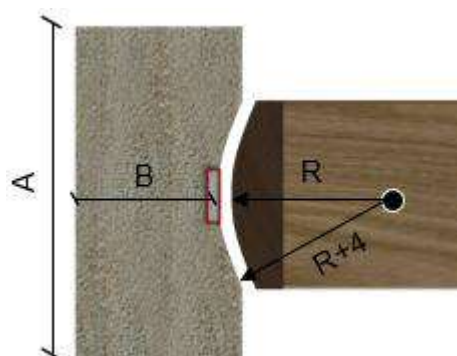
C: Stop width = 12mm minimum

*Minimum section size when using a transomed overpanel/
mullioned sidepanel:*

See section 8.2

7.1.2 Scalloped frame detail

The diagram below shows detail of the scalloped frame construction hanging edges only of a double acting doorset. When using scalloped frames for double acting doorsets, the groove(s) for the specified intumescent strip(s) must be as defined within section 4.5.



A: Frame depth = 88mm minimum

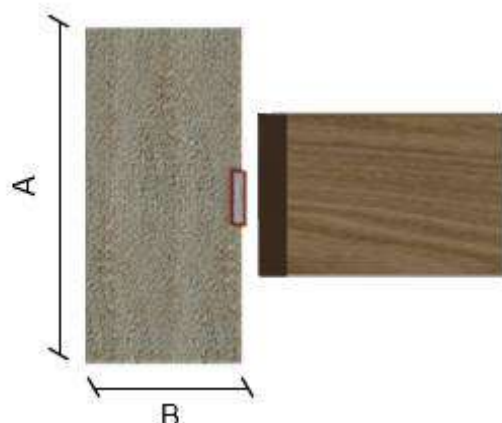
B: Frame width = 32mm minimum

R: Radius from floor spring or pivot

The face of the leaf must be a minimum of 22mm from either face of the frame (Chilt/RF06074).

7.1.3 Square frame detail for double acting doorsets

The diagram below shows detail of the square frame construction for the closing edge and frame head of a double acting doorset. Minimum section is permitted subject to hardware size. Where utilising square frames for double acting doorsets, any radius to the lipping must comply with section 5.4.



A: Frame depth = 88mm minimum

B: Frame width = 30mm minimum

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7.2 Details for Frame 2

Successful tests including, but not limited to, tests Chilt/RF00067 A&B have been used to support the scope for Frame 2.

The door frames listed below are the minimum size and density which have been successfully tested and assessed by this report. The frame must be constructed to meet the following specification for single and double acting frames, where applicable.

Frame 2 Specification		
Material	Minimum Section Size (mm)	Minimum Density (kg/m ³)
Hardwood	Frame: 70 (d) x 30 (w) (excluding stop) Stop: 12 (w) (integral)	640
Softwood or Hardwood	Stop: 12 (w) (integral)	510
MDF		700

Note:

Minimum section size is subject to size of hardware, the use of transomed overpanel (see frame details below) and frame profile (see frame details below).

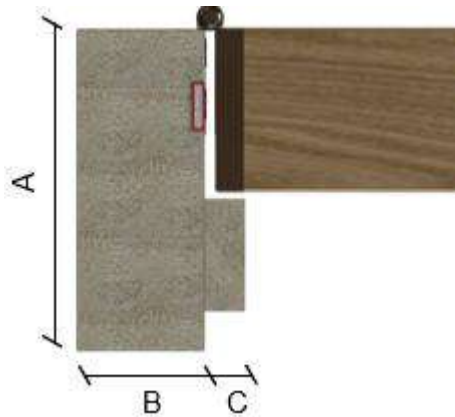
Minimum section size is also subject to the use of the shadow gap installation (see section 11.2.4).

Architraves may be rebated into the cross section of the frame in a tongue and groove arrangement providing:

- The tongue fully fills the groove provided within the frame material and the groove is no greater than 10mm wide x 10mm deep.
- The groove must be positioned no closer than 10mm from any frame edge.
- The groove must not coincide with the rebate for items of rebated building hardware. Hardware fixings are permitted to pass through the groove.
- The architrave when applied must be bonded on all edges with PU or PVA adhesive.
- The material of the architrave must be the same specification including species as the frame material.

7.2.1 Standard frame detail

The diagram below shows detail of the standard frame construction. Minimum section is permitted in two sizes subject to hardware size and the use of transom overpanel. Any radius to the lipping must comply with section 5.4.



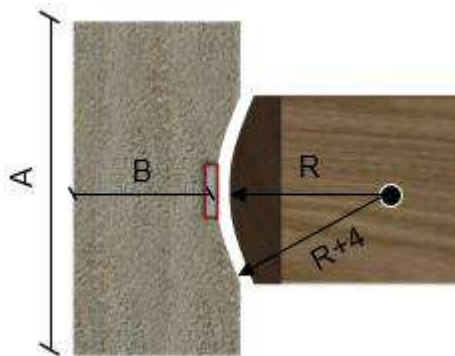
- A: Frame depth = 70mm minimum**
- B: Frame width = 30mm minimum**
- C: Stop width = 12mm minimum**

*Minimum section size when using a transomed overpanel/
mullioned sidepanel:*

See section 8.2

7.2.2 Scalloped frame detail

The diagram below shows detail of the scalloped frame construction hanging edges only of a double acting doorset. When using scalloped frames for double acting doorsets, the groove(s) for the specified intumescent strip(s) must be as defined within section 4.5.

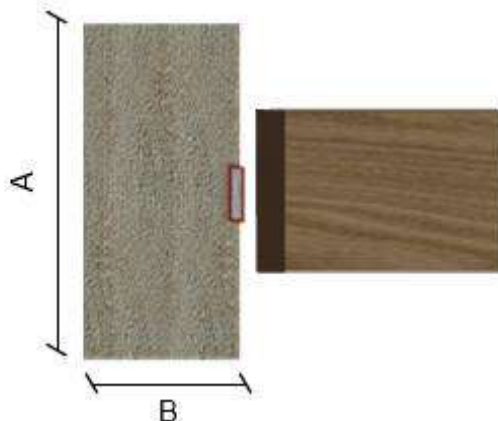


- A: Frame depth = 88mm minimum**
- B: Frame width = 32mm minimum**
- R: Radius from floor spring or pivot**

The face of the leaf must be a minimum of 22mm from either face of the frame.

7.2.3 Square frame detail for double acting doorsets

The diagram below shows detail of the square frame construction for the closing edge and frame head of a double acting doorset. Minimum section is permitted subject to hardware size. Where utilising square frames for double acting doorsets, any radius to the lipping must comply with section 5.4.



- A: Frame depth = 88mm minimum**
- B: Frame width = 30mm minimum**

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7.3 Details for Frame 3

Successful tests including, but not limited to, tests Chilt/RF01059A (AR2) and Chilt/RF02081 have been used to support the scope for Frame 3.

The door frames listed below are the minimum size and density which have been successfully tested and assessed by this report. The frame must be constructed to meet the following specification for single and double acting frames, where applicable.

Frame 3 Specification		
Material	Minimum Section Size (mm)	Minimum Density (kg/m ³)
MDF	Frame: 70 (d) x 30 (w) (excluding stop) Stop: 12 (w) (integral or planted on)	700

Note:

Minimum section size is subject to size of hardware and frame profile (see frame details below).

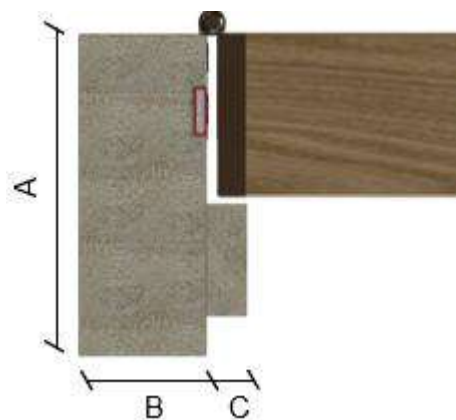
Minimum section size is also subject to the use of the shadow gap installation (see section 11.2.4).

As supported by test WF152318, architraves may be rebated into the cross section of the frame in a tongue and groove arrangement providing:

- The tongue fully fills the groove provided within the frame material and the groove is no greater than 10mm wide x 10mm deep.
- The groove must be positioned no closer than 10mm from any frame edge.
- The groove must not coincide with the rebate for items of rebated building hardware. Hardware fixings are permitted to pass through the groove.
- The architrave when applied must be bonded on all edges with PU or PVA adhesive.
- The material of the architrave must be the same specification including species as the frame material.

7.3.1 Standard frame detail

The diagram below shows detail of the standard frame construction. Minimum section is permitted in two sizes subject to hardware size. Any radius to the lipping must comply with section 5.4.



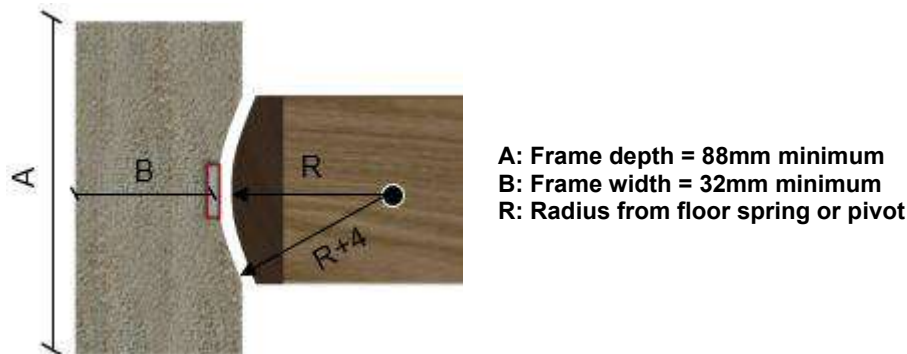
- A: Frame depth = 70mm minimum**
B: Frame width = 30mm minimum
C: Stop width = 12mm minimum

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

7.3.2 Scalloped frame detail

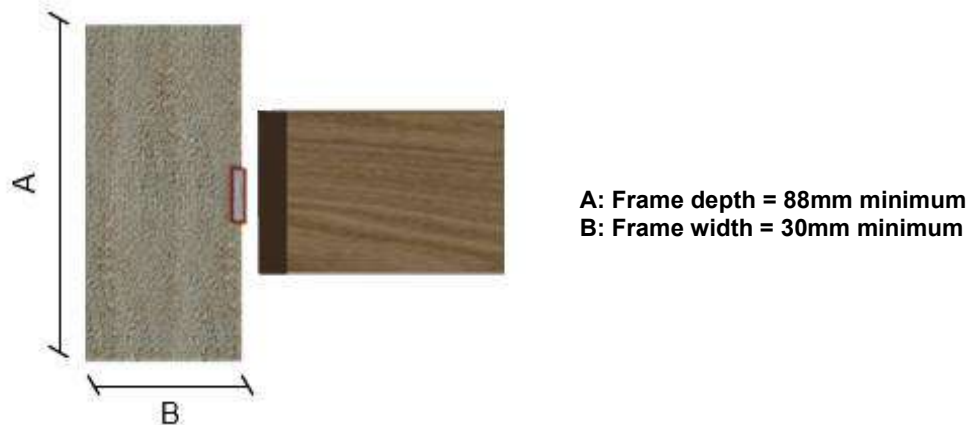
The diagram below shows detail of the scalloped frame construction hanging edges only of a double acting doorset. When using scalloped frames for double acting doorsets, the groove(s) for the specified intumescent strip(s) must be as defined within section 4.5.



The face of the leaf must be a minimum of 22mm from either face of the frame.

7.3.3 Square frame detail for double acting doorsets

The diagram below shows detail of the square frame construction for the closing edge and frame head of a double acting doorset. Minimum section is permitted subject to hardware size. Where utilising square frames for double acting doorsets, any radius to the lipping must comply with section 5.4.



7.4 Details for Frame 4

The Morland Firecheck frame has been included in test references WF393430 and WF393450 tested with 44mm timber-based door leaf designs. On the basis of the performance achieved with these tests and a perimeter intumescent specification considered comparable to that included in test reference WF391351 A the Frame 4 is assessed as suitable for use with doorset designs using Leaf 1 or 2 for LSASD. Where an intumescent specification has been assessed as suitable for use with Frame 4 doorset designs, this is detailed in section 4.5.

The door frame listed below is the minimum size and density which have been successfully tested and assessed by this report. The frame must be constructed to meet the following specification for single acting frames.

Frame 4 Specification		
Material	Minimum Section Size (mm)	Minimum Density (kg/m ³)
Decoratively wrapped MDF frame, stop and architrave	Frame: 75 (d) x 30 (w) (excluding stop) Stop: 12 (w) (integral or planted on)	700

Note:

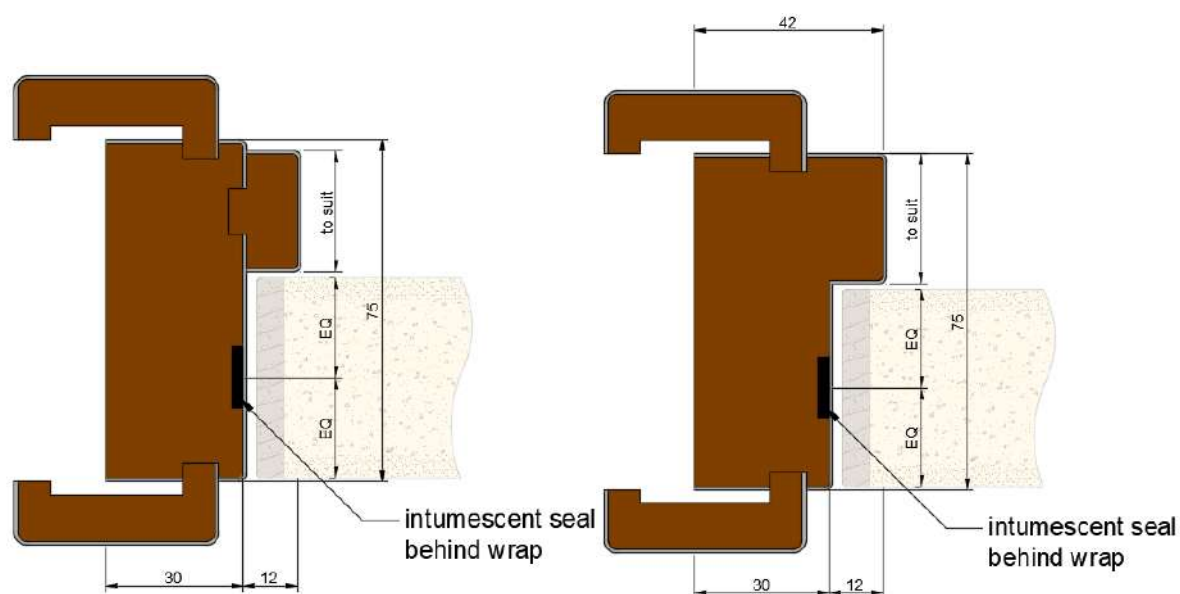
Minimum section size is subject to size of hardware (see frame details below).

The above referenced decorative wrap may over sail the required intumescent for the Frame 4 design.

The decorative wrap may be changed for aesthetic design purposes (e.g. colour) but the thickness and application method must remain as tested in WF393430 and WF393450.

7.4.1 Standard frame detail

The diagram below shows detail of the standard frame construction. Minimum section size is permitted subject to hardware size. Any radius to the lipping must comply with section 5.4.



The above illustrations show the Firecheck frame system, either with planted or integral stops. The architraves are part of the system and must be fitted.

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

7.5 Details for Frame 5

Test reference CFR1809181_1 Rev 1 included a doorset design with a projecting softwood frame of 32mm wide x 134mm deep, tested successfully as LSASD.

Test reference CFR2109021 LH included a 2-part MDF frame with cloaking of the wall tested successfully as ULSADD.

Other test evidence cited within Appendix A, has also been taken into consideration in determining the required frame dimensions for Frame 5 assessed by this report.

The door frames listed below are the minimum size and density which have been successfully tested and assessed by this report. The frame must be constructed to meet the following specification for single acting frames.

Frame 5 Specification		
Material	Minimum Section Size (mm)	Minimum Density (kg/m ³)
Softwood / Hardwood	With no cloaking of wall: Frame: 87 (d) x 32 (w) (excluding stop) Stop: 12 (w) (integral or planted on)	510
MDF		700
Softwood / Hardwood	With cloaking of wall: Main Frame: 70 (d) x 30(w) with a 15 (w) integral architrave return Secondary Frame: optionally permitted to suit wall; thickness and may optionally include an architrave return Stop: 12 (w) (integral or planted on)	510
MDF		700

Note:

Minimum section size is subject to size of hardware.

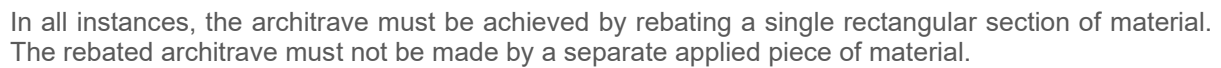
Maximum Projection of frame relative to supporting construction (and see section 11.2.3 for further installation requirements):

- 1) 12mm for Softwood, hardwood or MDF, if there is no cloaking of the wall
- 2) 18mm for Softwood, hardwood or MDF, if there is cloaking of the wall and a 20mm x 2mm Therm-A-Flex seal rebated into the rear of the frame at the junction of the return. (see drawing below).

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

The diagram below shows detail of the standard frame construction. Minimum section size is permitted subject to hardware size. Any radius to the lipping must comply with section 5.4.



Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

7.6 Details for Frame 6

The frame design successfully tested in test reference CFR1808101 was over rebated hardwood frame with Leaf 2, tested as a LSADD.

The door frames listed below are the minimum size and density which have been successfully tested and assessed by this report. The frame must be constructed to meet the following specification for single acting frames.

Frame 6 Specification		
Material	Minimum Section Size (mm)	Minimum Density (kg/m ³)
Hardwood	Overall Frame: 70 (d) x 44 (w) (before rebating ¹)	640

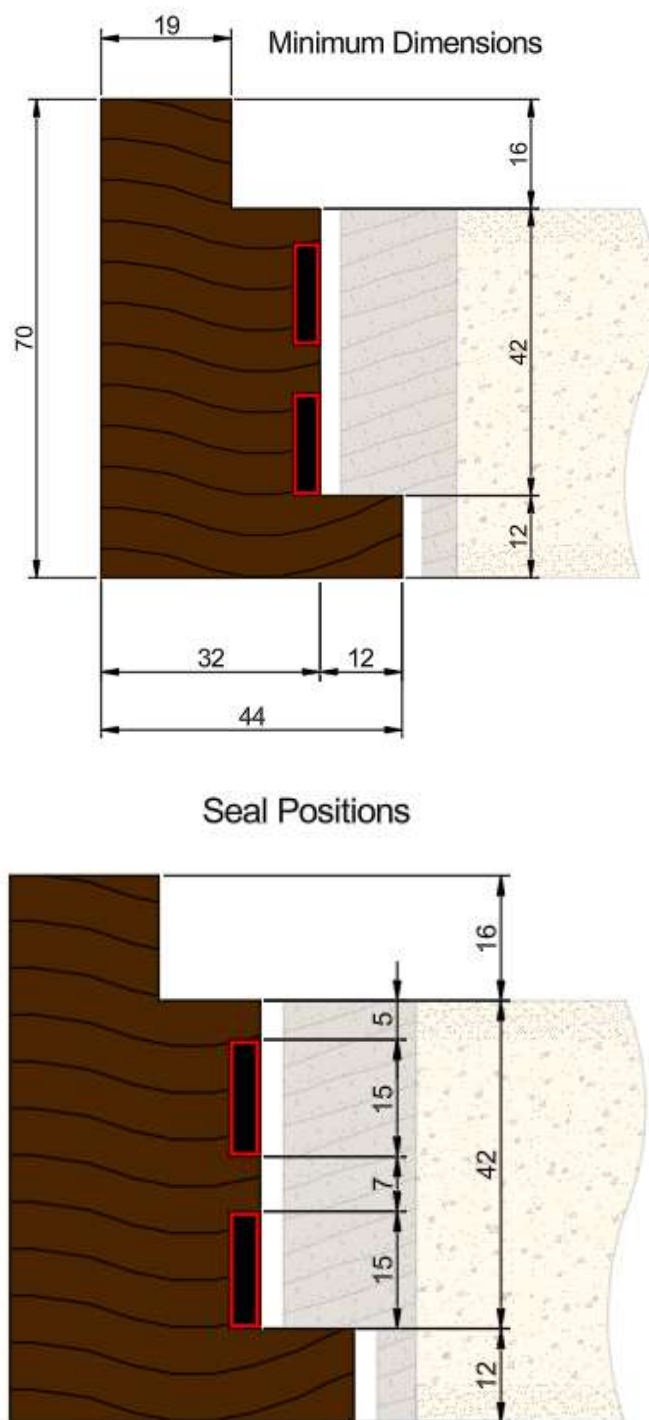
Note:

Minimum section size is subject to size of hardware (see frame details below).

- 1) Rebate to correspond with the lipping profile is required as shown in section 7.6.1. The closing side of the frame must retain a minimum of 19mm wide x 16mm deep. The closing face of the leaf is not permitted to protrude beyond flush with the rebate in the closing side of the frame.

7.6.1 Standard frame detail

The diagram below shows detail of the standard frame construction. Minimum section size is permitted subject to hardware size. Any radius to the lipping must comply with section 5.4.



The above illustration shows the Frame 6 design, including the minimum dimensions.

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

7.7 Details for Frame 7

This frame type has been successfully tested in test reference BMT/FEP/F16037 A, BMT/FEP/F14102 A & B, WF420277 using redwood, ash and red grandis species. The performance of these tests has been considered and particular account taken of the tests with the lower density WoodEx redwood, and the 1no 15mm x 4mm perimeter intumescent specification tested.

It is therefore assessed that tests conducted using Leaf 1, 2 or 3 with Frame 1, with a minimum of 1no 15x4 perimeter intumescent seal specification, can be used to support doorset designs with WoodEx frames for LSASD, ULSASD, LSADD and ULSADD. Where an intumescent specification has been considered and assessed as suitable for use with Frame 7 doorset designs this is detailed in section 4.5.

The following species and construction methods of WoodEx product are permitted.

WoodEx Product	Construction Methods			Minimum Density (kg/m ³)	Moisture content
	Finger Jointed ¹	Finger jointed and edge glued ²	3-layer construction ³		
Red Grandis	Yes	Yes	Yes	626	12% ± 2%
Redwood	Yes	Yes	N/A	470 – 520	12% ± 2%
European Ash	Yes	Yes	Yes	650	12% ± 2%
European Oak	Yes	Yes	Yes	650	12% ± 2%
Sapele	Yes	Yes	Yes	650	12% ± 2%

Note:

1. Finger jointed lamels are glued together and pressed into long blanks
2. Finger jointed lamels with additional edge glued timber to provide for wider sections and clear faces.
3. Lamels are pressed and glued together with two high quality clear faces (middle layers may be finger jointed). Alternatively, each lamel layer may be finger jointed on request.
4. Lamels may be 20 – 25mm thick. Grandis and Redwood lamels may be 20 – 32mm thick.
5. Timber for door frames must meet or exceed class J30 as specified in BS EN 942: 2007, providing any defects are adequately repaired.

The door frame listed below is the minimum size and density which have been successfully tested and assessed by this report. The frame must be constructed to meet the following specification for single acting frames.

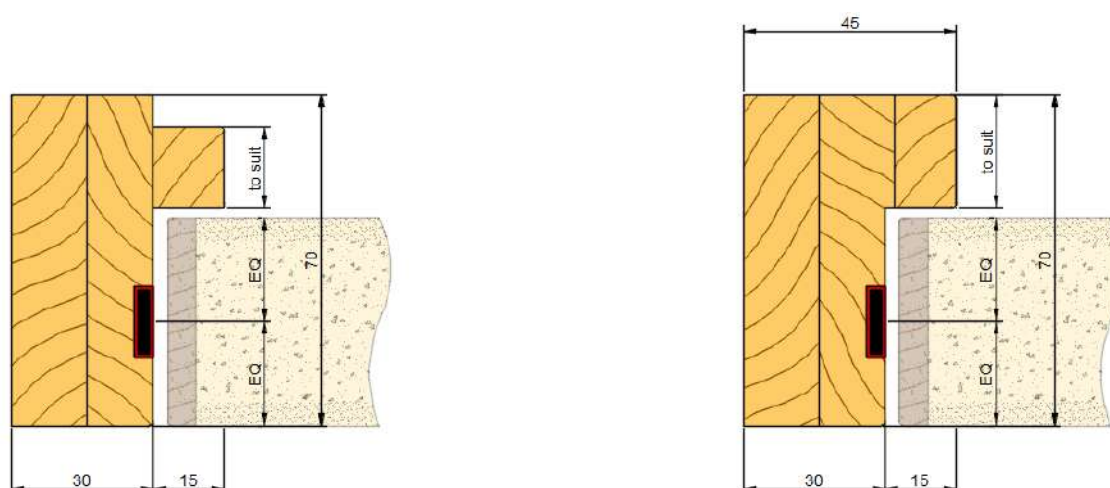
Frame 7 Specification		
Material	Minimum Section Size (mm)	Minimum Density (kg/m ³)
See above for permitted WoodEx Product types	Frame: 70 (d) x 30 (w) (excluding stop) Stop: 15 (w) (integral or planted on)	See above

Note:

Minimum section size is subject to size of hardware (see frame details below).

7.7.1 Standard frame detail

The diagram below shows detail of the standard frame construction. Minimum section size is permitted subject to hardware size. Any radius to the lipping must comply with section 5.4.



The above illustrations show examples of the WoodEx frame, with planted or integral stops.

7.8 4-sided timber frame with door stop

Based on the tests cited in Appendix A, a 4-sided timber-based threshold for 30 minutes fire resistance performance: Timber thresholds with doorstop are permitted in the following applications only:

Leaf options: 1, 2, 3 and 4

Frame options: 1, 2 and 3

Configurations: LSASD, LSADD

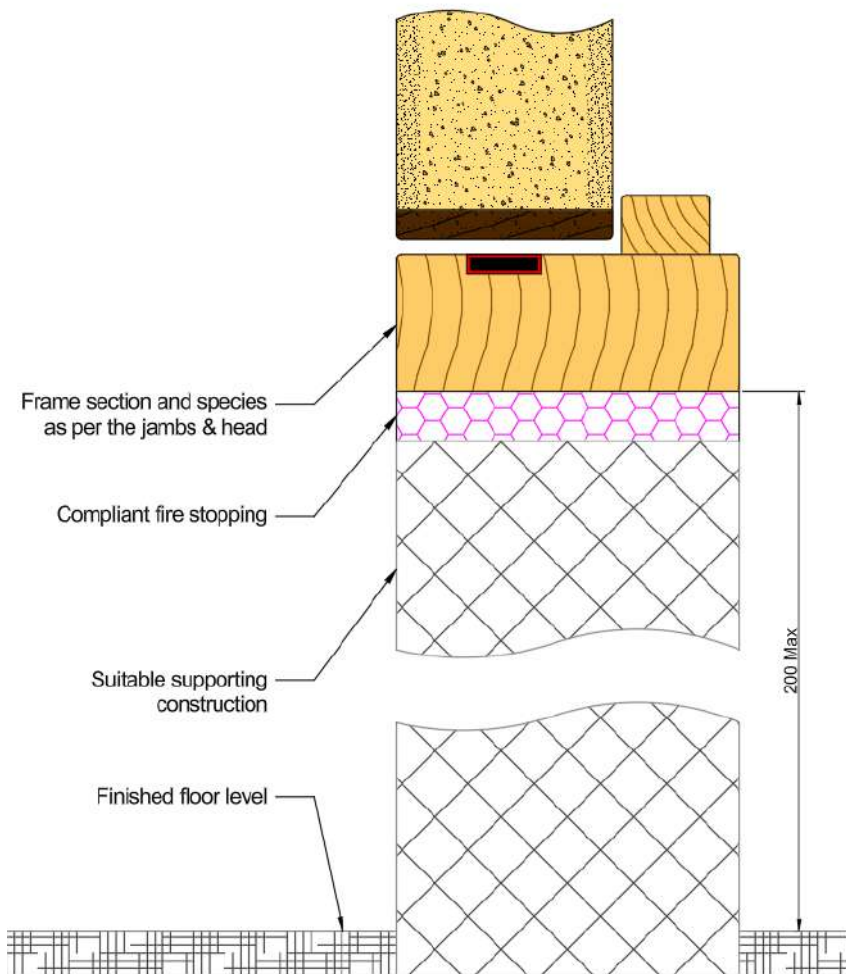
A 4-sided frame is permitted providing the doorset design complies with the following:

- Raised threshold height of no more than 200mm above the finished floor level on either side.
- The permitted leaf height when including a raised threshold is as permitted by section 4.5 but reduced in line with the height of the raised threshold and the frame width used. This is to ensure the permitted top of the leaf is at no higher a position relative to the finished floor level.

For example, where the bottom of the door frame (of 32mm width) is 200mm above the finished floor level, this will reduce the permitted leaf height by 232mm.
- Additional intumescent must be applied to the bottom edge of the leaf or in the threshold and must be the same specification as used for the jambs, as chosen for the doorset from section 4.5
- The permitted height for hardware other than hinges (for example a lock) will be relative to the floor level and not the bottom of the leaf.
- See section 11.7 for maximum gap between the bottom of the door and the threshold.

In all cases the timber threshold shall be, as a minimum, the same depth as the frame head and jambs, and must either be:

- Constructed of the same specification as the chosen Frame for the doorset, subject to minimum frame width of 32mm with a minimum stop size of 20mm wide x 12mm thick which may be planted (pinned or screwed) or integral.
- Or a hardwood (minimum density 640kg/m³) threshold of minimum frame width of 32mm with a minimum stop size of 20mm wide x 12mm thick which may be planted (pinned or screwed) or integral.



The above illustration shows an example of a raised threshold with doorstop

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

7.9 Hardwood timber threshold without door stop

Tests PX06466A and WF531368 have demonstrated the following type of timber threshold for 30 minutes fire resistance performance. Timber thresholds without doorstop are permitted in the following applications only:

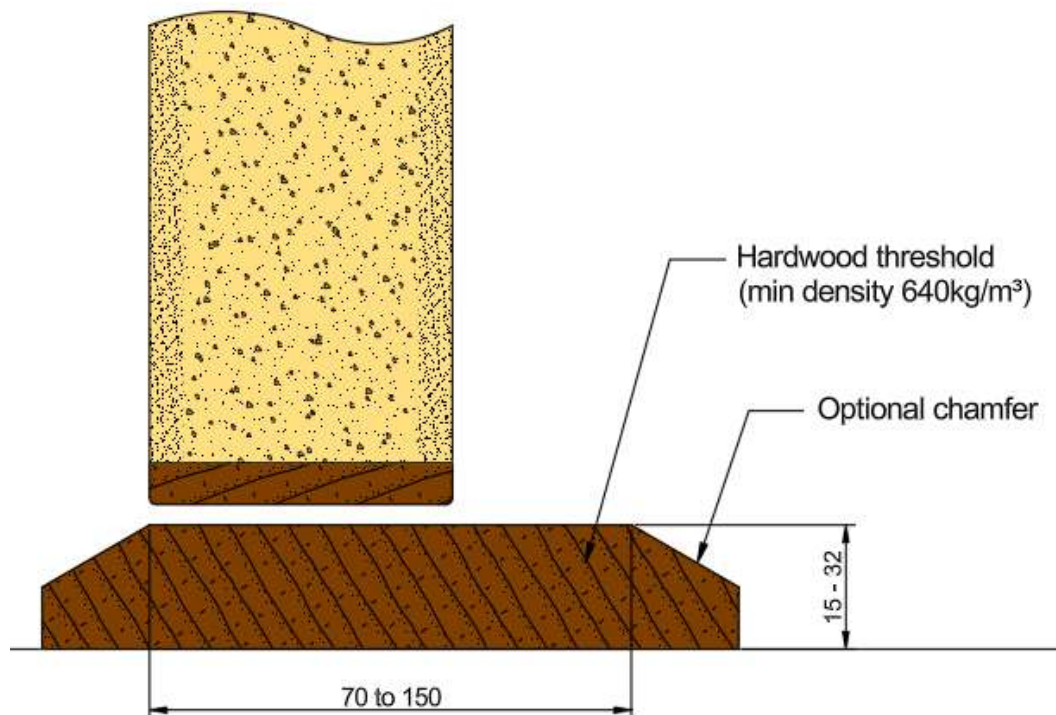
Leaf options: 1 and 2

Frame options: 1, 2 and 3

Configurations: LSASD, ULSASD, LSASD+OP, ULSASD+OP, LSADD, ULSADD, LSADD+OP, ULSADD+OP

In all cases the following scope must be complied with:

- Threshold design:
 - Hardwood timber of minimum density 640kg/m³.
 - Depth of 70 to 150mm width x 15 to 32mm thick.
 - Optional chamfers are permitted as long as they are outside of the minimum 70mm width and not located below the leaf thickness.
- The hardwood threshold is butt jointed to the bottom of the frame jambs and fixed with a minimum of 2 screws of minimum length 50mm.
- The bottom of the leaf must include at least one of the following:
 - A rebated threshold drop seal (see section 10.16.2 and / or 10.16.3) fitted to the bottom edge of the leaf and engaging onto timber threshold.
 - 1No. Intumescent seal minimum 15mm wide centrally fitted to the bottom edge of the leaf or
 - 2No. Intumescent seals, minimum 10mm wide fitted to the bottom edge of the leaf.
- See section 11.7 for gap requirements at the bottom of the door.



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7.10 Aluminium Threshold

Test WF531368 have demonstrated the following type of timber threshold for 30 minutes fire resistance performance.

The table below details the tested aluminium threshold that is approved to be fitted at floor level below the door leaf, between the frame jambs.

Manufacturer & Product Reference (Test Reference)
Norseal NOR 615 (40mm x 5mm) (WF531368)

On the basis of the testing, the tested aluminium threshold is suitable in the following applications only:

Leaf option: 2

Frame option: 2

Configuration: LSASD

In all cases the following scope must be complied with:

- It is permitted to optionally fit the aluminium threshold to the timber hardwood threshold detailed in section 7.9.
- The aluminium threshold must align centrally with the centreline of the leaf thickness.
- The threshold must be screwed to the notional floor level with fixings of minimum 12mm long at 250 to 350mm centres. A bed of acrylic intumescent mastic must be applied within the threshold profile in addition to the fixings.
- 2No. 15mm wide x 4mm thick Halspan SLS must be fitted to the bottom edge of the leaf fitted centrally and 14mm apart.
- Rebated threshold drop seals (see section 10.16.2) must be used when an aluminium threshold is present.
- See section 11.7 for gap requirements at the bottom of the door.

7.11 Door Frame Joints

Below are depictions of the door framing joints that are deemed acceptable. Please note that the drawings are provided as general illustrations 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. The door frame joints are required to be tight, with no gaps, and require mechanical fixing with the appropriate size ring shank nails or screws. Frame joints may additionally be reinforced with any of the adhesives approved for the application of lippings, on the basis that the approved lipping adhesive has been proven to contribute to the positive fire resistance performance of the timber to timber junction at the door leaf edge.



Half Lapped Joint



Mitre Joint



Mortice & Tenon Joint



Butt Joint



Trenched Joint

Approved door frame jointing options

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

7.12 Decorative & Protective Facings

The following subsections define decorative and protective facings for use with frames 1, 2, 3, 5, 6 and 7. Minimum perimeter intumescent requirements may depend on the facing option applied to the frame.

Decorative and protective facings have not been considered for Frame 4 as the frame design includes a wrapping.

One of the following options contained within section 7.12.1 or 7.12.2 may be applied to any individual doorset design.

7.12.1 Decorative Facings – Frames 1, 2, 3, 5, 6, 7

These items are suitable in the following applications only:

Frame options: 1, 2, 3, 5, 6, 7

Relatively thin facing materials are deemed to be decorative and their application is not considered to be of detriment to the overall stability or performance of the doorset design.

The following additional facing materials are therefore permitted to the frame for this door design, including frame reveal, since they would have limited influence under fire resistance test conditions.

Decorative & Protective Facing Specification	
Facing Material	Maximum Permitted Thickness (mm)
Paint ³	0.2
Timber veneers	0.7
High Pressure Laminates (HPL) or PVC Vinyl's	0.8

Notes:

1. Facing materials not listed above are not permitted.
2. For all options, materials must not conceal intumescent strips.
3. Intumescent paints are not permitted.
4. Decorative finishes listed above may be painted within the limits for paint finish, above.
5. Decorative facings are to be considered separately from the minimum frame dimensions specified above. i.e. in addition to and not to make up the minimum frame dimensions.
6. Rounded or rebated quirk edges to door frames are not permitted. Except for up to a 2mm radius to remove the arris.
7. See section 9 for adhesives for application of facing materials.

7.12.2 Protective Facings (Encapsulation) – Frames 1, 2, 3

The use of 2mm PVC material has been demonstrated applied to leaf edges in tests Chilt/RF08039, Chilt/RF09010 A, Chilt/RF02083 and Chilt/RF02048. It is the opinion of Warringtonfire that the application of 2mm PVC to the frame reveal would not be expected to be detrimental to the considered 30-minute fire resistance performance.

These items are suitable in the following applications only:

Frame options: 1, 2, 3

Configurations: LSASD, ULSASD, DASD, LSADD, ULSADD, DADD

Intumescent Specification:

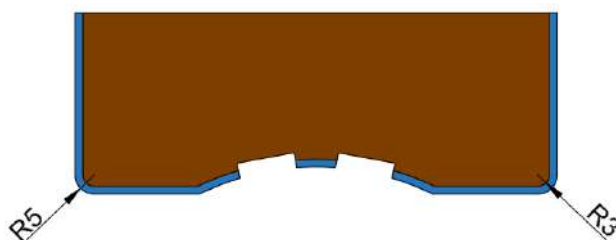
As defined in Section 4.5, providing the specification includes a minimum of 1No. 15mm x 4mm seals or minimum of 2No. 10mm x 4mm seals applied to the vertical edges and head of the frame reveal or leaf.

The following materials may therefore be utilised to encapsulate the door frame of any individual doorset.

Encapsulation Specification	
Facing Material	Maximum Permitted Thickness (mm)
Textured or Smooth PVC	2

Notes:

1. Where encapsulation is referred to herein it refers to the application of specified materials covering the surfaces of the frame, stops and architraves with a continuous piece of material. Except for the rear of the frame where it would interface with the required fire stopping detail or to the rear of a modular frame.
2. Joints in encapsulation materials must be tight.
3. When applied the corners of the door frame are permitted to have up to a R3 radius applied to each edge such that the PVC has a R5 radius as shown in the example below. Greater radii are not permitted.
4. When applied to stops and architraves a similar R3 radius may be applied.
5. Encapsulation materials must not conceal intumescent strips.
6. The encapsulation is applied using adhesives listed in the table in section 9.



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7.13 Angled / Raked Head Design

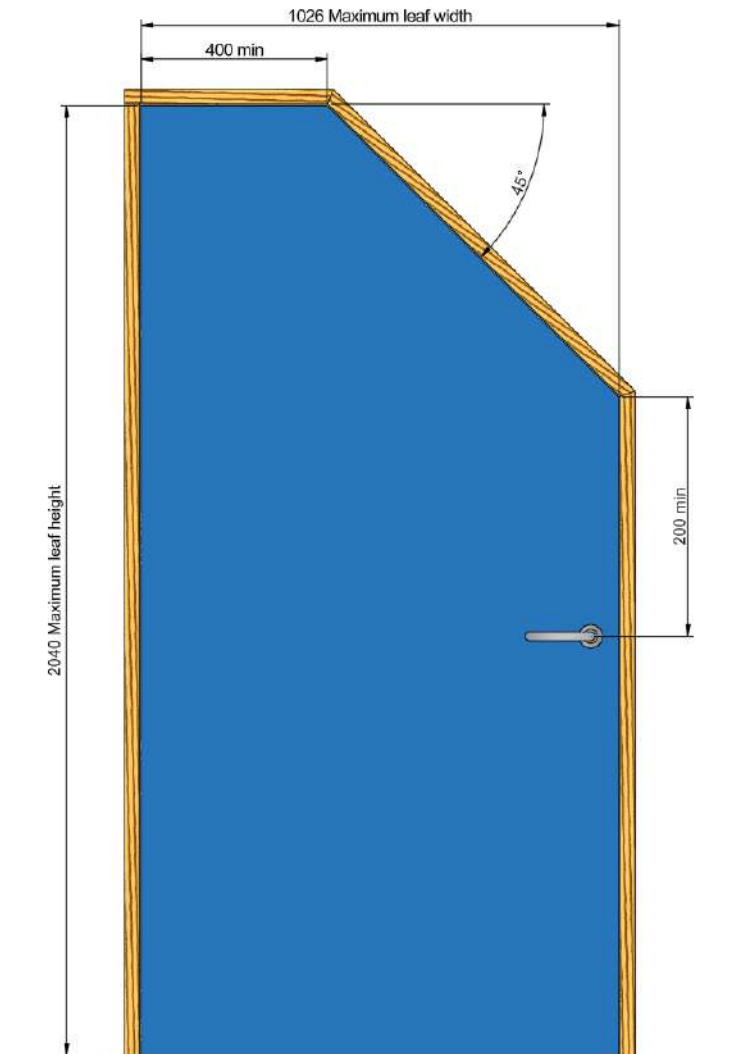
Doorsets with angled or raked heads are permitted for use on the basis of the successful test reference WF522390 A, in the following applications only:

Leaf options: 1 and 2

Frame options: 1 and 2, subject to minimum dimensions of 75mm (deep) x 32mm (deep) and minimum stop of 12 mm (wide) x 20mm (d).

Configurations: LSASD

Intumescent Specification: see A/67 in Section 4.5.5 for required perimeter intumescent specification and maximum overall leaf dimensions.



The following criteria must also be met:

- Leaf Head Minimum Dimension: 400mm
- Raked / Angled Head must be to the lock side of the door leaf
- Rake angle must be 45° as tested
- Door leaf must be lipped on all edges
- The leaf must be un-glazed

Permitted Hardware:

- Surface Mounted Closers are permitted provided the installation can be achieved on the horizontal frame head length. (see section 10.7.1)
- Jamb mounted closers are permitted (see section 10.7.2)
- Single point lock/latches (see section 10.4.1) are permitted, with the leaf height being sufficient to ensure a minimum distance of 200mm between the top of the lock forend and the start of the rake angle.
- Butt hinges (see section 10.6.1)

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8. Overpanels & Fanlights, Sidepanel & Sidelights

Overpanels, fanlights, sidepanels and sidelights are permitted based on the testing as summarised within Appendix A, the following sections outline the constructional details of each of the permitted elements and limitations associated with each configuration.

8.1 General

The testing undertaken on the doorset design allows for the application of:

Solid overpanels with three framing options (Modular, Shared Framing & Flush).

Solid sidepanels with two framing options (Modular & Shared Framing).

Glazed fanlights with two framing options (Modular & Shared Framing).

Glazed sidelights with two framing options (Modular & Shared Framing).

Framing options are detailed in the following section depending on the panel or glazing utilised.

It is possible to utilise both methods of framing within any single doorset design providing the restrictions given in the following sections are adhered to. i.e. it is possible to provide a doorset with a solid overpanel separated by a shared transom with a modular framed sidelight beside it.

In all cases the overall dimensions permitted for an Optima 30 doorset design that includes fanlights, sidepanels and / or sidelights shall not exceed 3175mm high x 4800mm wide. (Height calculation based on WF523942/MR).

Where modular framing is utilised, only one module may be fitted above the door frame height.

8.2 Framing

The following framing options as detailed below are permitted for the doorset design and are permitted depending on solid panel arrangement or glazed fanlight / sidelight utilised. Information on the frame type permitted for the solid panel or glazed element is detailed in sections 8.2.1 – 8.2.3.

8.2.1 Modular Framing

Modular framing for the purpose of this document is considered to be an element (glazing or panel) which is independently framed and fixed to the frame of a doorset design. An example of a modular framed solution is given below. This is supported for use in this assessment by tests Chilt/RF03076, WF531368 & WF523942/MR.



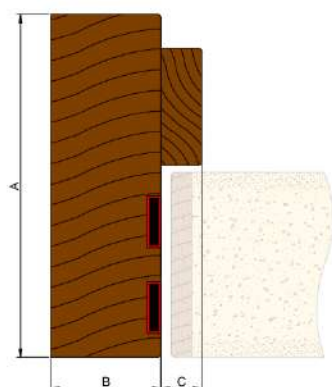
Single leaf doorset with glazed modular sidelight.

8.2.1.1 Standard Frame Detail (Modular Framing)

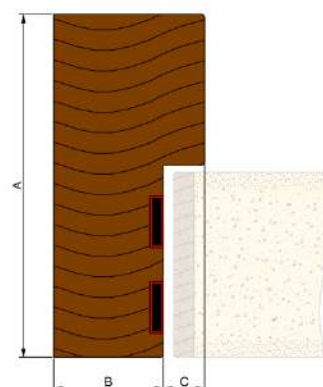
The frame listed below is the minimum size and density which has been successfully tested and assessed by this report. The frame must be constructed to meet the following specification for modular units containing solid panels or glazing, the frame section shall meet this specification on all four edges.

Modular Frame specification		
Material	Minimum section size (mm) (WF523942)	Minimum density (kg/m ³)
Softwood or Hardwood: (see section 2.1)	Frame: 94 (d) x 32 (w)	510

Standard Stopped Frame Detail
(modular framing)



Standard Rebated Frame Detail
(modular framing)



A: Frame depth = 94mm minimum
B: Frame width = 32mm minimum
C: Stop width = 12mm minimum

Notes:

It is possible to include a 3mm x 3mm quirk detail to the rear edges of the frame where the jointing to the door frame or adjacent modular framing element shall occur.

The depth of the modular frame and the door frame shall be equal, this may result in increasing the depth of the permitted door frame to match the modular frame dimension, or vice versa. In all cases the greater dimension shall be used.

8.2.1.2 Transom or Mullion Detail (Modular Framing)

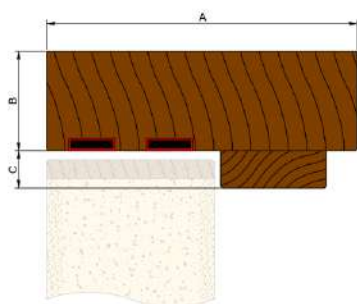
It is possible to include up to 2No. transoms within a modular unit applied to the side of a doorset and / or up to 2No. mullions within a modular unit applied to the head of a doorset.

When applied the transom or mullion shall meet the following specification:

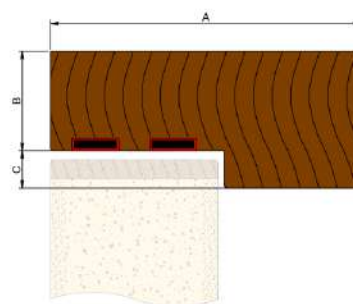
Modular Frame specification		
Material	Minimum section size (mm)	Minimum density (kg/m ³)
Softwood or Hardwood: (see section 2.1)	Frame: 94 (d) x 32 (w)	510

The transom or mullion when applied shall be mortice and tenon jointed as depicted in section 8.2.1.3. The joints are required to be tight, with no gaps, and require mechanical fixing with 2No. steel screws which penetrate into the adjacent timber by a minimum of 30mm.

Standard Stopped Transom/Mullion Detail
(modular framing)



Standard Rebated Transom/Mullion Detail
(modular framing)



A: Frame depth = 94mm minimum
B: Frame width = 32mm minimum
C: Stop width = 12mm minimum

Transoms when applied shall not be greater than 2068mm (CFR1005241) from the centre of the transom to the notional floor level. This may inhibit the use of transoms in some configurations.

Mullions shall not be applied in modular sidepanels or sidelights.

It is possible to include solid panel and glazing arrangements which are permitted as detailed in section 8.3 and 8.4 either side of a transom within a modular unit applied to the side of a doorset subject to the positioning requirement of the transom given above and the maximum permitted glass or panel size given in the following sections.

8.2.1.3 Frame Jointing (Modular Framing)

Below are depictions of the framing joints that are deemed acceptable for corner jointing of modular framing. Please note that the drawings are provided as general illustrations of each type of frame joint; actual construction in terms of intumescent seal location and material, etc. must be as the text within this document specifies.



Double Rebated Joint



Mitre Joint



Mortice & Tenon Joint



Butt Joint



Trenched or Half Lapped Joint

The modular frame joints are required to be tight, with no gaps, and require mechanical fixing with 2No. steel screws which penetrate a minimum of 30mm into the adjacent timber element. Frame joints shall additionally be reinforced with the adhesives approved for the application frame jointing detailed within section 9.

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

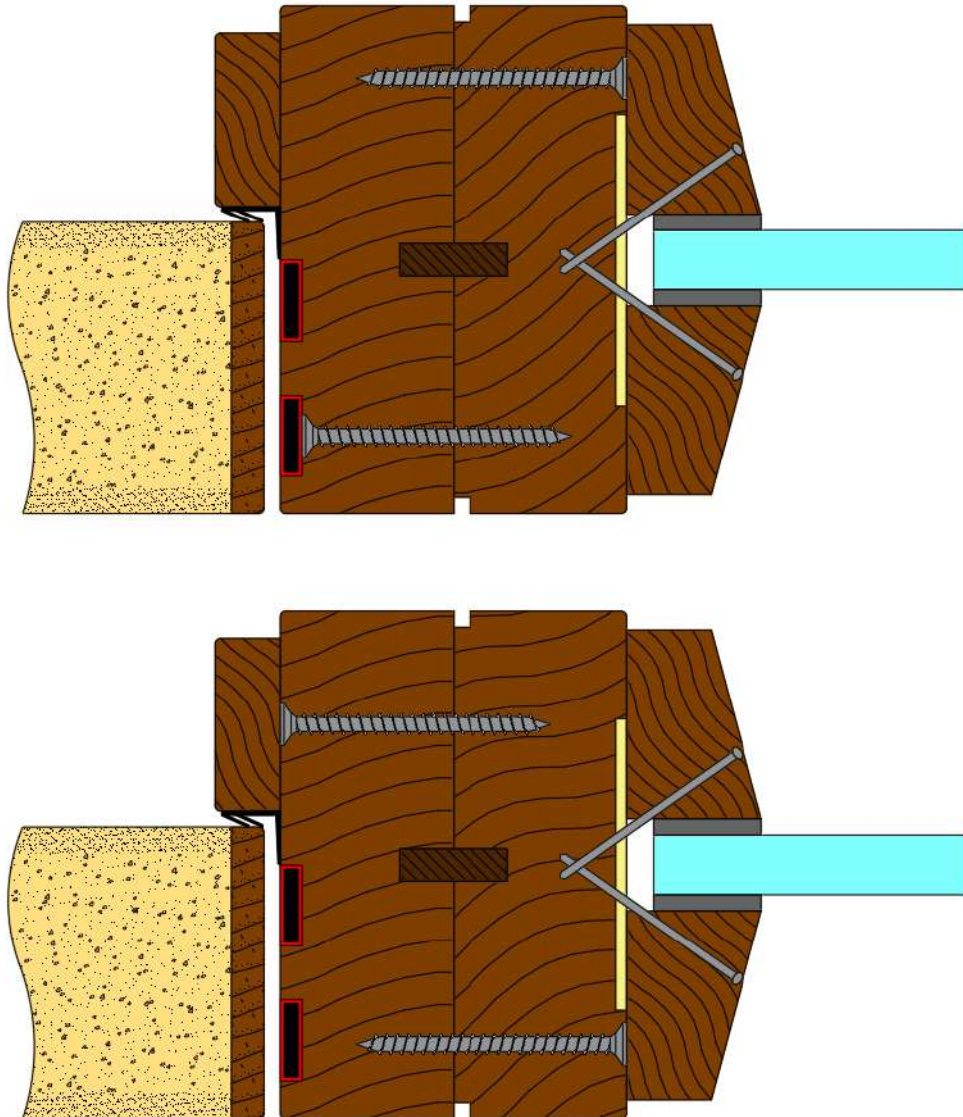
8.2.1.4 Attachment Technique (Modular Framing)

The modular framing must be affixed to the door frame or adjacent modular framed units utilising steel screws appropriate for use with timber substrates.

Screws must be fixed between 100mm and 150mm from corners at maximum of 600mm centres from each face. Fixings shall penetrate approximately half of the depth of the adjacent timber section.

Additionally, a 20mm wide x 6mm thick MDF "Loose Tongue" shall be positioned centrally within the jointed element and bonded to both frame members with PU or PVA adhesive.

A visual representation of the permitted jointing method is detailed below:



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8.2.1.5 Bottom Rail Detail (Modular Framing)

Based on the testing as summarised in Appendix A, specifically WF531368 the following bottom rail detail is permitted for use between the bottom edge of the modular frame and the floor level.

The bottom rail must be constructed as follows:

Element	Material	Dimensions (mm)	Minimum Density (kg/m ³)
Core	Halspan Prima 3-layer solid core particleboard	64 (t)	630±10%
Facing	MDF	15 (t)	700
Facing Adhesive	PU or PVA		

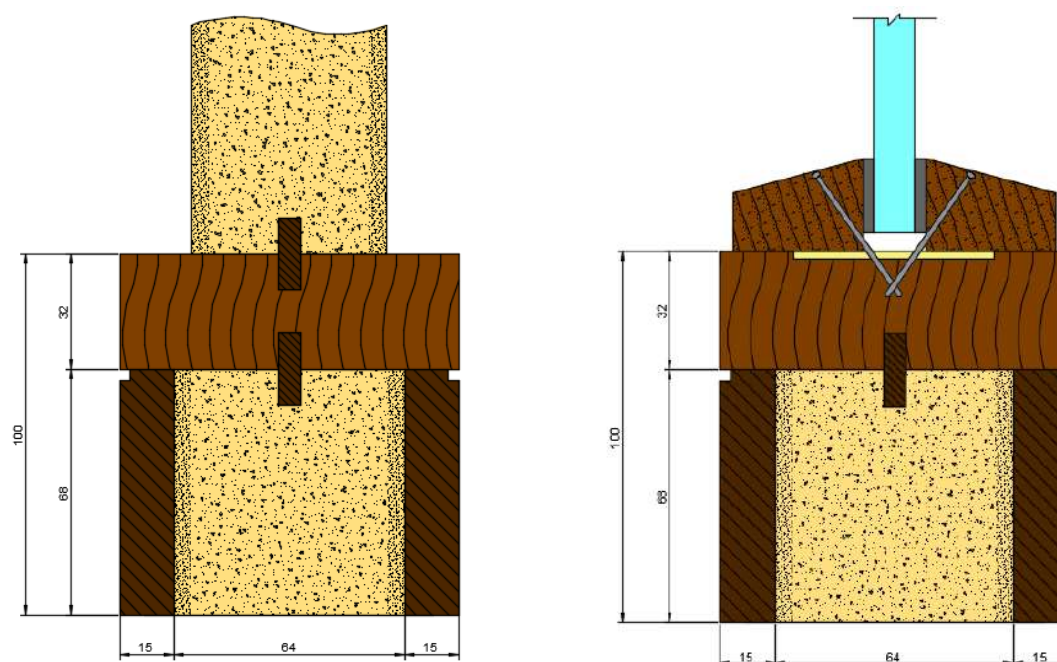
The MDF facings must be bonded to the 64mm core with PU or PVA adhesive. They may also be additionally pinned with 18swg x 30mm pins if required.

The facing material may optionally include a 3mm x 3mm quirk detail adjacent to the modular frame as shown.

The maximum height of the bottom rail permitted herein is 100mm.

When applied the vertical jambs of the modular unit will encase the detailed bottom rail (i.e. run to the floor level). A single 70mm long steel screw shall be applied centrally through the rear of each of the modular frame jambs into the 64mm core area.

When applied the bottom rail shall be bedded on a nominally 6mm bead of intumescent mastic. Gaps between the floor level and the bottom edge of the bottom rail shall be no greater than 2mm or additional fire stopping materials as detailed within section 11 must be applied.



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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

8.2.2 Shared framing (Transomed or Mullioned)

Shared framing (Transomed or Mullioned) for the purpose of this document is considered to be when an element (panel) is contained within the frame for the doorset and separated from the door leaf by a shared transom or mullion. An example of a transomed solution is given below, though the construction of doorsets shall be as the text in this document specifies.



8.2.2.1 Standard Frame Detail (Transomed or Mullioned)

The permitted frame detail for the doorset shall meet the minimum requirements as outlined in section 7, where applicable. The detail for the permitted transom can be found within section 8.2.2.2 below.

8.2.2.2 Detail for Transom and Mullion (Transomed or Mullioned)

Shared framing may be used to incorporate sidelights, sidepanels, fanlights and overpanels in the doorset design.

The following parameters must be observed and met:

- A transom may be used to separate a fanlight or overpanel from the head of the doorset, in this scenario there is no height restriction on the transom only that the door leaf must meet the sizing limitations for the selected intumescent arrangement as defined in section 4.5.
- A mullion (common jamb) may be used to separate a sidelight or sidepanel from the door leaf.
- Up to 2no mullions may be included in a fanlight or over panel.
- Up to 2no transoms may be included in sidelights or side panels providing they are positioned no higher than 2068mm from the finished floor level (CFR1005241)
- No additional mullions may be applied to sidelights.

When applied the transom or mullions shall meet the following specification:

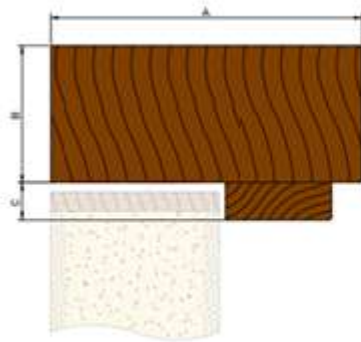
Modular Frame specification		
Frame Type	Minimum section size (mm)	Minimum density (kg/m ³)
Frame 1	Transom or Mullion: 70 (d) x 40 (w)	510
Frame 2	Transom or Mullion: 70 (d) x 40 (w)	640
Frame 3	Not Permitted	
Frame 4		
Frame 5		
Frame 6		
Frame 7		

Notes:

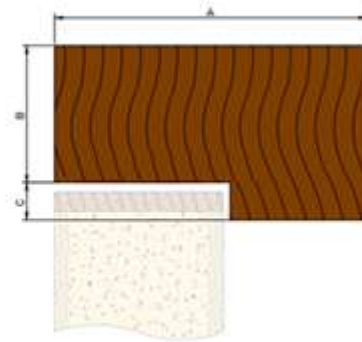
When applied the material for the transom or mullion shall match the timber species used for the frame surrounding the door frame.

The transom or mullion when applied shall be mortice and tenon, trenched or butt jointed as depicted in section 8.2.2.3. The joints are required to be tight, with no gaps, and require mechanical fixing 2No. steel screws which penetrate a minimum of 30mm into the adjacent timber element.

Standard Stopped Transom Detail



Standard Rebated Transom Detail



A: Frame depth = 70mm minimum
B: Frame width = 40mm minimum
C: Stop width = 12mm minimum

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

8.2.2.3 Frame Jointing (Transomed or Mullioned)

The framing joints that are deemed acceptable for corner jointing of transomed framing are:

- Mortice & Tenon
- Butt Jointing
- Trench Jointing (When this method is utilised the trench must be limited to no greater than 50% of the trenched element)

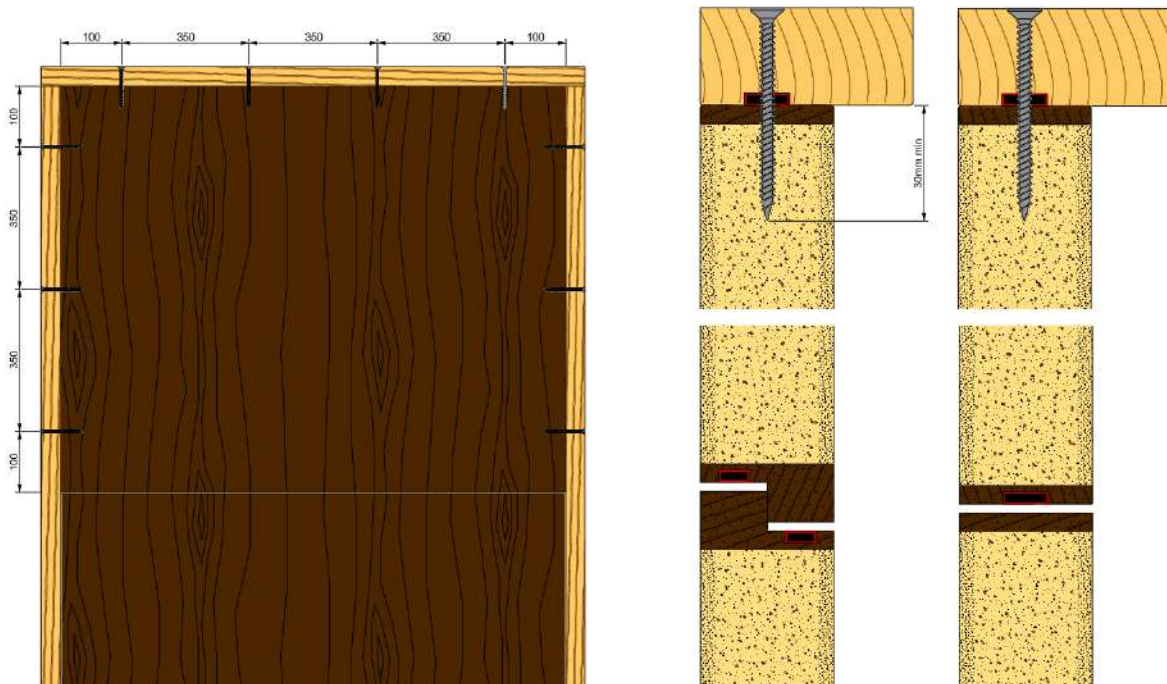
The transom when applied must be jointed as detailed above. The joints are required to be tight, with no gaps, and require mechanical fixing 2No. steel screws which penetrate a minimum of 30mm into the adjacent timber element. The joints may be additionally adhered with PU or PVA adhesive.

8.2.3 Flush Overpanels

Based on the testing undertaken on the Optima 30 doorset design it is possible to include solid flush overpanels.

A flush overpanel is where a solid over panel has been included within the door frame and has no additional separating element between the panel and the door leaf or leaves.

An example of the junction between the head of the leaf and a flush overpanel is given below:



Flush overpanels where permitted are detailed within the permitted leaf configurations and require specific perimeter intumescent specifications, these are found within sections 4.5.8, 4.5.9, 4.5.10, 4.5.14, 4.5.15 & 4.5.16.

8.3 Solid Panels

Solid side and overpanels are permitted for use with the modular framing option given in section 8.2.1 above (Modular Framing).

Solid overpanels are also permitted for use with the shared framing option given in section 8.2.2 above. (Shared Framing).

Solid overpanels are also permitted for use as a flush over panel given in section 8.2.3 above, subject to meeting the requirements outlined within sections 4.5.8, 4.5.9, 4.5.10, 4.5.14, 4.5.15 & 4.5.16 which detail the required intumescent specification.

8.3.1 Solid Panel Construction (Side or Over Panels)

Based on the testing undertaken on the doorset design, it has been assessed to include the tested core construction as a solid fixed panel. This is because under test conditions the panel will be fixed within the perimeter framing limiting the deflection throughout the test duration and enhancing the expected fire resistance performance which was observed for the door leaf itself.

The selected panel construction must match the specification that has been used to produce the leaf within the doorset design. It is not possible to mix and match.

Solid panels may additionally include timber-based mouldings as outlined in section 5.7, providing they do not interfere with the operation leaf.

Solid panels which are framed on all edges, may be additionally grooved in line with section 5.8 for the chosen leaf type.

Therefore, the following specifications shall be met:

8.3.2 Leaf 1 – Optima 30 – 44mm thick

The basic tested construction of this panel design comprises the following:

Element	Material	Dimensions (mm)	Minimum Density (kg/m ³)
Core	3-layer solid core particleboard	44 (t)	620±10%

The panel may be lipped as specified in section 5.4 as applicable for intumescent specification detailed in section 4.5.

The minimum panel thickness after calibration is 43mm (i.e. a maximum of 0.5mm from both sides).

Decorative & protective facings may be applied to the surface of the solid panels in accordance with section 5.6.

The minimum panel thickness after finishes applied is 44mm.

8.3.3 Leaf 2 – Optima 30 – 54mm thick

The basic tested construction of this panel design comprises the following:

Element	Material	Dimensions (mm)	Minimum Density (kg/m ³)
Core	3-layer solid core particleboard	54 (t)	620±10%

The panel may be lipped as specified in section 5.4 as applicable for intumescent specification detailed in section 4.5.

The minimum panel thickness after calibration is 53mm (i.e. a maximum of 0.5mm from both sides).

Decorative & protective facings may be applied to the surface of the solid panels in accordance with section 5.6.

The minimum panel thickness after finishes applied is 54mm.

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8.3.4 Horizontal Joints In Panel Construction

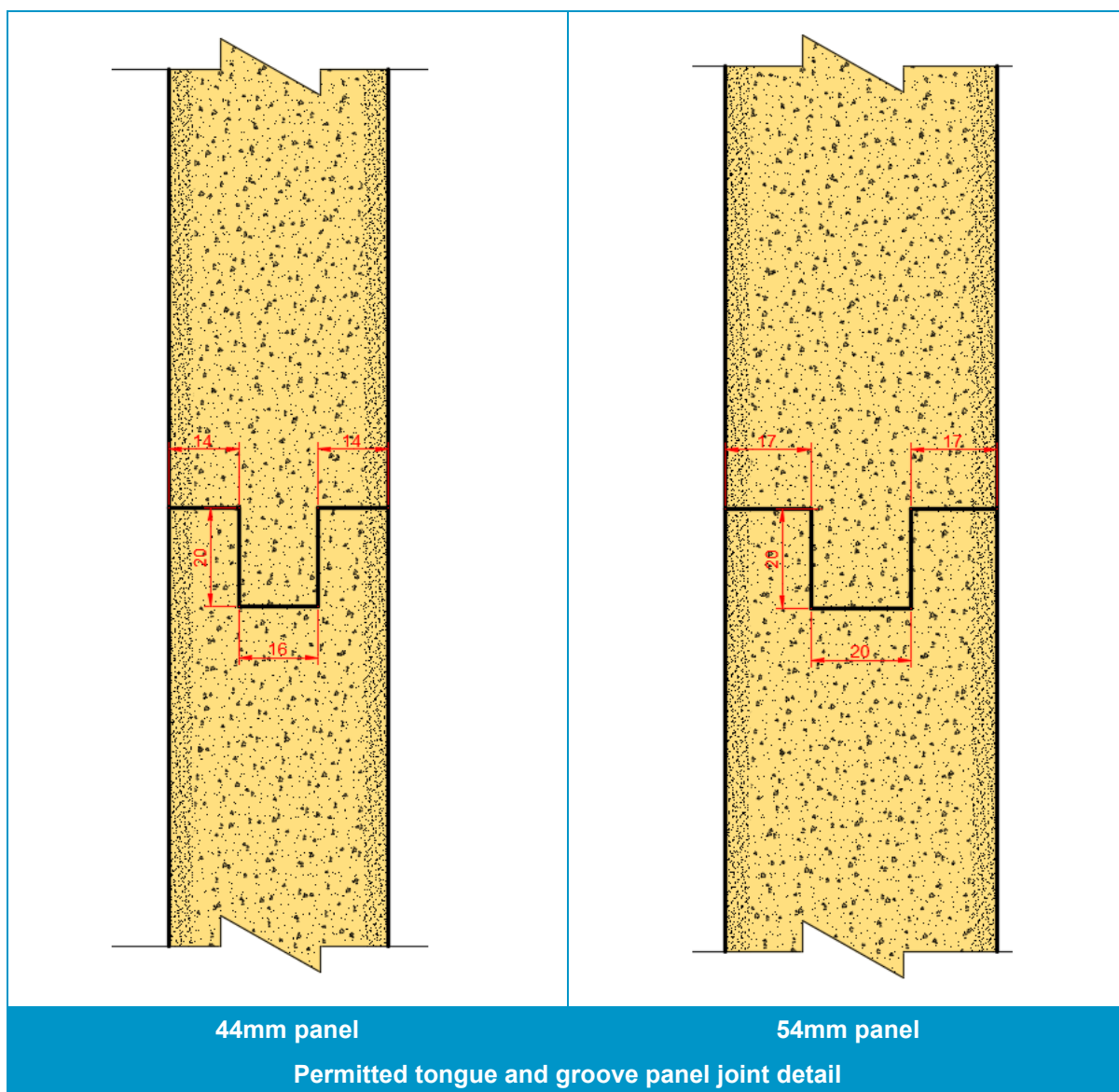
Based on the testing summarised within Appendix A, specifically Chilt/RF13063 Revision A it is possible to consider the application of horizontal joints in side panel constructions.

When applied the horizontal joint must be, either;

- Formed from a tongue and groove arrangement (as depicted below) or
- Created with a softwood (minimum density 510kg/m³) loose tongue measuring 40mm high x 18mm thick, positioned centrally within the thickness of the panel, running the full width of the panel.

In all instances the joint is to be bonded with PU adhesive.

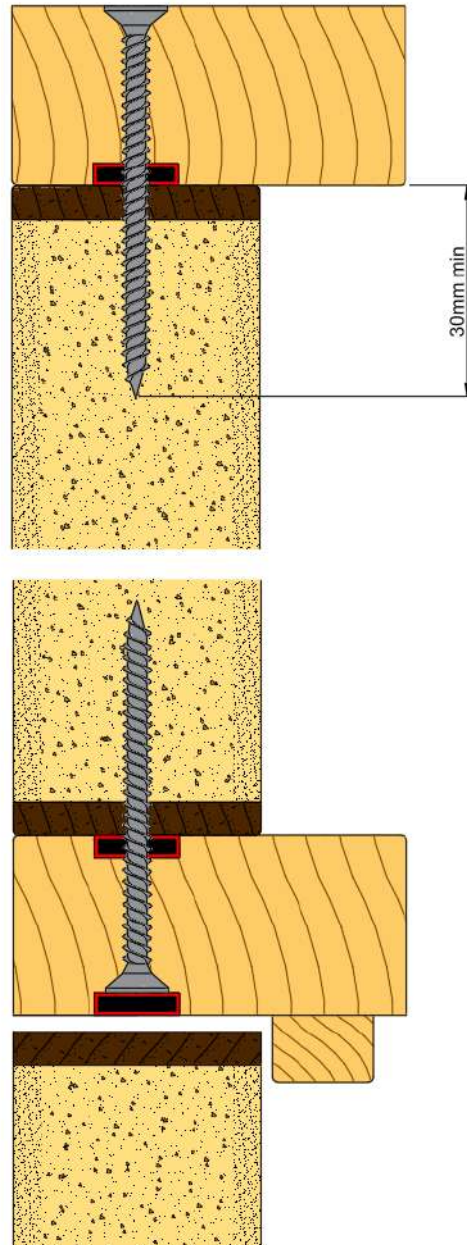
The horizontal joint must be positioned no higher than 1000mm from the floor level.



8.3.5 Intumescent Sealing Arrangement (Side or Over Panels)

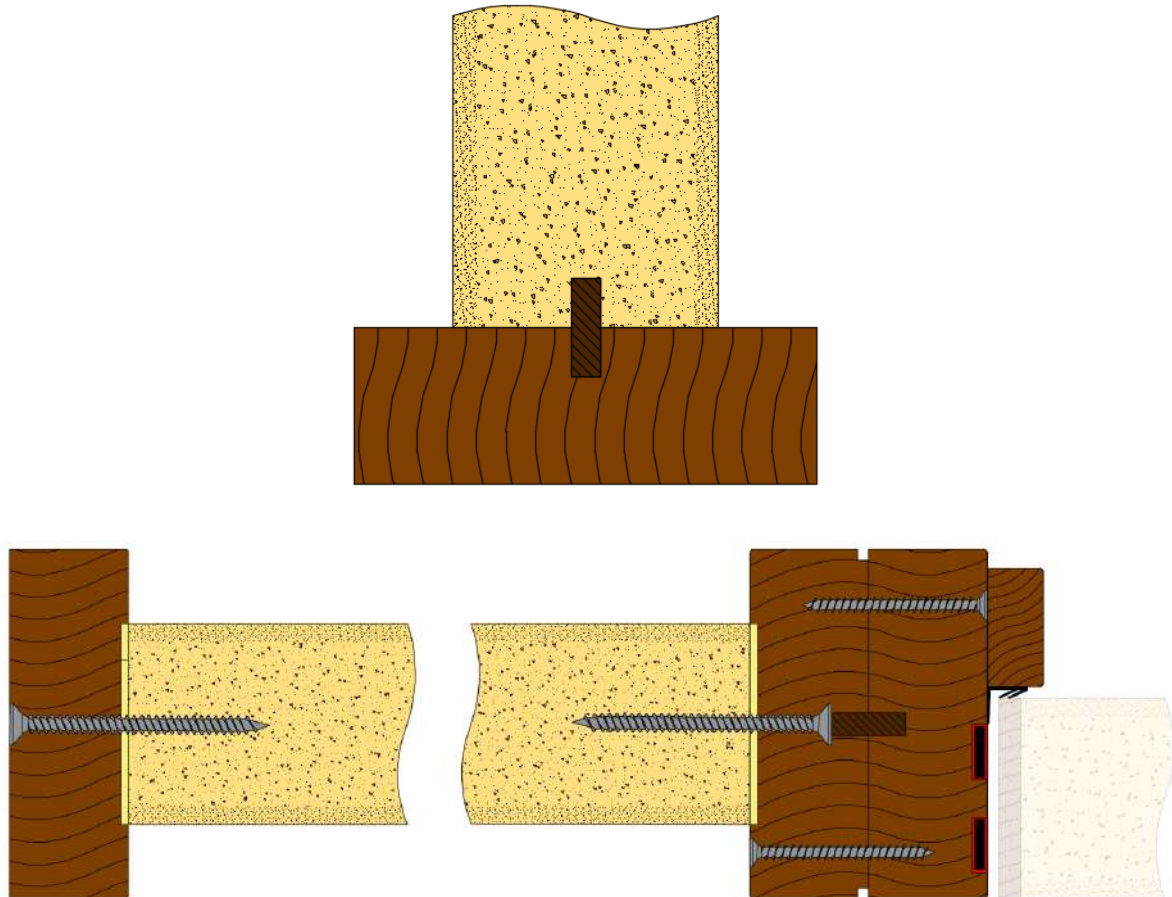
Solid side and overpanels when included within a doorset design (in either modular or shared framing) shall include the same intumescent specification as utilised within the door leaf or frame reveal.

Permitted intumescent specifications are detailed in section 4.5, while there may be multiple options for manufacturer and seal types only one specification can be utilised with any single doorset, and the specification used shall match the specification used on the door leaf.



Alternatively, for applications below 1m height from the notional floor level, as supported by WF531368, panels constructed of Leaf 2 (8.3.1.2) where the panel is installed within a modular framing option in a side panel arrangement, with the panel positioned centrally within the depth of the frame, it is permitted to apply: (as depicted below)

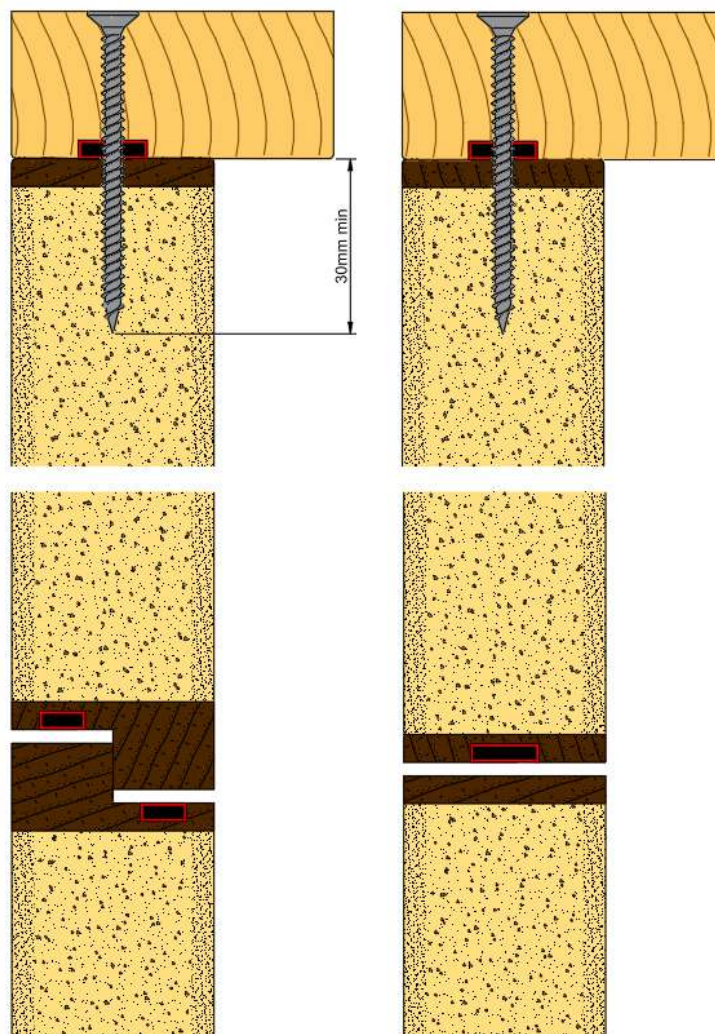
- SLS-GLZ-113 liner, 54mm (w) x 2 (t) rebated to flush within the vertical frame elements and,
- 20mm (w) x 6mm (t) Loose MDF tongue applied centrally to the thickness of the panel across the horizontal edges, bonded with PU or PVA adhesive.



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Solid flush overpanels shall include the intumescent specification as detailed within sections 4.5.8, 4.5.9, 4.5.10, 4.5.14, 4.5.15 & 4.5.16 as applicable.



Permitted intumescent specifications are detailed in section 4.5, while there may be multiple options for manufacturer and seal types only one specification can be utilised with any single doorset, and the specification used shall match the specification used on the door leaf.

8.3.6 Fixing Arrangement (Side or Over Panels)

Solid panels must be fixed into the framing solution by steel screws appropriate for the timber-based substrates.

Screws shall be applied nominally centrally to the thickness of the solid panel, through the rear of the frame to all edges and transom or mullion reveal where applicable and shall penetrate into the solid panel by at least 30mm.

Fixings must be no more than 100mm from each corner and a maximum of 350mm centres in between.

When fitted the solid panel shall have gaps no greater than 1mm between the panel edge and the adjacent framing element.

Where fitted within shared framing (transomed or mullioned) the face of the solid panel shall be nominally in line with the face of the door leaf.

Where fitted within modular framing the panel may either be nominally in line with the face of the door leaf or centrally within the modular frame depth.

Where fitted in a flush arrangement the face of the solid overpanel shall be in line with the face of the door leaf.

Beading or cover mouldings up to 50mm wide x 50mm deep, may be freely applied to either face of the joint of the solid panel to the framing section, beading or cover moulding material must be the same specification as the frame material.

8.3.7 Maximum Dimensions (Side or Over Panels)

Based on the testing undertaken within the doorset design the following maximum dimensions are permitted for any single panel, subject to the doorset not exceeding 4800mm wide including outer framing dimensions.

Solid Panel & Frame Type	Height (mm)	Width (mm)
Flush Overpanel	920 (RF97091)	Overall doorset width
Overpanel (Shared Framing)	Up to 1500 for double doorset configurations and 2000 for single doorset configurations.	
Overpanel (Modular Framing)		
Sidepanel (Shared Framing)	Up to maximum dimension given in section 4.5 for leaf size based on intumescent specification used.	Up to maximum dimension given in section 4.5 for leaf size based on intumescent specification used.
Sidepanel (Modular Framing)	Up to maximum dimension given in section 4.5 for leaf size based on intumescent specification used. Or When using SLS-GLZ-113 option provided within section 8.3.5 no greater than 1000mm.	Up to maximum dimension given in section 4.5 for leaf size based on intumescent specification used. Or When using SLS-GLZ-113 option provided within section 8.3.5 no greater than 1000mm.

The overall assembly shall form a rectilinear shape.

8.3.8 Apertures within Solid Panels

Apertures within solid panels have been demonstrated to perform suitably for the required 30 minutes fire resistance performance.

This is specifically demonstrated within WF531368 which includes the leaf 2 design (54mm thick) achieving in excess of 60 minutes fire resistance performance with letterplates fitted.

As the solid panels are constructed from the same material as the leaf, further confidence can be gained from the evidence which includes the various leaf types performing with the inclusion of apertures to facilitate hardware and glazing.

When fitted apertures must be positioned as follows:

- Hardware:
 - The edge of the aperture must be no closer to the edge than 50mm to the edge of the panel.
 - The item of hardware must also meet the positioning requirements defined for the relevant item as defined within section 10.
- Glass & Glazing:
 - Glazed apertures must meet the full specification as defined within section 6 for the permitted maximum dimensions, glass types and glazing systems.
 - Glazed apertures must not be less than 100mm from horizontal and vertical edges of the panel in all instances.
 - Multiple apertures are permitted providing 100mm distance of panel remains between the apertures.
- Additionally, apertures must be located no closer than 100mm to a construction joint where the side panel is formed from 2 pieces. Apertures must not span any joints in the panel.

8.4 Glazed Fanlights & Sidelights

Based on the testing detailed within Appendix A, it has been possible to consider the use of glazed fanlights and sidelights with the modular framing and shared framing given in section 8.2.1 and 8.2.2 respectively.

The glazing system must be one of the following tested or assessed glass types and glazing systems.

Alternatively, for modular framing, it is possible to utilise glass and glazing systems with a Certifire certificate – Valid at the date of manufacture of the doorset which has been written in accordance with Warringtonfire Testing and Certification Ltd Technical Schedule 25. More information on the use of Certifire approved glass and glazing systems can be found within section 8.4.2.

All glass panes shall be positioned centrally to the frame depth unless stated otherwise within a valid Certifire certificate for the glass or glazing system.

8.4.1 Tested and Assessed Glass types & Glazing Systems

The table below specifies the maximum assessed height and width that is deemed acceptable for different aspect ratios ('landscape' or 'portrait' orientation) for an individual glazed aperture, based upon the test evidence contained within Appendix A.

The dimensions of any single glazed aperture must not exceed that stated below, nor shall the entire assembly exceed 3175mm wide x 4800mm high for any single doorset including the dimension of the door frame, overpanels, fanlights, sidepanels and sidelights.

Note: sidelights including a horizontal transom separating two glass panes are to be considered as two apertures for the purpose of the maximum pane dimensions given below.

Test Reference	Glass Type (thickness)	Perimeter Frame (w x t) mm	Frame Density (kg/m ³)	Transom / Mullion (w x t) mm	Maximum Pane Dimensions (mm)	Max Glazed Area (m ²)	Glazing System	Glazing Bead Size		Bead Shape	Bead: Density (kg/m ³)	Bead Fixing
								Height	Width			
WF523942/MR	Pyroguard 2-EW30/7-1 Pyroguard UK Ltd (7mm thick)	100 x 32	562	100 x 44	Landscape: 675 (h) x 1993 (w) Portrait: 2488 (h) x 435 (w)	Landscape: 1.17 Portrait: 0.94	SLS-GLZ-111 Glazing Tape Halspan Ltd 10mm (w) x 5 (t) fitted between glass and the bead.	15	32	Square or Splayed (15 degrees)	Hardwood 640	Steel pins or screws 50mm long & PU Adhesive Fitted 50mm long at 150mm centres. 35-40 degrees to the face of the glass.
WF531368	Pyrostop 30-10 Pilkington (15mm thick)	94 x 32	640	94 x 32	Landscape: 681 (h) x 1118 (w) Portrait: 1432 (h) x 681 (w)	Landscape: 0.66 Portrait: 0.84	SLS-GLZ-112 Glazing Tape Halspan Ltd 20mm (w) x 5 (t) fitted between glass and the bead & SLS-GLZ-113 Intumescent Liner Halspan Ltd 54mm (w) x 2mm (t) grooved to finish flush within the frame.	25	35	Square or Splayed (15 degrees)	Hardwood 640	Steel pins or screws 50mm long & PU Adhesive Fitted 50mm long at 150mm centres. 35-40 degrees to the face of the glass.

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Test Reference	Glass Type (thickness)	Perimeter Frame (w x t) mm	Frame Density (kg/m ³)	Transom / Mullion (w x t) mm	Maximum Pane Dimensions (mm)	Max Glazed Area (m ²)	Glazing System	Glazing Bead Size		Bead Shape	Bead: Density (kg/m ³)	Bead Fixing
								Height	Width			
CFR1005241	Pyroguard EI30 INT ² Pyroguard UK Ltd (15mm thick)	94 x 40	640	94 x 44	Landscape: 1039 (h) x 2246 (w) Portrait: 2407 (h) x 1195 (w)	Landscape: 2.02 Portrait: 2.49	Therm-A-Glaze 45 Intumescent Seals 15mm (w) x 2 (t) fitted between glass and the bead.	25	30	Square or Splayed (16 degrees)	Hardwood 640	Steel screws 50mm long Fitted 50mm long at 145mm centres. 35-40 degrees to the face of the glass.
Chilt/RF08169	ESG Pyrotech 630 Fire Resistant Glass Essex Safety Glass Ltd (6mm thick) With 12mm aluminium foil return to each face.	90 x 40	640	90 x 40	Landscape: 873 (h) x 1440 (w) Portrait: 2007 (h) x 954 (w)	Landscape: 1.25 Portrait: 1.91	Ceramic Tape, Kerafix, 15mm (w) x 3 (t) fitted between glass and the bead & Interdens, Dufaylite, 1mm (t) x 10mm (w) fitted lining the glazing aperture	21	22	Splayed (18 degrees)	Hardwood 640	Steel pins or screws 50mm long Fitted 50mm long at 150mm centres. 35-40 degrees to the face of the glass.

Notes:

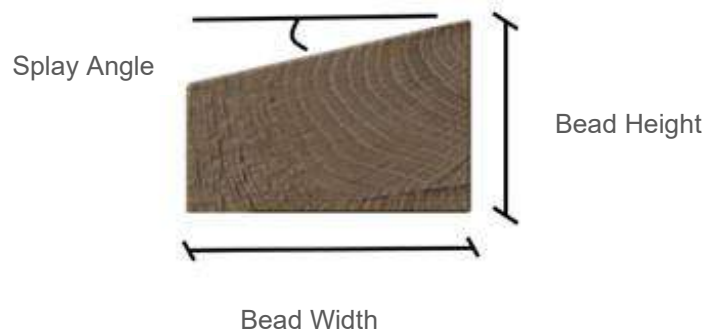
1. Further information on beading is found in section 8.4.1.1 below.
2. Based on information and a declaration provided by Pyroguard the product name has been re-branded from the tested product.

8.4.1.1 Glazing Beads & Installations

The following sections provide visual representation of the permitted glazing beads; these sections are to be read in conjunction with the table in section 8.4.1 which provides the relevant information relative to the tables below.

8.4.1.1.1 Chamfered Bead (Splayed)

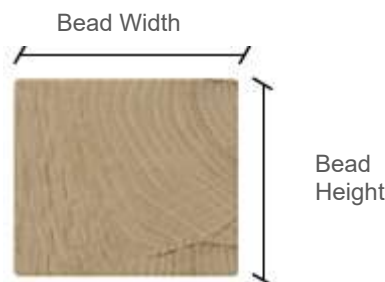
Permitted with glass types from the table in Section 8.4.1 as identified and must be used with the specified glazing system in the table



- The glazing beads must be created from hardwood (not Beech fagus species). Refer to Section 8.4.1 for the required density for each system.
- Fixings requirements are identified in Section 8.4.1 for each glass & glazing system.
- The fitting of the glazing seal between the bead and the glass should be in accordance with the manufacturer's instructions.
- Glass shall be aligned within the aperture using hardwood or non-combustible setting blocks placed at the bottom horizontal edge only, sized to provide edge cover and expansion allowance as the specific system requires

8.4.1.1.2 Square Bead

Permitted with glass types from the table in Section 8.4.1 as identified and must be used with the specified glazing system in the table



- The glazing beads must be created from hardwood (not Beech fagus species). Refer to Section 8.4.1 for the required density for each system.
- Fixings requirements are identified in Section 8.4.1 for each glass & glazing system.
- The fitting of the glazing seal between the bead and the glass should be in accordance with the manufacturer's instructions.
- Glass shall be aligned within the aperture using hardwood or non-combustible setting blocks placed at the bottom horizontal edge only, sized to provide edge cover and expansion allowance as the specific system requires

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8.4.1.1.3 Pin Fixings

Where it is identified within section 8.4.1 that pin fixings are permitted the following pin specification is permitted and has been considered suitable for applications requiring a pin fixing to glazing beads:

Option 1 – Round, Oval & Rectangular Pins

The following dimension of pin has been approved for round, oval and rectangular shaped pins which are hand applied:

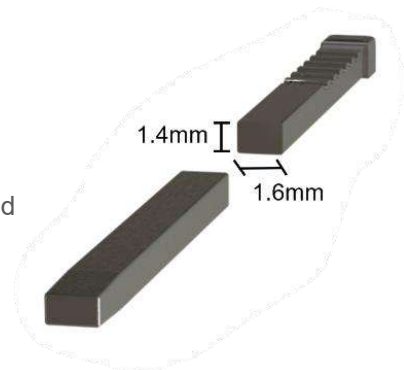
- Minimum Standard Wire Gauge (SWG) 16.
- Minimum cross section area of 2.03mm².
- Minimum linear dimension of 1.6mm in any direction, see figure below. The maximum pin diameter or any linear dimensions may be no greater than 2.0mm.



Option 2 – Gun (Pneumatically) Fired Rectangular Pins

The following dimension of rectangular pin has been deemed suitable for gun (pneumatically) fired applications.

- Minimum Standard Wire Gauge (SWG) 16.
- Minimum cross section area of 2.24mm².
- Minimum linear dimensions as shown in the figure.
- The 1.6mm dimension is predominately oriented perpendicular to the glass, where possible.
- The maximum pin diameter or any linear dimensions may be no greater than 2.0mm.



Pins with dimensions less than those stated above are not covered by this assessment.

8.4.2 Certifire Approved Glass & Glazing Systems

Alternative glass and glazing systems with a Certifire certificate – valid at the date of manufacture of the doorset which has been written in accordance with Warringtonfire Testing & Certification Ltd Technical Schedule TS25 - may be utilised to glaze fanlights and sidelights for use with the doorset design, subject to the following.

- The chosen Certifire approved glass and glazing system must detail that it is suitable for use for 30 minutes fire resistance performance within a timber screen.
- Certifire approved glass and glazing systems may be utilised with the doorset design providing they are able to be applied in a self-contained modular frame.
- The modular frame must meet or exceed the specification for modular frames given within section 8.2.1 above, however, must be fixed to the doorset or adjacent modules in the manner specified in section 8.2.1.4.
- Where a Certifire certificate is utilised to justify fanlights and / or sidelights, the full requirements given within that certificate for the frame (which may require an increase in dimensional requirements given in section 8.2.1 for example), glass type, glazing system and glass retention method specified must be complied with.
- Parameters in section 8.4.1 above relating to the overall dimension of the doorset design including fanlight and sidelight modules must not be exceeded.
- Bead Fixings - The required pin or screw specification as given in the supporting Certifire certificate must be used, alternatives fixing details are not permitted.
- The doorset assembly must remain rectilinear.

9. Adhesives

The following adhesives must be used in the construction of the doorsets. These may be hand applied or mechanically applied. It must be ensured that sufficient glue is applied across the entire surface area between the 2No substrates being adhered to guarantee a robust bond. Other manufacturers guidance should be followed, for the installation application used.

Element		Product/Material Type
Door blank core		As per manufacturer's tested specification
Door blank facings (Leaf 3 and 4)		UF or PVAc
Timber lipping (specified in section 5.4.1)		UF, PU, PVA, PVAc or hotmelt PUR
Timber lipping (specified in section 5.4.1) and used with intumescent specification A/30 or B/30 (section 4.5)		PVA or PVAc
Timber lipping (specified in section 5.4.2)		PU
General PVC or ABS edge protection applied directly to core material or applied to Flat hardwood lippings (section 5.5.1.1 and 5.5.1.2)		UF, PU, Hotmelt PUR and contact adhesive
General PVC or ABS Edge Protection with Hardwood Lipping Incorporated, Applied to Leaf Edge (section 5.5.1.2)		PVA
Decorative and protective facings applied to leaf face (section 5.6)		UF, PF, PU, PVA, PVAc or contact adhesive
Decorative Groove Inserts	Optional Inserts	UF, PU or PVA and Contact Adhesive
	Required Inserts	UF, PU or PVA
Frame Jointing (horizontal to vertical members) and Modular Frame jointing		UF, PU and PVA
Decorative and Protective Facings applied to Frame (section 7.12.1)		UF, PF, PU, PVA, PVAc or contact adhesive
Frame Encapsulation (section 7.12.2)		Contact Adhesive

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10. Hardware

10.1 General

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 UKCA or CE Mark in addition to the requirements outlined in the following sections. The UKCA or CE mark must indicate that the hardware is suitable for fire doors in the classification code and declaration of performance issued by the hardware manufacturer:

- Latches & locks: Test Standard EN 12209
- Single axis hinges: Test Standard EN 1935
- Controlled door closing devices: Test Standard EN 1154
- Electrically powered hold-open devices: Test Standard EN 1155
- Door co-ordinators: Test Standard EN 1158
- Emergency exit hardware: Test Standard EN 179
- Panic exit hardware: Test Standard EN 1125.

The following sections consider what tested and assessed alternative items of essential and non-essential hardware can be used on the doorset range.

Items of hardware have been considered and approved via the following means:

- The component has been successfully tested to BS 476: Part 22: 1987 or BS EN 1634-1 in a suitably similar type of doorset e.g. timber leaf in timber frame
- As a result of an assessment of the appropriateness of the item of hardware, based on test evidence not commissioned by Halspan Limited.
- As a result of the Certifire approval of the item of hardware

Each section will consider the named item of hardware and detail if there are any limitations associated with:

- Leaf size
- Configuration
- Intumescent seals
- Intumescent protection
- Frame configuration requirements

Hardware that is either morticed in or includes a through component or fixing may not be within 200mm of another item of hardware unless otherwise stated within the following sections of this document or unless there is test evidence to demonstrate they can be in closer proximity.

Hardware items should generally be fitted in accordance with the manufacturer's instructions. However, the parameters and requirements of this assessment always take precedence, including specified protection such as hardware gaskets. Referenced Certifire approved hardware may be incorporated subject to the design, material and dimensional limitations identified within this assessment report and identified on the relevant Certifire certificate.

Where maximum leaf dimensions are given in the specifications for items of hardware the guidance in section 4.5.4.1 must be followed.

10.2 Intumescent to Hardware

The intumescent materials used to protect hardware that have been tested and assessed for this doorset design are detailed below. Note that any one of the product/manufacture options listed in the table may be used in the specific application noted. However, only 1No manufacturer should be considered per doorset application. For specific items of hardware, the intumescent requirements are detailed within the relevant subsection.

The door gap perimeter intumescent seal specifications are documented in conjunction with the leaf envelope size limitations in section 4.

Hardware Intumescent Specification		
Item	Location	Product / Manufacturer
Butt Hinges	For Frame 1, 2, 3, 4, 5, 6, 7 Fitted under each hinge blade.	Not required
	If using intumescent specification A/30 or B/30 (section 4.5) Fitted under each hinge blade.	1 (t) Lorient Interdens (RF00068 A)
Single Point Lock/latches	For latches and locks with forend and keep up to maximum 150mm long.	Not required (Chilt/RF11005 A)
	For latches and locks with forend or keep over 150mm long. Under forend & keep	1 (t) SLS-PAD-110 (BMT/FEP/15214) or 1 (t) MAP, Interdens or Graphite based intumescent material.
	If using intumescent specification A/30 or B/30 (section 4.5) Under forend & keep	1 (t) Lorient Interdens (assessed from RF00068 A)
Flush bolts fitted without threshold (as detailed in section 10.8.1)	Encasing the entire body of the flush bolt including the back surface of the face plate	1 (t) SLS-PAD-111 (BMT/FEP/15214) 1 (t) ISL Therm-A-Strip (CFR1803021 LH) 2 (t) FlexiFire graphite Z1FO160G (CFR1909241) 1 (t) STS graphite (BMT/FEP/F15097)

Note: Halspan intumescent protection is supplied with Halspan hardware, e.g. Halspan sashlock LCK-BSS-104 comes with SLS-PAD-109. The combined product is then referenced BOM-LCK-111.

Gaskets must be fitted where required by supporting evidence, for example, test evidence or Certifire certificates. If gaskets are not required by the supporting evidence but are within this Field of Application, the requirements of this Field of Application take precedence.

Where it is stated that intumescent is not required for a particular element of hardware, it is permitted to use up to 2mm thick MAP, Interdens or graphite-based gasket tested for the particular application [as appropriate for the hardware]. It is the opinion of Warringtonfire that the additional protection will not detract from the fire resistance performance under test conditions.



Example of hinge protection detail



Example of lock & latch protection detail



Example Flush bolt installation and intumescent protection

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10.3 Essential Hardware

The following table details the essential hardware for the various doorset configurations that are referenced in this assessment.

Configuration	Hardware
LSASD	• Latch • Handle • Hinges • Self-closing device (closer)
ULSASD	• Hinges • Self-closing device (closer)
DASD	• Top pivot & bottom strap • Self-closing device (closer)
LSASD+OP	• Latch • Handle • Hinges • Self-closing device (closer)
ULSASD+OP	• Hinges • Self-closing device (closer)
DASD + OP	• Top pivot & bottom strap • Floor spring
LSADD	• Latch • Handle • Hinges • Self-closing device (closer) • Flush bolt / face fixed bolt
ULSADD	• Hinges • Self-closing device (closer)
DADD	• Top pivot & bottom strap • Self-closing device (closer)
LSADD+OP	• Latch • Handle • Hinges • Self-closing device (closer) • Flush bolt / face fixed bolt

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Configuration	Hardware
ULSADD+OP	- Hinges - Self-closing device (closer)
DADD + OP	- Top pivot & bottom strap - Floor spring

Note:

1. The above table includes self-closing devices, but for some permanently locked fire doors a closer is not required, providing it is fitted with the appropriate signage. If this is the case the doorset must be considered a latched doorset arrangement for the purpose of leaf size envelopes defined within section 4.5.
2. It is permitted to omit the door closer and fit bolts to the inactive leaf of unlatched double doorsets. The active leaf must be fitted with a door closer, and both leaves must carry the appropriate signage.

10.4 Latches & Locks

The following sections detail the permitted locks and latches which have been tested or assessed within the Halspan Optima 30 doorset design.

Doorsets fitted with only a lock without a latching function are permitted. The fitting of a lock only is not considered to change the latching arrangement of the doorset and therefore the permitted leaf size shall be established using unlatched doorset configurations as detailed within section 4.5.

Up to 2No. single point engagement locks or latches may be applied within the vertical edge of the door leaf in any individual doorset providing 200mm of uninterrupted perimeter intumescent is maintained between the two hardware items. When fitted the lock or latch bodies shall be installed at a height as detailed within the relevant section below. Refer to specific notes contained within each section for further considerations on lock or latch type.

A lock has been successfully tested in test reference WF414679 with an equal rebated meeting edge. On the basis of this testing single-point locks (section 10.4.1) are suitable for use with equal rebated meeting edges, subject to the following additional requirements being followed:

- The forend is no wider than 22mm (WF414679)
- The strike plate is no wider than 24mm as tested (WF414679)
- The meeting edges must include a minimum of 2No. 10 x 4mm intumescent seals applied to not interrupt the intumescent seals more than the tested arrangement. (WF414679)

A forend conversion set constructed entirely from steel for the lock/latch or a lock/latch incorporating a rebated forend can only be fitted when covered by CERTIFIRE approval for an ITT designated doorset, (i.e. a doorset incorporating Intumescent, Timber leaf and Timber frame). Providing all the requirements for the inclusion of the lock/latch required within this Field of Application and the Certifire certificate are complied with.

Locks fitted within unequal rebated meeting edges shall not be applied when it is required to remove timber from the upstand of the rebate to facilitate their application.

10.4.1 Single Point Engagement

Based on the test evidence the suitability of different lock sizes depends on the perimeter intumescent specification used at the lock edge of the doorset and the frame option.

In all instances the location of the centre of the lock body must be between 500 – 1500mm from the threshold.

10.4.1.1 1No. 10mm x 4mm Intumescent specification with Frame 1

These items are suitable in the following applications only:

Leaf options: 1, 2, 3

Frame option: 1

Perimeter Intumescent specification is 1No. 10mm wide x 4mm thick centrally fitted at the jambs or vertical leaf edges containing the lock or strike.

The table below details the tested latches and locks that are approved.

Element	Manufacturer & Product Reference
Locks & latches	- The Dale Collection tubular mortice latch (CFR1111221) - Henderson Hardware Limited tubular mortice latch (Chilt/RF01059A (AR2)) - E*S tubular mortice latch (Chilt/RF11005 A)

Based on the tested tubular mortice latches tested in CFR1111221, Chilt/RF01059A (AR2), (Chilt/RF11005 A) and Chilt RF97091 the following alternative, Certifire approved components certified for use within 30-minute fire resistance applications on 44mm thick timber door and timber frames with the following specification are also deemed acceptable.

Element	Specification
Maximum forend and strike plate dimensions	100mm high by 26mm wide by 4mm thick
Maximum body dimensions	60mm high by 100mm wide by 18mm thick
Intumescent protection	see section 10.2
Materials	All parts essential to the locking/latching action (including the latch bolt, forend and strike) to be steel, stainless steel or brass with a melting point $\geq 800^{\circ}\text{C}$

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

10.4.1.2 1No. 10mm x 4mm Intumescent specification with Frame 2, 3

These items are suitable in the following applications only:

Leaf options: 1, 2, 3

Frame option: 2, 3

Perimeter Intumescent specification is 1No. 10mm wide x 4mm thick centrally fitted at the jambs or vertical lock edge containing the lock.

The table below details the tested latches and locks that are approved.

Element	Manufacturer & Product Reference
Locks & latches	Halspan LCK-BSS-100 (Chilt/RF16050 AR1 B)

Alternatively, Certifire approved components certified for use within 30-minute fire resistance applications on 44mm thick timber door and timber frames with the following specification are also deemed acceptable.

Element	Specification
Maximum forend and strike plate dimensions	235mm high x 25mm wide x 4mm thick
Maximum body dimensions	165mm high x 100mm wide x 18mm thick
Intumescent protection	see section 10.2
Materials	All parts essential to the locking/latching action (including the latch bolt, forend and strike) to be steel, stainless steel or brass with a melting point $\geq 800^{\circ}\text{C}$

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10.4.1.3 All other Intumescent specifications

These items are suitable in the following applications only:

Leaf options: 1, 2, 3, 4

Frame option: 1, 2, 3, 4, 5, 6, 7

Perimeter Intumescent specifications that are not covered by sections 10.4.1.1 or 10.4.1.2.

The table below details the tested latches and locks that are approved.

Element	Manufacturer & Product Reference
Locks & latches	- Halspan LCK-BSS-100 (Chilt/RF16050 AR1) - Halspan LCK-BSS-104 (PX06466 A) - Halspan LCK-BSS-107 (WF412654 B) - Halspan LCK-LTC-064 (60x22 forend) (WF426991) - Union mortice latch 235x24 forend, 200x30 keep (BMT/FEP/F15097) - Legge 'Life' tubular mortice latch (Chilt/RF07008 A&B) - Ingersol Rand 5520 (235x20 forend) (Chilt/RF08039) - Interior Hardware Ltd 76mm Europrofile sashlock (85x25 forend) (WF145632 A) - Smith and Locke 3006K (60x25 forend) (WF391351) - Harbrine Hoppe Arrone AR8100 (WF403596) - Securefast plc SEU777/2R (WF415117) - Zoo tubular steel mortice latch (62x25 forend) (BMT/FEP/F14102) - Zoo PRTL64SS tubular latch (WF522390 A) - Borg Locks BL5003 FT (WF522390 B) - Zoo ZFB1 (WF523943/MR A) - Zoo ZFB2 (WF523943/MR A) - Assa Abloy JHD72DNL (WF545611) - Union 2 lever mortise latch (152x22 forend) (Chilt/RF04021) - E*S tubular mortice latch (Chilt/RF09069) - ERA tubular steel and brass mortice latch (57x27 forend) (WARRES 131998 A) - Carlisle Brass LFB1 Fire Brigade Deadlock with 89mm high x 25.5mm wide strike (WF543736/R A) - Dormakaba SVP 6268 (CFR2004171 RH)

Alternatively, Certifire approved components certified for use within 30-minute fire resistance applications on 44mm thick timber door and timber frames with the following specification are also deemed acceptable.

Element	Specification
Maximum forend and strike plate dimensions	235mm high x 25mm wide x 4mm thick
Maximum body dimensions	169mm high x 130mm wide x 18mm thick
Intumescent protection	see section 10.2
Materials	All parts essential to the locking/latching action (including the latch bolt, forend and strike) to be steel, stainless steel or brass with a melting point $\geq 800^{\circ}\text{C}$

10.4.1.4 Carlisle Brass RCN8260SC Rim Nightlatch

These items are suitable in the following applications only:

Leaf options: 1, 2, 3, 4

Frame option: 1, 2, 3, 4, 5, 6, 7

Perimeter Intumescent specifications that are not covered by sections 10.4.1.1 or 10.4.1.2.

The tested Carlisle Brass RCN8260SC rim nightlatch (WF543736/R B) may be fitted to the doorset design providing:

- The positioning requirements outlined in section 10.4.1 are maintained.
- Required rebates are kept tight but allow function
- The tested 0.8mm (t) Carlisle Brass, Intercalated graphite protection is applied to the lockset as tested.

When fitted the RCN8260SC Rim nightlatch must not be considered to change the latching arrangement of the doorset design and any configuration must be considered unlatched (section 4.5) if mechanical latching is not achieved by another means.

10.4.2 Latches & Locks – Multi Point Engagement

The table below details the tested multi point latches that are approved.

Test Evidence (Tested Configuration)	Item	Hardware Intumescent Protection
CFR1903071 (LSASD)	ERA 6945-80 85MA	Halspan SLS-PAD-110 (1mm MAP) to faces of latch/hook bodies and SLS-PAD-103 (1mm) to rear of strike and keeps
Chilt/RF03076 (LSASD)	GU Ferco 3-point latch/lock	Intumescent Seals 2mm Therm-A-Flex to the latch body and under forend (none under keep)
WF537652 (LSASD)	Halspan Crimebeater Multipoint lock BOM-LCK-330	Halspan 1mm SLS-PAD-126 all cases, thrust pin case, none forend and under all 3 strikes
Assessed based on WF537652 & material dimensions and properties of the considered lockset.	Halspan Flexi Multipoint lock BOM-FLX-330	Halspan 1mm SLS-PAD-126 all cases, thrust pin case, none forend and under all 3 strikes
WF529765 A&B (LSASD)	UAP Limited FULLEX_AI_AUTOLOCK-IONIC Permitted to be fitted with the UAP Fullex-A-IONIC-WIFI-CHARGE-PACK as tested	1mm Interdens around cases and keep
WF533900 A&B (LSASD) & WF429950 (LSASD) & CFR2506031 (LSASD)	Winkhaus AV2	1mm Interdens to all cases, 1mm Interdens under strike plates and keeps & 2.5mm graphite to inside of keep pockets
		FS277 0.8mm Flexifire AV2/AV3 intumescent kit to cases and FS279 0.8mm FlexiFire F24-908/912 under keeps
		FS277 0.8mm Flexifire AV2/AV3 intumescent kit to motor
		Norseal INT(1)AV2/3KIT/ Datim XS00010811 1mm ammonium phosphate based intumescent to cases and under strike, keeps and around dust boxes, with 1mm graphite based intumescent under the tongues of the strike/keeps.
WF429950 (LSASD)	Winkhaus AV2e including EAV motor	FS277 0.8mm Flexifire AV2/AV3 intumescent kit to cases and FS279 0.8mm FlexiFire F24-908/912 under keeps FS277 0.8mm Flexifire AV2/AV3 intumescent kit to motor

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Based on the test evidence, the above tested and assessed multi-point locks are permitted for use with the doorset design subject to the following parameters:

Leaf options: 1, 2, 3, 4

Frame option: 1, 2, 3

Configurations: LSASD

1. The frame intumescent must be one of the following tested intumescent seals when using one of the identified multi-point locks:
 - a. Intumescent seal specification A/13, A/17 or A/33 (as specified in section 4.5)
 - b. Any perimeter intumescent seal specification with 2No strips (as specified in section 4.5) located into the frame reveal along the closing edge.
2. Where fitted the approved multi-point locks shall be fitted centrally to the thickness of the door leaf.
3. The top and bottom hook locks do not need to be engaged for fire performance, except where the multi-point lock has an auto throw function the top and bottom locks must be engaged.
4. The centre, top and bottom keep plates must be the same as those tested, as supplied by the manufacturer.
5. In all instances the location of the handle must be between 800–1200mm from the threshold. The multi-point latch may be fitted along the entire length of the door edge, if required and as tested in report reference Chilt/RF03076.
6. The frame must be a minimum of 32mm wide and be fitted with a stop of minimum 12mm.
7. Intumescent protection to the multi-point lock used must be as tested and identified within the table above.
8. When fitted to a doorset which includes a rebated drop seal the forend must be positioned a minimum of 50mm from the bottom of the leaf such that the drop seal may be fitted without interference with the lock forend.

10.4.3 Cylinders

The table below details tested cylinders that are approved.

Element	Manufacturer & Product Reference
Cylinder	• Halspan KIN-CYL-044 Kinetica 3* & thumbturn (WF537652) • ERA TS007-2012 (CFR1903071) • Vier V5 (CFR1909241) • Zoo V5EP80DSCE (CFR2004171 RH) • Zoo V5EP70CTSC (WF414679) • Salto TE010H35PM (CFR2010021 LH) • Assa Abloy CY326 (CFR2010021 RH) • Assa Abloy J-U6PED4555SN Union 6 pin Euro profile (WF415117A) • Abloy Breaksecure 3DS 59080026 with thumbturn (WF507660) • UAP Limited FULLEX-AI-IONIC-OVERRIDE-44MM (WF529765) • Tigris Premier 3 with thumbturn (WF533900) • ABS TS007 KM586153 55/10 (CFR2506031)

Alternatively, components with the following specification are also deemed acceptable.

- Where required for use with either single or multi point latches, the cylinder must be constructed of either brass or steel with a melting point in excess of 800°C.
- The cylinder must be compatible with the lock/latch.
- Cylinder dimensions may be up to 33mm high x 17mm wide at the maximum dimension and may be of euro profile or oval.
- Single and double cylinders, along with cylinder & turn are permitted.
- Door preparation for single cylinders shall penetrate a maximum of 2/3rds of the door thickness.
- Intumescent protection and tightness of fitting:
 - If the lock body is not protected with an intumescent material, the maximum clearance between leaf and cylinder is 1mm to each edge.
 - If the lock body is protected with an intumescent material, maximum clearance between leaf and cylinder is 3mm to each edge.
 - 1mm thick MAP or non-pressure forming graphite intumescent around the cylinder is optionally permitted.

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10.4.4 Electronic Locking

10.4.5 Surface Head Mounted Maglocks

The following maglocks have been successfully tested within the Halspan Optima 30 doorset design when the mag lock body was fitted to the door frame head with the armature or associated bracket fitted to the face of the leaf:

Test Evidence	Item
WF404075/A A	Halspan / RGL ML600 Standard magnetic lock with a ZL bracket and using BLK 600 contact armature/bracket and AH 600 armature housing.

In addition to the tested and permitted maglocks detailed above the following alternative Halspan / RGL maglock bodies are permitted for use:

- ML600-M: Monitored version of the ML600
- ML600-D: Double Slimline mini magnet
- ML600-D-M: Monitored version of the ML 600-D
- ML600-D-MDS: As ML600-D but with monitored door status
- ML1200: Standard magnetic lock
- ML1200-M: Monitored version of the ML1200
- ML1200-MDS: As ML1200 but with monitored door status
- ML1200-D-M: Double standard magnetic lock, monitored
- ML1200-D-MDS: As ML1200-D-M but with monitored door status

The following mounting brackets and accessories are assessed as permitted in conjunction with the ML series of maglocks:

- | | |
|-------------------------------------|-----------------------------------|
| • AH600 and AH1200: | Armature housing |
| • BK600ZL and BK1200ZL: | Z&L bracket |
| • BK600L and BK1200L: | L bracket |
| • BK600-D-ZL and BK1200-D-ZL: | Double Z&L bracket |
| • BK600-D-L and BK1200-D-L: | Double L bracket |
| • AB600ZL-DC: | Architectural Z&L bracket |
| • AB600CL and AB1200CL: | Architectural L Bracket |
| • BK600-F-L/AB and BK1200-F-L/AB: | Architectural F/ZL bracket |
| • BK600-D-FL/AB and BK1200-D-FL/AB: | Double Architectural F/ZL bracket |
| • ADJ-600L and ADJ-1200L: | Adjustable L Bracket |
| • MAG-STRAP and ARM-STRAP: | Safety Wire Holding strap |

The above ML series of maglocks, armatures or brackets have been included within this assessment as none of the items are recessed into the edge or face of the door or frame and therefore it would not be expected that their fitting would increase the risk of burn through if subjected to fire resistance testing. The dimensions of some of the alternative maglock bodies are increased from the tested product. However, as they are of identical materials to the tested product, no reduction in performance would be expected as a consequence of substitution of the tested product.

Based on the test evidence, the above listed tested and assessed alternative face fixed magnetic locks are suitable for use within the following parameters:

These items are suitable in the following applications only:

Frame option: 1, 2, 3, 4, 5, 6, 7

Configurations: LSASD, ULSASD, LSADD and ULSADD

- The maglock body must be fitted directly to the frame head or utilising one of the permitted mounting brackets.
- When using the ML series of maglocks the armature(s) must be fixed to the face of the door via separate armature housing AH600 or AH1200 so that no fixings penetrate the full door thickness. The armature housing must be fixed to the door leaf using 4mm x 22mm woodscrews and the armature plate fixed to the housing by a single 8mm coachbolt which is fixed to the armature housing.
- No recessing of frame or leaf is permitted except the inclusion of a single hole through the frame to facilitate cabling which is no greater than Ø10mm.
- When fitted the maglock shall not interrupt any fire stopping detail applied to the doorset, nor require the removal of material (except screws) from the frame section.

Alternative magnetic locks which have supporting fire resistance test evidence when applied to a timber-based door leaf in a timber frame which has achieved greater than 30 minutes integrity performance when tested to BS 476: Part 22: 1987 or EN 1634-1, may be fitted, providing the installation does not require the removal of any timber from the leaf, stop or frame reveal and it does not interfere with the self-closing action of the door leaf.

The fitting of face fixed magnetic locks is not considered to change the latching arrangement of the doorset and therefore the permitted leaf size shall be established using the appropriate doorset configuration based on the other latch/lock hardware fitted to the doorset.

10.4.6 Morticed Head Mounted locks

10.4.6.1 Morticed Head Mounted locks – All leaf types

The following head mounted locks have been successfully tested within the Leaf 1 doorset design:

Test Evidence	Item	Hardware Intumescent Protection
CFR2010021 RH	Abloy 351U80 Body to frame, strike leaf head	Halspan SLS-PAD-120 MAP around the lock body and under forend and strike plate

In addition to the tested and permitted morticed head mounted lock detailed above the following alternatives are permitted for use:

- Abloy 351M80
- Abloy 352M80

When fitted the above assessed locks shall include the same intumescent protection as tested with the Abloy 351U80 in CFR2010021 RH. (Halspan SLS-PAD-120 MAP around the lock body and under forend and strike plate).

The assessment of the alternative locks is on the basis that the 351U80 has been tested and that 351M80 and 352M80 are of identical dimensions to the tested 351U80, with only a variation to functionality. The maximum keep dimension permitted is 150mm high x 44mm wide x 4mm thick without strike tongue as tested in CFR2010021 RH.

Based on the test evidence the above morticed head mounted locks are permitted within the following parameters:

Leaf option: 1, 2, 3, 4

Frame option: 1, 2, 3

Configurations: LSASD, ULSASD, DASD, LSADD, ULSADD and DADD

Further considerations as follows shall be met:

- When fitted the edge of neither the lock body nor keep shall be closer than 100mm to the vertical edge of any leaf.
- The frame intumescent shall consist of a specification which has a minimum of 2No. 10mm x 4mm intumescent seals applied to the frame head.
- The frame head thickness when fitting the Abloy series of locks detailed above shall be no less than 44mm excluding stop dimensions.
- Intumescent protection applied to the lock selected shall be as tested and identified within the table above.

The fitting of morticed head mounted locks is not considered to change the latching arrangement of the doorset and therefore the permitted leaf size shall be established using the appropriate doorset configuration based on the other latch/lock hardware fitted to the doorset, if present.

10.4.6.2 Morticed Head Mounted locks – Leaf 2 Only

The following head mounted locks have been successfully tested within the Leaf 2 doorset design:

Test Evidence	Item	Hardware Intumescent Protection
Chilt/RF09010 B	Adams Rite, Armlock 1354	Halspan SLS-PAD-132 A4 graphite sheet 1mm (t) Applied to all concealed surfaces
CFR2307031	RGL Electronics Ltd MSL2600	Halspan SLS-PAD-133 A4 graphite sheet 2mm (t) graphite Applied to all concealed surfaces

Based on the test evidence the above morticed head mounted locks are permitted within the following parameters:

Leaf option: 2

Frame option: 2

Configurations: LSASD, ULSASD, DASD, LSADD, ULSADD and DADD

Further considerations as follows shall be met:

- When fitted the edge of neither the lock body nor keep shall be closer than 150mm to the vertical edge of any leaf.
- The frame intumescent shall consist of a specification which has a minimum of 2No. 15mm x 4mm intumescent seals applied to the frame head.
- Intumescent protection applied to the lock selected shall be as tested and identified within the table above.

The fitting of morticed head mounted locks is not considered to change the latching arrangement of the doorset and therefore the permitted leaf size shall be established using the appropriate doorset configuration based on the other latch/lock hardware fitted to the doorset, if present.

10.4.7 Electronic Strikes

Electronic strikes are permitted as detailed in the following sections.

10.4.7.1 Electronic Strikes – For use with Single and Double leaf doorsets

The following electronic strike has been successfully tested in conjunction with a single point lockset in a double leaf doorset.

Test Evidence	Item	Hardware Intumescent Protection
CFR2010021 RH	Abloy EffEff 332.238 electronic strike	1mm (t) Halspan SLS-PAD-120 MAP to all concealed faces of forend and body

Based on the test evidence the above electronic strike is permitted within the following parameters:

Configuration: ULSASD, ULSASD+OP, ULSADD, ULSADD+OP.

The fitting of electronic strikes is not considered to change the latching arrangement of the doorset and therefore the permitted leaf size shall be established using ULSASD or ULSADD configurations as detailed within section 4.5.

Further considerations as follows shall be met:

- The frame intumescent shall consist of a specification which has:
 - For single leaf doorsets, a minimum of 2No. 10mm x 4mm intumescent seals within the frame jambs.
 - For double leaf doorsets, a minimum of 2No. 10mm x 4mm intumescent seals within the meeting edge of the leaf containing the single point lock/latch.
- Intumescent protections applied to the electronic strike selected shall be as tested and identified within the table above.
- Fitted to suit a single point lock/latch (see section 10.4.1), with the lock/latch protected as detailed within section 10.2.
- When fitted within a frame jamb, the minimum frame width must be no smaller than 32mm.

10.4.7.2 Electronic Strikes – For use with Single leaf doorsets

The following electronic strike has been successfully tested in conjunction with a single point lockset in a single leaf doorset.

Test Evidence	Item	Hardware Intumescent Protection
WF404075/A A	Specialized Security DS-01-02	1mm (t) Specialized Security AR8680 to all concealed faces of forend and body
WF415117 A	Gianni Industries Inc – GK361M-ST-1224 (Fail Secure)	1mm (t) Interdens®, intumescent pads with self-adhesive applied to all concealed faces of the strike components
WF415117 A	Gianni Industries Inc – GK450M-ST-1224 (Fail Safe)	1mm (t) Interdens®, intumescent pads with self-adhesive applied to all concealed faces of the strike components

Based on the test evidence the above electronic strikes are permitted within the following parameters:

Configuration: ULSASD. ULSASD+OP.

The fitting of electronic strikes is not considered to change the latching arrangement of the doorset and therefore the permitted leaf size shall be established using ULSASD configurations as detailed within section 4.5.

Further considerations as follows shall be met:

- The frame intumescent shall consist of a specification which has a minimum of 1No. 15mm x 4mm or 2No. 10mm x 4mm intumescent seals within the frame jambs.
- Intumescent protections applied to the electronic strike selected shall be as tested and identified within the table above.
- Fitted to suit a single point lock/latch (see section 10.4.1), with the lock/latch protected as detailed within section 10.2.
- When fitted within a frame jamb, the minimum frame width must be no smaller than 32mm.

10.4.8 Access Control Systems

10.4.8.1 Electro-mechanical locks

The electro-mechanical access control systems detailed in the following sections have been successfully tested and assessed with the Optima 30 door blanks and are therefore suitable for use within the scope stated herein.

Test Evidence (Tested Configuration)	Lock Body (Dimensions)	Handleset / RFID (Dimensions)	Intumescent Protection
CFR2010021 LH (LSASD)	Salto Mortice Lock² LE7Sxx (Body: 165mm long x 91mm wide x 15mm deep) Forend: 135mm long x 24mm wide) AElement Fusion Card reader: (Forend 145mm long x 15mm wide x 1mm) Box: 95mm long x 100mm wide x 18mm deep) Forends of Lock and Card reader must be positioned a minimum of 5mm apart.	AElement Fusion card reader (Ø45mm x 9mm) Salto R1SWRIA080 handle on rose.	1mm (t) BASF Wolman GmbH Interdens encasing latch body, card reader box and under strike.
WF507669 (LSASD)	Abloy Aperio L100 AL560 – 65mm backset RFID locking system (Body: 168.5mm long x 98mm wide x 16.5mm deep) Forend: 235mm long x 24mm wide) Strike plate Abloy EA322	Abloy Aperio L100 long plate handleset with escutcheon, including RFID card readers. (282mm high x 48mm wide to one face of the leaf and 348mm x 52mm to the opposing face) Assa Abloy E100 Standard escutcheon Euro profile, including RFID readers² (312mm high x 41mm wide to both faces) Assa Abloy Aperio H100 lever type handle¹ (55mm wide x 56mm high footprint)	1mm MAP to all concealed faces of lock body, under forend and under strike.

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WF367904 B (LSASD)	Assa Abloy ANSI DB mortice lock (Body: 152mm long x 100mm wide Forend: 203mm long x 28mm wide) & Morticed LCA 6343 positioned such that the centre of the RFID card reader is 125mm above the spindle for the handle (Body rebate: 104mm long x 108mm wide)	VingCard Essence RFID assembly	None
		VingCard Classic RFID assembly	
		VingCard Signature RFID assembly	
CFR2010021 RH (LSADD)	Assa Abloy – EL560 Electronic lock case (Body: 169mm long x 130mm wide x 16mm deep Forend: 235mm long x 24mm wide)	Assa Abloy INOXI 3-19/242 Levers (214mm high x 56mm wide x 6mm thick)	Halspan 1mm (t) SLS-PAD-120 Mono-ammonium phosphate intumescent encasing the electronic lock and under forend and keep.
WF401228 A (LSASD)	NSP Europe SMF 02 Duo sash lock (Forend: 204mm long x 22mm wide Body: 154mm long x 100mm wide x 23mm deep)	SMF Duo RFID handleset assembly	1mm MAP lining all mortices, under forend and keep
		SMF-614 RFID handleset assembly	
CFR1811191 LH (LSASD)	TLJ Security Systems TLJ Electronic Euro Lock M005 (Forend: 376mm long x 24mm wide Body: 265mm long x 98mm wide (lock case)/ 114 (battery case) x 18mm deep)	TLJ Invisible RFID assembly	0.8 (t) Astroflame AFFLEXIHS200/SA to major sides of lock body, under forend and under strike
DMT-DO-50-582-R1 (door 1 and 2) (LSASD)	Dormakaba – 79/RT Series mortice lock ASM series M7X-AXXX1-XXX Body: 147mm long x 100mm wide x 22mm Forend: 203mm long x 25mm wide strike plate (50413X-XXX/STRIKE ASA)	handleset including RFID readers (069-510983, F79X-10X03XX-XXX, B76-XXXXXX-XXX). (back plate to one face 226mm x 84mm wide With back plate 238mm x 84mm wide to opposing face)	1mm (t) Interdens 15 All concealed faces of lock case, under forend and strike

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DMT-DO-50-582-R1 (door 3 and 4) (LSASD)	Dormakaba – Quantum Pixel LH mortice assembly (A70270-HAND) Forend mortice lock 203mm long x 27.7mm wide controller assembly (IS-KP21XXXXXXXXXX) Forend controller 203mm long x 27.7mm wide strike plate (30320-H-COLOR/ASSY, STRIKE, BUTTONS)	Quantum Pixel LH reader assembly (OS-KP1XXXXXX), handleset (OS-CL1XXXXXXXXX, IS-CL1XXXXXXXXX, MXAS99823)	1mm (t) Interdens 15 All concealed faces of lock case, under forend and strike
DMT-DO-50-583-R2 (door 1 and 2) (LSASD)	Saffire LX series RFID: ASM mortice assembly (MSX-AXXX1-XXX), face plate, Forend: 203mm long x 31.8mm wide strike plate (50413X-XXX/STRIKE ASA)	handleset including RFID readers (FSXXXAKXXXAX-XX, 069-515541-XXX, BS-XXXXXXXX-XX, 069-515488-1XXX). (back plate to one face 193mm x 64mm wide With back plate 241mm x 68mm wide to opposing face)	1mm (t) Interdens 15 All concealed faces of lock case, under forend and strike
DMT-DO-50-583-R2 (door 3 and 4) (LSASD)	Quantum RFID mortice assembly (A70000-HAND) Forend: 203mm long x 31.8mm wide reader assembly (A30940-E-COLOR) strike plate (30320-H-COLOR/ASSY, STRIKE, BUTTONS),	Quantum RFID reader and handleset (OS-LS1XXXXXXXXX) to one face and handleset including electronics to other face (IS-QM11XXXXXXXXXXXX).	1mm (t) Interdens 15 All concealed faces of lock case, under forend and strike
CFR2506031 (LH&RH) (LSASD)	Winkhaus AV2 (see section 10.4.2 for additional requirements which must also be complied with) The lock may be fitted with a single cylinder (section 10.4.3). Double cylinders are not permitted.	TLJ Rezlock Electronic Handleset V4A	See section 10.4.2

Based on the test evidence the above tested and assessed electro-mechanical locksets are permitted for use with the doorset design subject to the following parameters:

Leaf option: 1, 2, 3, 4

Frame option: 1, 2, 3, 5, 6, 7

Configurations: LSASD, LSADD

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- The frame intumescent shall consist of a specification which has a minimum of 1No. 15mm x 4mm or 2No. 10mm x 4mm intumescent seals applied centrally within the frame jambs.
- The frame must be fitted with a stop of minimum 12mm.
- Locks may be fitted between 800mm – 1300mm from the floor level to the spindle.

Note:

1. The H100 lever type handles have been included for use, as due to their metallic construction it is not likely to detract from the fire resistance performance of the doorset design, when fitted with the tested lock and as an alternative to the L100.
2. The E100 Escutcheon Euro profile handles including RFID readers have been included for use, as they are of smaller dimensions as the tested L100 and comprise similar electronic components within a metallic construction and so are not likely to detract from the fire resistance performance of the doorset design, when fitted with the tested lock and as an alternative to the L100.
3. Alternative Salto ranges referenced XS4, LE7S and LE8P may be used, when the required components are Certifire approved and certified for use within a 30-minute fire resistance applications on 44mm thick timber door and timber frames. All requirements in the Certifire Certificate must be complied with.

10.4.8.2 Contact Sensors

The contact sensor detailed in the following section has been successfully tested and assessed with the Optima 30 doorset design and are therefore suitable for use within the scope stated herein.

Test Evidence (Test evidence)	Dimensions	Hardware Intumescent Protection
Abloy 1067D (CFR2010021 RH)	Sensor to Leaf: Cap: Ø30mm x 1.4mm Inner body: Ø25mm x 11mm x 1.4mm Outer body Ø16mm x 28mm Magnet: Ø9mm x 38mm Sensor to Frame: Cap: Ø30mm x 1.4mm Inner body: Ø25mm x 11mm x 1.4mm Outer body Ø16mm x 28mm	1mm (t) Halspan SLS-PAD-132 A4 Graphite sheet encases inner body of both door contact components

The above detailed contact sensors may be fitted subject to the following requirements:

- The sensor must be fitted centrally to the thickness of the leaf.
- The sensor must be fitted to the head of the doorset between 100mm – 250mm in from the closing edge of the leaf and a minimum of 100mm from the hanging edge of the leaf.
- The above detailed intumescent protection must be fitted.
- The intumescent specification for the doorset design must include a minimum of 2No. 10mm wide x 4mm thick seals within the frame reveal.
- The minimum frame width dimension permitted is 32mm.

10.5 Handles & Escutcheons

The table below details the tested handles that are approved.

Element	Manufacturer & Product Reference
Handles	- Halspan LVR-200-BSS (CFR1803021 RH) - Halspan Duo Lever Handle DUO-HDL-100 (WF537652) - Abloy 319242/PZ+BL (WF507660) - Assa Abloy Union J1000 (WF545611) - Borg Locks Handleset part of BL5003 FT kit (WF522390) - Dormakaba CORE 90050063189 (CFR2004171 RH) - Forme FMS215MB (WF533900) - Harbrine Instinct Hardware IH-1912 (WF 403596A AR1) - Shepherds 2987 (WF145632) - UAP HSEBL-IONIC-NANOCOAST (WF529765) - Zoo ZCA030SA (CFR1803021 LH) - Zoo Z1CF (Chilt/RF13063 Revision A)
Escutcheons	- Forme CTFMSKMB (WF533900) - Ironmongery Direct 136821 (CFR1903071) - Souber Tools Jumbo Escutcheon Repair Keyplate Type:JE1 (WF523943/MR A) - UAP HSEBL-IONIC-NANOCOAST (WF529765) - Zoo ZCS001SS (CFR1909241)

Alternative handles are permitted providing they meet the specification given below:

- Steel, stainless steel, brass, aluminium or bronze are permitted
- Surface fixings or through fixings are permitted. If through fixed there must be no more than 0.5mm clearance between the hole and the fixing.
- The hole through the leaf to facilitate the spindle must be no greater than
 - 20mm diameter, if the lock intumescent is positioned as detailed in section 10.2.
 - 25mm diameter, if lock intumescent is applied to the major sides of the latch/lock body or wrapped around the body as well as under the forend and keep. When using intumescent specifications from section 10.2 the body intumescent must match the forend intumescent.

The design may be either handle on rose or handle on back plate up to the following maximum sizes:

- Handle on rose with a rose diameter up to 56mm or 56mm wide x 56mm high and up to 10mm thick.
- Handle on back plate with a back plate size up to 243mm high x 56mm wide
- Lever handle length 250mm

The handle must be compatible with the lock/latch, such that the closing action of the doorset is not impeded.

Alternative escutcheons are permitted providing they meet the specification given below:

- Steel, stainless steel, brass, aluminium or bronze are permitted

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- Surface fixings or through fixings are permitted. If through fixed there must be no more than 0.5mm clearance between the hole and the fixing.
- The escutcheon may be up to Ø56mm overall (or 56mm high x 56mm wide) and up to 10mm thick.

10.6 Hinges and Pivots

10.6.1 Butt Hinges

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

Element	Manufacturer & Product Reference
Hinges	• Halspan - HIN-BSS-103 (WF412654 B) • Halspan - HIN-BSS-104 (WF523943/MR A) • Halspan - Radius Butt Hinge HIN-BSS-108 (WF537652) • Halspan - BOM-HIN-201-BSS including 1mm graphite (WF529765) • Assa - lift off hinges 3248 (Chilt/RF09010) • Assa - 3244 (Chilt/RF08039) • Carlisle Brass - HIP14325/7 (WF543736 B) • CP Building Systems Ltd - lift off hinges HS100 (Chilt/RF10111) • Devon - 89.338.86 (WF372220 AR1) • Doorpac Limited - CF369 butt hinge with bearings (CFR1811191) • Jedo - 102 (WF403596A AR1) • Jedo - 1121-CPD-AC 0033 (CFR1111221) • JNF - IN 05.020.100 CF SB (CFR2010021 LH) • Merit - 451 Strong Butt Hinge (WF152318) • Pheonix - 7590 (WARRES 131998) • Royde and Tucker - H101 (BMT/FEP/F14102) • Royde and Tucker - Hi Load 102 (WF415117) • Royde and Tucker - RT102 standard hinge (WF545611) • Royde and Tucker - Hi Load 105 (WF391351)

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Alternatively, Certifire approved components certified for use within a 30-minute fire resistance applications on 44mm thick timber door and timber frames with the following specification are also deemed acceptable.

Element	Specification
Blade height:	90 – 120mm
Blade width (excluding knuckle):	29 – 35mm (Fitted within the leaf frame) (See note 1)
Blade thickness	2.5 – 4mm
Fixings:	Minimum of 4 No. 30mm long No. 8 or No.10 steel wood screws per blade
Materials:	Steel or stainless steel or brass with a melting point of greater than 800 °C.

Intumescent protection shall be as defined in section 10.2 in all instances.

Note:

1. Projection hinges with blade widths greater than the widths detailed above are permitted providing that no more than 35mm of each blade is rebated within the leaf edge or frame.

In all instances, the total number and positioning of butt hinges must be as follows:

- Leaves less than 2400mm (h) must be hung on a minimum of 3 hinges.
- Leaves greater or equal 2400mm (h) must be hung on 4 hinges.
- Leaves less than 1200mm (h) can be hung on a minimum of 2 hinges located 150mm from the top and bottom of the door leaf (top hinge location is measured from the top of the hinge blade to the top of the door leaf and bottom hinge location is measured from the bottom of the hinge to the bottom of the door leaf).

Element		Specification	
Hinge positions:	If 3 hinges are required:	Top	100 –180mm from the head to top of hinge
		2 nd	Minimum 200mm from top hinge or centrally fitted between top and bottom hinge
		Bottom	150 – 250mm from the foot of leaf to bottom of hinge
	If 4 hinges are required:	Top	100-180mm from the head to top of hinge
		2 nd & 3 rd	Equispaced between top and bottom or 2 nd hinge 200mm from top hinge and 3 rd hinge equally spaced between 2 nd and bottom hinge
		Bottom	150 – 250mm from the foot of leaf to bottom of hinge

Additional hinges may be added providing the requirement of 200mm between adjacent items of hardware is maintained.

10.6.2 Concealed Hinges

Concealed hinges are permitted as detailed in the following sections.

10.6.2.1 Concealed Hinges – Frames 1, 2, 3, 7

The concealed hinges detailed in the following section have been successfully tested in conjunction with Leaf 1 and a softwood frame:

Test Evidence (Tested Configuration)	Hinge (Dimensions)	Intumescent Protection	Minimum Number of Hinges
WF316349 A (ULSASD)	Simonswerk TECTUS TE 340 3D FR (Hinge 160mm (h) x 28mm (w) x 31 (d) to leaf & 33.5 (d) to frame)	Lorient ITO-TECTUS-TE541 FVZ (kit) 1mm (t) MAP to external faces of hinge body to door leaf and 2mm(t) MAP to rear face only of hinge body to frame (WF348445 A)	3
WF316349 B (ULSASD)	Simonswerk TECTUS TE 640 3D A8 FR (Hinge 240mm (h) x 32mm (w) x 41 (d) to frame & leaf)		3
WF348445 A (ULSASD)	Simonswerk TECTUS TE 541 3D FVZ (Hinge 185mm (h) x 28mm (w) x 40 (d) to leaf & 27 (d) to frame)		2

In addition to the tested and permitted concealed hinges detailed above the following alternative concealed hinges are permitted for use as detailed below:

Alternative Simonswerk Tectus concealed hinges:

- Tectus 526 3D (Hinge 155mm (h) x 26mm (w) x 33 (d) to frame & 155mm (h) x 26mm (w) x 36 (d) to leaf)
- Tectus 527 3D (Hinge 155mm (h) x 26mm (w) x 33 (d) to frame & 155mm (h) x 26mm (w) x 36 (d) to leaf)

When fitted the above tested and assessed concealed hinges shall include the same intumescent protection as tested with the TECTUS TE 541 3D FVZ in WF348445 A (Lorient (kit) 1mm (t) MAP to external faces of hinge body to door leaf and 2mm(t) MAP to rear face only of hinge body to frame).

The assessment of the alternative concealed hinges is on the basis that the TECTUS TE 640 3D A8 FR has been tested in test WF316349 B and the TECTUS TE 541 3D FVZ has been tested in test WF348445 A and that the assessed concealed hinges are of further reduced dimensions, with materials of die cast stainless or zinc-plated mild steel. These variations are not expected to reduce the fire resistance performance and therefore these alternatives are permitted.

Based on the test evidence the above tested and assessed concealed hinges are permitted for use with the doorset design subject to the following parameters:

Leaf option: 1, 2, 3, 4

Frame option: 1, 2, 3, 7

Configurations: LSASD, ULSASD, LSADD, ULSADD

- The frame intumescent shall consist of a specification which has a minimum of 1No. 15mm x 4mm intumescent seals applied to the frame jambs.
- Leaves of 2040mm (h) or less must be hung on the minimum number of hinges as given in the table above.
- Leaves of greater than 2040mm (h) must be hung on a minimum of 3 hinges.

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- When using the alternative assessed hinges, a minimum number of 3 hinges must be used to hang each leaf.
- Regard should be paid to the maximum door mass permitted and it is permitted to increase the number of hinges above the assessed minimum quantity where required up to a maximum of 4.
- The frame must be a minimum of 32mm wide and be fitted with a stop of minimum 13mm.
- Intumescent protection to the concealed hinges used must be as tested, assessed and identified within the table above.
- When concealed hinges are utilised, the leaf face must be in line with the front of the door frame.

Hinge positions shall meet the following specification:

Specification			
Hinge Positions:	If 2 hinges are required:	Top	250mm from the head of leaf to centreline of hinge
		Bottom	250mm from the foot of leaf to centreline of hinge
	If 3 hinges are required:	Top	250 to 280mm from the head of leaf to centreline of hinge
		2 nd	Centrally fitted between the top and bottom hinge
		Bottom	350 to 395 mm from the foot of leaf to centreline of hinge
	If 4 hinges are required:	Top	250mm from the head of leaf to centreline of hinge
		2 nd and 3 rd	Equispaced between top and bottom
		Bottom	250 to 350mm from the foot of leaf to bottom of hinge

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10.6.2.2 Concealed Hinges – Leaf 2 + Frame 2

The concealed hinges detailed in the following section have been successfully tested in conjunction with Leaf 2 and Frame 2:

Test Evidence (Tested Configuration)	Hinge (Dimensions)	Intumescent Protection	Minimum Number of Hinges
WF348445 B (ULSASD)	Simonswerk TECTUS TE 527 3D (Hinge 155mm (h) x 26mm (w) x 32 (d) to leaf & 30 (d) to frame)	Lorient ITH-TECTUS-TE525-10 (kit) 1mm (t) MAP to external faces of hinge body to door leaf and 2mm(t) MAP to rear face only of hinge body to frame	2
CFR1909241 (LSADD)	CEAM Art Stars 1131 (Hinge overall 160mm (h) x 32mm (w) x 29 (d) to frame and leaf)	1mm (t) Eurospec ES1131 graphite to all concealed faces of the hinge	4

Based on the test evidence, and taking into account the observed performances, the above tested and assessed concealed hinges are permitted for use with the doorset design subject to the following parameters:

Leaf option: 2

Frame option: 2

Configurations: LSASD, ULSASD, LSADD, ULSADD

- The minimum frame section size is 37mm wide x 93mm deep (excluding stop), fitted with a stop of minimum 15mm.
- The frame intumescent shall consist of a specification which has a minimum of 2No. 15mm x 4mm intumescent seals applied to the frame jambs.
- Leaves of 2040mm (h) or less must be hung on the minimum number of hinges as given in the table above.
- Leaves of greater than 2040mm (h) must be hung on a minimum of 3 hinges or the minimum number of hinges as given in the table above, whichever is greater.
- Leaves of greater than 2135mm (h) must be hung on 4 hinges.
- Regard should be paid to the maximum door mass permitted and it is permitted to increase the number of hinges above the assessed minimum quantity where required up to a maximum of 4.
- Intumescent protection to the concealed hinges used must be as tested and identified within the table above.
- When concealed hinges are utilised, the leaf face must be in line with the front of the door frame.

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Hinge positions shall meet the following specification:

Specification			
Hinge Positions:	If 2 hinges are required:	Top	250mm from the head of leaf to centreline of hinge
		Bottom	250mm from the foot of leaf to centreline of hinge
	If 3 hinges are required:	Top	250mm from the head of leaf to centreline of hinge
		2 nd	Centrally fitted between the top and bottom hinge
		Bottom	250 mm from the foot of leaf to centreline of hinge
	If 4 hinges are required:	Top	200mm from the head of leaf to centreline of hinge
		2 nd and 3 rd	Equispaced between top and bottom or 2 nd hinge 90 to 100mm from top hinge and 3 rd hinge equally spaced between 2 nd and bottom hinge
		Bottom	250 to 350mm from the foot of leaf to bottom of hinge

10.6.3 Pivot sets

Pivots are only permitted with floor springs where this is permitted within section 10.7.

10.6.4 Conductor Hinge

Based on the test evidence the following conductor hinge in conjunction with their tested butt hinges are suitable in the following applications only:

Leaf options: 1, 2

Frame options: 1, 2, 3

Configurations: LSASD, ULSASD, LSASD+OP, ULSASD+OP, LSADD, ULSADD, LSADD+OP, ULSADD+OP

Manufacturer & Product Reference of Conductor Hinge	Manufacturer & Product Reference of Associated Butt Hinge	Hardware Intumescent Protection
Royde and Tucker H102 Conductor Hinge Blade size: 100mm x 35mm (WF545611)	Royde and Tucker H102 standard Blade size: 100mm x 35mm	1mm MAP behind both blades (as tested in WF545611)

- Minimum Perimeter Intumescent (specified in section 4.5), when a conductor hinge is fitted, either:
 - Minimum of 1No 15mm wide x 4mm thick seals fitted centrally within the frame hanging jamb reveal, OR
 - Minimum of 2No strips, minimum 10mm wide x 4mm thick seals fitted centrally within the frame hanging jamb reveal.
- Intumescent protection to both the butt hinges and the conductor hinge(s) must be as tested and identified within the table above.
- Fixings shall be as tested, comprising 5No. per blade of minimum 5mm x 30mm steel screws.

The total number per leaf and positioning of butt hinges and conductor hinges must be as follows:

- Leaves less than 2400mm (h) must be hung on a minimum of 3 hinges.
- Leaves greater or equal 2400mm (h) must be hung on 4 hinges.
- When fitted to a leaf, the conductor hinge is permitted at the Bottom position only (and may be fitted to one or both leaves of doorset).

Element		Specification	
Hinge positions:	If 3 hinges are required:	Top	100 – 195mm from the head to top of hinge
		2 nd	Minimum 200mm from top hinge or centrally fitted between top and bottom hinge
		Bottom	150 – 250mm from the foot of leaf to bottom of hinge
	If 4 hinges are required:	Top	100-180mm from the head to top of hinge
		2 nd & 3 rd	Equispaced between top and bottom or 2 nd hinge 200mm from top hinge and 3 rd hinge equally spaced between 2 nd and bottom hinge
		Bottom	150 – 250mm from the foot of leaf to bottom of hinge

Additional butt hinges may be added providing the requirement of 200mm between adjacent items of hardware is maintained.

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10.7 Doorset Self Closing

Doorset automatic self-closing can be provided by:

- Overhead face fixed closers
- Concealed jamb mounted closers
- Concealed overhead closers
- Floor springs with top pivots and bottom straps for Double Acting doorsets
- Floor springs with offset pivots and bottom straps for Single Acting doorsets

Automatic doorset self-closing devices such as transom mounted are not considered acceptable for use with the Optima 30 doorset range.

10.7.1 Overhead Face Fixed Closer

These items are suitable in the following applications only:

Configurations: LSASD, ULSASD, LSASD+OP, ULSASD+OP, LSADD, ULSADD, LSADD+OP, ULSADD+OP

The table below details the tested overhead face-fixed closers that are approved.

Element	Manufacturer & Product Reference
Overhead face-fixed closers	• Halspan – 6000 series Eco closer CLR-ECO-100 (WF507669) • Halspan – 6100 Cam Action Closer CLR-CAM-024 (WF529765) • Halspan – 9100 Cam Action Closer CLR-CAM-025 (WF537652) • Halspan – 9000 power closer CLR-PWR-100 (WF523943/MR A) • Arrone - AR1500 (WF368204) • Assa Abloy – DC200 (WF545611) • Briton - 121 CE (WF316349) • Carlisle Brass – Scissor Arm closer size 3 1121-CPR-AD5232/483113 (CFR1811191) • Devon – 86.214.86 FC (WF372220 AR1) • Dorma – TS71 (WF152318) • Dorma – TS73V (RF97091) • Dorma – GROM 200EN 2-4 (LP-636.3/09) • Geze – TS2000V (BMT/FEP/F14102) • Ingersol Rand Britton 2003E (WARRES 131998) • New Star Door Controls – 5003 Overhead Closer (WF145632) • Rutland - TS5204BC (WF533900) • Rutland - TS3204 (WF391351 A) • Rutland - TS6204 (WF370389) • Synergy Hardware – overhead type closer s 800 EN 2-5 (WF403596A AR1)

Alternatively, components with the following specification are also deemed acceptable.

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- Certifire approved overhead face-fixed closers for 30-minute fire resistance applications on 44mm thick timber door and timber frames

Note:

It must be ensured that the closer is of sufficient strength and power to ensure the door leaf/leaves fully engage into the frame reveal.

10.7.2 Frame Jamb Mounted Closer

These items are suitable in the following applications only:

Leaf options: 1, 2, 4

Frame options: 1, 2

Configurations: LSASD, ULSASD, LSADD, ULSADD

The table below details the tested concealed jamb mounted closers that are approved.

Test Evidence (Tested Configuration)	Manufacturer & Product Reference	Intumescent Protection	Maximum height above bottom edge of leaf
WARRES 63269 (LSASD)	Perkomatic R85 Forend: 120mm (h) x 25mm (w)	Not required	1349 mm to centreline of closer
WF522390 A (LSASD)	Astra Door Controls 3003 Forend: 106mm (h) x 32mm(w) Body: 264mm (d)	Not required	866 mm to centreline of closer

The above tested jamb mounted closers are permitted for use with the main part of the closer body recessed within the centre of the leaf thickness and subject to meeting the following requirements:

- Recessing for closers shall result in a tight fit.
- The fixings supplied by the closer manufacturer must be used.
- The closer units shall not be fitted higher than that given for the chosen closer in the table above.
- The mortice cut out must be no closer than 50mm to any glazing aperture or feature groove.
- Perimeter intumescent specifications (see section 4.5):
 - For the Perkomatic R85, the intumescent specification must include a minimum of 1No 10mm (wide) x 4mm (thick) seal at the frame jambs or leaf hanging edges
 - For the Astra Door Controls 3003, the intumescent specification must include a minimum of 1No 15mm (wide) x 4mm (thick) seal at the frame jambs or leaf hanging edges
- The concealed closer must be no closer than 100mm to the nearest rebated component in the jamb or vertical leaf edge (based on WF522390 A and WARRES 63269).

Alternatively, components with the following specification are also deemed acceptable, when fitted meeting the following requirements:

- Perimeter intumescent specifications (see section 4.5):
 - The intumescent specification must include a minimum of 1No 15mm (wide) x 4mm (thick) seal at the frame jambs or leaf hanging edges
- Certifire approved jamb mounted concealed closer for 30-minute fire resistance applications on 44mm thick timber door and timber frames, providing all requirements of the Certifire certificate are followed entirely.

Note: It must be ensured that the jamb mounted concealed closer is of sufficient strength and power to ensure the door leaf/leaves fully engage into the frame reveal.

10.7.3 Concealed Overhead Self Closing Device

Concealed closers as detailed in the following sections are permitted with the body fitted morticed to the head of the leaf as tested and may not be fitted in conjunction with modular framed or shared framed/transom overpanels or fanlights unless expressly detailed.

10.7.3.1 Concealed Overhead Self Closing Device – Leaf 1, 2, 3, 4

These items are suitable in the following applications only, subject to the details in the tables below:

Leaf options: see tables below

Frame options: see tables below

Configurations: LSASD, ULSASD, LSADD, ULSADD

Permitted in conjunction with shared framed overpanels. modular framed overpanels and modular framed fanlights.

The table below details the tested and assessed concealed overhead closers that are approved with the body of the concealed closer morticed into the top of the door leaf and the track morticed into the frame head. Concealed overhead closers are not permitted within flush overpanels.

In all instances the maximum leaf dimensions for all doorsets which include concealed overhead closer must not exceed the leaf size permitted for the chosen perimeter intumescent specification and must not be greater than:

- Height: 2400mm.
- Width: 1060mm

Manufacturer & Product Reference (Test Reference)	Intumescent Protection	Closer Body Dimensions	Closer Slide Arm Dimensions	Leaf	Frame	Perimeter Intumescent Specification (see section 4.5)	Minimum Head Stop Height (mm)
Halspan 6200 Eco CLR-CCL-100 (TR20231213-000610 ¹)	Halspan kit SLS-PAD-130, 2mm(t) MAP covers closer body, top of closer, closer arm mortice and slide rail mortice	Body 57 mm (h) x 285 mm (l) x 32 mm (w)	Track: 460 mm (l) x 20 mm (h) x 30 mm (w)	1, 2, 4	1, 2	Any of the permitted Halspan intumescent specifications providing they comprise either 1No. 15mm (w) x 4 mm (t) seal applied centrally or 2No. 10mm (w) x 4 mm (t) seals within the frame head and jambs. Additional seals of the same type must be included at the head of the leaf or	15 for Single Acting

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						frame head, and the positioning modified so that the intumescent arrangement at the frame head is as follows: Frame Head: 1No. 15mm (w) x 4 mm (t) seal applied centrally and, Leaf Head: 2No. 10mm (w) x 4 mm (t), centrally and 14mm apart	
Dorma ITS96 2-4 (CFR2010021 LH)	Dormakaba ITS 96 30-minute intumescent pack 1mm (t) encases the track body, the closer body and fitted beneath the forend	Forend: 3 mm (h) x 338 mm (l) x 32 mm (w) Body 42 mm (h) x 275 mm (l) x 32 mm (w)	Track: 440 mm (l) x 20 mm (h) x 31 mm (w)	1, 2, 4	1, 2	Permitted intumescent specifications providing they include either 1No. 15mm (w) x 4 mm (t) seal applied centrally within the frame head or 2No. 10mm (w) x 4 mm (t) seals within the frame head. Only seals manufactured by the following manufacturers are permitted: - Halspan - Pyroplex - Intumescent Seals Limited	
Dorma ITS96 + G96N (WF389552 A)	1mm (t) Interdens wrapped around the body and to the mortice for the track	Body 45 mm (h) x 338 mm (l) x 32 mm (w)	Track: 440 mm (l) x 20 mm (h) x 31 mm (w)				
Rutland ITS.11204 Concealed Closer (Chilt/RF01056 A)	Rutland IP.114 (30-minute intumescent kit) fitted around the closer body and closer sliding arm	Body 52 mm (h) x 232 mm (l) x 31 mm (w)	Track: 460 mm (l) x 19 mm (h) x 29 mm (w)	1, 2, 4	1, 2		
				3 (Chilt/RF03076)	2		

Note:

- 1) This concealed closer was tested in a 44mm timber-based door with a softwood frame. It is assessed for use on the basis of comparison against the other tests within this table.

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Based on the test evidence the above tested and assessed concealed closers are permitted for use with the doorset design subject to the following parameters:

- The details identified in the table above for the following items must be followed for the selected concealed overhead closer, and is based on the tested arrangements:
 - Frame option(s).
 - Leaf option(s).
 - Permitted configuration(s).
 - The frame must be fitted with a head stop of the minimum size, where required.
 - Intumescent protection to the concealed closer.
 - Leaf perimeter intumescent details.
 - Maximum leaf size if applicable.
- It must be ensured that the concealed overhead closer is of sufficient strength and power to ensure the door leaf/leaves fully engage into the frame reveal.
- The dimensions of the concealed overhead door closer must not exceed the dimensions given within the tables above.
- The use of shadow gap installations is permitted in conjunction with concealed overhead closers providing:
 - The frame section is increased to 44mm thick (excluding any rebate or stop) excluding any dimensions associated with the shadow gap detail.

10.7.3.2 Concealed Overhead Self Closing Device – Leaf 2

These items are suitable in the following applications only, subject to the details in the table below:

Leaf option: see table below

Frame options: see table below

Configurations: LSASD, ULSASD, LSADD, ULSADD

Permitted in conjunction with shared framed overpanels, modular framed overpanels and modular framed fanlights (supported by WF531368), where the shared or modular frame is hardwood and a minimum of 640 kg/m³.

The table below details the tested concealed overhead closers that are approved with the body of the concealed closer morticed into the top of the door leaf and the track morticed into the frame head.

Manufacturer & Product Reference (Test Reference)	Intumescent Protection	Closer Body Dimensions	Closer Slide Arm Dimensions	Leaf	Frame	Perimeter Intumescent Specification (see section 4.5)	Minimum Head Stop Height (mm)
Halspan 6200 Eco CLR-CCL-100 (WF531368)	Halspan kit SLS-PAD-130, 2mm(t) MAP covers closer body, top of closer, closer arm mortice and slide rail mortice	Body 57 mm (h) x 285 mm (l) x 32 mm (w)	Track: 460 mm (l) x 19 mm (h) x 29 mm (w)	2	2	A/8, B/8, G/8 or H/8	15 for Single Acting
Boss ITS6.224 2-4 (CFR1909241)	Boss FD60 intumescent pack for ITS6224 1mm(t) graphite to all faces of closer and top of forend and 2mm(t) to all faces of track mortice	Forend: 3 mm (h) x 298 mm (l) x 32 mm (w) Body 51 mm (h) x 209 mm (l) x 32 mm (w)	Track: 460 mm (l) x 19 mm (h) x 29 mm (w)			The seals must be positioned such that the 1no 15x4 seal is fitted in the leaf head and the 2no 15x4 seals are fitted in the frame head	

Note:

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Based on the test evidence the above tested and assessed concealed closers are permitted for use with the doorset design subject to the following parameters:

- The details identified in the table above for the following items must be followed for the selected concealed overhead closer, and is based on the tested arrangements:
 - Frame option(s).
 - Permitted configuration(s).
 - The frame must be fitted with a head stop of the minimum size, where required.
 - Intumescent protection to the concealed closer.
 - Leaf perimeter intumescent details.
 - Maximum leaf size if applicable.
- It must be ensured that the concealed overhead closer is of sufficient strength and power to ensure the door leaf/leaves fully engage into the frame reveal.
- The dimensions of the concealed overhead door closer must not exceed the dimensions given within the tables above.
- The use of shadow gap installations is permitted in conjunction with concealed overhead closers providing:
 - The frame section is increased to 44mm thick (excluding any rebate or stop) excluding any dimensions associated with the shadow gap detail.

10.7.4 Floor Spring Self Closing Device

Floor spring self-closing devices are permitted as detailed in the following sections.

10.7.5 Floor Spring Self Closing Device for Double Acting

Based on the test evidence the following floor springs in conjunction with their tested pivot set are permitted for use with the doorset design subject to the following parameters:

- The details identified in the tables below for the following items must be followed for the selected floor springs, and is based on the tested arrangements:
 - Permitted Leaf option(s)
 - Permitted Frame option(s)
 - Permitted configuration(s)
 - Leaf perimeter intumescent details.
 - Intumescent protection to the pivot set.
- It must be ensured that the floor spring closer is of sufficient strength and power to ensure the door leaf/leaves fully engage into the frame reveal.
- The dimensions of the floor spring door closer must not exceed the dimensions given within the tables below where identified.
- Shared frame/transom overpanels or fan lights are not permitted.

Permitted Frame Option (Test Evidence)	Permitted Leaf Option	Permitted Configuration	Perimeter Intumescent Specification (see section 4.5)
1, 2 Frame Head must be a minimum of 44mm wide (Chilt/ RF06048A) (Chilt/ RF06074) (WF135011)	1, 2, 3 (Leaf 3 supported by Chilt/RF03076)	DASD, DADD,	Permitted intumescent specifications providing they include either 1No. 15mm (w) x 4 mm (t) seal applied centrally within the frame head or 2No. minimum of 10mm (w) x 4 mm (t) seals within the frame head. Only seals manufactured by the following manufacturers are permitted: - Halspan (supported by CFR2010021 LH) - Lorient - Intumescent Seals Limited
1, 2 (Chilt/ RF06048A) (Chilt/ RF06074) (WF135011)	1, 2, 3 (Leaf 3 supported by Chilt/RF03076)	DASD+OP, DADD+OP	Permitted intumescent specifications providing they include either 1No. 15mm (w) x 4 mm (t) seal applied centrally within the overpanel bottom edge or 2No. minimum of 10mm (w) x 4 mm (t) seals within the overpanel bottom edge. Only seals manufactured by the following manufacturers are permitted: - Halspan (supported by CFR2010021 LH) - Lorient - Intumescent Seals Limited

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Permitted Frame Option (Test Evidence)	Permitted Leaf Option	Permitted Configuration	Perimeter Intumescent Specification (see section 4.5)
2, 3 Frame Head must be a minimum of 44mm wide (Chilt/ RF02081)	2	DASD, DADD,	Intumescent Seals Limited seal specification C/40, I/40
2, 3 (Chilt/ RF02081)	2	DASD+OP, DADD+OP	Intumescent Seals Limited seal specification F/40, L/40

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

The floor spring self-closing devices with their associated pivots detailed in the following sections have been successfully tested with the Optima 30 door blank.

Test Evidence	Items	Hardware Intumescent protection
Chilt/RF06048A Chilt/RF06074	Dorma Door Controls BTS80F concealed floor spring Dorma top strap (8066), bottom strap (7421) and top pivot (items 8066/8064 (frame portion)) Floor Spring: 341mm wide x 78mm thick x 60mm deep Top Strap 122mm long x 29mm wide Bottom Strap: 235mm long x 24mm wide x 20 deep Top pivot: 165mm long x 25mm wide	Dorma Door Controls 1-2mm thick graphite alongside the top strap and covering the face of the bottom strap
WF135011	Dorma Door Controls BTS75V concealed floor spring Dorma top strap (8066), bottom strap (7421) and top pivot (items 8066/8064 (frame portion)) Floor Spring: Body: 285mm long x 82mm wide x 50mm deep Top Strap 122mm long x 29mm wide Bottom Strap: 235mm long x 24mm wide x 20 deep Top pivot: 165mm long x 25mm wide	2mm Intumescent Seals Graphite Therm-A-Flex to all faces of mortices in leaf
Chilt/RF02081	Dorma Door Controls BTS80 concealed floor spring Dorma top strap (8066), bottom strap (7421) and top pivot (items 8066/8064 (frame portion)) Floor Spring: 341mm wide x 78mm thick x 60mm deep Top Strap 122mm long x 29mm wide Bottom Strap: 235mm long x 24mm wide x 20 deep Top pivot: 165mm long x 25mm wide	1mm Intumescent Seals Therm-A-Flex graphite to all to all faces of mortices in leaf

Based on the test evidence the above the tested floor spring closers are permitted for use with the hardware intumescent protection as tested with the doorset design.

Alternatively, components with the following specification are deemed acceptable.

- Certifire approved floor spring self-closers with their specific associated pivot systems for 30-minute fire resistance applications on 44mm thick timber door and timber frames, providing the Certifire certificate is followed entirely.

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

10.7.6 Floor Spring Self Closing Device for Single Acting

Based on the test evidence the following floor springs in conjunction with their tested offset pivot set are permitted for use with the doorset design subject to the following parameters:

- The details identified in the tables below for the following items must be followed for the selected floor springs, and is based on the tested arrangements:
 - Permitted Leaf option(s)
 - Permitted Frame option(s)
 - Permitted configuration(s)
 - Leaf perimeter intumescent details.
 - Intumescent protection to the pivot set.
- It must be ensured that the floor spring closer is of sufficient strength and power to ensure the door leaf/leaves fully engage into the frame reveal.
- The dimensions of the floor spring door closer must not exceed the dimensions given within the tables below where identified.
- Transom overpanels or fan lights are not permitted.

Permitted Frame Option (Test Evidence)	Leaf	Permitted Configuration	Perimeter Intumescent Specification (see section 4.5)	Items	Hardware Intumescent protection
2 (CFR2307031)	2	LSASD, ULSASD, LSADD, ULSADD	A/8, B/8, G/8, H/8 The seals must be positioned such that the 1no 15x4 seal is fitted in the frame head and the 2no 15x4 seals are fitted in the leaf head Additionally, 1no 25mm x 4mm Halspan SLS seals must be fitted centrally in the bottom edge of the leaf. All seals must be interrupted by no more than demonstrated in test CFR2307031.	Halspan 6300 Size 3 floor spring & pivot set for single acting doors (includes intumescent kit) – BOM-FSP-003S	Halspan intumescent kit SLS-PAD-201 2mm MAP to mortice of top and bottom pivot straps
				Halspan 9300 Size 4 floor spring & pivot set for single acting doors (includes intumescent kit) – BOM-FSP-004S	Halspan intumescent kit SLS-PAD-201 2mm MAP to mortice of top and bottom pivot straps

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

10.8 Bolts

10.8.1 Flush Bolts – fitted without rebated threshold drop seal

The table below details a selection of the tested flush bolts that are approved.

Manufacturer & Product Reference (Test Evidence)	Size (mm)	Tested intumescent
Halspan BLT-FLS-203 (CFR1909241)	203x38x19	FlexiFire 2mm graphite Z1FO160G
Zoo ZAS 03 RSS (CFR1803021 LH)	203x20x38	ISL Therm-A-Strip 1mm
Zoo ZAS13RSS (BMT/FEP/F15097)	609x20	1mm STS graphite to keep and body
Eclipse J34620 (BMT/FEP/15214)	155x20	1mm SLS-PAD-111 to keep and body
Devon 94.156.61 (WF372220 AR1)	205 x 20	ISL Therm-A-Strip 1mm
Norseal TK-15/T (WF522390 B)	278 x 17 x 15	2mm Flexifire to keep and body
Lorient LAS9010 (WF545611)	242x24	2mm MAP to keep and body

In addition to the tested and permitted flush bolts detailed above, flush bolts which meet the following requirements are permitted.

- Flush bolts must be steel
- The following maximum dimensions are not exceeded:
 - 609mm long x 20mm deep x 38mm wide (BMT/FEP/F15097).

On the basis of the testing, the tested and alternative flushbolts are suitable in the following applications only:

Leaf options: 1, 2, 4

Frame options: All frames

Configurations: LSADD, ULSADD, DADD (LSADD+OP & ULSADD+OP providing the junction is flat and an astragal is present)

In all cases the following scope must be complied with:

- Flush bolts must be fitted centrally within the thickness of the secondary leaf at the meeting edge.
- Flush bolts may fitted to only the top of the leaf or alternatively to both the top and bottom of the leaf.
- The components are fitted relative to the meeting edge intumescent strips in one of the following ways:
 - Opposing the leaf edge fitted with a minimum of 2No. intumescent strips such that no interruption by the flush bolt occurs in either leaf (primary or secondary).

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

- Where there are intumescent strips fitted to both the primary and secondary leaf meeting edges a minimum of 2No. intumescent strips shall be in the leaf opposing the flush bolt.
- All edges of the mortice of the keep and body must be protected with intumescent gaskets as specified in section 10.2.
- The above flushbolts fitted at the bottom of the leaf cannot be used when a rebated/morticed in drop seal is present, unless separately following section 10.8.2.
- The above flush bolts are not permitted in conjunction with rebated meeting edges.
- The mortice must be as tight to the mechanism as is compatible with its operation.

10.8.2 Flush Bolts – fitted with rebated threshold drop seal

The table below details the tested flush bolts which have been tested in conjunction with a rebated threshold drop seal that are approved.

Manufacturer & Product Reference (Test Evidence)	Size (mm)	Tested intumescent to flush bolt	Permitted with rebated threshold drop seal (see section 10.16.3)
Norseal TK-15 BXL (to bottom of leaf), bolt 13mm projection (WF522390 B)	278 x 17 x 15	2mm Flexifire to keep and body	Athmer Schall Ex L-15/30 WS
Lorient LAS9010 (WF545611)	242x24	2mm MAP to keep and body	Lorient LAS8001si

These items are suitable in the following applications only:

Leaf options: 1, 2, 4

Frame options: All frames

Configurations: LSADD, ULSADD (LSADD+OP & ULSADD+OP providing the junction is flat and an astragal is present)

Based on the test evidence the above tested flush bolts are permitted for use with the doorset design subject to the following parameters:

- Flush bolts must be fitted centrally within the thickness of the secondary leaf at the meeting edge.
- The details identified in the table above for the following items must be followed for the selected flush bolt, and is based on the tested arrangements:
 - The dimensions of the flush bolt must not exceed the dimensions given within the table above.
 - All edges of the mortice of the keep and body must be protected with intumescent protection as specified within the table above.
 - Fitting in conjunction with the specific tested rebated threshold drop seal, as detailed in the table above is required. See section 10.16.3 for more details which must be complied with for fitting of rebated threshold drop seals.
- Flush bolts (from this section 10.8.2) may fitted to the bottom of the leaf only.
- When fitting a flush bolt (from this section 10.8.2), a flush bolt as defined in section 10.8.1 must be fitted to the top of the leaf.
- The components are fitted relative to the meeting edge intumescent strips in one of the following ways:
 - Opposing the leaf edge fitted with a minimum of 2No. intumescent strips such that no interruption by the flush bolt occurs in either leaf (primary or secondary).
 - Where there are intumescent strips fitted to both the primary and secondary leaf meeting edges a minimum of 2No. intumescent strips shall be in the leaf opposing the flush bolt.
- The above flush bolts are not permitted in conjunction with rebated meeting edges.
- The mortice must be as tight to the mechanism as is compatible with its operation.

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

10.8.3 Surface Mounted Face Fixed Bolts

The table below details a selection of the tested surface mounted face fixed bolts that are approved:

Manufacturer & Product Reference (Test Evidence)
Royde and Tucker Barza bolt B151 with Barza type A keep (CFR1808311RH)
Halspan BLT-BZR-005 with type B keep (CFR2010021 RH, CFR2109021 LH)

These items are suitable in the following applications only:

Leaf options: All

Frame options: All

Configurations: All

In addition to the above summarised tested surface mounted face fixed bolts alternative surface mounted face fixed bolts constructed from steel, stainless steel, aluminium or bronze may be fitted, providing the dimensions are not greater than:

- 650mm long x 25mm wide (footprint).

Surface mounted face fixed bolts may be applied to the horizontal or vertical edges of the doorset providing the components are fitted at least 35mm from the corners of the leaf (supported by CFR1808311).

Intumescent protection is not required where the bolt and keep are face fixed.

Where a keep is required to be recessed into the frame (as tested in CFR1808311 RH), the keep shall be protected with 1mm (t) graphite based intumescent

10.9 Cable Loops and Cableways

Where cable ways are required within the doorset design no recessing of frame is permitted except as detailed in the following sections, for the item of hardware and the cableway through the leaf, and the inclusion of a single hole through the frame to facilitate cabling which is no greater than Ø10mm. The hole in the frame must be abutting the element of hardware which it is required to facilitate and is only permitted when the frame to which the leaf is hung is adjacent to the supporting structure.

10.9.1 Cable Loops

The table below details the tested and assessed cable loops that are approved.

Test Evidence (Tested configuration)	Item and dimensions (mm)	Hardware Intumescent Protection
CFR2010021 RH (LSADD) WF507660 (LSASD) WF545611 (LSADD)	Assa Abloy EA280 Forend 324 long x 24 wide	One of the following tested intumescent materials must be applied to all concealed faced of cable loop recess box: • Halspan SLS-PAD-120 1mm mono-ammonium phosphate (CFR2010021 RH) • 1mm MAP (WF507660) • 1mm Interdens (WF415117 A)
WF415117 A (LSASD)	Gianni Industries DL-500 Forend 293 long x 25 wide	
WF415117 A (LSASD)	Gianni Industries DL-417ST Forend 290 long x 24.4 wide	
Assessed from CFR2004171 and CFR2010021 RH on the basis of item size	Dormakaba KU260 Forend 290 long x 25 wide	

These items are suitable in the following applications only:

Leaf options: 1, 2, 4

Frame options: 1, 2, 3, 7

The frame must have a minimum thickness of 32mm (excluding stop).

Configurations: All configurations except double acting

- The cable loop body may be rebated into the leaf edge or alternatively the frame reveal, in both instances the positioning shall remain central to the thickness of the leaf.
- When a cable loop is fitted, the leaf perimeter edge intumescent must be located in the frame reveal along the hanging edge.
- Minimum Perimeter Intumescent (specified in section 4.5)
 - Minimum of 1No 15mm wide x 4mm thick seals fitted centrally within the frame hanging jamb reveal, OR
 - Minimum of 2No strips, minimum 10mm wide x 4mm thick seals fitted centrally within the frame hanging jamb reveal.

In all instances the location of the bottom of the cable loop body forend must be between 445mm – 1530mm from the floor level (based on WF545611 and WF415117).

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Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

- Intumescent protection to the cable loop used must be as tested, assessed and identified within the table above.
- The mortice for a cable loop is permitted to be fitted with a minimum of 50mm to butt hinges (demonstrated in CFR2010021 RH). All other positioning requirements must meet the minimum dimensions stated in section 10.1.

10.9.2 Cableways

Cableways through the leaf have been tested and are therefore permitted in the 3 methods detailed in the following sections in conjunction with the cable loops in section 10.9.1 or conductor hinge in section 10.6.6.

Cableways must be a minimum of 80mm from any apertures within the leaf e.g. glazing, air transfer grilles or letter plates etc. The only exceptions to this are:

- Reaching an air transfer grill with a smoke shutter (see section 10.14), where an angle between perpendicular and 45° to the perpendicular is permitted (WF545611).

For Leaf 1, Grooves cannot be located within 100mm of any cableway.

10.9.2.1 Cableway Method 1

This method has been successfully tested in test reference WF545611 and with associated hardware. Cableway method 1 is therefore assessed as suitable for use within the following scope:

Leaf options: 1, 2, 4

Frame options: 1, 2, 3, 7

Configurations: LSASD, LSASD+OP, ULSASD, ULSASD+OP, LSADD, LSADD+OP, ULSADD, ULSADD+OP

- A hole drilled centrally through the leaf thickness of maximum 10mm diameter.
- The cable for the electronic closing/latching mechanisms must be no more than 2mm smaller in diameter than the hole through the leaf unless wrapped in 1mm graphite intumescent or Lorient graphite tube GP09020S (WF545611).
- The cable must be PVC encased.
- The hole must be located no higher than 1800mm from the threshold.

10.9.2.2 Cableway Method 2

Method 2 comprises a 10mm high x 10mm wide horizontal channel through the full width of the leaf, central to the leaf thickness and is concealed with an infill of the leaf core material.

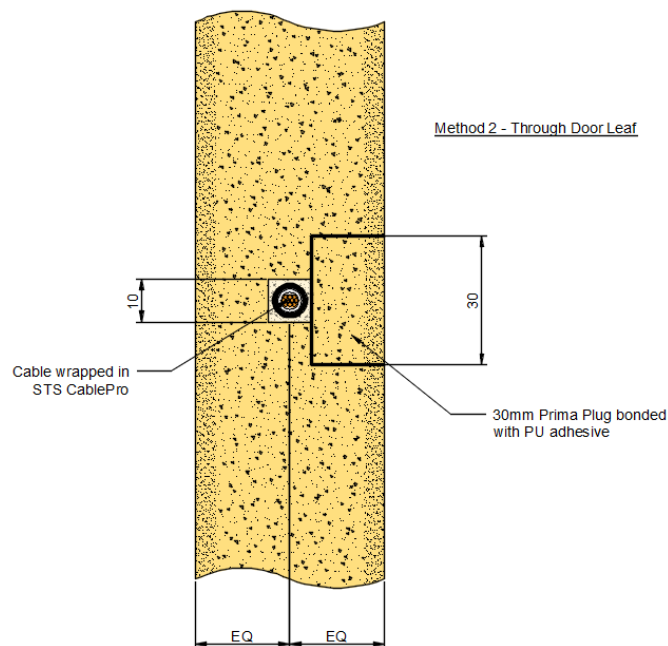
This method has been successfully tested in test reference CFR2004171 RH, using Leaf 2, and CFR2010021 RH, using Leaf 1, with associated hardware. Cableway method 2 is therefore suitable for use within the following scope:

Leaf options: 1, 2, 4

Frame options: 1, 2, 3, 7

Configurations: LSASD, LSASD+OP, ULSASD, ULSASD+OP, LSADD, LSADD+OP, ULSADD, ULSADD+OP

- The hole must be located no higher than 1350mm from the threshold. (based on CFR2010021 RH)
- Groove the face of the door core with a 10mm wide channel to a depth of 5mm below the centre of the door core (i.e. 27mm deep for 44mm cores and 32mm deep for 54mm cores).
- Groove the same face with a second groove 30mm wide x 17mm deep for 44mm cores or 22mm deep for 54mm cores, located centrally over the first groove.
- Fit a plug into the second groove 30mm wide by 17mm/22mm deep using Optima core. The plug should run the full length of the cableway and be bonded into place using PVA or PU adhesive.
- For Leaf 4, the application of the facing material detailed within section 5.1.4 must be completed after the cableway.
- The door core can then be lipped and calibrated in the usual manner.
- Mortice out for the lock and drill a 10mm hole through the lipping on the opposite edge.
- The cable must be protected with 1mm STS CablePro graphite intumescent wrap.



Cableway Method 2 detail – channel through centre of leaf thickness

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

10.9.2.3 Cableway Method 3

Method 3 comprises a 10mm high x 10mm wide channel central to the leaf edge, running down from the hanging edge to the bottom edge of leaf, along the bottom edge to the closing edge/meeting edge, and up along the closing edge/ meeting edge to the latch/lock location, and concealed with Sapele under the lippings.

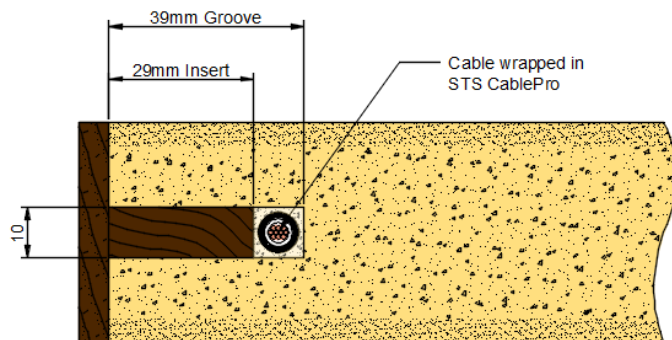
This method has been successfully tested in test reference CFR2004171 RH, using Leaf 2, and CFR2010021 RH, using Leaf 1, with associated hardware. Cableway method 3 is therefore suitable for use within the following scope:

Leaf options: 1, 2, 4

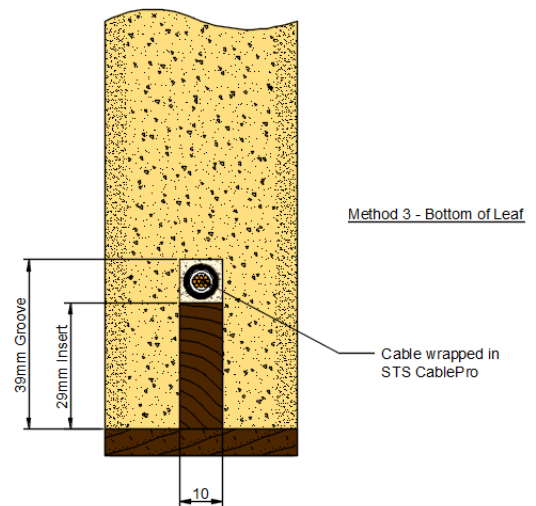
Frame options: 1, 2, 3, 7

Configurations: LSASD, LSASD+OP, ULSASD, ULSASD+OP, LSADD, LSADD+OP, ULSADD, ULSADD+OP

- Groove the edge of the door core with a 10mm wide channel located centrally, to a depth of 39mm (prior to the fitting of lippings). This groove should run from the lock/keep location in the closing/meeting edge, down the edge, along the bottom of the door then back up the hanging edge to the cable loop or conductor hinge location.
- Install the cable, protected with 1mm STS CablePro graphite intumescent wrap, into the groove.
- Infill the groove with 29mm x 10mm Sapele (minimum density 640 kg/m³), bonded in place with PU adhesive.
- When using cableway method 3, the door must be lipped on the bottom edge with a flat lipping of 6 to 12mm thick and otherwise complying with the requirements of section 5.4.1.
- The door core can then be lipped and calibrated in the usual manner.



(A): Cableway Method 3 detail – channel through vertical leaf edges



(B): Cableway Method 3 detail – channel through bottom of leaf edge

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

10.10 Pull Handles

Steel, stainless steel or bronze handles may be surface-fixed or bolted through the door leaf, providing the length is limited to 1200mm between the fixing points. If through fixed, there must be no more than 1mm clearance between the hole and stud.

Pull handles must be positioned as follows:

- Through fixed components must be positioned such that the through going elements are no closer than 75mm to any adjacent morticed item of hardware, leaf edges or apertures.
- Surface mounted items may be applied without restriction, providing they do not inhibit the operation of the doorset design, nor interact with other items of hardware.

The above scope of application is provided as in the opinion of Warringtonfire they will not significantly affect the fire resistance performance of the doorset being considered. This is on the basis of the items being surface mounted away from the edge of the door leaf, therefore unlikely to influence the junction between door leaf and frame. Furthermore, they are generally of lightweight construction, meaning that they are unlikely to destabilise the doorset and therefore cause adverse deflection under test conditions. Lastly, the surface mounted arrangement of the features means no material is removed in terms of the overall thickness of the door leaf beyond the footprint of the item, therefore burn through of the leaf would not be expected.

10.11 Push Plates & Kick Plates

The table below details the tested push plates that are approved.

Element	Manufacturer & Product Reference
Push plate/Kick plate	- Stainless steel push plates – Chilt/RF10111 - Halspan 211_ENTR-DOOR_AL_Kick Plate – CFR2010021 LH

Alternatively, components with the following specification are also deemed acceptable as in the opinion of Warringtonfire they will not significantly affect the fire resistance performance of the doorset being considered. This is on the basis of the items being surface mounted away from the edge of the door leaf, therefore unlikely to influence the junction between door leaf and frame. Furthermore, they are generally of lightweight construction, meaning that they are unlikely to destabilise the doorset and therefore cause adverse deflection under test conditions. Lastly, the surface mounted arrangement of the features means no material is removed in terms of the overall thickness of the door leaf beyond the footprint of the item, therefore burn through of the leaf would not be expected.

Approved specification for face fixed plates:

- Polymeric or metal face-fixed hardware such as push plates and kick plates up to 2mm thick may be surface fitted to the doorset. 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. These must not be recessed into the face of the leaf.
- Plates must not return around the door edges.
- In all cases plates meeting the above specification shall not be applied under glazing beads or door stops.
- When mechanically fixed the fixings must not penetrate more than 50% of the thickness of the door leaf and must not interfere with other items of hardware applied to the door leaf design (e.g. drop seals).

Additionally on the basis of the testing conducted in test references Chilt/RF10111 (Leaf 1 design with the core reduced to 40mm thick with 1.6mm thick push plate fitted to the exposed face) and Chilt/RF02082A (38mm core, supporting Leaf 3), the following is permitted for recessed plates.

Approved specification for recessed plates:

- Polymeric or metal face-fixed hardware such as push plates and kick plates up to 2mm thick may be recessed into the face of the leaf. These items of hardware are permitted up to a maximum of 13% of the door leaf area whether mechanically fixed or bonded with a contact or other thermally softening adhesive.
- Recessed plates are not permitted in conjunction with doorsets including grooves.
- Plates must not return around the door edges.
- In all cases plates meeting the above specification shall not be applied under glazing beads or door stops.
- When mechanically fixed the fixings must not penetrate more than 50% of the thickness of the door leaf and must not interfere with other items of hardware applied to the door leaf design (e.g. drop seals).

10.12 Security Viewers

Up to 2no. viewers are permitted within an individual door leaf, viewers are to be positioned no closer than 100mm to door edges, glazed apertures or any other hardware component.

The table below details the tested security viewers that are approved, in all cases the tested viewers shall only be fitted with the tested or assessed leaf type given in the table and must be fitted with the tested intumescent protection which has been proven within the doorset design.

Manufacturer & Product Reference	Intumescent Protection
Halspan DOR-VWR-100 (WF537652)	None
Halspan DOR-VWR-100 (WF531368)	1mm thick SLS-PAD-127 graphite wrap
Eurospec SWE 1000SSS– (BMT/FEP/F15270 B)	none
Lorient LRJ 3745 plastic wide angle viewer, barrel size Ø38mm (CFR1903071)	2mm thick Lorient graphite wrap
JNF IN.23.010.B (CFR2010021 LH)	none
UAP Limited 14mm fire resistant door viewer (WF529765)	1mm thick graphite wrap
D&E DEZZ1524 C2AB AFDV14B (WF533900)	1mm thick graphite wrap

Alternatively, components with the following specification are also deemed acceptable.

- 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 +1 mm). Lenses must be glass and the item must be protected with a tested acrylic intumescent mastic and / or a 0.5 – 1.0mm thick graphite based intumescent wrap.

10.13 Door Selectors

These items are suitable in the following applications only:

Configurations: All double leaf door configurations

These may be freely applied, provided that they are not invasive in the leaf edges or door frames and they do not interfere with the self-closing action of the door leaf. Products that are invasive will require fire resistance test/assessment evidence to support their use.

10.14 Air Transfer Grilles

These items are suitable in the following applications only:

Manufacturer & Product Reference (Test evidence)	Maximum Dimensions (mm)	Fixing Details	Intumescent Protection	Tested and Assessed Leaf
Mann McGowan Pyrogrille 100 (WF391351)	598 w x 596 h	Fixings 75mm x 4.3mm drywall screws, nom 100mm from each corner applied through the vertical edges of the grille into the leaf.	Mann McGowan Pyromas A intumescent acrylic sealant. Cartridge gunned around the perimeter of each grille on both faces	1, 2, 3, 4
Lorient LVN20S V2 with smoke shutter (WF545611)	400x400 (450 x 450 including flange)	Fixings: 2no. 40mm x 4mm screws per vertical side on each face placed at 95mm from corners	Palusol sodium silicate 44mm x 2mm	1
Lorient LVN25S V2 with smoke shutter (WF545612)	400x400 (450 x 450 including flange)	Fixings: 2no. 40mm x 4mm screws per vertical side on each face placed at 95mm from corners	Palusol sodium silicate 54mm x 2mm	2

In addition to the above detailed air transfer grille, it is possible to include a Certifire approved air transfer grille, which is approved for 30 minutes in fire resisting solid timber-based door leaves.

In all instances the following specification must be followed:

- The aperture may be optionally lined with a hardwood (not Beech *fagus species*, minimum density 640kg/m³) aperture liner which is to be 6 - 8mm thick and adhered with PU or PVA adhesive and pinned with steel pins. The steel pins shall be positioned nominally 50mm from corners, no greater than 250mm centres and positioned centrally to the aperture liner.
- The air transfer grille must be fitted centrally to the leaf thickness.
- The size of any air transfer grille shall be no greater than 602mm high x 602mm wide or 0.36m².
- Air transfer grilles shall be rectilinear, other shapes are not permitted.
- Air transfer grilles shall be positioned such that the centre of the grille is 500mm ±200mm from the bottom of the leaf.
- The aperture for air transfer grilles shall not be closer than 200mm from the edge of the leaf or adjacent apertures within the leaf.
- The Lorient LVN20S V2 and LVN25S V2 must be fitted with the tested smoke shutters (which must be functional). For other grilles, it is possible to include a surface mounted ferrous or non-ferrous metal cover over the grille once installed providing it is applied with screws that are no longer than 20mm in length and when applied they are affixed into the leaf core material, i.e. not applied into the aperture liner (if present) or the grille itself.
- Cable ways (see 10.9.2) are only permitted to extend to tested air transfer grilles with smoke shutters (i.e. Lorient LVN20S V2 and LVN25S V2).
- The area occupied by the air transfer grille must be deducted from the area of glazing, for the chosen leaf type, if both elements are fitted.
- Multiple apertures are permitted providing the maximum area of apertures is no greater than the total assessed aperture area for the chosen leaf type (see section 6.1.1), i.e. glazed area and area taken by an air transfer grille must not exceed the area in 6.1.1.
- When a Certifire approved grille is utilised the full requirements of the Certifire certificate must be met in addition to the specification given above.
- The perimeter of the air transfer grill must be sealed to the leaf with an intumescent mastic that is suitable for use on 30-minute fire resisting doorset designs in this application as tested.

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

10.15 Environmental Seals

A number of different environmental seals have been successfully tested as part of the Optima 30 doorset design. The table below details the tested environmental seals which are approved:

Product Reference & Manufacturer (Test Reference)
ST1009 (BMT/FEP/F15097)
NOR710 (BMT/FEP/F14102)
Halspan SLS-TRI (CFR1903071)
Halspan Flipex Bladed Threshold Seal (CFR2307031)

Alternatively, on the basis of the testing undertaken, silicone or PVC based flame retardant acoustic, weather and dust seals 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.

Halspan SLS-TRI is permitted to be fitted to the overpanel rebate, partly positioned over the intumescent seal, when used with permitted intumescent seal specifications D/3, E/3, J/3 and K/3 (see section 4.5), as tested in Chilt/RF13063 Revision A.

10.16 Threshold Drop Seals

10.16.1 Face mounted threshold drop seals

The table below details tested face mounted drop down seals that are approved to be face mounted at the bottom of one face of the door leaf.

Product Reference & Manufacturer (Test Reference)
Norseal Norsound NOR820 (CFR2210051)
Lorient LAS8009si (CFR2210051)

Tested and alternative aluminium face mounted threshold drop seals may be fitted subject to the following requirements:

- Face mounted threshold drop seal of maximum 62mm high x 22mm wide cross-sectional dimensions.
- Installation must not require the removal of any timber from the leaf, stop or frame reveal (except for screw fixing) and it does not interfere with the self-closing action of the door leaf.
- Screws to affix the threshold drop seal shall be no greater penetration into the leaf than 29mm long.
- 2No. 10mm wide x 4mm thick seals fitted 10mm apart centrally to the bottom edge of the leaf.

10.16.2 Rebated threshold drop seals – fitted without flush bolts

These items are suitable in the following applications only:

Leaf options: All

Frame options: All

Configurations: All configurations except double acting.

The table below details the tested rebated threshold drop seals that are approved.

Product Reference & Manufacturer (Test Reference)
NOR810 (BMT/FEP/F15270B)
Halspan SLS-DRP Series (WF537652)
Lorient LAS8001Si (CFR1811191)
Norseal NOR810S+ (WF533900)

The above detailed drop-down seals are permitted for use without the requirement for any intumescent protection as demonstrated within CFR1811191.

In all cases, rebated drop seals must be fitted centrally within the thickness of the leaf/leaves.

Alternatively, the components meeting all of the following specifications are also deemed acceptable, recessed into the bottom of leaves:

- Certifire approved threshold drop seals for 30-minute fire resistance applications on 44mm thick timber / cellulosic doors in timber / cellulosic frames.
- The threshold drop seal must not exceed:
 - Body dimensions of 35mm (h) x 14mm (t) and
 - Face plate dimensions of 60mm (h) x 22mm (w) x 1.5mm (t).
- The Certifire certificate shall be adhered to for intumescent protection and fitting requirements.

If a rebated drop seal is fitted to the doorset as approved by this section of this report, then flush bolts may not be fitted to the bottom of the doorset.

The above rebated drop seals are not permitted in conjunction with rebated meeting edges.

10.16.3 Rebated threshold drop Seals – fitted with flush bolts

These items are suitable in the following applications only:

Leaf options: All

Frame options: All

Configurations: LSADD, ULSADD (LSADD+OP, ULSADD+OP, LSADD+OP & ULSADD+OP providing the junction is flat and an astragal is present)

The table below details the tested rebated threshold drop seals with flush bolts that are approved.

Manufacturer & Product Reference (Test Evidence)	Size (mm)	Tested intumescent to Drop Seal	Permitted with bottom flush bolt (see section 10.8.2)
Athmer Schall Ex L-15/30 WS (WF522390 B)	Body 30mm high x 15mm wide Faceplate 18mm high x 15mm wide x 1mm thick sitting above the drop seal body.	1mm graphite around body of drop seal	Norseal TK-15 BXL
Lorient LAS8001Si (WF545611)	Body 35mm high x 14mm wide Faceplate 57mm high x 21mm wide x 1mm thick	Not Required	Lorient LAS9010

Based on the test evidence the above tested drop-down seals are permitted for use with the doorset design subject to the following parameters:

- In all cases, rebated drop seals must be fitted centrally within the thickness of the leaf/leaves.
- The details identified in the table above for the following items must be followed for the selected drop seal, and is based on the tested arrangements:
 - The dimensions of the drop seal must not exceed the dimensions given within the table above.
 - The mortice of the drop seal must be protected with intumescent protection as specified within the table above (where applicable).
 - The secondary leaf may be fitted with the specific tested bottom flush bolt, as detailed in the table above. See section 10.8.2.
- The above drop seals are not permitted in conjunction with rebated meeting edges.

10.17 Letter Boxes / Plates

These items are suitable in the following applications only:

Leaf options: As identified in the table below

Frame options: All

Configurations: All configurations

Letterplates are permitted however the following requirements must be observed:

The area of the letter plate (and air transfer grille if present) plus any glazing must not exceed the total permitted area for glazing in the leaf.

The letterplate shall be installed at a location of 500mm to 1505mm from the bottom of the leaf and shall be no closer than 200mm (WF531368) to the edge of the leaf or any other apertures within the leaf.

The table below details the tested letter plates that are approved.

Manufacturer & Product Reference (Test Evidence)	Size (mm)	Tested intumescent	Permitted Leaf Type
Halspan TS008 Certified Letter Plate (WF531368)	Cut out 78mm x 260mm reduced to 54mm x 260 once hardwood liners are applied	Halspan letterplate kit (42mm wide x 6mm thick graphite to groove in top and bottom of the letterplate aperture and 25mm x 3mm graphite internally in the letter plate body and 1mm graphite wrapped around bolt through fixings)	2 Aperture includes a 12mm hardwood liner to the top and bottom of the aperture with 6x42 intumescent groove
Halspan TS008 Certified Letter Plate (WF537652 A&B)	Cut out 56mm x 260mm	Halspan 30-minute letterplate graphite intumescent kit (0.8mm wrap and 25mm x 3mm inserts)	1
Royde and Tucker LP08-44 (CFR1903071 Rev 1 LH&RH)	61mm x 269mm	Royde and Tucker 38mm x 3mm graphite collar integral to inside of plastic sleeve	1

Alternatively, components with the following specification are also deemed acceptable.

- Letter boxes/plates must be Certifire approved for 30 minutes in doorsets with solid timber door leaves. Restriction relating to size, location and intumescent protection around the letter box/plate must be complied with.
- If the required leaf thickness is permitted within the Certifire Certificate, it is permitted to use Certifire approved letter plates with Leaf 1, 2 and 4.

10.18 Knockers, Numerals & Signage

Components with the following specification are deemed acceptable as in the opinion of Warringtonfire they will not significantly affect the fire resistance performance of the doorset being considered. This is on the basis of the items being surface mounted away from the edge of the door leaf, therefore unlikely to influence the junction between door leaf and frame. Furthermore, they are generally of lightweight construction, meaning that they are unlikely to destabilise the doorset and therefore cause adverse deflection under test conditions. Lastly, the surface mounted arrangement of the features means no material is removed in terms of the overall thickness of the door leaf beyond the footprint of the item, therefore burn through of the leaf would not be expected.

Approved specifications:

Knockers:

- Steel, stainless steel, aluminium or bronze knockers, may be surface fixed or bolted through the door leaf, providing they are fitted no closer than 75mm from the leaf edge, other elements of building hardware or to any glazing and are no greater than 200mm high x 120mm wide. If through fixed, there must be no more than 1mm clearance between the hole and stud. It is only permitted to fit 1No. knocker to any one doorset.

Numerals & Signage:

- Steel, stainless steel, aluminium or bronze numerals or signage may be surface fixed to the door leaf, providing they are fitted no closer than 35mm from the leaf edge, other elements of building hardware or to any glazing. The dimension of each numeral or sign must be no greater than 200mm high x 100mm wide x 4mm thick. Up to 5No. numerals or signs may be applied to a doorset, numerals and signs may be applied adjacent to each other providing the 35mm from other elements as detailed above is maintained.

10.19 Security Chains

Components with the following specification are deemed acceptable as in the opinion of Warringtonfire they will not significantly affect the fire resistance performance of the doorset being considered. This is on the basis of the items being surface mounted with fixings positioned away from the edge of the door leaf and therefore unlikely to influence the junction between door leaf and frame. Furthermore, they are generally of lightweight construction, meaning that they are unlikely to destabilise the doorset and cause adverse deflection under test conditions. Lastly, the surface mounted arrangement of the features means no material is removed in terms of the overall thickness of the door leaf beyond the footprint of the item, therefore burn through of the leaf would not be expected.

Approved specification:

- Metallic security chains may be surface fixed to the face of the door leaf and frame, providing they are fitted such that they do not interfere with the junction between the leaf edge and the frame, and no material is removed in order to facilitate the fitting of the security chain. Screws to affix the security chain shall be no greater than 25mm long.

10.20 Door Guards

Components with the following specification are deemed acceptable as in the opinion of Warringtonfire they will not significantly affect the fire resistance performance or ambient temperature smoke control performance of the doorset being considered. This is on the basis of the items being surface mounted with fixings positioned away from the edge of the door leaf and therefore unlikely to influence the junction between door leaf and frame and subsequently the sealing in this area. Furthermore, they are generally of lightweight construction, meaning that they are unlikely to destabilise the doorset and cause adverse deflection under test conditions. Lastly, the surface mounted arrangement of the features means no material is removed in terms of the overall thickness of the door leaf beyond the footprint of the item, therefore burn through of the leaf would not be expected.

Approved specification:

- The footprint of the item (area that is screw fixed to the leaf and or frame) may be no greater than 100mm x 100mm.
- Metallic door guards may be surface fixed to the face of the door leaf and frame jamb providing they are fitted such that they do not interfere with the junction between the leaf edge and the frame, and no material is removed in order to facilitate the fitting of the door guard. Screws to affix the door guard shall be no greater than 25mm long.

10.21 Fire Door Identification Plates

Plastic or metal fire door identification plates may be glued or screwed to the face of the door leaves providing they are fitted no closer than 35mm from the leaf edge, other elements of building hardware or to any glazing. The dimension of any applied plate must be no greater than 100mm high x 100mm wide x 3mm thick.

These may be required to identify the following:

- a) To be kept closed when not in use (Fire Door Keep Shut)
- b) To be kept locked shut when not in use (Fire Door Keep Locked Shut)
- c) Held open by an automatic release mechanism or free swing device (Automatic Fire Door Keep Clear).

When applied to a door leaf the plate shall be surface mounted to the face without removing material from the leaf.

10.22 Panic Hardware

These items are suitable in the following applications only:

Leaf options: 1 and 2

Frame options: 1 and 2

Configurations: All configurations

Certifire approved panic hardware may be fitted, providing the installation does not require the removal of any timber from the leaf, stop or frame reveal and it does not interfere with the self-closing action of the door leaf.

The fitting of panic hardware is not considered to change the latching arrangement of the doorset and therefore the permitted leaf size shall be established using unlatched doorset configurations as detailed within section 4.5.

10.23 Halspan Smart Tags

Based on the testing summarised within Appendix A, the following Near-Field Communication (NFC) devices as detailed below are permitted to be applied to the doorset within the following parameters:

Manufacturer & Product Reference (Test evidence)	Material	Overall Dimensions
Halspan Limited, Halspan Edge Mounted Smart Tag: TAG-025-BLK (WF529765, CFR2307031, WF522390 A, CFR2210051, WF522390 B)	PVC	Ø25mm x 3mm thick
Halspan Limited, Halspan Surface Mounted Smart Tag: TAG-028-BLK (WF537652)	PVC	Ø28mm x 1mm thick

The following limitations must be adhered to when fitting the smart tag to the doorset:

Edge Mounted (Door leaf edge – hanging edge)

- The TAG-025-BLK smart tag must be fitted into a tight rebate such that the smart tag results in being flush with the lipping material.
- The TAG-028-BLK smart tag may be surface mounted onto the lipping material or fitted in a tight rebate such that the smart tag results in being flush with the lipping material.
- The smart tags shall be applied within the hanging edge of the door leaf only.
- The smart tag shall be positioned centrally within the thickness of the door leaf.
- The smart tag shall be fitted no closer than 100mm below the top hinge position, measured from the centre of the tracker tag.
- Where the door leaf is hung on pivots the smart tag shall be fitted 401mm to 601mm below the top of the leaf, measured from the centre of the tracker tag.
- The smart tag must be no closer than 87mm to any other element of hardware.
- For intumescent specifications (see section 4.5) with intumescent seal(s) to either the frame jamb reveal or the leaf hanging edge:
 - It is not permitted to interrupt or remove intumescent material within the doorset to apply the above detailed tags.
 - The smart tags shall not be applied over intumescent materials within the leaf edge but may be fitted opposing them.
- For intumescent specifications (see section 4.5) with intumescent seal(s) to both the frame jamb reveal and the leaf hanging edge:
 - It is permitted to interrupt intumescent seals within the hanging edge when rebating the above detailed tags, as long as a minimum of either 1No. 15mm x 4mm or 2No. 10mm x 4mm intumescent seals remain uninterrupted within the frame opposing the tag location.

Edge Mounted (Door leaf edge – top edge of leaf)

- The TAG-025-BLK smart tag may be surface mounted onto the lipping material.
- The smart tag shall be applied to the head of the leaf only.
- Permitted configurations for this location are LSASD, ULSASD, LSADD and ULSADD only.
- The smart tag shall be positioned centrally within the thickness of the door leaf.
- The smart tag shall be fitted no closer than 150mm from either the meeting edge of the leaf or the top hanging corner of the leaf, measured from the centre of the tracker tag.
- The smart tag must be no closer than 120mm to any other element of hardware.

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

- It is not permitted to interrupt or remove intumescent material within the doorset to apply the above detailed tags.
- The smart tags shall not be applied over intumescent materials within the leaf edge but may be fitted opposing them.
- The chosen frame head reveal intumescent seal specification (section 4.5) must include a minimum of either 1No. 15mm x 4mm or 2No. 10mm x 4mm intumescent seals.

Surface Mounted (Door leaf face)

- The TAG-025-BLK smart tag must be fitted into a tight rebate such that the smart tag results in being flush with the face of the leaf.
- The TAG-028-BLK smart tag may be surface mounted onto the leaf face without the removal of leaf material or fitted into a tight rebate such that the smart tag results in being flush with the face of the leaf.
- The smart tags may be applied to the leaf face without restriction providing the tags meet the following limitations:
 - The smart tag shall not be applied such that it interfaces with the door stop.
 - The smart tag shall not be positioned directly above or on a glazed aperture.
 - The smart tag must be no closer than 87mm to any other element of hardware, apertures within the leaf or the edge of the leaf.

10.24 Hold open Armatures

Armatures for magnetic hold open devices have been tested in WF404075/A A and achieved in excess of 30 minutes fire resistance performance. On this basis the following tested armature is permitted for use within the Optima 30 doorset design:

Manufacturer & Product Reference	
• Specialized Security, DR-01, Aluminium with Slim line magnet (WF404075/A A)	

Alternative hold open armatures may be fitted subject to the following requirements:

- Hold open armatures are to be constructed of metallic or polymeric construction.
- The maximum dimensions of 65mm high x 65mm wide shall not be exceeded.
- Installation must not require the removal of any timber from the leaf, stop or frame reveal (except for screw fixing) and it must not interfere with the self-closing action of the door leaf.
- Screws to affix the hold open armature shall be no greater penetration into the leaf than 24mm long.
- The hold open armature shall be positioned no further than 100mm from the top or bottom edge of the leaf and be positioned no closer than 50mm from the leaf edge or rebated hardware.

11. Installation

11.1 General

This section considers the installation of doorsets. This section considers:

- the door frame and architrave installation position relative to the wall
- the fire stopping between the frame and the wall
- the fixing requirement including packers
- the requirements for door edge gaps
- the trimming of door edges

11.2 Door Frame Installation

The following sub-sections provide tested and assessed acceptable door frame installations, which are dependent on the Frame type chosen.

Please note that the firestopping element is provided in the below drawings as a generic-coloured seal. For further clarification of the approved firestopping systems see section 11.3.

11.2.1 Door Frame Installation – Frame 1, 2, 3, 6 and 7

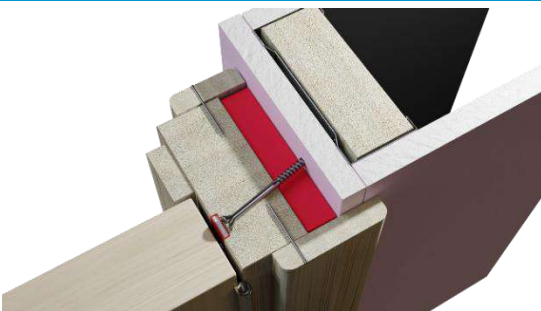
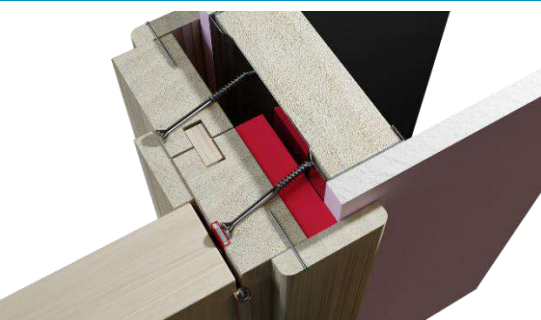
The following figures indicate the acceptable door frame installations.

This installation detail applies to all four sides of the 4-sided frame detailed in section 7.8.

Architraves requirements are documented in the firestopping section of this report.

11.2.1.1 Frame Fitted Flush to the face of the wall

In all instances this installation detail assumes the frame construction, including minimum frame section size, is as detailed within section 7 for each respective frame type.

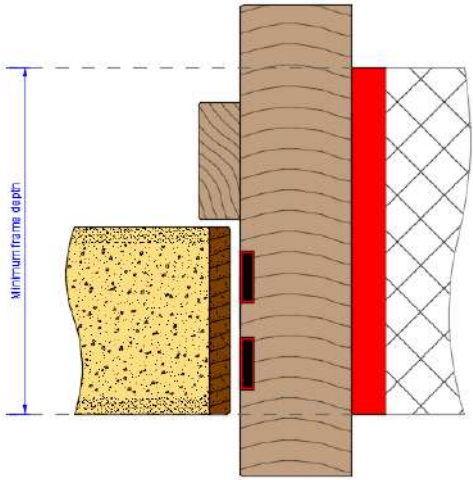
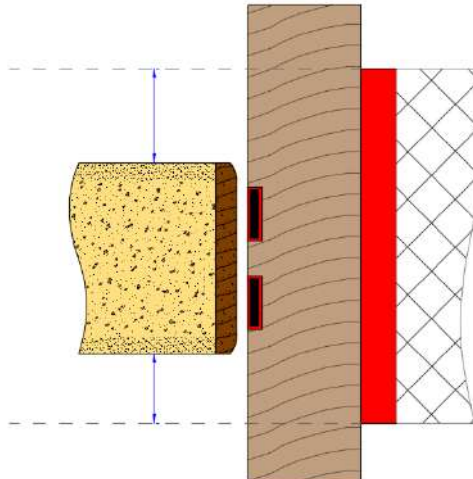
Permitted Installations	
	Instances where the door frame and the wall of the same depth such that architraves may be fitted flush to both faces. Note that the minimum door frame section size (width and depth) must be as per the requirements noted in this report – see section 7.
	Instances where the wall thickness is greater than the door frame depth. In this scenario, architraves when applied may be fitted to both faces. Where the architrave cannot physically overlap both the wall and the frame it is permitted to apply the architrave abutting the wall as depicted in the figure to the left.
	Split frames are permitted providing that both frame sections are secured to the wall in accordance with section 11.5. Furthermore, the main frame section (from which the door is hung) must be constructed to at least the minimum door frame section size (width and depth) as per the requirements noted in section 7. The extension piece must be constructed using one of the materials permitted for the construction of door frames.

Note:

1. The drawings are provided as a generalised illustration of the door frame installation only; actual installation must be as per the text within this document specifies.
2. When fitted within a masonry construction as detailed in section 11.5 the entire thickness of the leaf shall be within the thickness of the masonry element.

11.2.1.2 Frame Fitted Projecting the face of the wall (Leaf fitted within the thickness of the wall)

In all instances this installation detail assumes the frame construction is as detailed within section 7 for each respective frame type. In particular the requirement to offset each face of the leaf of double acting doorsets from each face of the wall, must be complied with.

Permitted Installations	
	Single Acting Arrangement Instances where the door leaf is fitted flush to wall face. The minimum door frame section size (width and depth) must be as per the requirements noted in this report – see section 7. And be positioned within the grey dotted section (shown left).
	Double Acting Arrangement Instances where the door leaf is fitted set back from each face of the wall as required in section 7 for each permitted frame type respectively. (shown left – in blue). The minimum door frame section size (width and depth) must be as per the requirements noted in this report – see section 7. And be positioned within the grey dotted section (shown left).
Split frames are permitted for single acting arrangements only, providing that: - Both frame sections are secured to the wall in accordance with section 11.5. - The main frame section meets the minimum frame section sizes and projection as shown above is in excess of the minimum frame sizes. - The extension piece must be constructed using the same timber species as the main frame section.	

Note:

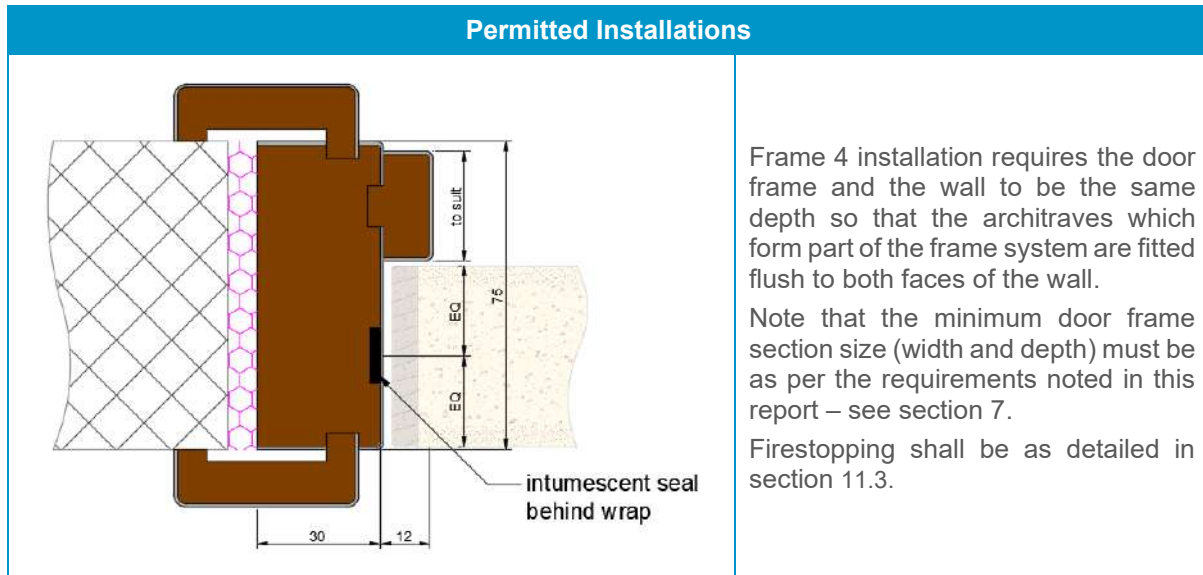
- The drawings are provided as a generalised illustration of the door frame installation only; actual installation must be as per the text within this document specifies.
- When fitted within a masonry construction as detailed in section 11.5 the entire thickness of the leaf shall be within the thickness of the masonry element.

11.2.2 Door Frame Installation – Frame 4

The installation is based on test references WF393430 and WF393450.

Architraves are part of the system and are required as detailed in section 7.

The following figure indicates the acceptable door frame installation.



Note:

1. The drawings are provided as a generalised illustration of the door frame installation only; actual installation must be as per the text within this document specifies.
2. When fitted within a masonry construction as detailed in section 11.5 the entire thickness of the leaf shall be within the thickness of the masonry element.

11.2.3 Door Frame Installation – Frame 5

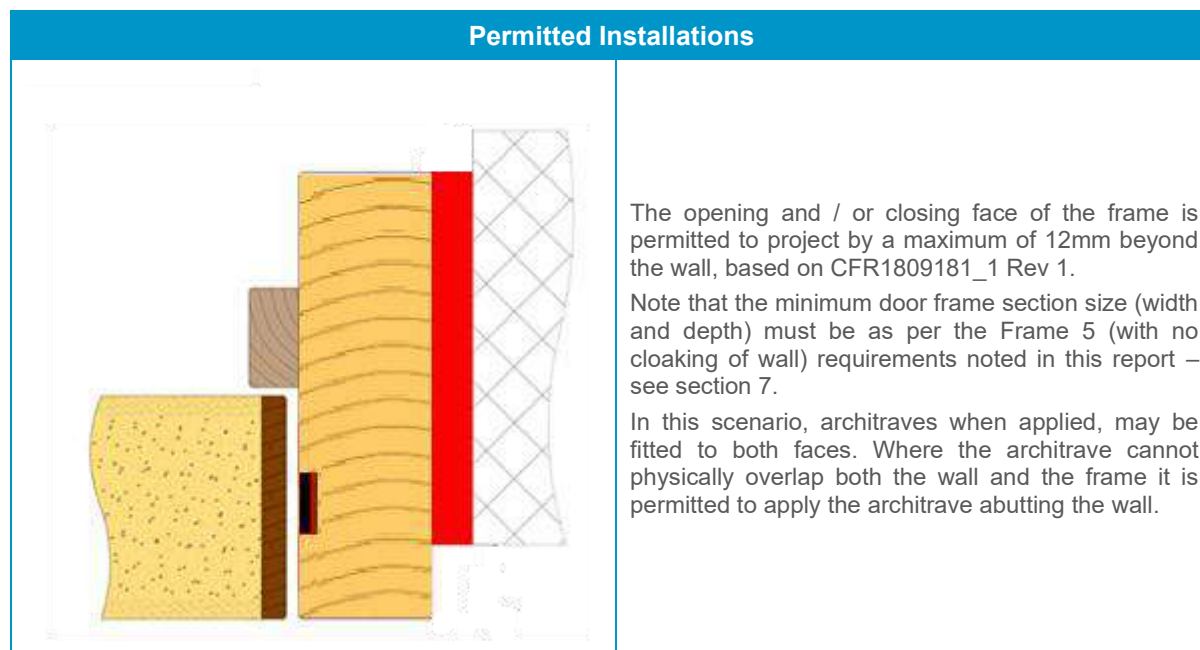
The following figures indicate the acceptable door frame installations.

For further clarification of the approved firestopping systems see section 11.3.

Architraves requirements are documented in the firestopping section of this report.

11.2.3.1 Door frame Installation Frame 5 – with no cloaking of wall

The following figure indicates the acceptable door frame installation.



Note:

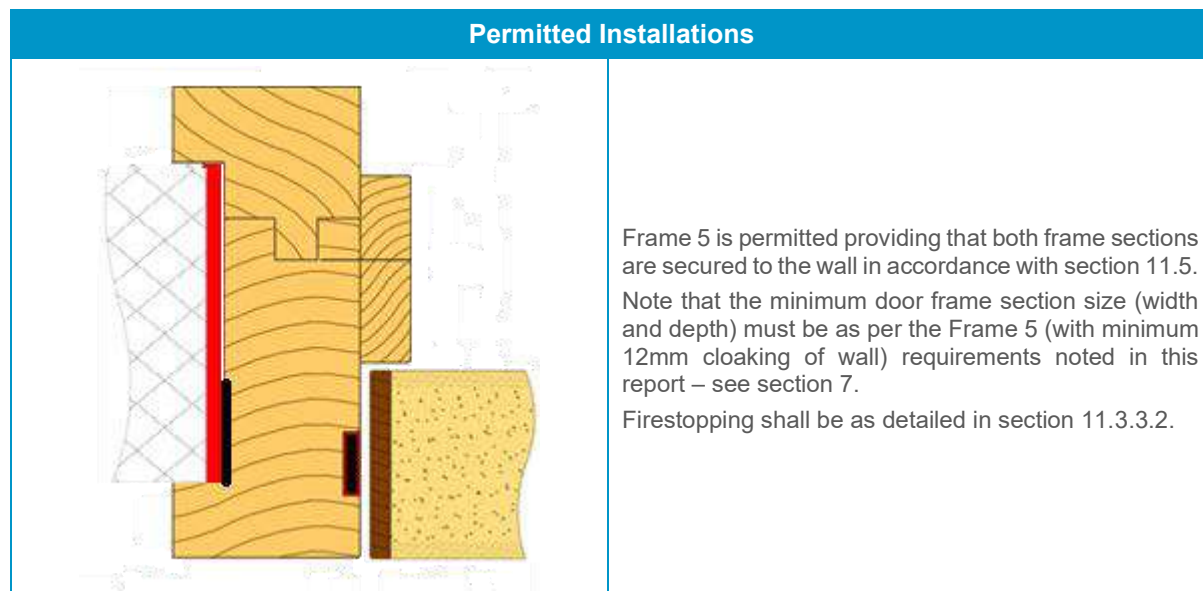
1. The drawings are provided as a generalised illustration of the door frame installation only; actual installation must be as per the text within this document specifies.

11.2.3.2 Door frame Installation Frame 5 – with cloaking of wall

The installation is based on test reference CFR2109021 LH.

The frame must be fitted with the two parts to wrap around the wall as shown, with the integral architraves fitting to the face of the wall.

The following figure indicates the acceptable door frame installation.



Note:

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

11.2.4 Door Frame Installation – Shadow gaps

11.2.4.1 General

The testing of frames with integral architraves and projecting door frames (Frame 5) demonstrates that timber-based frame types are capable of a degree of resistance to fire from the rear when the frame material protrudes beyond the face of the wall.

CFR2109021 LH tested a frame featuring integral architraves which protruded into the furnace by 18mm, as did the face of the door leaves and CFR1809181_1 Rev 1 tested a frame which projected into the furnace by 12mm, as did the face of the door leaf.

The use of associated trims and intumescent protection for the shadow gap details listed within this section have been considered. It is the opinion of Warringtonfire that the inclusion of these items will not negatively impact the fire resistance performance of the doorset design and that the contrary will apply, being that the presence of these materials for a period of time will provide shielding to the rear of the frame and delay the time at which the rear of the frame is first exposed to the full furnace conditions.

Based on the testing referenced above shadow gap details are permitted within the following parameters:

Frame options: 1, 2, 3

- In all instances the frame must be as detailed below and otherwise to the specification in 7.1.1, 7.2.1 and 7.3.1.
- This installation detail may be applied to all four sides of the 4-sided frame detailed in section 7.8 when utilised.

Configurations: LSASD, LSASD+OP, ULSASD, ULSASD+OP, DASD, DASD+OP, LSADD, LSADD+OP, ULSADD, ULSADD+OP, DADD, DADD+OP

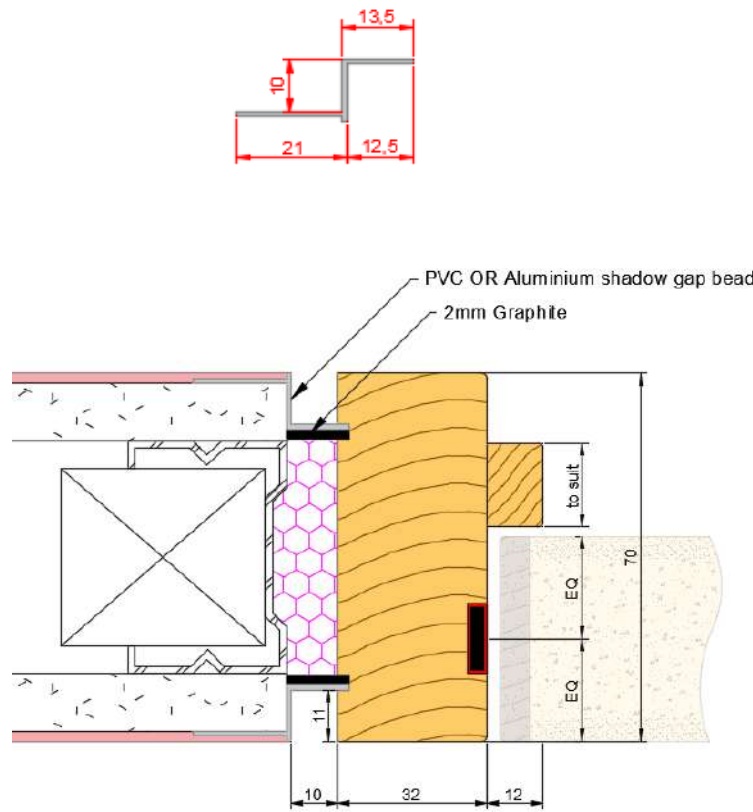
- Permitted with leaf sizes and intumescent specifications specified in section 4.5 with meet the following minimum Perimeter Intumescent as follows; either:
 - Minimum of 1No 15mm wide x 4mm thick seals fitted centrally within the frame head and jambs, OR
 - Minimum of 2No strips, minimum 10mm wide x 4mm thick seals fitted within the frame head and jambs.
 - Unless other limiting factors need to be applied based on the use of specific items of hardware or installation methods (e.g. utilising a 4-sided frame where the intumescent requirements within section 7.8 must also be complied with).

The following sections outline the permitted shadow gap details which are considered by this assessment.

The Illustrations include an example of typical supporting constructions.

11.2.4.2 Shadow Gap – Option A

PVC/ALUMINIUM TRIM DETAIL



Permitted Specifications:

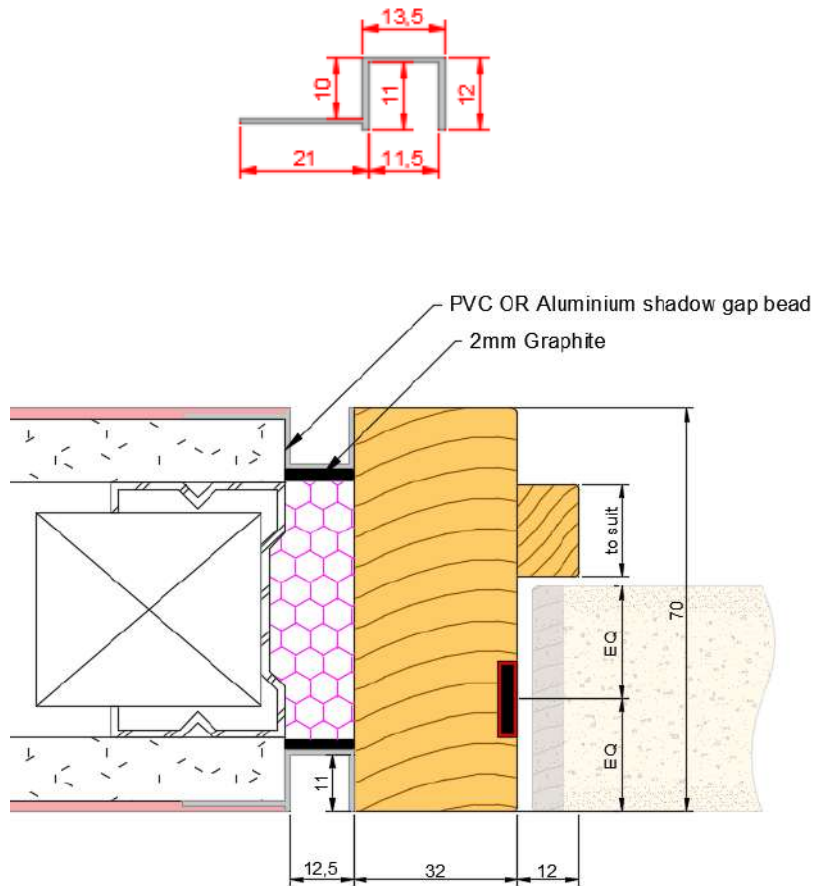
- The shadow gap is formed to the rear of the frame by a reduction in the depth of the fire stopping material and the application of a PVC / aluminium trim as depicted above.
- The overall dimensions of the PVC / Aluminium trim must be no greater than those depicted above except that the thickness of the item may be between 0.8mm and 1.5mm thick.
- It is permitted to groove the trim and associated intumescent (as required below) into the rear of the door frame by no more than 3mm.
- The PVC / aluminium trim must be protected by
 - 2mm thick graphite intumescent strip applied lining the rear of the trim material as depicted above.
- The intumescent must be fitted around the whole perimeter of the door frame.
- Minimum frame widths must be as defined below:
 - The minimum frame section width after any rebates have been taken out of the back of the frame must remain as 32mm.
 - Where a minimum frame width / thickness is specified for a particular item of hardware, in order to utilise shadow gaps, the minimum dimension provided in the hardware section must be increased by a minimum of 10mm.
- Fire stopping is carried out in accordance with section 11.3.4, as applicable for the shadow gap option.

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

11.2.4.3 Shadow Gap – Option B

PVC/ALUMINIUM TRIM DETAIL



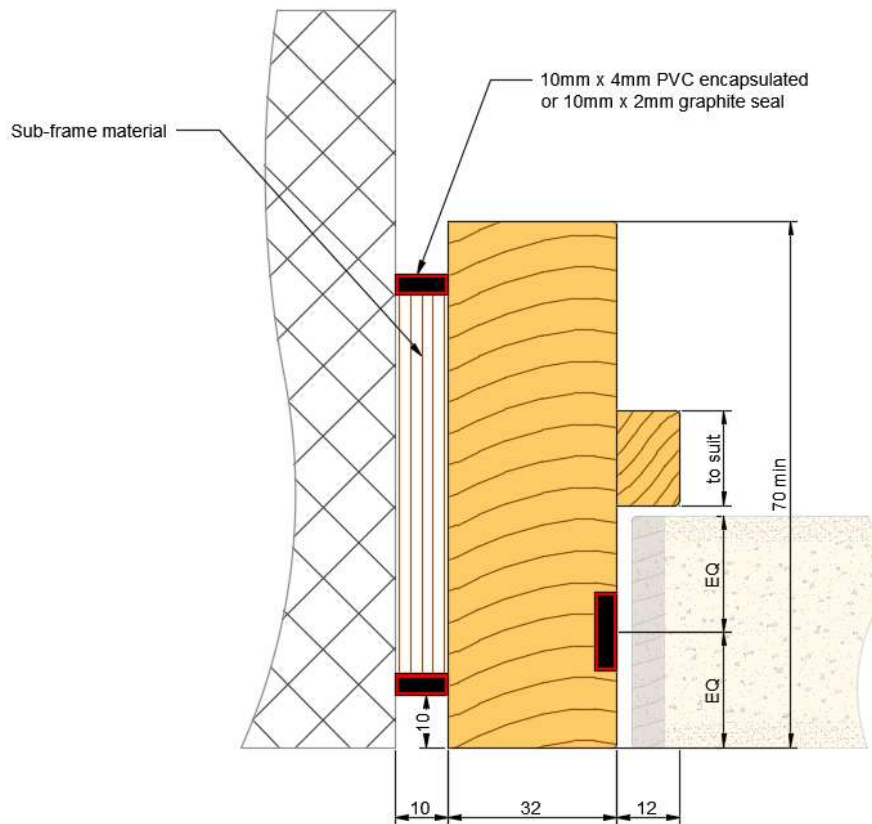
Permitted Specifications:

- The shadow gap is formed to the rear of the frame by a reduction in the depth of the fire stopping material and the application of a PVC / aluminium trim as depicted above.
- The overall dimensions of the PVC / Aluminium trim must be no greater than those depicted above except that the thickness of the item may be between 0.8mm and 1.5mm thick.
- The PVC / aluminium trim must be protected by
 - 2mm thick graphite intumescent strip applied lining the rear of the trim material as depicted above.
- The intumescent must be fitted around the whole perimeter of the door frame.
- Minimum frame widths must be as defined below:
 - The minimum frame section width after any rebates have been taken out of the back of the frame must remain as 32mm.
 - Where a minimum frame width / thickness is specified for a particular item of hardware in order to utilise shadow gaps, the minimum dimension provided in the hardware section must be increased by a minimum of 10mm.
- Fire stopping is carried out in accordance with section 11.3.4, as applicable for the shadow gap option.

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11.2.4.4 Shadow Gap – Option C



Permitted Specifications:

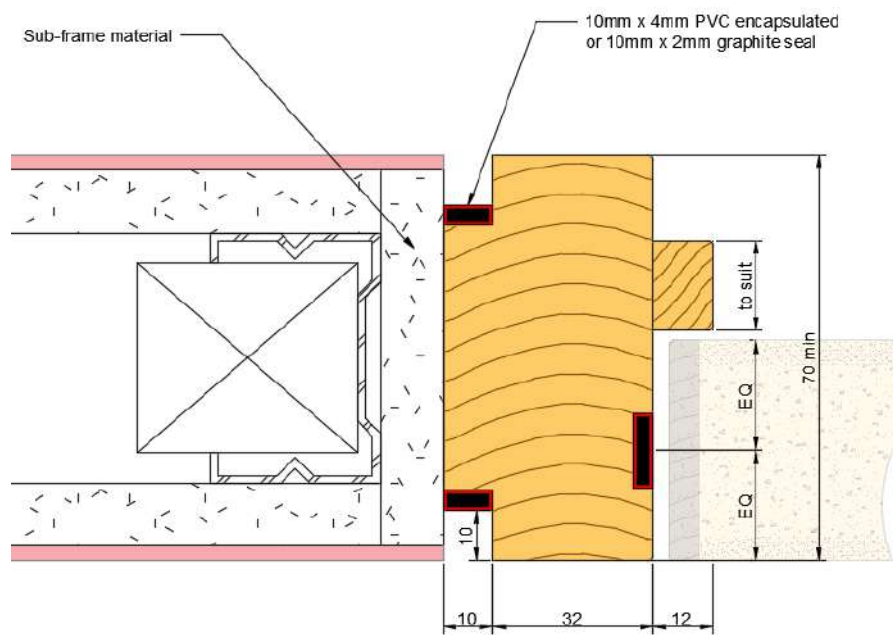
- The shadow gap is formed to the rear of the frame by the application of a sub-frame.
- Sub-frame materials must be formed from a single piece of material without joints across any single length, the permitted materials are:
 - Hardwood (excluding beech, *Fagus* species) with a density $>640\text{kg/m}^3$
 - Plywood with a density $>600\text{kg/m}^3$
 - MDF with a density $>700\text{kg/m}^3$
 - Particleboard with a density $>600\text{kg/m}^3$
 - Non-combustible board
- The sub-frame when applied must be fixed with steel screws appropriate for timber substrates. The screws must be applied through the sub frame into the rear of the door frame positioned at 100mm from ends and no greater than 350mm centres. Fixings must penetrate the rear of the frame by a minimum of 20mm. A twin line of fixings is optionally permitted. The joint must be additionally reinforced with PU or PVA adhesive.
- The shadow gap after the fitting of the required intumescent material is a maximum of 10mm wide x 10mm deep.
- The shadow gap must be protected by either:
 - a 10mm wide x 2mm thick graphite intumescent strip or
 - a 10mm x 4mm PVC encapsulated graphite seal
- The chosen intumescent must be fitted to the base of the shadow gap around the whole perimeter of the door frame (as depicted above).

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- Minimum frame widths must be as defined below:
 - The minimum frame section width after any rebates have been taken out of the back of the frame must remain as 32mm.
 - Where a minimum frame width / thickness is specified for a particular item of hardware, in order to utilise shadow gaps, the minimum dimension provided in the hardware section must be increased by a minimum of 10mm.
- Fire stopping is carried out in accordance with section 11.3.4, as applicable for the shadow gap option.

11.2.4.5 Shadow Gap – Option D



Permitted Specifications:

- The shadow gap is formed to the rear of the frame by rebating the frame by 10mm wide x a maximum of 14mm deep.
- The shadow gap after the fitting of the required intumescent material is a maximum of 10mm wide x 10mm deep.
- The shadow gap must be protected by either:
 - a 10mm wide x 2mm thick graphite intumescent strip or
 - a 10mm x 4mm PVC encapsulated graphite seal
- The chosen intumescent must be fitted to the base of the shadow gap around the whole perimeter of the door frame (as depicted above).
- Minimum frame widths must be as defined below:
 - The minimum frame section width after any rebates have been taken out of the back of the frame must remain as 32mm.
 - Where a minimum frame width / thickness is specified for a particular item of hardware, in order to utilise shadow gaps, the minimum dimension provided in the hardware section must be increased by a minimum of 10mm.
- Fire stopping is carried out in accordance with section 11.3.4, as applicable for the shadow gap option.

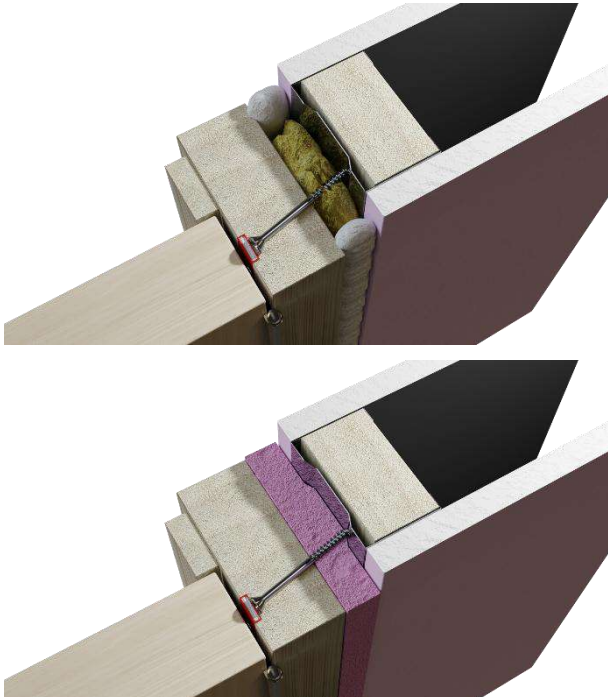
11.3 Firestopping

The following sub-sections provide tested and assessed acceptable door frame firestopping requirements which are dependent on the Frame type chosen.

11.3.1 Firestopping – Frame 1, 2, 3, 6 and 7

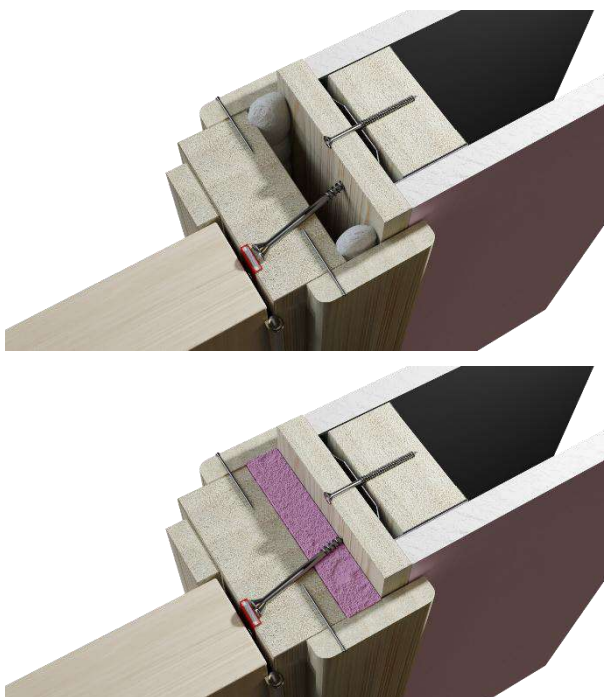
The firestopping requirements between the back of frame and wall are dependent on the gap size between the substrates. The table below provides the requirements based upon the gaps size. Please note that in the 3D depictions noted below show the application where a door frame is of the same depth as the overall wall thickness.

This installation also applies to all four sides of the 4-sided frame detailed in section 7.8.

Gap (mm)	Requirement	3D model depiction
Up to 10	Gap 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. If the evidence for the fire stopping used included architraves, they must be fitted as tested. Architraves may be fitted to both faces.	
Up to 20	Gap 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 or full depth expanding PU foam, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1. If the evidence for the fire stopping used included architraves, they must be fitted as tested. Architraves may be fitted to both faces.	

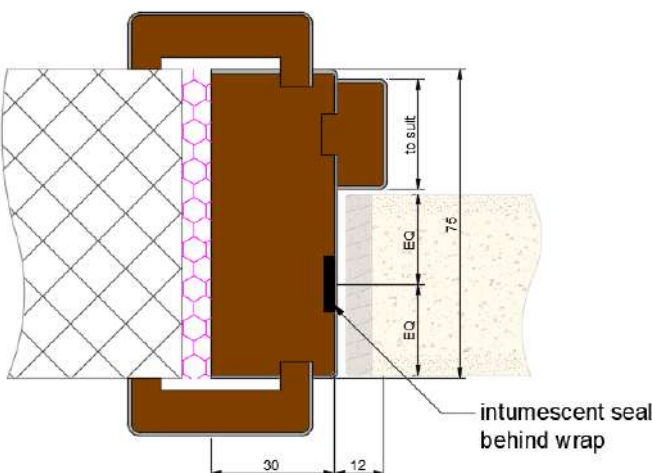
The legal validity of this assessment report can only be claimed on the presentation of the complete assessment report.

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

Gap (mm)	Requirement	3D model depiction
Over 20	A timber based or non-combustible subframe up to 50mm thick x the depth of the frame can be inserted and fixed to the wall bedded on intumescent mastic, the gap between door frame and subframe filled as follows: Subsequent gaps between the frame and the subframe of 5 to 10mm must be filled utilising one of the options given above. Architraves may be fitted to both faces.	

11.3.2 Firestopping for Frame 4

The table below provides the requirements for firestopping frame 4.

Gap (mm)	Requirement	Depiction
Up to 20	Gap 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 or full depth expanding PU foam, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1. Architraves form part of the frame system and must be fitted flush to both faces of the wall.	

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11.3.3 Firestopping for Frame 5

11.3.3.1 Firestopping for Frame 5 – with no cloaking of wall

The table below provides the requirements for firestopping frame 5 with no cloaking of the wall.

Gap (mm)	Requirement	Depiction
Up to 20	Gap 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. If the evidence for the fire stopping used included architraves, they must be fitted as tested. Architraves may be fitted to both faces.	

11.3.3.2 Firestopping for Frame 5 – with cloaking of wall

When installing Frame 5 with cloaking of wall, the following firestopping must be used, based on test reference CFR2109021 LH.

Gap (mm)	Requirement	Depiction
3-7	Intumescent comprising 20 x 2mm ISL Therm-A-Flex is required to be recessed into the rear of the frame as shown. A 10mm depth of acrylic intumescent mastic, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1, must be applied as shown to the primary frame section before the installation of the secondary frame section.	

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11.3.4 Firestopping for shadow gap detail

When installing a shadow gap detail as detailed within section 11.2.4, the following firestopping must be used depending on the shadow gap option utilised.

11.3.4.1 Firestopping – Shadow Gap – Options A & B

The shadow gap options (A & B) as detailed within section 11.2.4.2 & 11.2.4.3 must utilise the following method of firestopping:

Gap (mm)	Requirement
Up to 13.5	Gap 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. The image below does not depict an accurate indication of the fire stopping medium. Architraves are not required.
Depiction	

Gaps greater than 13.5mm are not permitted.

11.3.4.2 Firestopping – Shadow Gap – Options C & D

The shadow gap options (C & D) as detailed within section 11.2.4.4 & 11.2.4.5 must utilise the following method of firestopping:

Gap (mm)	Requirement
Up to 3	Bedded on 2No. nominally Ø6mm continuous beads of acrylic intumescent mastic, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1. The beads must be set back 5mm from each face of the framing material. Architraves are not required.

Gaps greater than 3mm are not permitted.

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11.4 Packers

Packers can be timber of equal density to the frame, or MDF, or plywood or plastic packers if fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1.

Packers must be present local to each fixing position.

Packers should be of a suitable size and set in place to allow the fire stopping materials to be applied over the top.

Packers should not be left exposed when architraves are not applied. Where packers are exposed, regardless of the packing material, they should be cut back at least 5mm and capped with tested intumescent mastic.

Intumescent packers that were included with the testing supporting the chosen firestopping (and fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1) are permitted when fitted in conjunction with the firestopping as tested.

11.5 Wall Types, Structural Opening & Fixity

11.5.1 Wall Types

The following wall types are approved for this doorset design:

- a) Plasterboard clad timber stud partitions
- b) Plasterboard clad steel stud partitions including timber lining
- c) Blockwork, masonry or homogenous concrete constructions.

Wall types a & b above must have supporting fire resistance test evidence which demonstrates that it is capable of staying in place and intact for a minimum of 30 minutes supporting a doorset design.

Wall type c above must be determined to be able to provide at least the same level of fire resistance of the doorset design.

All wall types detailed above shall provide a suitable medium to permit adequate fixity, it is anticipated that for:

- Plasterboard clad timber stud partitions, the timber stud will be of sufficient dimensions such that the fixing for the door frame penetrates into solid timber.
- Plasterboard clad steel stud partitions will include a timber lining of sufficient dimensions such that the fixing for the door frame penetrates into solid timber.
- Blockwork, masonry or homogenous concrete constructions are anticipated to be solid to receive the fixings.

Note: Other tested solutions to achieve adequate fixity may be detailed within the above noted supporting fire resistance test evidence.

11.5.1 Minimum wall thickness

For Frame 5 with cloaking of wall, in addition to the requirements in section 11.5.1, the wall must be a minimum of 100mm thick.

For installations with the shadow gap detail in section 11.2.4, in addition to the requirements in section 11.5.1, the wall must be a minimum of 100mm thick.

11.5.2 Structural Opening

For all wall types the structural opening shall be square, plumb and provide a flat surface for installation of the doorset.

For flexible wall types such as steel and timber stud partitions the structural opening must be prepared in line with the test evidence provided by the wall manufacturer.

11.5.3 Fixity

In all instances the fixing position must be such that it provides adequate restraint to the element of construction throughout the exposure to fire. This may therefore sometimes necessitate a twin line of fixings.

For single leaf doorset without fanlights or sidepanels, the frame jambs only are to be fixed to the supporting construction using steel fixings at 600mm maximum centres and maximum of 150mm from corners. The fixings must be of the appropriate type for the supporting construction and must penetrate to a minimum depth of 50mm. It is not necessary to fix the frame head.

For double leaf doorsets without fanlights or sidelights, the upper horizontal framing section abutting the structural opening must be additionally secured to the wall using no less than steel fixings 1No. steel fixing positioned centrally across the width of the doorset.

For all other configurations of doorset, the upper horizontal framing section abutting the structural opening (e.g. frame head of a modular fanlight) must also be secured to the wall using steel fixings at 600mm maximum centres and maximum of 150mm from corners. The fixings must be of the appropriate type for the supporting construction and must penetrate to a minimum depth of 50mm.

For split frames which include two elements (including extension liners), both sections of the frame shall be fixed to the supporting structure as detailed above.

11.6 Post Production (Onsite) Leaf Size Adjustment

The Optima 30 range of doorsets may be altered as follows:

Leaf Size Adjustment Specification	
Element	Reduction
Lipping	For door leaves which do not include any form of edge protection: The post-production lipping thickness may be reduced by 1mm for fitting purposes, providing that the door gaps and intumescent conditions remain as required by this assessment and the minimum limitation in terms of lipping thickness is still maintained. Door leaves which include edge protection may not be altered in size once manufactured.

11.7 Door Gaps

Door gaps and alignment tolerances must fall within the following range:

Door Gap & Alignment Tolerance Specification	
Location	Dimension
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 but may be fitted to sit back from the opening face by up to 2mm. The following specific requirement for double acting arrangements, takes precedence. - Required set back distances given in section 7 must be complied with. The following specific requirement for Single Acting arrangements (as considered in section 11.2.1.2), take precedence: - Leaves must not be proud of the wall face by more than 1mm but may be fitted to sit back from the opening face of the wall by up to 2mm.
Threshold / Bottom edge of the leaf This is the maximum tolerance for fire resistance only.	8mm between bottom of leaf and top of floor covering. The following specific gap requirements, for designs as detailed in section 7, take precedence: 4-sided timber frame with door stop (section 7.8): a minimum of 2mm and a maximum of 4mm between bottom of leaf and timber threshold. - Hardwood timber threshold (section 7.9): 8mm between bottom of leaf and timber threshold. - Aluminium threshold (section 7.10): 4mm between bottom of leaf and top of the aluminium threshold.

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12. Insulation Performance

Insulation performance may be claimed for a doorset to this design in line with the following table:

Insulation Performance Criteria	
Type	Details
Non-insulating	Doorsets containing Air Transfer Grilles or incorporating greater than 20% of non-insulating glazing
Partially insulating	Doorsets incorporating up to 20% of non-insulating glazing
Fully insulating	Unglazed doorsets or doorsets including 30-minute insulating glazing

13. Conclusions

If the Optima 30 doorsets with timber-based frames constructed in accordance with the specification documented in this field of application were to be tested in accordance with BS 476: Part 22: 1987, it is expected that they would provide a minimum of 30 minutes of integrity and insulation (subject to section 12).

14. Declaration

We the undersigned confirm that we have read and comply with obligations placed on us by the Passive Fire Protection Forum (PFPF) Guide to undertaking technical assessments and engineering evaluations based on fire test evidence 2021 Industry Standard Procedure.

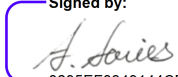
We confirm that any changes to a component or element of structure which are the subject of this assessment have not to our knowledge been tested to the standard against which this assessment has been made.

We agree to withdraw this assessment from circulation should the component or element of structure, or any of its component parts be the subject of a failed fire resistance test to the standard against which this assessment is being made.

We understand that this assessment is based on test evidence and will be withdrawn should evidence become available that causes the conclusion to be questioned. In that case, we accept that new test evidence may be required.

We are not aware of any information that could affect the conclusions of this assessment. If we subsequently become aware of any such information, we agree to ask the assessing authority to withdraw the assessment.

(in accordance with the principles of FTSG Resolution No. 82: 2001)

Signed by: 
Signed: 8295EF8349144CB...

Name: Andrew Davis

Position: Technical Manager

Date: 13-Aug-2026 | 01:47 PDT

For and on behalf of: **Halspan Limited**

15. Limitations

This assessment report:

- Does not provide an endorsement by Warringtonfire of actual products supplied.
- Has been prepared based on information provided by the Applicant. Warringtonfire has not verified the accuracy or completeness of that information and will not be responsible for any errors or omissions that might be incorporated into this report as a result.
- Any figures included in this report are provided for illustrative purposes only and may not fully reflect the actual scope being assessed. Warringtonfire cannot guarantee the accuracy of the drawings against the scope being assessed. The scope of this report is limited to assessments of the modifications to the tested systems as described herein.
- This report addresses itself solely to the elements and subjects discussed and do not cover any other criteria or modifications. All other details not specifically referred to should remain as tested or assessed.
- This report is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available to Warringtonfire, the assessment will be unconditionally withdrawn, and the applicant will be notified in writing. Similarly, the assessment should be re-evaluated if the assessed construction is subsequently tested since actual test data is deemed to take precedence.
- This assessment has been carried out in accordance with Fire Test Study Group Resolution No. 82: 2001.
- Opinions and interpretation expressed herein are outside the scope of UKAS accreditation.
- This assessment report relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions that are stipulated in the standard this assessment concludes to. It does not purport to be a complete specification ensuring fitness for purpose and long-term serviceability. It is the responsibility of the client to ensure that the element conforms to recognised good practice in all other respects and that, with the incorporation of the guidance given in this assessment, the element is suitable for its intended purpose.
- This report represents our opinion as to the performance likely to be demonstrated on a test in accordance with the standard to which this assessment concludes, on the basis of the test evidence referred to in this report. We express no opinion as to whether that evidence, and/or this report would be regarded by any Building Control authorities or any other third parties as sufficient for that or any other purpose.
- This report may only be reproduced in full. Extracts or abridgements of reports shall not be published without permission of Warringtonfire. All work and services carried out by Warringtonfire Testing and Certification Limited are subject to, and conducted in accordance with, the Standard Terms and Conditions of Warringtonfire Testing and Certification Limited, which are available at <https://www.element.com/terms/terms-and-conditions> or upon request.
- Previous versions of the report(s), if applicable, are withdrawn from the date of the up-issued assessment report with immediate effect. That means that they may no longer be relied upon in support of any products being placed on the market (or for the stated project/address where applicable) from the issue date stated on the front cover of this report. The withdrawal of an assessment report does not affect any reliance placed on the report up to the issue date stated on the front cover of this assessment; however, going forward, the up-issued report must be referenced in any literature or product specifications in place of the previous versions of the assessment.

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

16. Validity

This assessment report is not valid unless signed by all signatories identified within the Signatories and Revision History section of this report.

This assessment report is not valid unless it incorporates the declaration given in Section 14 duly signed by the applicant.

The assessment validity is as stated on the front cover of this report, after which time it is recommended that it be submitted to the assessing authority for re-evaluation.

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

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Appendix A

Summary of supporting data

The test evidence summarised below has been generated to support the fire resistance performance of the door designs that are the subject of this field of application. The summary details are considered to be the key aspects of the design tested. These test summaries are not intended to be a definitive guide to constructing a doorset. The details for the construction of a doorset must be taken from other sections within this Field of Application.

Some of the test evidence used in the evaluation is over 5 years old. In accordance with industry guidance, the evidence has been reviewed to consider its suitability. Warringtonfire are satisfied that there have been no significant revisions to the relevant test standards which would render the evidence irrelevant.

The evidence has been generated to BS 476 Part 22: 1987 and EN 1634-1. The latter is known to be more onerous than the BS 476: Part 22: 1987 standard, primarily due to the use of plate thermocouples within the furnace to record the furnace temperature.

The same time temperature curve is used to control the temperature within the furnace for both test methods (the heating curve given within ISO 834-1). However, the plate thermocouple used to record the temperature within the furnace for the EN test method, requires a longer thermal exposure to read the same temperature as the probe thermocouple that is used for the BS 476: Part 22: 1987 test, particularly during the early stages of the test. Furthermore, the neutral pressure regime is positioned lower relative to the specimen height in a European fire door test, therefore resulting in greater relative positive pressure conditions than those expected in a BS 476-22: 1987 test, which has the potential to increase hot gases and flaming on the unexposed side. These factors result in more onerous test conditions for doorsets tested to the BS EN 1634-1 test standard compared with the BS 476: Part 22: 1987 test standard, which has been demonstrated by testing the same products to both standards.

It is therefore the opinion of Warringtonfire that the evidence cited in the following section, tested to both named standards referenced above can be utilised in this assessment which will conclude in terms of the fire resistance performance of the Optima 30 doorset designs if tested in accordance with BS 476: Part 22: 1987.

Note:

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

A.1 BMT/FEI/F14118

Test Report Reference BMT/FEI/F14118			
Report sponsor	Halspan Ltd		
Test laboratory	BM TRADA (Now trading as Warringtonfire Testing and Certification Limited)		
Test date	29 October 2014		
Test standard	Indicative fire test utilizing the temperatures and pressure conditions of BS EN 1634-1: 2014		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset	Integrity:	66 minutes
		Insulation:	49 minutes
Reason for use	Supporting data for leaf 2		

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A.2 BMT/FEP/F14102

Test Report Reference BMT/FEP/F14102			
Report sponsor	James Latham		
Test laboratory	Chiltern International Fire Ltd (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	08 July 2014		
Test standard	BS 476 Part 20/22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSADD – Unlatched, Single Acting Double Doorset Doorset B: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset A	Integrity:	42 minutes
		Insulation:	42 minutes
	Doorset B	Integrity:	30 minutes
		Insulation:	30 minutes
Reason for use	For use as primary evidence for: - Frame 7 design - Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.3 BMT/FEP/F15097

Test Report Reference BMT/FEP/F15097			
Report sponsor	Sealed Tight Solutions Ltd		
Test laboratory	BM TRADA (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	30th March 2015		
Test standard	BS 476 Part 20/22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset A	Integrity:	33 minutes
		Insulation:	33 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Glazing within the Leaf • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.4 BMT/FEP/F15214 AR1

Test Report Reference BMT/FEP/F15214 AR1			
Report sponsor	Halspan Ltd		
Test laboratory	BM TRADA (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	5th October 2015		
Test standard	BS 476 Part 20/22: 1987		
Sampling information	The doorsets were sampled by a representative of BM TRADA on 01/10/2015.		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset A	Integrity:	40 minutes
		Insulation:	40 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 2 design • Configurations and leaf sizes • Glazing within the Leaf • Hardware		

A.5 BMT/FEP/F15270 AR1

Test Report Reference BMT/FEP/F15270 AR1			
Report sponsor	Halspan Ltd		
Test laboratory	Exova Warringtonfire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	03 December 2015		
Test standard	BS 476 Part 20/22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset B	Integrity:	39 minutes
		Insulation:	39 minutes
Reason for use	For use as primary evidence for: • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.6 BMT/FEP/F15272 AR1

Test Report Reference BMT/FEP/F15272 AR1			
Report sponsor	Halspan Ltd		
Test laboratory	Exova Warringtonfire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	08 December 2015		
Test standard	BS 476 Part 20/22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset A	Integrity:	34 minutes
		Insulation:	34 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 2 design • Configurations and leaf sizes		

A.7 BMT/FEP/F16037

Test Report Reference BMT/FEP/F16037			
Report sponsor	James Latham		
Test laboratory	Exova Warringtonfire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	01 February 2016		
Test standard	BS 476 Part 20/22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSADD – Latched, Single Acting Double Doorset – bolts engaged Doorset B: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	63 minutes
		Insulation:	63 minutes
	Doorset B	Integrity:	52 minutes
		Insulation:	52 minutes
Reason for use	For use as primary evidence for: • Frame 7 design • Glazing within the Leaf		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.8 BMT/FEP/F16050 AR1

Test Report Reference BMT/FEP/F16050 AR1			
Report sponsor	Halspan Ltd		
Test laboratory	Exova Warringtonfire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	10 March 2016		
Test standard	BS 476 Part 20/22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset B: LSASD –Latched, Single Acting Single Doorset		
Test results	Doorset B	Integrity:	47 minutes
		Insulation:	47 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 2 design • Configurations and leaf sizes • Hardware		

A.9 CFR1005241

Test Report Reference CFR1005241			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research Limited UKAS No. 4319		
Test date	24 May 2010		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset	Integrity:	31 minutes
		Insulation:	31 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 2 design • Configurations and leaf sizes • Overpanels, Fanlights, Sidepanels and/or Sidelights requirements		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.10 CFR1111221

Test Report Reference CFR1111221			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research Limited UKAS No. 4319		
Test date	22 November 2011		
Test standard	BS 476 Part 22: 1987		
Sampling information	The doorsets were sampled by a representative of Warrington Certification on 02/11/2011.		
Tested Orientation	Doorset LH: Opening in towards heating condition. Doorset RH: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset LH: LSASD – Latched, Single Acting Single Doorset Doorset RH: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset LH	Integrity:	37 minutes
		Insulation:	37 minutes
	Doorset RH	Integrity:	36 minutes
		Insulation:	36 minutes
Reason for use	For use as primary evidence for: Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.11 CFR1803021

Test Report Reference CFR1803021			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	02 March 2018		
Test standard	BS EN 1634-1: 2014		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset LH: Opening in towards heating condition. Doorset RH: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset LH: ULSADD – Unlatched, Single Acting Double Doorset Doorset RH: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset LH	Integrity:	38 minutes
		Insulation:	38 minutes
	Doorset RH	Integrity:	38 minutes
		Insulation:	38 minutes
Reason for use	For use as primary evidence for: - Feature Grooves - Hardware		

A.12 CFR1808101

Test Report Reference CFR1808101			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	10 August 2018		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	58 minutes
		Insulation:	58 minutes
Reason for use	For use as primary evidence for: - Leaf 2 design - Frame 6 design - Configurations and leaf sizes - Lipping requirements		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.13 CFR1808311

Test Report Reference CFR1808311			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	31 August 2018		
Test standard	BS EN 1634-1:2014		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset LH: Opening away from the heating condition. Doorset RH: Opening away from the heating condition.		
Specimen summary & tested configuration	Doorset LH: LSADD – Latched, Single Acting Double Doorset Doorset RH: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset LH	Integrity:	60 minutes
		Insulation:	60 minutes
	Doorset RH	Integrity:	41 minutes
		Insulation:	41 minutes
Reason for use	For use as primary evidence for: Hardware		

A.14 CFR1809181_1 Rev 1

Test Report Reference CFR1809181_1 Rev 1			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	18 September 2018		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset LH: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset LH: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset LH	Integrity:	36 minutes
		Insulation:	36 minutes
Reason for use	For use as primary evidence for: - Leaf 1 design - Frame 5 design - Configurations and leaf sizes - Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.15 CFR1811191

Test Report Reference CFR1811191			
Report sponsor	TLJ Attendance Systems Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	19 November 2018		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference FM403239 on 17/08/2018.		
Tested Orientation	Doorset LH: Opening in towards heating condition. Doorset RH: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset LH: LSASD – Latched, Single Acting Single Doorset Doorset RH: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset LH	Integrity:	42 minutes
		Insulation:	42 minutes
	Doorset RH	Integrity:	25 minutes
		Insulation:	25 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Hardware		
Failure mode	The premature failure observed on Doorset RH was localised at the lock location. This item of hardware has not been considered as part of this assessment.		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.16 CFR1903071 Revision 1

Test Report Reference CFR1903071 Revision 1			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	07 March 2019		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference PS190201 on 01/03/2019.		
Tested Orientation	Doorset LH: Opening in towards heating condition. Doorset RH: Opening away from the heating condition.		
Specimen summary & tested configuration	Doorset LH: LSASD – Latched, Single Acting Single Doorset Doorset RH: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset LH	Integrity:	39 minutes
		Insulation:	39 minutes
	Doorset RH	Integrity:	39 minutes
		Insulation:	39 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.17 CFR1903181

Test Report Reference CFR1903181			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	18 March 2019		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference P5190201 on 01/03/2019.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	35 minutes
		Insulation (leaf and Frame)	35 minutes
		Insulation (Leaf glazing)	9 minutes
Reason for use	For use as primary evidence for: Glazing within the Leaf		

A.18 CFR1909021

Test Report Reference CFR1909021			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	02 September 2019		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	45 minutes
		Insulation (leaf and Frame)	45 minutes
		Insulation (Leaf glazing)	12 minutes
Reason for use	For use as primary evidence for: - Leaf 2 design - Frame 1 design - Configurations and leaf sizes - Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.19 CFR1909241

Test Report Reference CFR1909241			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	24 September 2019		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference PS181201 on 17/12/2018.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	31 minutes
		Insulation (leaf and Frame)	31 minutes
		Insulation (Leaf glazing)	14 minutes
Reason for use	For use as primary evidence for: - Glazing within the Leaf - Hardware		

A.20 CFR2004171

Test Report Reference CFR2004171			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	17 April 2020		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of IFC Certification.		
Tested Orientation	Doorset RH: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset RH: LSADD – Unlatched, Single Acting Single Doorset		
Test results	Doorset RH	Integrity:	53 minutes
		Insulation:	53 minutes
Reason for use	For use as primary evidence for: Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.21 CFR2010021

Test Report Reference CFR2010021			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	02 October 2020		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC20156 and SC20157 on 28/09/2020.		
Tested Orientation	Doorset LH: Opening in towards heating condition. Doorset RH: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset LH: LSASD – Latched, Single Acting Single Doorset Doorset RH: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset LH	Integrity:	38 minutes
		Insulation:	38 minutes
	Doorset RH	Integrity:	30 minutes
		Insulation:	30 minutes
Reason for use	For use as primary evidence for: Hardware		

A.22 CFR2109021

Test Report Reference CFR2109021			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	03 September 2021		
Test standard	BS EN1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC21143 on 19/08/2021.		
Tested Orientation	Doorset LH: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset LH: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset LH	Integrity:	48 minutes
		Insulation:	48 minutes
Reason for use	For use as primary evidence for: - Leaf 1 design - Frame 5 design - Configurations and leaf sizes - Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.23 CFR2210051

Test Report Reference CFR2210051			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	05 October 2022		
Test standard	BS EN1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC22142.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	35 minutes
		Insulation:	35 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Hardware		

A.24 CFR2307031

Test Report Reference CFR2307031			
Report sponsor	Halspan Limited		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	21 July 2023		
Test standard	BS EN 1634-1:2014 + A1: 2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC23143 on 23/06/2023.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	52 minutes
		Insulation:	52 minutes
Reason for use	For use as primary evidence for: • Leaf 2 design • Frame 1 design • Configurations and leaf sizes • Lipping requirements • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.25 CFR2506031

Test Report Reference CFR2506031			
Report sponsor	TLJ Group Limited and Datim Ltd		
Test laboratory	Cambridge Fire Research UKAS No. 4319		
Test date	03 July 2025		
Test standard	BS EN 1634-1:2014 + A1: 2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC25127T.		
Tested Orientation	Doorset LH: Opening in towards heating condition. Doorset RH: Opening away from heating condition.		
Specimen summary & tested configuration	Doorset LH: LSASD – Latched, Single Acting Single Doorset Doorset RH: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset LH	Integrity:	51 minutes
		Insulation:	51 minutes
	Doorset RH	Integrity:	45 minutes
		Insulation:	45 minutes
Reason for use	For use as primary evidence for: Hardware only		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.26 Chilt/RF00068

Test Report Reference Chilt/RF00068			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762)		
Test date	15 September 2000		
Test standard	BS EN 1634-1: 2000		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	42 minutes
		Insulation:	42 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 2 design • Configurations and leaf sizes • Hardware		

A.27 Chilt/RF01056

Test Report Reference Chilt/RF01056			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	09 July 2001		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	39 minutes
		Insulation:	13 minutes
Reason for use	For use as primary evidence for: • Frame 1 design • Feature Grooves • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.28 Chilt/RF01059A(AR2)

Test Report Reference Chilt/RF01059A(AR2)			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	16 July 2001		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	39 minutes
		Insulation:	39 minutes
Reason for use	For use as primary evidence for: • Frame 3 design • Hardware		

A.29 Chilt/RF01103

Test Report Reference Chilt/RF01103			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	22 October 2001		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset A	Integrity:	39 minutes
		Insulation:	39 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.30 Chilt/RF02048

Test Report Reference Chilt/RF02048			
Report sponsor	Sureglaze Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	10 May 2002		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSADD – Unlatched, Single Acting Double Doorset Doorset B: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset A	Integrity:	35 minutes
		Insulation:	35 minutes
	Doorset B	Integrity:	41 minutes
		Insulation:	41 minutes
Reason for use	For use as primary evidence for: • Edge Protection • Frame encapsulation		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.31 Chilt/RF02081

Test Report Reference Chilt/RF02081			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	04 September 2002		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: DADD+OP – Double Acting Double Doorset + Overpanel		
Test results	Doorset A	Integrity:	49 minutes
		Insulation:	49 minutes
Reason for use	For use as primary evidence for: • Leaf 2 design • Frame 3 design • Configurations and leaf sizes • Lipping requirements • Glazing within the Leaf • Hardware		

A.32 Chilt/RF02082

Test Report Reference Chilt/RF02082			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	09 September 2002		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset A	Integrity:	41 minutes
		Insulation:	41 minutes
Reason for use	For use as primary evidence for: • Leaf 3 design • Feature Grooves • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.33 Chilt/RF02083

Test Report Reference Chilt/RF02083			
Report sponsor	Sureglaze Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	06 September 2002		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset A	Integrity:	60 minutes
		Insulation:	60 minutes
Reason for use	For use as primary evidence for: • Edge Protection • Glazing within the Leaf • Frame encapsulation		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.34 Chilt/RF02110

Test Report Reference Chilt/RF02110			
Report sponsor	Vetrotech Saint-Gobain International AG		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	14 November 2002		
Test standard	BS EN 1634-1: 2000 & BS EN 1363-1:1999		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	24 minutes
		Insulation:	4 minutes
	Doorset B	Integrity:	23 minutes
		Insulation:	4 minutes
Reason for use	For use as primary evidence for: Glazing within the Leaf		
Failure mode	Failures were observed by means of the application of cotton pads to the glass. The application of cotton pads to uninsulated glass is not permitted in BS 476-22: 1987. If the test had been undertaken to this standard and in the absence of further failures prior to 30 minutes being recoded the failures observed have been disregarded.		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.35 Chilt/RF03076

Test Report Reference Chilt/RF03076			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	14 August 2003		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset	Integrity:	26 minutes
		Insulation:	24 minutes
Reason for use	For use as primary evidence for: • Leaf 3 design • Frame 2 design • Configurations and leaf sizes • Lipping requirements • Glazing within the Leaf • Modular framing for Overpanels, Fanlights, Sidepanels and/or Sidelights • Hardware		
Failure mode	The premature failure observed at 26 minutes was localised to the letterplate. For the purposes of this assessment the letterplate has not been considered.		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.36 Chilt/RF04021

Test Report Reference Chilt/RF04021			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	08 March 2004		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset A	Integrity:	52 minutes
		Insulation:	52 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 2 design • Configurations and leaf sizes • Hardware		

A.37 Chilt/RF06048A

Test Report Reference Chilt/RF06048A			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	25 April 2006		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report.		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULDASD – Unlatched, Double Acting Single Doorset		
Test results	Doorset A	Integrity:	34 minutes
		Insulation:	34 minutes
Reason for use	For use as primary evidence for: • Lipping requirements • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.38 Chilt/RF06068

Test Report Reference Chilt/RF06068			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	26 May 2006		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset B: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset B	Integrity:	32 minutes
		Insulation:	20 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Glazing within the Leaf		

A.39 Chilt/RF06074

Test Report Reference Chilt/RF06074			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	08 June 2006		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report.		
Tested Orientation	Doorset A: Opening in both directions		
Specimen summary & tested configuration	Doorset A: DASD – Double Acting Single Doorset		
Test results	Doorset A	Integrity:	34 minutes
		Insulation:	34 minutes
Reason for use	For use as primary evidence for: • Frame 1 design • Lipping requirements • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.40 Chilt/RF07008

Test Report Reference Chilt/RF07008			
Report sponsor	Lorient Polyproducts Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	13 February 2007		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSADD – Unlatched, Single Acting Double Doorset Doorset B: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset A	Integrity:	36 minutes
		Insulation:	36 minutes
	Doorset B	Integrity:	42 minutes
		Insulation:	42 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.41 Chilt/RF08039

Test Report Reference Chilt/RF08039			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	28 March 2008		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	50 minutes
		Insulation:	50 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Edge Protection • Frame encapsulation • Hardware		

A.42 Chilt/RF08127

Test Report Reference Chilt/RF08127			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	22 September 2008		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSADD+OP – Unlatched, Single Acting Doorset + Overpanel		
Test results	Doorset	Integrity:	38 minutes
		Insulation:	38 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Lipping requirements • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.43 Chilt/RF08169

Test Report Reference Chilt/RF08169			
Report sponsor	Essex Safety Glass Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	22 November 2008		
Test standard	BS EN 1634-1: 2000 & BS EN 1363-1: 1999		
Sampling information	Not detailed in test report.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset	Integrity:	16 minutes
		Insulation:	Not evaluated
Reason for use	For use as primary evidence for: Overpanels, Fanlights, Sidepanels and/or Sidelights requirements		
Failure mode	The premature cotton pad failure observed at 16 minutes was local to the lower right hand glazed side screen. For the purposed of this assessment this item has not been considered. The premature insulation failures are also local to the glazing thermocouples, which for the purposes of this assessment are treated as insulating.		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.44 Chilt/RF09010

Test Report Reference Chilt/RF09010			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	16 January 2009		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report.		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	56 minutes
		Insulation:	56 minutes
	Doorset B	Integrity:	68 minutes
		Insulation:	68 minutes
Reason for use	For use as primary evidence for: • Edge Protection • Frame encapsulation • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.45 Chilt/RF09069

Test Report Reference Chilt/RF09069			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	29 May 2009		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSADD+OP – Unlatched, Single Acting Double Doorset + Overpanel		
Test results	Doorset	Integrity:	37 minutes
		Insulation:	37 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Lipping requirements • Hardware		

A.46 Chilt/RF10111

Test Report Reference Chilt/RF10111			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	05 May 2016		
Test standard	BS EN 1634-1:2000 & BS EN 1363-1:1999		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	46 minutes
		Insulation:	46 minutes
Reason for use	For use as primary evidence for: • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.47 Chilt/RF11005

Test Report Reference Chilt/RF11005			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	07 February 2011		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report.		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset Doorset B: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	43 minutes
		Insulation:	43 minutes
	Doorset B	Integrity:	39 minutes
		Insulation:	39 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Glazing within the Leaf • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.48 Chilt/RF13063 Revision A

Test Report Reference RF13063 Revision A			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	09 May 2013		
Test standard	BS EN 1634-1:2008 & BS EN 1363-1:1999		
Sampling information	The door blanks were sampled by a representative of BM TRADA Certification on 21/03/2013.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	36 minutes
		Insulation:	30 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Lipping requirements • Glazing within the Leaf • Overpanels, Fanlights, Sidepanels and/or Sidelights requirements • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.49 DMT-DO-50-582-R1

Test Report Reference DMT-DO-50-582-R1			
Report sponsor	Dormakaba Canada Inc		
Test laboratory	DMT GmbH & Co. KG, DAkkS No. D-PL-11035-03-00		
Test date	12 February 2019		
Test standard	EN 1634-1:2014 + A1:2018 with EN 1363-1:2012		
Sampling information	The doorsets were sampled by a representative of Warringtonfire Certification under contract reference FM408263 on 14/12/2018.		
Tested Orientation	Doorset 1: Opening away from the heating condition. Doorset 2: Opening in towards heating condition. Doorset 3: Opening away from the heating condition. Doorset 4: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset 1: LSASD – Latched, Single Acting Single Doorset Doorset 2: LSASD – Latched, Single Acting Single Doorset Doorset 3: LSASD – Latched, Single Acting Single Doorset Doorset 4: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset 1	Integrity:	46 minutes
		Insulation:	46 minutes
	Doorset 2	Integrity:	45 minutes
		Insulation:	45 minutes
	Doorset 3	Integrity:	43 minutes
		Insulation:	43 minutes
	Doorset 4	Integrity:	46 minutes
		Insulation:	46 minutes
Reason for use	For use as primary evidence for: Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.50 DMT-DO-50-583-R2

Test Report Reference BMT-DO-50-583-R2			
Report sponsor	Dormakaba Canada Inc		
Test laboratory	DMT GmbH & Co. KG, DAkkS No. D-PL-11035-03-00		
Test date	14 February 2019		
Test standard	EN 1634-1:2014 + A1:2018 with EN 1363-1:2012		
Sampling information	The doorsets were sampled by a representative of Warringtonfire Certification under contract reference FM408263 on 14/12/2018.		
Tested Orientation	Doorset 1: Opening away from the heating condition. Doorset 2: Opening in towards heating condition. Doorset 3: Opening away from the heating condition. Doorset 4: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset 1: LSASD – Latched, Single Acting Single Doorset Doorset 2: LSASD – Latched, Single Acting Single Doorset Doorset 3: LSASD – Latched, Single Acting Single Doorset Doorset 4: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset 1	Integrity:	43 minutes
		Insulation:	43 minutes
	Doorset 2	Integrity:	43 minutes
		Insulation:	39 minutes
	Doorset 3	Integrity:	43 minutes
		Insulation:	43 minutes
	Doorset 4	Integrity:	39 minutes
		Insulation:	32 minutes
Reason for use	For use as primary evidence for: Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.51 LP-636.3/09

Test Report Reference LP-636.3/09			
Report sponsor	Halspan Limited & STOLBUD Warszawa SP. Z. O. O.		
Test laboratory	Building Research Institute, PCA No. AB 023		
Test date	17 November 2009		
Test standard	PN EN 1634-1:2008		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	35 minutes
		Insulation:	35 minutes
Reason for use	For use as primary evidence for: Hardware		

A.52 PX06466A

Test Report Reference PX06466A			
Report sponsor	Halspan Ltd		
Test laboratory	SP Technical Research Institute of Sweden, SWEDAC No. 1002		
Test date	05 October 2010		
Test standard	EN 1634-1:2008 EN 1363-1:1999 and where appropriate EN 1363-2:1999		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	36 minutes
		Insulation:	36 minutes
Reason for use	For use as primary evidence for: - Glazing within the Leaf - Threshold design - Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.53 RF00067

Test Report Reference RF00067			
Report sponsor	Halspan Ltd		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	03 August 2000		
Test standard	BS EN 1634-1:2000 and BS EN 1363-1:1999		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSADD – Latched, Single Acting Double Doorset Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	37 minutes
		Insulation (leaf and Frame)	37 minutes
		Insulation (Leaf glazing)	3 minutes
	Doorset B	Integrity:	43 minutes
		Insulation:	43 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 2 design • Configurations and leaf sizes		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.54 RF95042

Test Report Reference RF95042			
Report sponsor	Timber & Door Products		
Test laboratory	Trada Technology Ltd (Now trading as Warringtonfire Testing and Certification Limited UKAS No. 1762)		
Test date	25 July 1995		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report.		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset Doorset B: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset A	Integrity:	49 minutes
		Insulation:	49 minutes
	Doorset B	Integrity:	35 minutes
		Insulation:	35 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 2 design • Configurations and leaf sizes • Glazing within the Leaf		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.55 RF97091

Test Report Reference RF97091			
Report sponsor	Timber & Door Products		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited UKAS No. 1762)		
Test date	05 May 2016		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSADD + OP – Unlatched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	39 minutes
		Insulation:	39 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 2 design • Configurations and leaf sizes • Lipping requirements • Glazing within the Leaf • Overpanels, Fanlights, Sidepanels and/or Sidelights requirements • Hardware		

A.56 RF99036

Test Report Reference RF99036			
Report sponsor	Timber & Door Products		
Test laboratory	Chiltern International Fire (Now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	09 April 1999		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSADD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	26 minutes
		Insulation:	0 minutes
Reason for use	For use as primary evidence for: • Glazing within the Leaf		
Failure mode	The integrity failure observed at 26 minutes was local to the meeting edges. For the purposes of this assessment the meeting edge detail utilised has not been considered. No further failure was observed until 44 minutes.		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.57 TR20231213-000610 Revision A

Test Report Reference TR20231213-000610 Revision A			
Report sponsor	Halspan Limited		
Test laboratory	United Kingdom Testing and Certification, UKAS No. 21542		
Test date	09 February 2024		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC24013T on 05/02/24.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	37 minutes
		Insulation:	Not evaluated
Reason for use	For use as primary evidence for: • Glazing within the Leaf • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.58 WARRES 63269

Test Report Reference WARRES 63269			
Report sponsor	Samuel Heath & Sons PLC		
Test laboratory	Warrington Fire Research Centre Ltd (now trading as Warringtonfire Testing and Certification Limited)		
Test date	03 Jan 1995		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	28 minutes
		Insulation:	28 minutes
	Doorset B	Integrity:	29 minutes
		Insulation:	29 minutes
Reason for use	For use as primary evidence for: Hardware		
Failure mode	The failures observed were local to the top closing corners of the leaves. The tested door leaf design was of a differing construction to the one considered within this assessment and as the failures observed are remote and not attributed towards the closers tested the evidence has been deemed suitable to demonstrate the performance of the closers in the Halspan Optima 30 doorset design. Doorset A: 28 minutes, Continuous Flaming at top closing corner Doorset B: 29 minutes, Continuous Flaming at top closing corner Test discontinued at 32 minutes for both doorsets with no further areas of integrity failure observed.		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.59 WARRES 117483

Test Report Reference WARRES 117483			
Report sponsor	Zero Seal Systems Limited		
Test laboratory	Warrington Fire Research Centre Ltd (now trading as Warringtonfire Testing and Certification Limited)		
Test date	27 Feb 2001		
Test standard	Indicative test to General Principles of BS 476 Part 20: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Not applicable		
Specimen summary & tested configuration	54mm thick door leaf with Apertures A and B incorporating Zeroplus Slimport SP450 and SP250.		
Test observations	Aperture A	Integrity:	71 minutes
	Aperture B	Integrity:	Not evaluated
Reason for use	For use as primary evidence for: Glazing within the Leaf		

A.60 WARRES 118409/A

Test Report Reference WARRES 118409/A			
Report sponsor	Halspan Limited		
Test laboratory	Warrington Fire Research Centre Ltd (now trading as Warringtonfire Testing and Certification Limited)		
Test date	17 Apr 2001		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	41 minutes
		Insulation:	41 minutes
Reason for use	For use as primary evidence for: - Leaf 1 design - Frame 1 design - Configurations and leaf sizes		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.61 WARRES 131998

Test Report Reference WARRES 131998			
Report sponsor	Halspan Limited		
Test laboratory	Warrington Fire Research Centre Ltd (now trading as Warringtonfire Testing and Certification Limited)		
Test date	09 Jun 2003		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSADD – Unlatched, Single Acting Double Doorset Doorset B: ULSADD+OP – Unlatched, Single Acting Double Doorset with flush Overpanel		
Test results	Doorset A	Integrity:	27 minutes
	Doorset B	Integrity:	32 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Lipping requirements • Glazing within the Leaf • Hardware		
Failure mode	Doorset A: 27 minutes, cotton pad failure at the top right corner of the doorset, with no other failures noted. The MDF frame design included in the tested Doorset A design is not permitted by this assessment.		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.62 WF135011

Test Report Reference WF135011			
Report sponsor	Halspan Limited		
Test laboratory	Warrington Fire Research Centre Ltd (now trading as Warringtonfire Testing and Certification Limited)		
Test date	28 Oct 2003		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Specimen summary & tested configuration	Doorset: DADD+OP – Double Acting Double Doorset with flush overpanel		
Test results	Doorset A	Integrity:	36 minutes
		Insulation:	36 minutes
Reason for use	For use as primary evidence for: • Glazing within the Leaf • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.63 WF145632

Test Report Reference WF145632			
Report sponsor	Halspan Limited		
Test laboratory	Warringtonfire (now trading as Warringtonfire Testing and Certification Limited)		
Test date	21 Apr 2005		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset Doorset B: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	38 minutes
		Insulation:	38 minutes
	Doorset B	Integrity:	27 minutes
		Insulation:	27 minutes
Reason for use	For use as primary evidence for: • Leaf 3 design • Frame 1 design • Configurations and leaf sizes • Hardware		
Failure mode	Doorset B: 27 minutes, continuous flaming at Glazing Aperture with no other failures noted until beyond 30 minutes. The glass, glazing system and bead combination is not permitted at the dimensions tested by this assessment.		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.64 WF150116

Test Report Reference WF150116			
Report sponsor	Halspan Limited		
Test laboratory	Warrington Fire Research Centre Ltd (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 0249		
Test date	07 Nov 2005		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSADD – Unlatched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	30 minutes
		Insulation:	30 minutes
Reason for use	For use as primary evidence for: • Leaf 3 design • Frame 1 design • Configurations and leaf sizes • Glazing within the Leaf		

A.65 WF404075

Test Report Reference WF404075			
Report sponsor	Specialized Security		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 0249		
Test date	20 May 2016		
Test standard	BS EN 1634-1:2014		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	36 minutes
		Insulation:	36 minutes
Reason for use	For use as primary evidence for: • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.66 WF152318

Test Report Reference WF152318			
Report sponsor	Halspan Limited		
Test laboratory	Warrington Fire Research Centre Ltd (now trading as Warringtonfire Testing and Certification Limited)		
Test date	10 Feb 2006		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	23 minutes
		Insulation:	23 minutes
	Doorset B	Integrity:	28 minutes
		Insulation:	28 minutes
Reason for use	For use as primary evidence for: • Frame architrave design • Hardware		
Failure mode	The tested specimens did not include intumescent materials at the leaf / frame perimeter. This configuration is not considered within this assessment.		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.67 WF316349

Test Report Reference WF316349			
Report sponsor	Simonswerk UK Ltd		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 0249		
Test date	13 Mar 2012		
Test standard	BS EN 1634-1:2008		
Sampling information	The hinges were sampled by a representative of Warrington Certification Limited on 29/02/2012.		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset Doorset B: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	34 minutes
		Insulation:	34 minutes
	Doorset B	Integrity:	34 minutes
		Insulation:	34 minutes
Reason for use	For use as primary evidence for: • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.68 WF348445

Test Report Reference WF348445			
Report sponsor	Simonswerk UK Ltd		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 0249		
Test date	13 Feb 2015		
Test standard	BS EN 1634-1:2014		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset Doorset B: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	33 minutes
		Insulation:	33 minutes
	Doorset B	Integrity:	64 minutes
		Insulation:	64 minutes
Reason for use	For use as primary evidence for: Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.69 WF367904

Test Report Reference WF367904			
Report sponsor	ASSA ABLOY Hospitality Limited		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 0249		
Test date	10 July 2016		
Test standard	BS EN 1634-1:2014		
Sampling information	The doorsets were sampled by a representative of Warrington Certification under contract reference WCL 364075 on 20/06/2016.		
Tested Orientation	Doorset A: Opening away from the heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	36 minutes
		Insulation:	36 minutes
	Doorset B	Integrity:	36 minutes
		Insulation:	36 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.70 WF368204

Test Report Reference WF368204			
Report sponsor	Halspan Ltd		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	12 Aug 2016		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset Doorset B: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	48 minutes
		Insulation:	48 minutes
	Doorset B	Integrity:	58 minutes
		Insulation:	58 minutes
Reason for use	For use as primary evidence for: Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.71 WF370389

Test Report Reference WF370389			
Report sponsor	Halspan Ltd		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	18 Aug 2016		
Test standard	BS EN 1634-1:2014		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSADD+OP – Unlatched, Single Acting Double Doorset with flush overpanel		
Test results	Doorset	Integrity:	37 minutes
		Insulation (Frame and Leaf):	37 minutes
		Insulation (Leaf Glazing):	15 minutes
Reason for use	For use as primary evidence for: • Hardware		

A.72 WF372220 AR1

Test Report Reference WF372220 AR1			
Report sponsor	Halspan Ltd		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	28 Sept 2016		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSASD – Latched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	42 minutes
		Insulation:	42 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 2 design • Configurations and leaf sizes • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.73 WF372222 AR1

Test Report Reference WF372222 AR1			
Report sponsor	Halspan Ltd		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	27 Sept 2016		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	48 minutes
		Insulation:	48 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 2 design • Configurations and leaf sizes		

A.74 WF384748 AR1

Test Report Reference WF384748 AR1			
Report sponsor	Halspan Ltd		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 1762		
Test date	29 Jun 2017		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	34 minutes
		Insulation:	34 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 2 design • Configurations and leaf sizes		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.75 WF389552

Test Report Reference WF389552			
Report sponsor	Dorma UK Ltd		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited)		
Test date	26 Sept 2017		
Test standard	Heating and pressure conditions of BS EN 1363-1:2012		
Sampling information	Items of hardware sampled by a representative of Warrington Certification under contract reference FM388953 on 13/09/2017.		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	36 minutes (indicative)
Reason for use	For use as primary evidence for: • Hardware		

A.76 WF391351

Test Report Reference WF391351			
Report sponsor	Mann McGowan Fabrications Ltd		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 0249		
Test date	09 Dec 2017		
Test standard	BS EN 1634-1:2014		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	40 minutes
		Insulation:	8 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.77 WF393430 Issue 2

Test Report Reference WF393430 Issue 2			
Report sponsor	Newmor Group Ltd		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 0249		
Test date	03 Jan 2018		
Test standard	BS 476 Part 22: 1987		
Sampling information	The doorsets were sampled by a representative of Warrington Certification under contract reference FM392034 on 12/12/2017.		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset Doorset B: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	46 minutes
		Insulation:	46 minutes
	Doorset B	Integrity:	43 minutes
		Insulation:	43 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 4 design • Configurations and leaf sizes • Edge Protection		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.78 WF393450 Issue 2

Test Report Reference WF393450 Issue 2			
Report sponsor	Newmor Group Ltd		
Test laboratory	Exova Warringtonfire (now trading as Warringtonfire Testing and Certification Limited) UKAS No. 0249		
Test date	03 Jan 2018		
Test standard	BS 476 Part 22: 1987		
Sampling information	The doorsets were sampled by a representative of Warrington Certification under contract reference FM392034 on 12/12/2017.		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset Doorset B: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	39 minutes
		Insulation:	39 minutes
	Doorset B	Integrity:	43 minutes
		Insulation:	43 minutes
Reason for use	For use as primary evidence for: Frame 4 design		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.79 WF401228

Test Report Reference WF401228			
Report sponsor	NSP Europe		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 0249		
Test date	01 Apr 2019		
Test standard	BS EN 1634-1:2014		
Sampling information	Items of hardware sampled by a representative of Warrington Certification under contract reference FM400734 on 19/06/2018.		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	29 minutes
		Insulation:	29 minutes
	Doorset B	Integrity:	29 minutes
		Insulation:	29 minutes
Reason for use	For use as primary evidence for: Hardware		
Failure mode	Doorset A: 29 minutes, Cotton Pad Failures at upper lock/card reader position; Test Terminated at 36 minutes. Doorset B: 29 minutes, Cotton Pad Failures at upper lock/card reader position; 58 minutes, flaming failure at top closing corner of leaf. The failures observed were for a lock/card reader and positioning combination which is not permitted by this assessment and therefore the failures do not undermine the conclusions herein.		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.80 WF403596A AR1

Test Report Reference WF403596A AR1			
Report sponsor	Halspan Limited		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	20 Aug 2018		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening away from the heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	42 minutes
		Insulation:	42 minutes
Reason for use	For use as primary evidence for: Hardware		

A.81 WF412654

Test Report Reference WF412654			
Report sponsor	Halspan Limited		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	17 Jun 2019		
Test standard	BS EN 1634-1:2014		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset B	Integrity:	30 minutes
		Insulation:	30 minutes
Reason for use	For use as primary evidence for: - Leaf 3 design - Frame 1 design - Configurations and leaf sizes - Feature Grooves - Glazing within the Leaf - Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.82 WF414679

Test Report Reference WF414679			
Report sponsor	Halspan Limited		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	09 Oct 2019		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference PS190902 on 02/10/2019.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	32 minutes
		Insulation:	31 minutes
Reason for use	For use as primary evidence for: - Glazing within the Leaf - Hardware		

A.83 WF415117

Test Report Reference WF415117			
Report sponsor	Gianni Industries Inc		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 0249		
Test date	01 Oct 2019		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	36 minutes
		Insulation:	36 minutes
Reason for use	For use as primary evidence for: Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.84 WF420277

Test Report Reference WF420277			
Report sponsor	James Latham		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	15 Nov 2019		
Test standard	BS 476 Part 22: 1987		
Sampling information	Not detailed in test report		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset	Integrity:	51 minutes
		Insulation:	51 minutes
Reason for use	For use as primary evidence for: Frame 7 design		

A.85 WF426991

Test Report Reference WF426991			
Report sponsor	Halspan Limited		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	20 Mar 2020		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorset was sampled by a representative of BM TRADA Certification under contract reference SC20066 on 10/03/2020.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset	Integrity:	37 minutes
		Insulation:	37 minutes
Reason for use	For use as primary evidence for: - Feature Grooves - Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.86 WF428611A/R

Test Report Reference WF428611			
Report sponsor	Halspan Limited		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 0249		
Test date	05 Jun 2020		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of IFC Certification on 09/01/2020.		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	34 minutes
		Insulation:	5 minutes
Reason for use	For use as primary evidence for: Hardware		

A.87 WF429950

Test Report Reference WF429950			
Report sponsor	Halspan Limited		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	02 July 2020		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC20093 on 16/06/2020.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSASD – Latched, Single Acting Single Doorset with glazed side panels		
Test results	Doorset	Integrity:	53 minutes
		Insulation:	24 minutes
Reason for use	For use as primary evidence for: - Overpanels, Fanlights, Sidepanels and/or Sidelights requirements - Modular framing for Overpanels, Fanlights, Sidepanels and/or Sidelights - Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.88 WF507660

Test Report Reference WF507660			
Report sponsor	Halspan Limited		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	06 Sept 2021		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC21145 on 31/08/2021.		
Tested Orientation	Doorset A: Opening away from the heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	32 minutes
		Insulation:	31 minutes
	Doorset B	Integrity:	31 minutes
		Insulation:	31 minutes
Reason for use	For use as primary evidence for: • Glazing within the Leaf • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.89 WF507669

Test Report Reference WF507669			
Report sponsor	Halspan Limited		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	07 Sept 2021		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC21147 on 31/08/2021.		
Tested Orientation	Doorset A: Opening away from the heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	40 minutes
		Insulation:	34 minutes
	Doorset B	Integrity:	41 minutes
		Insulation:	38 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Glazing within the Leaf • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.90 WF522390 Version 2

Test Report Reference WF522390 Version 2			
Report sponsor	Halspan		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	13 Oct 2022		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC22144 on 28/09/2022 and SC22146 on 26/09/2022, 27/09/2022 and 03/10/2022.		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset, with raked head. Doorset B: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset A	Integrity:	30 minutes
		Insulation:	30 minutes
	Doorset B	Integrity:	40 minutes
		Insulation:	40 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Raked Head design • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.91 WF523942/MR

Test Report Reference WF523942/MR			
Report sponsor	Halspan Ltd		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 0249		
Test date	24 Oct 2022		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The glass was sampled by Warringtonfire Testing and Certification Limited under contract reference FM521821 on 15/09/2022. The doorset was sampled by a representative of BM TRADA Certification under contract reference SC22224 on 20/10/2022.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: ULSADD – Unlatched, Single Acting Single Doorset, with sidelights and fanlights		
Test results	Doorset	Integrity:	34 minutes
		Insulation (Doorset):	8 minutes
		Insulation (Glazed sidelights/fanlights)	7 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Glazing within the Leaf • Overpanels, Fanlights, Sidepanels and/or Sidelights requirements • Modular framing for Overpanels, Fanlights, Sidepanels and/or Sidelights		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.92 WF523943/MR A

Test Report Reference WF523943/MR A			
Report sponsor	Halspan Ltd		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 0249		
Test date	25 Oct 2022		
Test standard	BS 476 Part 22: 1987		
Sampling information	The glass was sampled by Warringtonfire Testing and Certification Limited under contract reference FM521821 on 15/09/2022. The doorset was sampled by a representative of BM TRADA Certification under contract reference SC22225 on 20/10/2022.		
Tested Orientation	Doorset A: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	37 minutes
		Insulation:	10 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Glazing within the Leaf • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.93 WF529765

Test Report Reference WF529765			
Report sponsor	Halspan Limited		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	20 Feb 2023		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC22250 on 05/01/2023.		
Tested Orientation	Doorset A: Opening away from the heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	39 minutes
		Insulation:	39 minutes
	Doorset B	Integrity:	34 minutes
		Insulation:	34 minutes
Reason for use	For use as primary evidence for: • Orientation • Feature Grooves • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.94 WF531368

Test Report Reference WF531368			
Report sponsor	Halspan		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	18 Apr 2023		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC23107 on 08/09/2022, 09/09/2022, 12/04/2023, 13/04/2023.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSASD – Latched, Single Acting Single Doorset, with sidelights and fanlights		
Test results	Doorset	Integrity:	64 minutes
		Insulation:	55 minutes
Reason for use	For use as primary evidence for: • Glazing within the Leaf • Threshold design • Overpanels, Fanlights, Sidepanels and/or Sidelights requirements • Modular framing for Overpanels, Fanlights, Sidepanels and/or Sidelights • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.95 WF533900

Test Report Reference WF533900			
Report sponsor	Halspan Limited		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	30 Jun 2023		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC23166 on 20/06/2023.		
Tested Orientation	Doorset A: Opening away from the heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	54 minutes
		Insulation:	54 minutes
	Doorset B	Integrity:	53 minutes
		Insulation:	53 minutes
Reason for use	For use as primary evidence for: • Leaf 4 design • Frame 3 design • Configurations and leaf sizes • Lipping requirements • Feature Grooves • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.96 WF537652

Test Report Reference WF537652			
Report sponsor	Halspan Limited		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	22 Nov 2023		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of BM TRADA Certification under contract reference SC23269T on 08/11/2023 and 09/11/2023.		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening away from the heating condition.		
Specimen summary & tested configuration	Doorset A: LSASD – Latched, Single Acting Single Doorset Doorset B: LSASD – Latched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	31 minutes
		Insulation:	31 minutes
	Doorset B	Integrity:	45 minutes
		Insulation:	45 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Configurations and leaf sizes • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.97 WF543736/R

Test Report Reference WF543736/R			
Report sponsor	Carlisle Brass Limited		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 0249		
Test date	11 May 2024		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	Items of hardware were sampled by a representative of Warringtonfire under contract reference AO-085228 on 18/04/2024.		
Tested Orientation	Doorset A: Opening in towards heating condition. Doorset B: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset A: ULSASD – Unlatched, Single Acting Single Doorset Doorset B: ULSASD – Unlatched, Single Acting Single Doorset		
Test results	Doorset A	Integrity:	36 minutes
		Insulation:	36 minutes
	Doorset B	Integrity:	68 minutes
		Insulation:	68 minutes
Reason for use	For use as primary evidence for: Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.98 WF545611

Test Report Reference WF545611			
Report sponsor	Assa Abloy (TA Lorient)		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	14 Aug 2024		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of Warringtonfire Testing and Certification Limited under contract reference AO-104381 – Part 1 on 11/07/2024.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	32 minutes
		Insulation (Leaf and Frame):	32 minutes
		Insulation (Leaf glazing)	3 minutes
Reason for use	For use as primary evidence for: • Leaf 1 design • Frame 1 design • Glazing within the Leaf • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.

A.99 WF545612

Test Report Reference WF545612			
Report sponsor	Assa Abloy (TA Lorient)		
Test laboratory	Warringtonfire Testing and Certification Limited UKAS No. 1762		
Test date	20 Aug 2024		
Test standard	BS EN 1634-1:2014 + A1:2018		
Sampling information	The doorsets were sampled by a representative of Warringtonfire Testing and Certification Limited under contract reference AO-104381 – Part 1 on 11/07/2024.		
Tested Orientation	Doorset: Opening in towards heating condition.		
Specimen summary & tested configuration	Doorset: LSADD – Latched, Single Acting Double Doorset		
Test results	Doorset	Integrity:	60 minutes
		Insulation (Leaf and Frame):	60 minutes
		Insulation (Leaf glazing)	2 minutes
Reason for use	For use as primary evidence for: • Leaf 2 design • Frame 2 design • Configurations and leaf sizes • Hardware		

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

Written permission must be obtained from Halspan Limited in order to manufacture doorsets within the scope of this assessment.