



Fire Resistance Assessment

Sincol (UK) Ltd

**Laminated Core 30 Minutes
Doorsets**

Report No: FEA/F00199 Revision D

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1 Introduction

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

2 General Description of Construction

The basic tested construction of the Sincol Laminated Core 30 Minutes door design comprises the following.

Element		Material	Dimensions (mm)	Density (kg/m ³)
Core		Elliotis pine lamels	55 wide x 38 thick	357 ⁽¹⁾
Stiles		None fitted	-	-
Rails	Top	None fitted	-	-
	Bottom	None fitted	-	-
Facings		Cedrinho cross band veneer	3 thick	530 ⁽¹⁾
		Cedrinho face veneer	0.7 thick	530 ⁽¹⁾
Adhesive	Lipping	Urea formaldehyde	-	-
	Facing	WBP	-	-
	Core	PVA	-	-
Lippings		All edges - see section 9		

(1) Stated density, not checked by laboratory.

3 Leaf Sizes

The approval for increased leaf dimensions is based on the tests listed in appendix A and takes into account the margin of over performance above 30 minutes integrity for the design and the characteristics exhibited during test. Data sheets specifying the maximum approved leaf sizes, and graphs showing the permitted gradient between maximum height and width, are contained in appendix D.

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

4 Configurations

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

Abbreviation	Description
LSASD & ULSASD	Latched & unlatched single acting single doorset
DASD	Double acting single doorset
LSADD & ULSADD	Latched & unlatched single acting double doorset
DADD	Double acting double doorset

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

5 Leaf Size Adjustment

Sincol Laminated Core door leaves may be altered as follows:

Element	Reduction
Leaf	The manufactured size of the leaf may be reduced in height and width without restriction. If lippings are removed they must be re-instated in accordance with section 9
Timber lippings	The lipping dimensions may be reduced by 20% for fitting purposes providing the minimum dimension stated in section 9 is maintained.

6 Overpanels

6.1 Solid

Overpanels of the same construction as the door leaves may be used with this doorset design only when a transom is fitted between the leaf head and overpanel. The transom must be of the same section and material assessed for the door frames. Joints must be mortise and tenon, mortise housed or butt jointed and glued (urea formaldehyde) and screwed. Overpanels must be fixed using the following method:

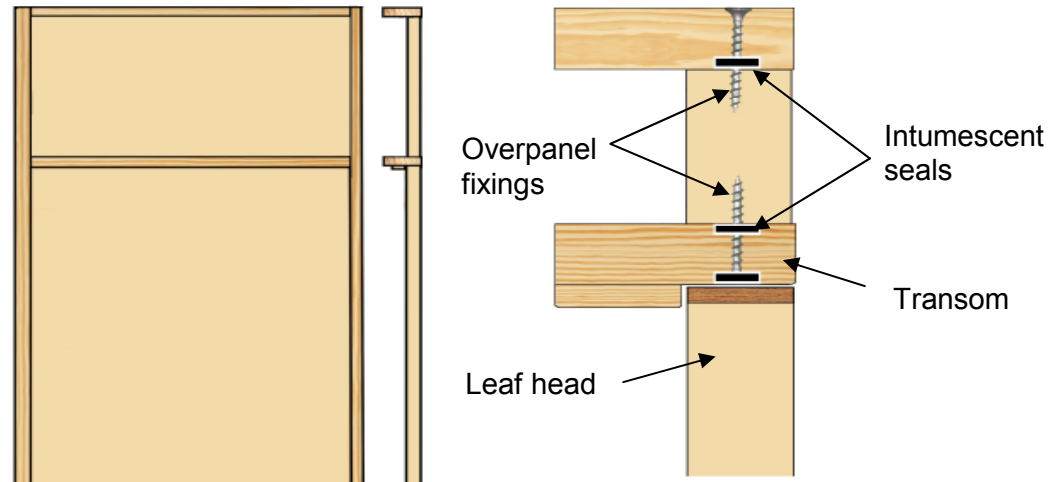
- screwing through the rear of the frame with steel screws passing at least 30mm into the centre line of the overpanel. Fixings must be no more than 100mm from each corner and a maximum of 250mm centres in between.

The intumescent seal specified for the jambs in appendix D, must be fitted to all edges of the overpanel. The seals may be fitted in the overpanel edges or alternatively in the frame reveal. A 2mm gap tolerance is permitted between the frame and overpanel.

Permitted overpanel heights are as follows:

Configuration	Max Overpanel height (mm)
Single doorsets	2000
Double doorsets	1500

The following diagram illustrates a transomed overpanel arrangement.



6.2 Glazed Fanlights

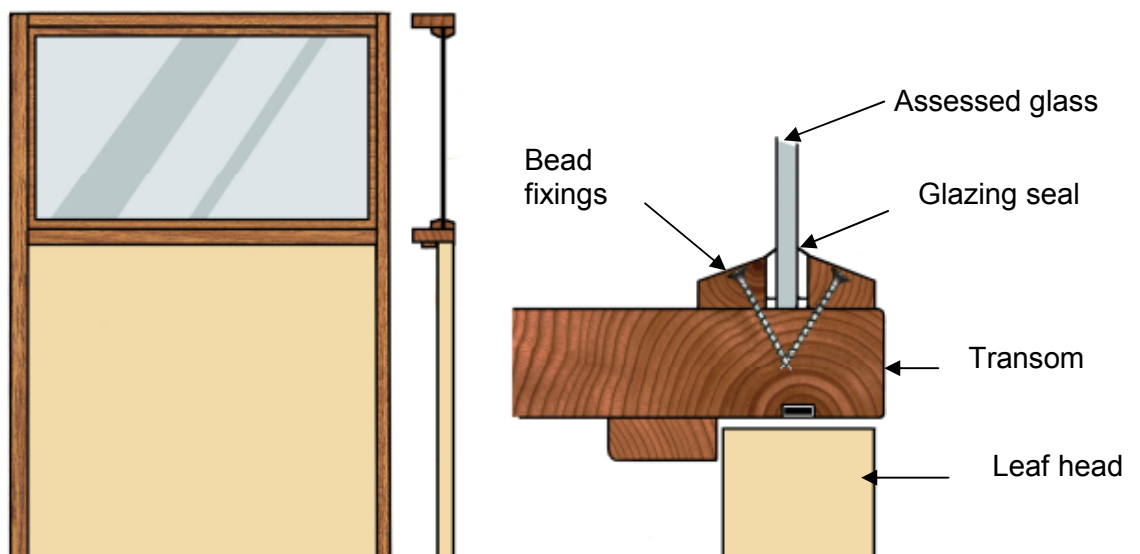
Doorsets including a transom may have the overpanel section glazed in lieu of a section of door. The timber frame and glazing beads must be hardwood with a minimum density of 640 kg/m³ and the transom section must be a minimum of 70mm x 44mm.

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

- The glazing system and glass must be able to demonstrate adequate performance when tested as a window or screen in accordance with BS 476: Part 22: 1987 or BS EN 1634-1: 2000 or 2008, at the pane dimensions to be installed.

Configuration	Height (mm)	Width (mm)
Single & double doorsets	≤600	Overall door width

The following diagram illustrates a glazed fanlight arrangement.



7 Glazing

7.1 General

Testing conducted on the Sincol Laminated Core 30 Minutes doorset design has demonstrated that it is capable of tolerating the inclusion of glazing.

The maximum assessed glazed area is 0.8m².

Glazing must meet the criteria contained in the following sections.

7.2 Assessed Glazing Systems

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

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

7.3 Assessed Glass Products

Assessed glass types are as follows.

Glass Type	Manufacturer	Glass Thickness (mm)
1. Pyroshield	Pilkington Group Ltd	6 & 7
2. Pyroshield 2	Pilkington Group Ltd	6 & 7
3. Pyran S	Schott Glass Ltd	6
4. Pyrostem	CGI Ltd	6
5. Pyroguard EW30	CGI Ltd	7
6. Pyrobelite	AGC Flat Glass Europe	7
7. Pyrodur 30-104	Pilkington Group Ltd	7
8. Pyrodur 60-10	Pilkington Group Ltd	10
9. Pyroguard EW MAXI	CGI Ltd	11
10. Pyranova 15-S2.0	Schott UK Ltd	11
11. Pyrobelite	AGC Flat Glass Europe	12
12. Pyrodur 60-20	Pilkington Group Ltd	13
13. Pyroguard EI 30	CGI Ltd	15
14. Pyrostop 30-10	Pilkington Group Ltd	15
15. Pyrobel 16	AGC Flat Glass Europe	16

7.4 Glazing Beads & Installation

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

Material	Profile	Density (kg/m ³)	Application
Hardwood	Splayed	≥ 640	All proprietary systems detailed in 7.2 and shown in appendix B and all glass types specified in 7.3
Hardwood	Square	≥ 640	Proprietary systems 1, 2, & 3 as specified in 7.2 and glass types 5-15 specified in 7.3

Notes

1. Timber for glazing beads must be joinery quality straight grained hardwood, free from knots, splits and checks.
2. A square bead profile may be used as an alternative to the splayed beads subject to the restricted glass types and glazing systems specified in the table above. See appendix B for diagrams of square bead options.
3. Other than for proprietary system 4 in 7.2 (System 36/6 by Lorient Polyproducts), which must utilise glazing beads exactly as shown in appendix B, glazing mouldings may match panel mouldings, providing they are hardwood, equal or greater in overall dimensions to that required by the chosen proprietary system and have no more than 3mm of the top edge at 90° to the glass face.
4. Glazing bead fixings must be retained in position with 50mm long x 2mm diameter steel pins or 40mm long No 6-8 screws, inserted at 35-40° to the vertical at no more than 50mm from each corner and at 150mm maximum centres. Pneumatically fired pins are acceptable providing they meet the specification above.
5. The shape of glazed apertures is not restricted providing the glazing system can accommodate the profile.
6. Glazed apertures must not be nearer than 100mm to any leaf edge. Multiple apertures are acceptable up to the maximum approved area with a minimum dimension of 80mm core separating the apertures.
7. Gaps between glass and framing, to permit expansion, should be set at 2-3mm on all edges, and using non combustible or hardwood setting blocks at the bottom edge
8. Sectional drawings detailing the tested and assessed proprietary glazing systems are contained in appendix B
9. False timber beads may be applied to glass types 5-15 using one of the following intumescent glazing products. All seals must be a minimum of 10mm wide x 0.5 - 3mm thick and preformed strip systems 1-4 may be self adhesive and grooved in to the rear of the glazing bars.

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

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8 Door Frames

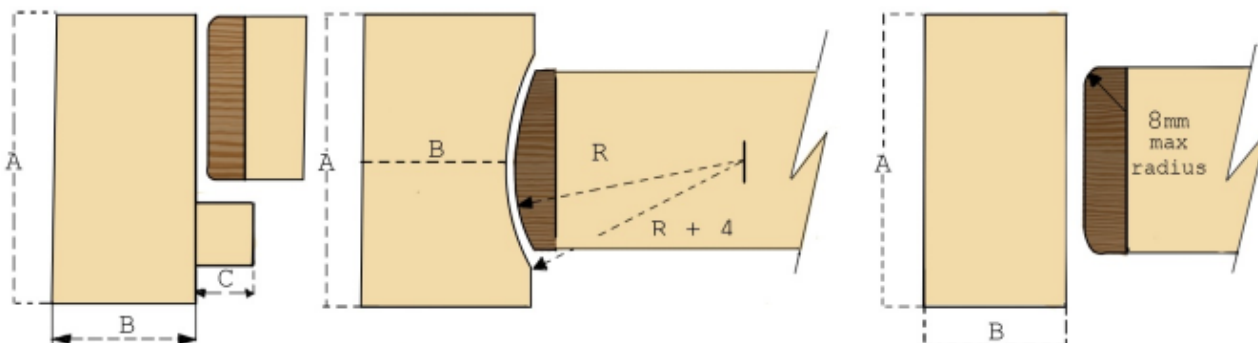
8.1 Door Frame Construction

Door frames for Sincol Laminated Core 30 Minute doorsets must be constructed as follows.

Application	Material	Section Size (mm)	Density (kg/m ³)
Door frames with or without transomed solid overpanels	Softwood or hardwood	70 x 32	≥ 510
Door frames with glazed fanlights	Hardwood	70 x 44	≥ 640

Notes.

1. All timber used for constructing door frames must be to class J30 as specified in BS EN 942: 2007 (subject to adequate repair of any defects).
2. A 12mm deep planted stop is adequate for single acting frames whilst double acting frames may be scalloped or square (see diagram below).
3. The following diagram depicts the assessed frame profiles and dimensions.



Key:

A = min 70mm

B = min 32mm

C = min 12mm

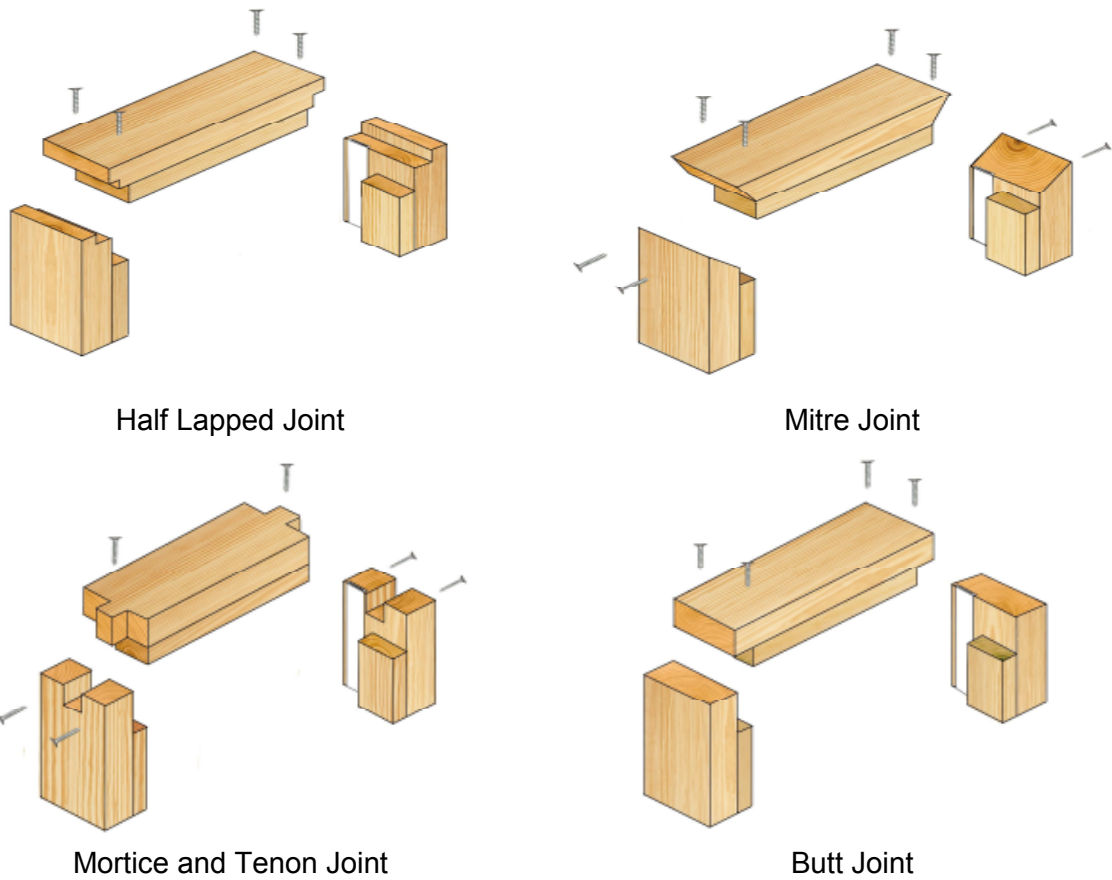
R = radius from floor spring axis

R + 4 = radius from floor spring axis + 4mm

Profiled edges: A maximum curve radius of 8mm to create a maximum 2mm deep edge profiling

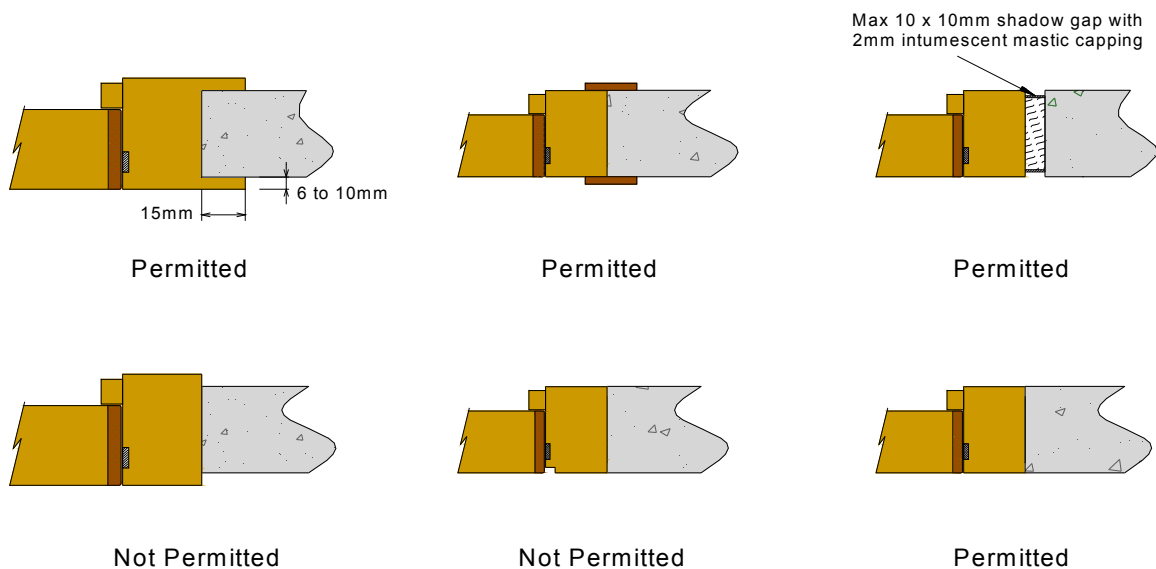
8.2 Door Frame Joints

Joints must be without gaps and must be glued and additionally fixed with the appropriate size ring shank nails or screws. The following door frame jointing methods are acceptable:



8.3 Door Frame Installation

The following diagrams indicate acceptable door frame installations.



Note: Approved methods of sealing to the structural surround are contained in section 18.

9 Lippings

Sincol Laminated Core 30 Minutes doors require lipping on all edges. Lippings must meet one of the following specifications.

Option	Type	Dimensions (mm)	Density (kg/m ³)	Application
1	Cedrinho (over veneered by face veneer)	17 thick integral T section	≥ 530	LSASD
2	Hardwood	18 thick	≥ 550	LSASD
3	Hardwood	1. Square = 8-13 thick (max 2 rounding) 2. Rounded = 10-15 thick (radius = from floor spring) 3. Rebated = 18 thick with a 13 deep equal rebate	≥ 640	All assessed configurations

Notes.

1. Timber for lippings must be joinery quality, straight grained hardwood, free from knots, splits and checks.
2. Lippings must not conceal intumescent material.
3. A 2.5⁰ chamfer is permitted to the lipping at the leading edge of leaves providing the door gaps meet the requirements of section 17.
4. LSASD = Latched, single acting, single leaf doorsets.
5. The leaf size ranges for each application are shown in the graphs in appendix D.
6. Rebated lippings are only permitted for the meeting edges of double doorsets.

10 Leaf Facing Materials

10.1 Structural Facings

The primary tested facing material for this doorset design is 3mm thick plywood. At this thickness the facings provide limited structural or burn through influence and therefore alternative materials may be justified as substitutes.

The following table defines the alternative facing options for Sincol Laminated Core 30 Minutes doors.

Material	Dimension (mm)	Density (kg/m ³)
Hardwood	3 - 6	≥ 530
Chipboard (≥ BS EN 312-2)	3 - 6	≥ 650
MDF	3 - 6	≥ 750

Note: Any increase in facing thickness above the tested 3mm, must have a corresponding decrease in core thickness, which must be compensated for by a reduced maximum leaf size of 2135mm high x 915mm wide.

10.2 Decorative and Protective Materials

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

Facing Material	Maximum Permitted Thickness (mm)
Paint	0.5
Timber veneers	2
Plastic and resin laminates	2
Cellulosic foils	0.5

Notes

1. Metallic facings are not permitted (except for push plates and kick plates).
2. The door leaf thickness may be calibrated by 0.5mm to accommodate the finish.
3. Materials must not conceal intumescent strips.
4. Plastic and resin laminates must not be applied to the edges of leaves.

11 Adhesives

The adhesives used in construction of Sincol Laminated Core 30 minute doorsets must be as detailed in the following table:

Element	Adhesive Type
Core lamels	PVA
Facing between core lamels and cross band veneer	WBP type
Facings between cross band veneer and outer veneer	Melamine Type 1
Timber Lippings	Urea formaldehyde

12 Intumescent Materials

The intumescent materials tested and approved for the Sincol Laminated Core 30 minute design are as follows:

Application	Location	Product/Manufacturer
Edge seals	Fitted in the frame reveals or leaf edges of the head and jambs	<ol style="list-style-type: none"> 1. PVC encapsulated Palusol 100 strips - Lorient Polyproducts Ltd - Mann McGowan Fabrications Ltd 2. PVC encapsulated Type 617 strips - Lorient Polyproducts Ltd 3. PVC encapsulated Therm-A-Seal - Intumescent Seals Ltd
Hinges	Under both blades	<ol style="list-style-type: none"> 1. 1mm thick MAP paper - Lorient Polyproducts Ltd 2. 1mm thick Interdens - Dufaylite Developments Ltd 3. 1mm thick G30 – Sealmaster Ltd 4. 1mm thick Therm-A-Strip - Intumescent Seals Ltd 5. 2mm thick Therm-A-Flex - Intumescent Seals Ltd
Lock/latch	Under forend and keep	<ol style="list-style-type: none"> 1. 1mm thick MAP paper - Lorient Polyproducts Ltd 2. 1mm thick Interdens - Dufaylite Developments Ltd 3. 1mm thick G30 – Sealmaster Ltd 4. 1mm thick Therm-A-Strip - Intumescent Seals Ltd 5. 2mm thick Therm-A-Flex - Intumescent Seals Ltd
Top pivots & flush bolts	Lining all sides of the mortices	<ol style="list-style-type: none"> 1. 1mm thick MAP paper - Lorient Polyproducts Ltd 2. 1mm thick Interdens - Dufaylite Developments Ltd 3. 1mm thick G30 – Sealmaster Ltd 4. 1mm thick Therm-A-Strip - Intumescent Seals Ltd 5. 1mm thick Therm-A-Flex - Intumescent Seals Ltd

The edge seal specification for each configuration is contained in appendix D.

13 Tested Hardware

The following hardware has been successfully incorporated in the tests on Sincol Laminated Core 30 Minutes doorsets.

Element	Product	Dimensions (mm)
Hinges	Royde & Tucker Hi Load 101 hinges	100 x 35 (blade size)
	steel butt type hinges	100 x 32 (blade size)
Closer	Dorma Door Controls Ltd TS73V surface mounted overhead closer	225 x 60 (footprint size)
	Dorma Door Controls Ltd TS83V surface mounted overhead closer	245 x 60 (footprint size)
Latches/Locks	Standard tubular mortice latch - disengaged	150 x 25 (forend size))
	Standard tubular mortice latch - engaged	57 x 26 (forend size)
Furniture	Aluminium lever type handle	40 x 75 (footprint size)
	Aluminium lever type handle	150 x 75 (footprint size)

14 Additional & Alternative Hardware

14.1 Latches & Locks

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

Element	Dimensions (mm)
Maximum forend and strike plate dimensions	235 high by 25 wide by 4 thick
Maximum body dimensions	18 thick by 100 wide by 165 high.
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 $\geq 800^{\circ}\text{C}$
Intumescent protection	See section 12
Lock Position	1000-1200mm from the bottom of the door leaf

14.2 Hinges

Sincol (UK) Laminated Core 30 Minutes door leaves must be hung on a minimum of 3 hinges. Leaves over 2300mm high must fit 4 hinges. Hinge products and locations must be as tested, or alternatively, hinges meeting the following specification are acceptable.

Element		Dimensions (mm)	
Blade height		90 – 120	
Blade width (excluding knuckle)		30 – 35	
Blade thickness		2.5 - 4	
Fixings		Minimum of 4 No. 30 long, No. 8 or No.10 steel wood screws per blade	
Materials:		Steel, stainless steel or brass with a melting point $\geq 800^{\circ}\text{C}$	
Intumescent protection		See section 12	
Hinge positions	If 3 hinges are fitted	Top	150 – 200 from the head to top of blade
		2 nd	From 200 below top hinge to equispaced between top and bottom
		Bottom	200 – 300 from foot of the leaf to bottom of blade
	If 4 hinges are fitted	Top	150 – 200 from the leaf head to top of blade
		2 nd	From 200 below top hinge to equispaced between top and bottom
		3 rd	Equispaced between 2 nd and bottom
		Bottom	200 – 300 from foot of the leaf to bottom of blade

14.3 Automatic Closing

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

Floor spring top pivots and mounting plates must be protected with one of the products specified in section 12. Alternatively the manufacturers' tested gaskets may be used.

14.4 Pull Handles

Handles may be surface-fixed or bolted through the door leaf, providing they are steel or brass and the length is limited to 1200 mm between the fixing points. If through fixed, there must be no more than 1mm clearance between the hole and stud.

14.5 Push Plates & Kick Plates

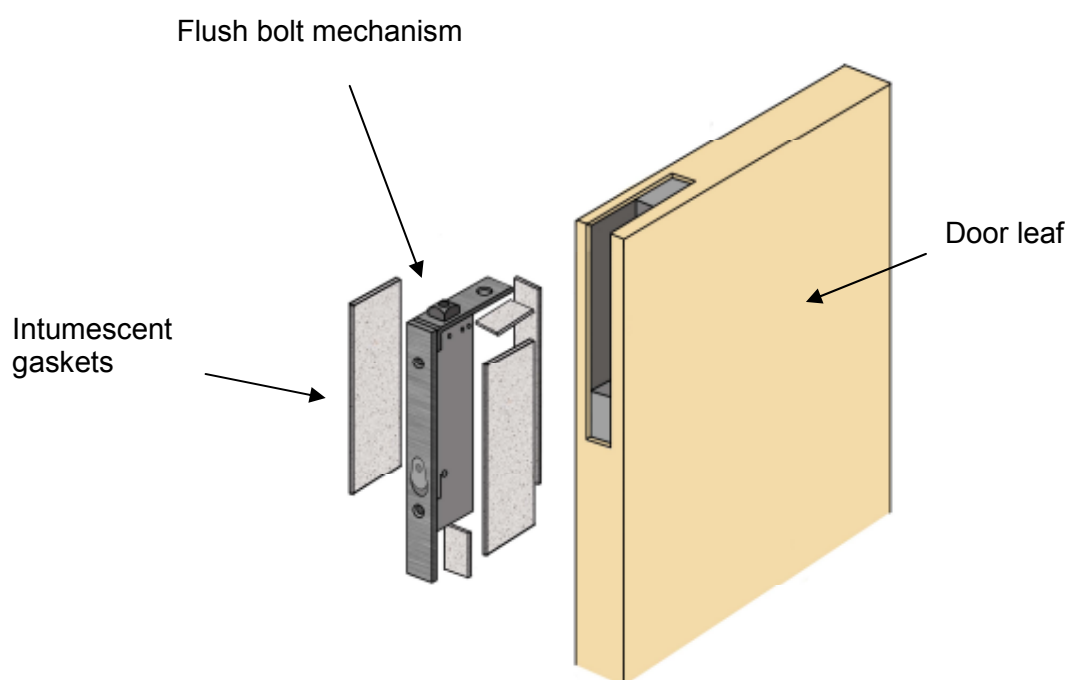
Face-fixed hardware such as push plates and kick plates may be fitted to the doorsets provided that their fitting requires the removal of no part of the door leaf. These items of hardware are permitted up to a maximum of 20% of the door leaf area if mechanically fixed, and a maximum of 30% if bonded with a thermo-softening contact adhesive. Plates must not return around the door edges.

14.6 Flush Bolts

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

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

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



14.7 Panic Hardware

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.

14.8 Door Security Viewers

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

14.9 Door Selectors

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

14.10 Environmental Seals

Silicon based flame retardant acoustic, weather and dust seals may be fitted to this doorset design without compromising the performance, providing fitting does not interfere with the activation of the intumescent seals or hinder the self closing function of the leaves.

14.11 Threshold Seals

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

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

14.12 Letter Boxes/Plates

Letter boxes/plates may be fitted providing the product has demonstrated contribution to the required integrity performance of this type of doorset design, when tested to BS 476: Part 22: 1987 or BS EN 1634-1: 2000 or 2008, when installed in a timber based doorset of comparable thickness. Products may be fitted up to 1200mm from floor level, no closer than 100mm to any leaf edge.

14.12 Air Transfer Grilles

Air transfer grilles may be fitted providing the product has suitable test evidence to BS 476: Part 22: 1987 or BS EN 1634-1: 2000 or 2008, that demonstrates a minimum 30 minutes integrity performance when installed within a timber based doorset of comparable thickness.

Products must be fitted a minimum of 100mm from the vertical or bottom edges and from any other aperture. The height of unit is dictated by the test data (normally below mid height). The area occupied by the air transfer grille must not exceed the area tested and must be deducted from the percentage of glazing, if both elements are fitted.

Smoke control as defined by the performance criteria set out in BS 476: Part 31: Section 31.1 cannot be claimed for a doorset fitted with an air transfer grille unless the grille is auto operating, linked to the smoke detection system and has been proven to provide the required performance when tested to BS 476: Part 31: Section 31.1.

15 Supporting Construction

The supporting construction must provide the required level of fire resistance designated for the doorset design and be a suitable medium to permit adequate fixity.

16 Fixings

The frame jambs are to be fixed to the supporting construction using steel fixings at 600mm maximum centres. The fixings must be of the appropriate type for the supporting construction and must penetrate to a minimum depth of 40mm. It is not necessary to fix the frame head, although packers must be inserted.

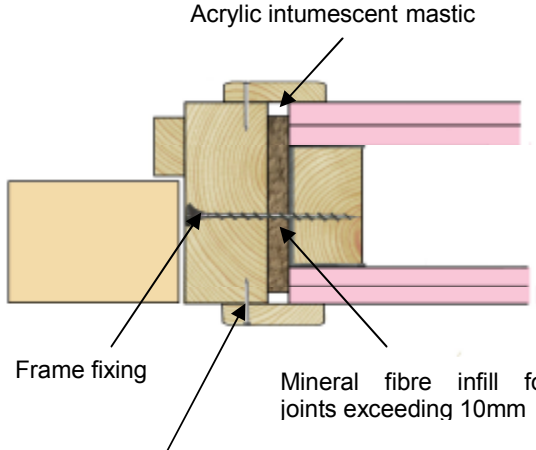
17 Door Gaps

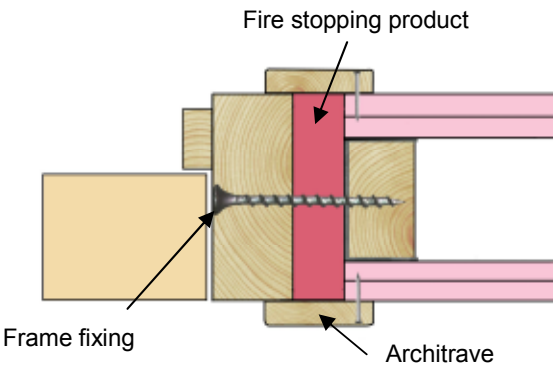
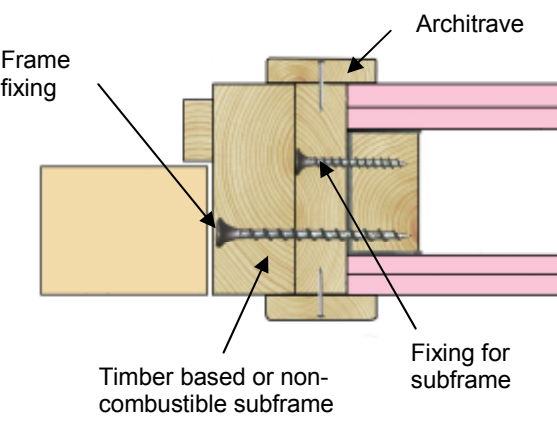
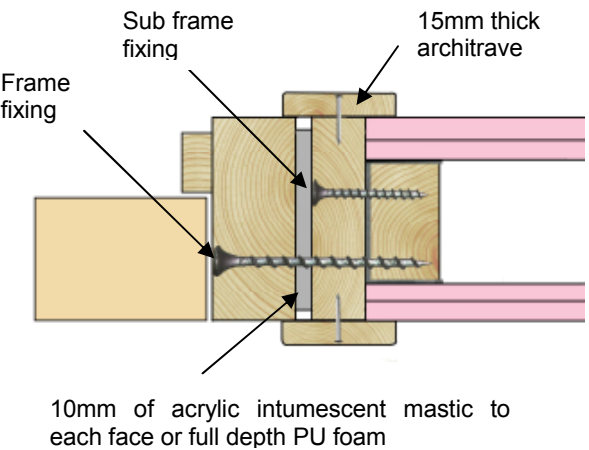
Door edge gaps and alignment tolerances must be set within the range defined in the following table:

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

18 Sealing to Structural Opening

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

<p>1. Gaps up to 10mm must be sealed on both sides with a 10mm depth of acrylic intumescent mastic, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1: 2000 or 2008. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.</p>	
<p>2. Gaps between 10mm and 20mm must be tightly packed with mineral fibre capped on both sides with a 10mm depth of acrylic intumescent mastic, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1: 2000 or 2008. Architraves are optional.</p>	

<p>3. Gaps up to 20mm filled with proprietary fire stopping product (e.g. expanding PU foam or preformed compressible intumescent foam). Products must be tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1: 2000 or 2008. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.</p>	
<p>4. Timber based or non-combustible subframe up to 50mm thick, with no gaps between the components. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.</p>	
<p>5. Timber based or non-combustible subframe up to 50mm thick, with gaps up to 10mm between the components filled on both sides with 10mm depth of acrylic intumescent mastic or full depth expanding PU foam, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1: 2000 or 2008. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.</p>	

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

19 Insulation

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

Type	Details
Partially insulating	Doorsets incorporating up to 20% of non-insulating glazing
Fully insulating	Unglazed doorsets or doorsets fitted with 30 minute insulating glazing (Pyroguard EI 30, Pyrostop 30-10 or Pyrobel 16)

20 Smoke Control

If the doorset design is required to provide a smoke control function to comply with Building Regulations, it must be fitted with a smoke seal or combined intumescent/smoke seal, that has been tested in accordance with BS 476: Part 31: Section 31.1 and demonstrated to maintain the leakage rate below 3m³/m/h when tested at 25Pa.

Providing the smoke seals, any interruptions, door gaps, type/configuration of door is consistent with the tested detail, the doorset will comply with current smoke control legislation and a suffix 'S' may be added to the designation. Any other installed components where smoke leakage may occur must also be taken into account.

Additional guidance on smoke sealing is given in BS 8214: 2008, "Code of practice for fire door assemblies" and BS 9999: 2008 "Code of practice for fire safety in the design, management and use of buildings" both of which advise that for effective ambient smoke sealing the threshold gap should either be controlled to a maximum of 3mm or a tested threshold drop down seal must be fitted (e.g. one of the types shown in section 14.11).

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

21 Conclusion

If the Sincol (UK) Laminated Core 30 minutes doorset design, constructed in accordance with the specification documented in this global assessment, were to be tested in accordance with BS 476 : Part 22 : 1987, it is our opinion that it would provide a minimum of 30 minutes integrity and insulation (subject to section 19).

22 Declaration by the Applicant

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

Signed

Name:

For and on behalf of: Sincol (UK) Ltd

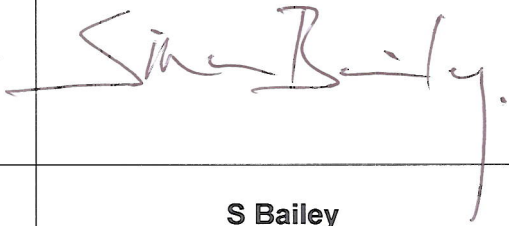
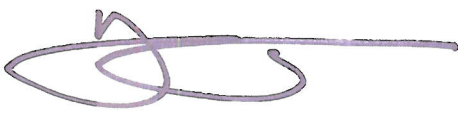
23 Limitations

The following limitations apply to this assessment:

1. This assessment addresses itself solely to the elements and subjects discussed and does not cover any other criteria. All other details not specifically referred to should remain as tested or assessed.
2. This assessment is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available, CIF reserves the right to withdraw the assessment unconditionally but not retrospectively.
3. This assessment has been carried out in accordance with Fire Test Study Group Resolution No 82: 2001.
4. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.
5. This assessment relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions. It does not purport to be a complete specification ensuring fitness for purpose and long-term serviceability. It is the responsibility of the client to ensure that the element conforms to recognised good practice in all other respects and that, with the incorporation of the guidance given in this assessment, the element is suitable for its intended purpose.

24 Validity

1. The assessment is initially valid for five years after which time it must be submitted to CIFL for technical review.
2. This assessment report is not valid unless it incorporates the declaration given in Section 22 duly signed by the applicant.

Signatures		
Name	S Bailey	P N Barker
Title	Product Assessor	Senior Consultant

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

Appendix A Performance Data

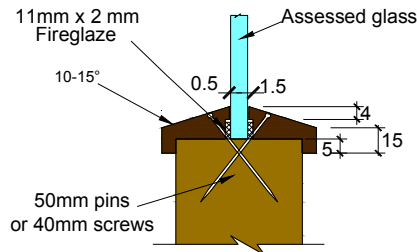
Primary Data

Report No	Configuration	Leaf Size (mm)	Standard	Performance (mins)
RF96059	A: LSADD	2440 1200 45	BS 476: Part 22: 1987	Integrity: 42
				Insulation: 41
	B: LSASD	2135 915 45		Integrity: 42
				Insulation: 42
RF97100	ULSADD	2130 915 44	BS 476: Part 22 : 1987	Integrity: 24 ⁽¹⁾
				Insulation: 24

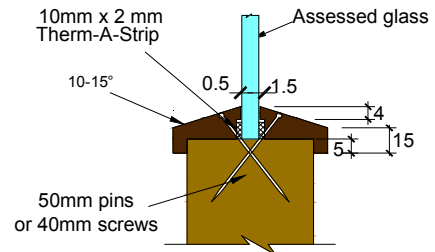
Notes:

1. Premature failure at 24 minutes was due to ignition of the glazing bead. The leaf itself did not fail integrity until 36 minutes.

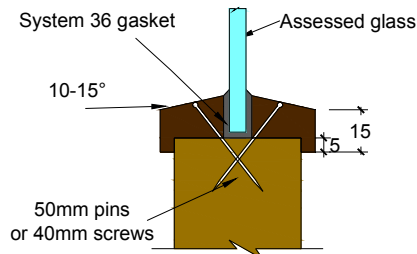
Appendix B Proprietary 30 Minute Glazing Systems



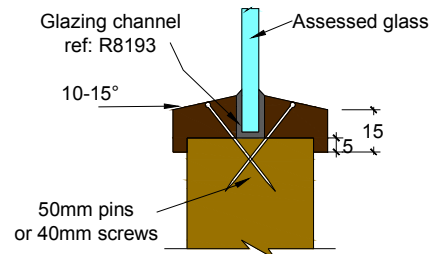
Fireglaze
Sealmaster Ltd



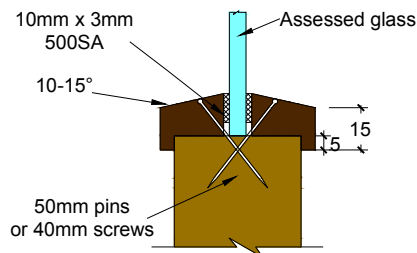
Therm-A-Strip
Intumescent Seals Ltd



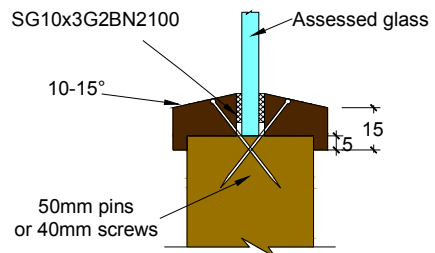
System 36
Lorient Polyproducts Ltd



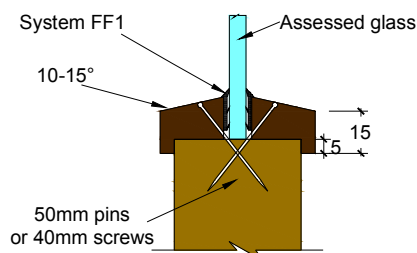
Pyroplex Ltd



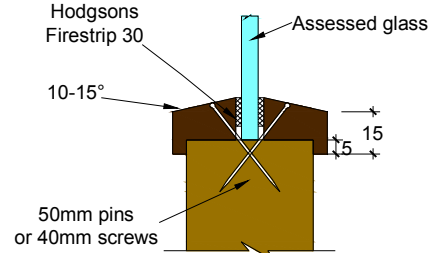
Pyroglaze 30
Mann McGowan Ltd



Halspan Glazing
SG10x3G2BN2100
Halspan Ltd



System FF1
Lorient Polyproducts Ltd



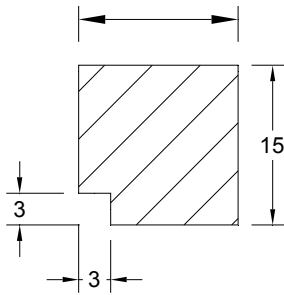
Firestrip 30
Hodgsons Sealants Ltd

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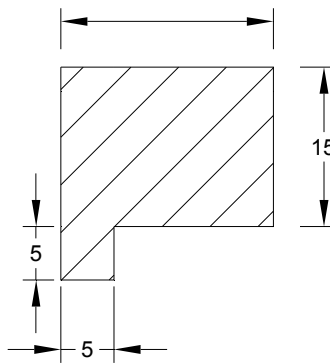
Square Glazing Bead Profiles

The following assessed square bead profiles may be used as an alternative to splayed beads. Refer to section 7 for glazing system and glass restrictions.

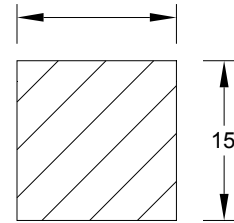
To finish flush with the leaf face



Suited to glass thickness



To finish flush with the leaf face



Appendix C Revisions

Revision	CIFL Reference	Date	Description
A	FEA/F02003	06.06.2002	5 year revalidation and update
B	Chilt/A07084	21.06.2007	5 year revalidation and update
C	Chilt/A07130	03.07.2007	Expansion of lipping specification in section 10 and graphs in appendix D
D	Chilt/A12090	07.06.2012	Technical review, new format with additional standard sections, and revalidation for a further 5 years,

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

Appendix D Data Sheets

Data Sheets

Sincol (UK) Ltd

Laminated Core Doorsets

30 Minutes Fire Resistance

Sincol (UK) 30 Minutes Doorsets – 30 Minutes Fire Resistance

Cedrinho lippings – minimum density 530kg/m³

Latched, Single Acting, Single Doorsets

Leaf Sizes	Configuration	From To	Height (mm)		Width (mm)
	LSASD			2135	x
			2562	x	915
Maximum Overpanel height (mm)		Transomed	2000		
Glazing	Maximum Glazed Area		0.80m ² - See section 7 for details		
	Approved systems		See section 7 and appendix B		
Frame specification	Min. Section (mm):		70 x 32		
	Material		Softwood or hardwood		
	Density (kg/m ³):		≥ 510		

Intumescent Materials:- PVC encapsulated Palusol 100 – Mann McGowan Ltd or Type 617 Lorient Polyproducts Ltd

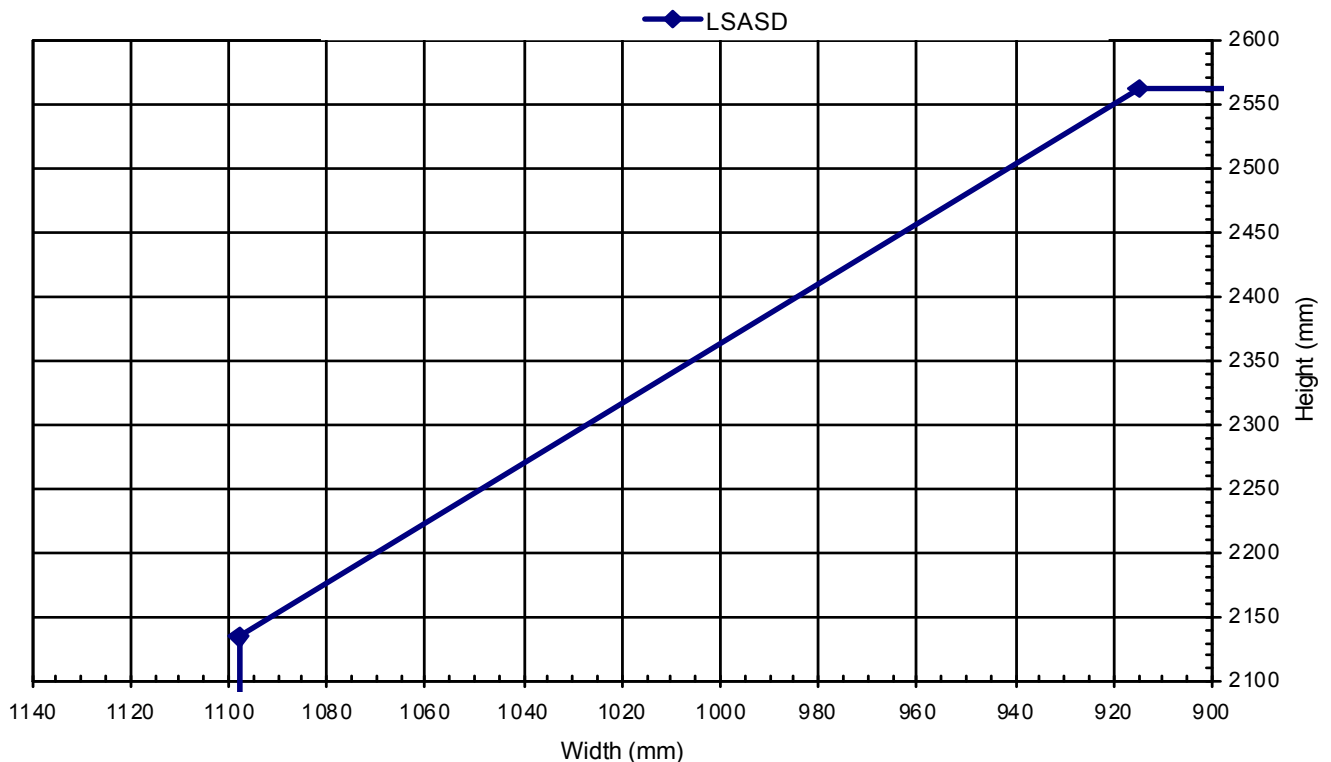
Head: 1 No. 20 x 4mm strip fitted centrally in the leaf edge or frame reveal. Leaves over 2400mm high increase to 25 x 4mm.

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

Overpanel: 1 No. 20 x 4mm strip centrally fitted in all four panel edges or frame reveals.

Hardware Protection: see section 12.

Maximum Door Leaf Size



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

Sincol (UK) 30 Minutes Doorsets – 30 Minutes Fire Resistance

Hardwood lippings – minimum density 550kg/m³

Latched, Single Acting, Single Doorsets

Leaf Sizes	Configuration	From To	Height (mm)		Width (mm)
	LSASD		2440	x	1464
		2928	x	1220	
Maximum Overpanel height (mm)	Transomed		2000		
Glazing	Maximum Glazed Area	0.80m ² - See section 7 for details			
	Approved systems	See section 7 and appendix B			
Frame specification	Min. Section (mm)	70 x 32			
	Material	Hardwood			
	Density (kg/m ³)	≥ 530			

Intumescent Materials:- PVC encapsulated Palusol 100 – Mann McGowan Ltd or Type 617 Lorient Polyproducts Ltd

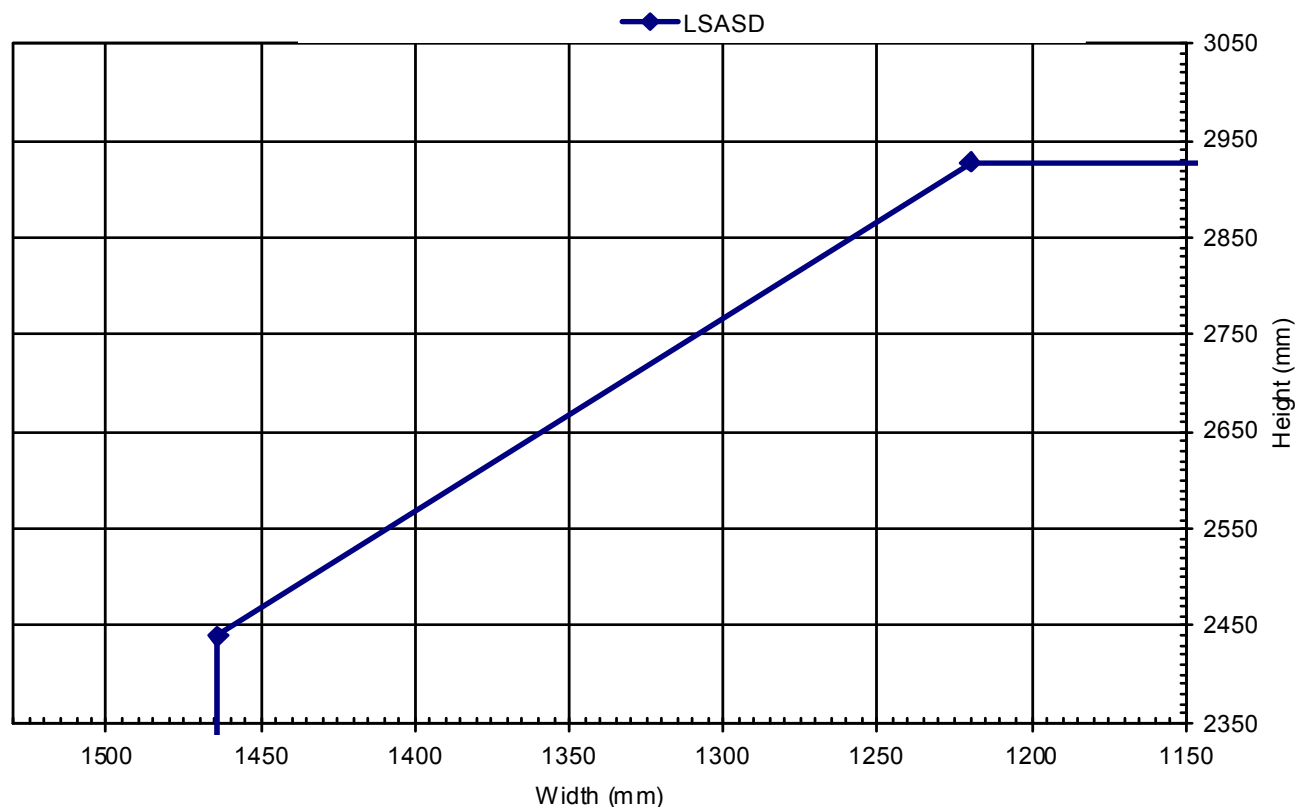
Head: 1 No. 25 x 4mm strip fitted centrally in the leaf edge or frame reveal. Leaves over 2700mm high increase to 30 x 4mm.

Jamb: 1 No. 25 x 4mm strip fitted centrally in the leaf edge or frame reveal.

Overpanel: 1 No. 25 x 4mm strip centrally fitted in all four panel edges or frame reveals.

Hardware Protection: see section 12.

Maximum Door Leaf Size



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Sincol (UK) 30 Minutes Doorsets – 30 Minutes Fire Resistance

Hardwood lippings – minimum density 640kg/m³

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

Leaf Sizes	Configuration		Height (mm)		Width (mm)
	LSASD	From	2130	x	1082
		To	2493	x	915
ULSASD & DASD	From	2130	x	1057	
	To	2443	x	915	
Maximum Overpanel height (mm)		Transomed	2000		
Glazing		Maximum Glazed Area	0.80m ² - See section 7 for details		
		Approved systems	See section 7 and appendix B		
Frame specification		Min. Section (mm)	70 x 32		
		Material	Softwood or hardwood		
		Density (kg/m ³)	≥ 510		

Intumescent Materials: PVC encapsulated Therm-A-Seal – Intumescent Seals Ltd

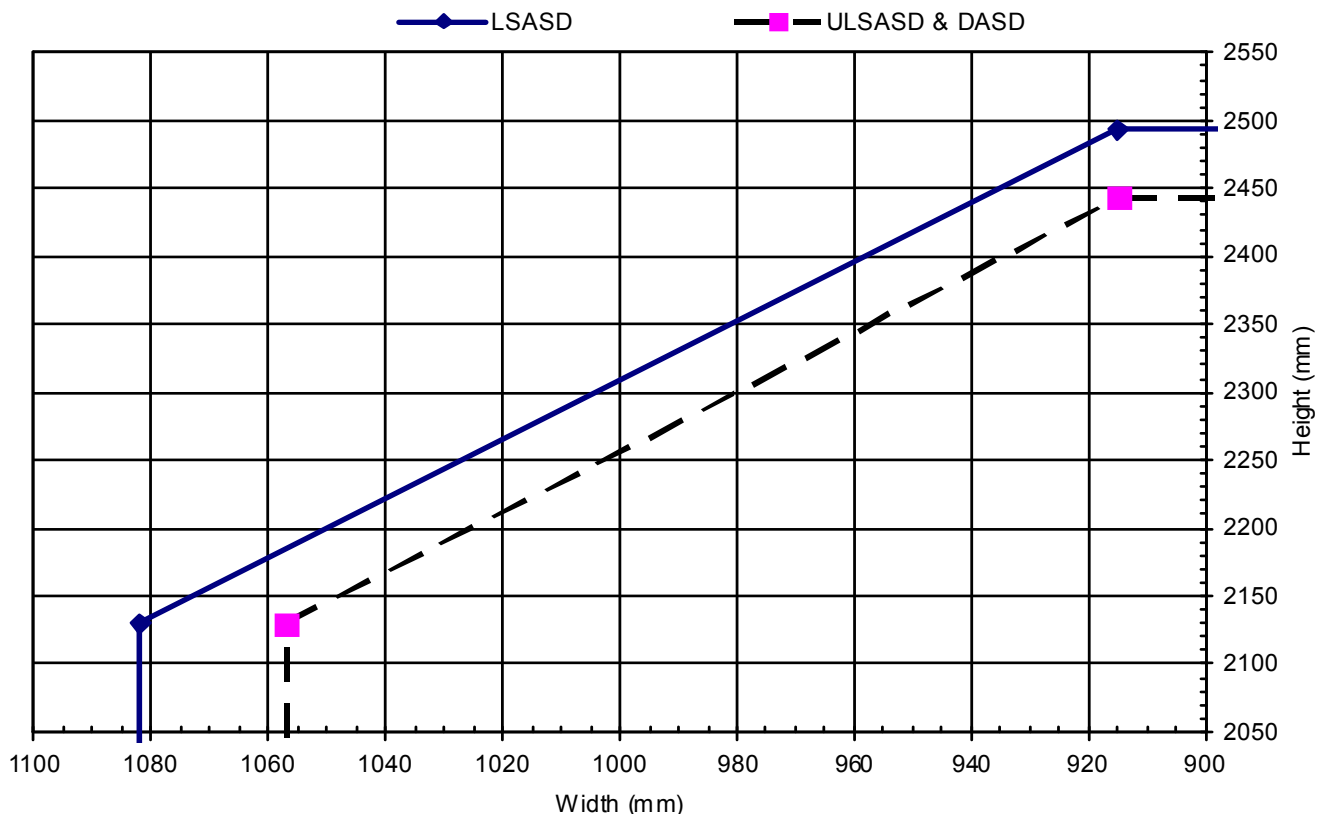
Head: 2 No. 10 x 4mm strips, one fitted 5mm each side of the centre line in the leaf edge or frame reveal.

Jamb: 1 No. 10 x 4mm strip, centrally fitted in the leaf edges or frame reveals.

Overpanel: 1 No. 10 x 4mm strip centrally fitted in all four panel edges or frame reveals.

Hardware Protection: see section 12.

Maximum Door Leaf Size



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

Sincol (UK) 30 Minutes Doorsets – 30 Minutes Fire Resistance
Hardwood lippings – minimum density 640kg/m³
Latched & Unlatched Single Acting & Double Acting Double Doorsets

Leaf Sizes	Configuration		Height (mm)		Width (mm)
	LSADD	From	2130	x	1032
To		2393	x	915	
ULSADD & DADD	From	2100	x	1007	
	To	2343	x	926	
Maximum Overpanel height (mm)		Transomed	1500		
Glazing	Maximum Glazed Area		0.80m ² - See section 7 for details		
	Approved systems		See section 7 and appendix B		
Frame specification	Min. Section (mm)		70 x 32		
	Material		Softwood or hardwood		
	Density (kg/m ³)		≥ 510		

Intumescent Materials: - PVC encapsulated Therm-A-Seal – Intumescent Seals Ltd

Head: 2 No 10 x 4mm strips, one fitted 5mm each side of the centre line in the leaf edges or frame reveal.

Meeting Edges:

Square: 2 No. 10 x 4mm strips, one fitted 5mm each side of the centre line in one leaf edge only.

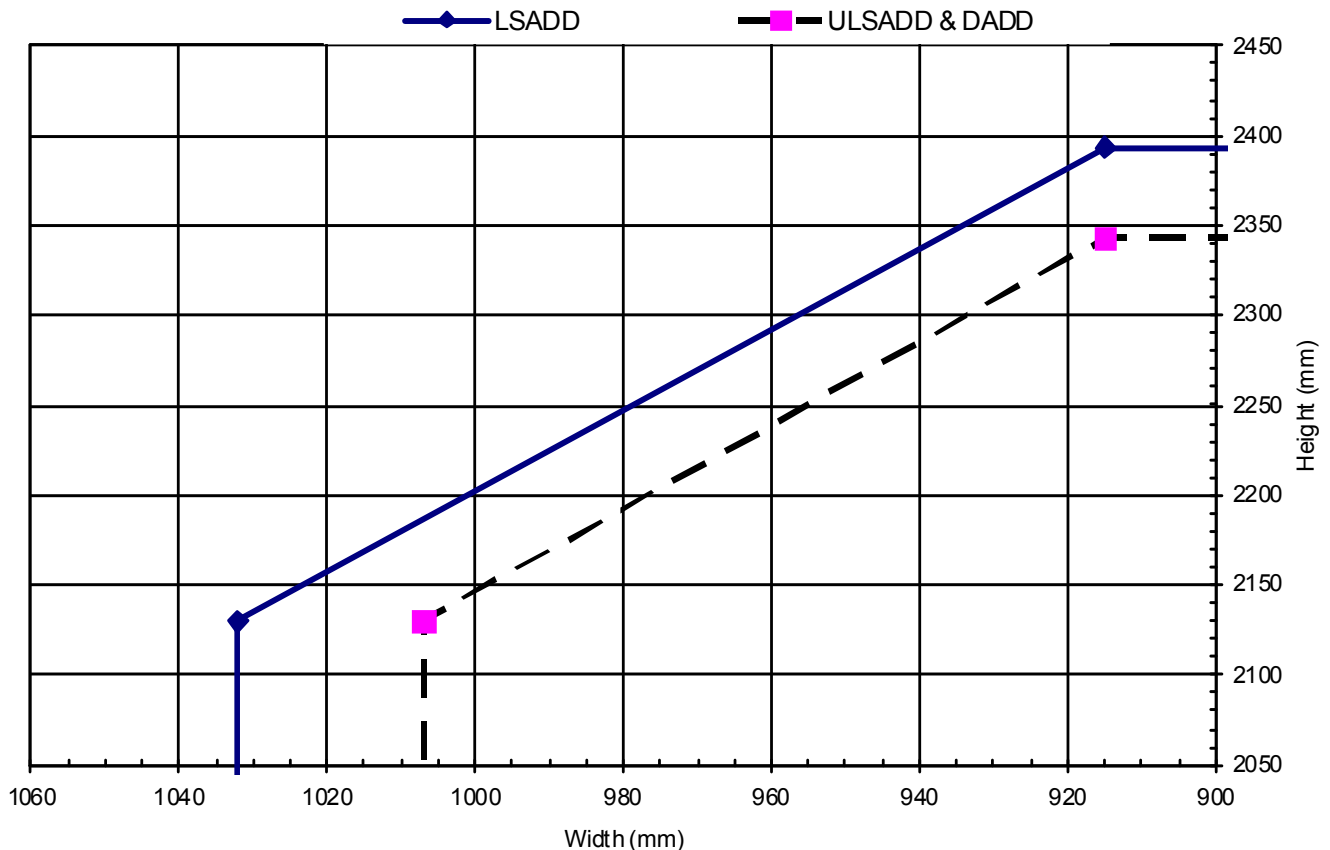
Rebated: 2 No. 10 x 4mm strips, one fitted centrally in the reveal of each rebate.

Jamb: 1 No. 10 x 4mm strip, fitted centrally in the leaf edges or frame reveals.

Overpanels: 1 No 10 x 4mm strip, fitted centrally in all four panel edges or frame reveals.

Hardware Protection: see section 12.

Maximum Door Leaf Size



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