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Global Assessment for:

Sentry II 30 & Sentry Slimline

FD30 Performance

Report reference:	FEA/F97028 Revision E
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Valid until:	13 September 2012
Prepared for:	Sentry International Ltd Stonefarm Barn Cockfield Road Felsham Suffolk IP30 OHP

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1 Introduction

This document constitutes a global assessment to collate the fire resistance test evidence for Sentry International Ltd, 30 minute fire resisting doorsets. The assessment uses established extrapolation and interpolation 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 conducted in terms of performance to the current fire resistance test standard, BS476: Part 22: 1987.

2 General Description of Construction

The designs and primary construction specifications covered by this document are as follows:

Sentry II 30	Minimum leaf thickness of 44mm thick (excluding decorative facings)
Sentry II X	As above (sub design of Sentry II 30 but with 5.5mm ply faces)
Sentry Slimline	Minimum leaf thickness of 38mm thick (excluding decorative facings)

Construction Specifications

		Species/type	Dimensions (mm)	Density (kg/m ³)
Core	Sentry II 30	Mixed tropical hardwood - predominantly light red meranti	37 thick x 24 wide	499-650
	Sentry II X	Mixed tropical hardwood - predominantly light red meranti	34 thick x 24 wide	499-650
	Sentry Slimline	Mixed tropical hardwood - predominantly light red meranti	31 thick x 24 wide	499-650
Stiles		Not required except for meeting stiles of double doorsets with flush overpanels	2 No 34-37 thick x 24 wide	650
Rails	Top	Mixed tropical hardwood - predominantly light red meranti	2 No 24 wide thk as for core	650
	Mid	Mixed tropical hardwood - predominantly light red meranti	2 No 24 wide thk as for core	650
	Bottom	Not required	-	-
Facings	Sentry II 30 & Sentry Slimline	Meranti ply	3.6 thick	650
	Sentry II X	Meranti ply	5.5 thick	650

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3 Leaf Sizes and Configurations

It can be seen from the list of fire resistance tests contained in appendix A, that the most demanding configuration of each doorset design tested are as follows:

Sentry II 30 & Sentry X =	Unlatched, single acting, unequal double leaf doorset with overpanel.
Sentry Slimline =	Latched, single leaf, single acting.

Extrapolation is based primarily on the most onerous tests and supplemented by additional test information where appropriate. Any increase in leaf dimensions is based on a hierarchy of configuration and the characteristics exhibited during test.

Unequal leaf double doorsets are covered by this assessment with no restriction on the smaller leaf dimension, providing the main leaf remains within the permitted size limits. Doorsets containing leaves with smaller dimensions than those stated are deemed to be automatically covered.

Data sheets specifying the maximum approved leaf sizes and graphs showing the permitted gradient between maximum height and width are contained in appendix D.

3 Leaf Size Adjustment

Door leaves to this design may be altered as follows.

Element	Reduction
Top rail	Not permitted - 2 No sections of the dimensions stated in section 2 must remain present
Mid rail	Not permitted - 2 No sections of the dimensions stated in section 2 must remain present
Stiles & bottom rail	If fitted may be completely removed except for double doorsets with overpanels that must incorporate meeting stiles
Lippings	The tested dimensions stated in section 10 may be reduced by 20% for fitting purposes

4 Overpanels

Overpanels of the same construction as the door leaves may be used with this doorset design either with a transom fitted between the leaf head and overpanel or where the overpanel is flush with the leaf head (except Sentry Slimline which must be transomed). If a transom is used, it must be timber and of the same section assessed for the door frames, mortice and housed jointed to the jambs (with no gaps) and bonded with urea formaldehyde. The overpanels must be fixed by screwing through the rear of the frame with steel screws passing at least 30mm into the centre line of the overpanel. Fixings must be no more than 100mm from each corner and a maximum of 250mm centres in between.

The intumescent seals specified for the jambs in appendix 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.

Maximum overpanel heights are as follows:

- Single doorsets - 2000mm
- Double doorsets - 1500mm

6 Glazing

The testing conducted on the doorset designs covered by this document permits the following:

Sentry II 30 & Sentry X	Maximum glazed area 1.94m ²
Sentry Slimline	Maximum glazed area 0.2m ²

The glazing systems must be one of the following tested proprietary systems. Suitable systems for Sentry Slimline must be able to demonstrate adequate performance in a similar 38mm thick timber door design.

- | | |
|---------------------|--------------------------|
| 1. THERM-A-STRIP 30 | Intumescent Seals Ltd |
| 2. FIREGLAZE 30 | Sealmaster Ltd |
| 3. SYSTEM 36 | Lorient Polyproducts Ltd |
| 4. FF1 | Lorient Polyproducts Ltd |
| 5. R8913 | Reddiplex Group Plc |
| 6. FIRESTRIP 30 | Hodgsons Sealants Ltd |

Assessed glass types are:

- | | |
|------------------------|--|
| 1. 6 & 7mm PYROSHIELD | Pilkington Glass Ltd |
| 2. 6mm PYRAN S | Schott Glass Ltd |
| 3. 7mm PYROGUARD | CGI Ltd (limited to 0.87m ²) |
| 4. 7mm PYROBELITE | AGC Flat Glass Europe |
| 5. 7mm PYRODUR PLUS | Pilkington Glass Ltd |
| 6. 10mm PYRODUR | Pilkington Glass Ltd |
| 7. 12mm PYROBEL | AGC Flat Glass Europe |
| 8. 14mm SWISSFLAM LITE | Vetrotech Saint Gobain Ltd |
| 9. 15mm PYROSTOP | Pilkington Glass Ltd |
| 10. 16mm PYROBEL | AGC Flat Glass Europe |

Timber for glazing beads must be hardwood with a minimum density of 640kg/m³ and glazed openings must not be less than 100mm from any door edge. Multiple apertures are acceptable up to the maximum approved area, with a minimum dimension of 80mm between apertures. The aperture shape is not restricted, providing the intumescent material and beads are proven to be compatible with that shape.

Note: All glass types must be fitted strictly in accordance with the manufacturer's tested details/installation requirements.

A sectional drawing detailing the assessed glazing systems is contained in appendix B.

7 Door Frames

A 12mm deep planted stop is adequate for single acting frames whilst double acting frames may be scalloped or square. If frames are square, the maximum radius to the corners of the leaf is 8mm.

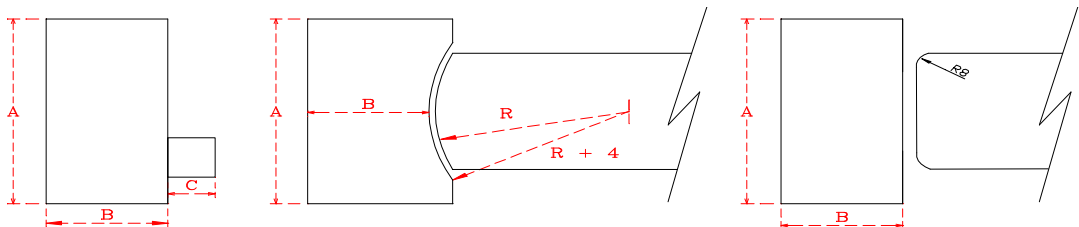
Door frame timber must be to class J10 as specified in BS EN 942: 1996.

The construction of door frames material may be to the following specification.

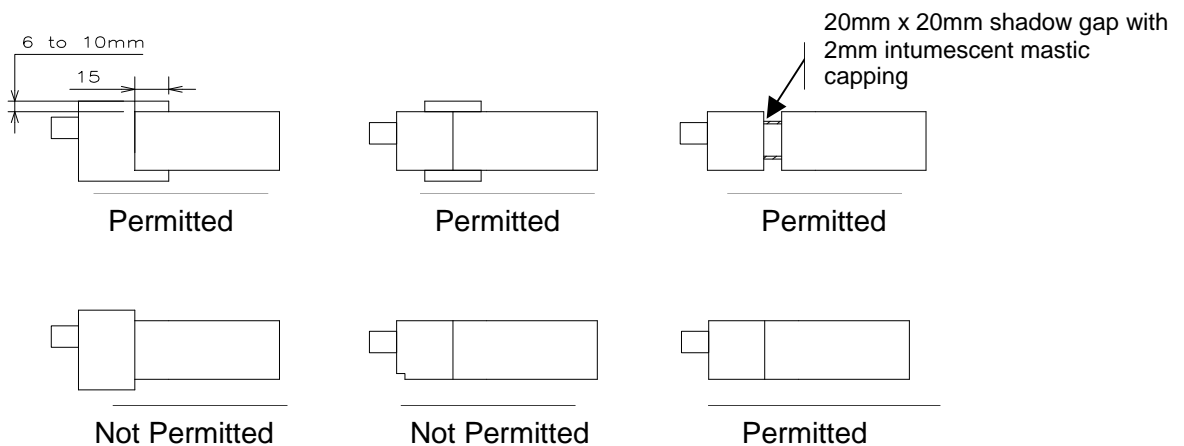
Material	Frame section (mm)	Density (kg/m ³)	Maximum leaf dimensions (mm)
Softwood	70 x 32	500	2040 x 826
	70 x 40		2670 x 915 to 2135 x 1144
MDF	70 x 30	750	2135 x 915
MDF	70 x 40		Full size range
Hardwood	70 x 32	640	2135 x 915
	70 x 40		Full size range

Frame joints may be mortise and tenon, mortise housed, half lapped or mitred, except transoms that must be mortise housed or butt jointed and glued and screwed. The following diagram depicts the assessed frame profiles and dimensions:

A = 70mm B = See table above C = 12mm R = Radius of floorspring



The following diagrams detail acceptable door frame installations.



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8 Leaf Facing Materials

The tested and assessed facing options for **Sentry II 30** are as follows:

Material	Dims (mm)	Density (kg/m ³)
1. Hardwood plywood	3.6	600
2. Hardwood plywood (Sentry X)	5.5	600
3. MDF	6	750
4. MDF	9	750
5. Chipboard	6	650
6. Chipboard	9	650

Facings for **Sentry II Slimline** may only be type 1 as tested. Facings must be in a single sheet and the use of MDF and chipboard facings is restricted to the following leaf sizes and configurations:

Configuration	Leaf dimensions (mm)
LSASD	Up to maximum approved size
ULSASD & DASD	2200 x 1000
LSADD	2150 x 950

Additional timber veneers, foils and plastic laminates up to 2mm thick are acceptable, since these elements would degrade rapidly under test conditions without significant effect. Metallic facings are not permitted.

9 Intumescent Materials

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

Intumescent materials for use with this design are as follows:

Application	Location	Product/Manufacturer
Edge seals	Fitted in the frame jambs or leaf edges	PVC cased Palusol 100 – Mann McGowan Fabrications or Lorient Polyproducts Ltd
Hinges	Under both hinge blades	1mm thick Therm-A-Strip, G30 or Interdens
Locks/latches	Under forend & keep	1mm thick Therm-A-Strip, G30, Interdens or tested acrylic intumescent mastic
Top Pivots	Lining all sides of the mortices	1mm thick Therm-A-Strip, G30 or Interdens
Flush bolts	Lining all sides of the mortices	1mm thick Therm-A-Strip, G30 or Interdens

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10 Lippings

The range of lipping options for this design is expressed in the following table and the appropriate configurations and leaf sizes for each are contained in appendix D:

Square	6-16mm thick
Rounded	8-18mm thick with maximum of 2mm rounding
Rebated (meeting edges only)	18-18mm thick x 22mm wide x 12mm deep

Single leaves up to a maximum size of 2500 x 1000 do not require lipping. Double doorsets without overpanels require lipping on the vertical edges only, whilst doorsets with overpanels require lipping at the leaf head and bottom edge of the overpanel in addition to the vertical edges.

Lipping timber must be to class J10 as specified in BS EN 942: 1996.

11 Adhesives

The construction of this design must use the following adhesives:

Core lamels	PVA
Facings	WBP resin
Lippings	Urea Formaldehyde (Cascamite) or PU

12 Tested Ironmongery

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

1. Royde & Tucker H105 100mm x 35mm steel lift off hinges.
2. Dorma TS73 & TS83 face fixed overhead closers.
3. Dorma BTS84 floorspring assemblies.
4. Standard 75mm tubular mortise latch with aluminium lever handles.

13 Additional & Alternative Ironmongery

13.1 Automatic Closing

Overhead closers and floor spring assemblies, must either be as tested or components of equal specification that can demonstrate contribution to the required performance of this type of 30 minute doorset design, when tested to BS476: Part 22: 1987 or BSEN 1634-1: 2000.

Note: Floor spring top pivots must be protected with 1mm thick Interdens or 2mm thick Therm-A-Strip intumescent gaskets.

13.2 Latches & Locks

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

Maximum forend and strike plate dimensions:	200mm high by 28mm wide by 4mm thick
Maximum body dimensions:	20mm thick by 100mm wide by 150mm high.
Intumescent protection:	See section 9
Materials:	All parts essential to the locking/latching action, including the latch bolt, forend and strike, to be steel or brass.

13.3 Hinges

Hinged doorsets must be hung on a minimum of 3 hinges. Doorsets with leaves over 2300mm high must use four hinges. Hinges with the following specification are acceptable:

Blade height:	90 - 120mm
Blade width (excluding knuckle):	32 - 37mm
Blade thickness	2.5-4mm
Fixings:	Equal number and nominally same pattern as tested
Materials:	Steel, stainless steel
Hinge positions:	Top - 150-180mm from the head Bottom - 150-250mm from the foot Remainder – Equispaced between top and bottom
Intumescent protection:	See section 9

13.4 Flush Bolts

Flush bolts may be incorporated into the top and bottom of the meeting edge of the inactive leaf of a double doorset, provided that the following maximum dimensions are not exceeded and square edge lippings are used:

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

The mechanisms of the flush bolts must be of steel and the mortice must be lined on all edges with 1mm thick Interdens gasket. The rebate must be as tight to the mechanism as is compatible with its operation.

13.5 Pull Handles

These may be surface-fixed to the door leaf provided that they are steel or brass, and that their length is limited to 1000mm between the fixing points. No additional intumescent protection is required provided that the hole for the bolt through the leaf is tight, unless test evidence dictates otherwise.

13.6 Push Plates/Kick Plates

Face-fixed ironmongery such as push plates and kick plates may be fitted to the doorsets providing they do not exceed 20% of the door leaf area and do not wrap around edges.

13.7 Door Selectors

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

13.8 Panic Ironmongery

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

13.9 Door Security Viewers

Door security viewers with brass or steel bodies and glass lenses may be fitted, providing they have been tested to 30 minutes integrity in this type of timber composite doorset design, in accordance with BS476: Part 22: 1987 or BSEN 1634-1: 2000. Any intumescent materials used for protecting the product during testing must be replicated.

14 Door Gaps

If substantially different gaps are employed, the fire resistance performance of this doorset design may change. The following table is presented for guidance.

Location	Dimension
Leaf to leaf and leaf to frame tolerances	Representative of those tested but as a guideline maximum of 4mm
Leaf to frame and leaf to leaf alignment tolerances	Leaves must not be proud of each other or from the door frame by more than 1mm.
Threshold	10mm between bottom of leaf and top of floor covering

15 Fixings

The supporting construction must be capable of staying in place and intact for the full period of fire resistance required from the doorset. The frame jambs are to be fixed to the supporting construction using steel fixings at 600mm maximum centres. The fixings must be of the appropriate type for the supporting construction and must penetrate to a minimum depth of 40mm. It is not necessary to fix the frame head, although packers must be inserted.

16 Sealing to Structural Opening

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

1. Gaps up to 20mm must be tightly packed with mineral fibre capped with acrylic intumescent mastic and fitted with a minimum of 10mm thick architraves.
2. Full depth timber/timber based composite material or non-combustible subframe up to 20mm thick, with any gaps between components sealed with a tested 30 minute intumescent mastic or expanding PU foam and fitted with a minimum of 10mm thick architraves.
3. Full depth timber/timber based composite material or non-combustible subframe up to 20mm thick, with no gaps between the components and fitted with a minimum of 10mm thick architraves.
4. Gaps up to 20mm filled with proprietary product tested for similar gap filling applications to 30 minutes integrity (e.g. expanding PU foam or preformed compressible intumescent foam)

Guidance for various methods of sealing the frame to structural opening gap is also given in BS 8214: 1990, "Code of practice for fire door assemblies with non-metallic leaves", which may be referred to where appropriate.

17 Smoke Control

If the doorset design is required to provide a smoke control function to comply with Building Regulations, then 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 $3\text{m}^3/\text{m/h}$ when tested at 25Pa. Providing the smoke seals, any interruptions, door gaps, type/configuration of door is consistent with the tested detail, then 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.

Note: The incorrect specification and fitting of smoke seals may impair the operation of a fire resisting doorset assembly such that integrity is reduced, or in the extreme case completely diminished.

18 Conclusion

It is our opinion that, if the doorset designs constructed in accordance with the specification documented in this global assessment, were to be tested in the appropriate configuration in accordance with BS476: Part 22: 1987, they would provide a minimum of 30 minutes integrity.

19 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: Sentry International Ltd.

20 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.

21 Validity

- 1) The assessment is valid for a 5 year period after which it must be submitted to CIFL for revalidation.
- 2) This assessment report is not valid unless it incorporates the declaration given in Section 19 duly signed by the applicant.

Prepared by:

Checked by:

Signature:



Name:

J P Mullett

P N Barker

Title:

Principal Consultant

Consultant

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Appendix A

Tests and Assessments

Primary Data

Report No	Configuration	Leaf Size (mm)	Standard	Performance (mins)
RF96008	LSASD (stiles removed with 3.6mm ply faces softwood frames)	A: 2135/915 B: 2440/1220 45	BS476 Part 22	A: 31 B: 28
RF96038	LSASD (stiles removed with 3.6mm ply faces softwood & hardwood frames)	A: 2444/1235 45 B: 2135/930 38	BS476 Part 22	A: 50 B: 40
RF96091	DADD (stiles removed with 4mm ply faces softwood frame)	2135/915 44	BS476 Part 22	29 Glazing 45 no failure of leaf edge
RF97013	LSASD (stiles removed with 6mm MDF faces soft/hardwood frames)	A: 2135/918 B: 2440/1218 44	BS476 Part 22	A: 43 B: 47
RF98045	ULSASD (A stiles removed 3.6mm ply faces 10x4 seals B stiles & rails present fully glazed)	A: 2108/884 B: 2115/916 45	BS476 Part 22	A: 37 B: 42
RF00099	ULSADD+OP (meeting stiles present with 5.5mm ply faces)	2135 891 45	BS476 Part 22	29*

Supplementary Data

Report No	Configuration	Leaf Size (mm)	Standard	Performance (mins)
RF01059B	ULSASD (Sentry Superlite with MDF frame & PU lipping)	2135 915 45	BS476 Part 22	35

*Assessment of Premature Failure

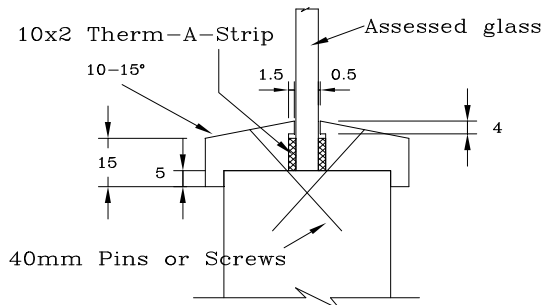
Test RF00099 has been assessed to 30 minutes and incorporated in the calculations for acceptable configurations and leaf dimensions based on the following modifications to enhance the performance:

- The use of less vulnerable square leaf head to overpanel lippings instead of the rebated version tested.
- The use of a single intumescent strip at the head junction instead of two separate strips which provides a faster complete activation and associated clamping force.

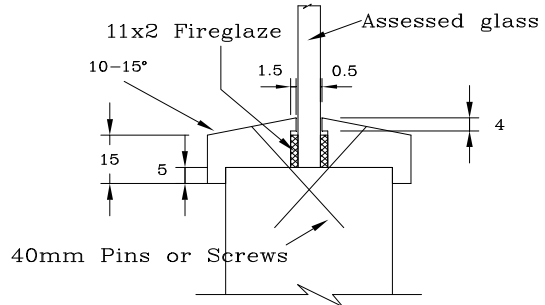
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Appendix B

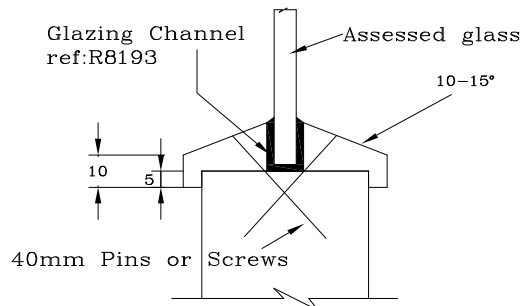
Proprietary Glazing Systems



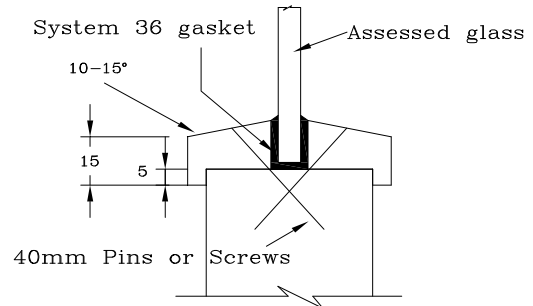
Intumescent Seals Ltd
Therm-A-Strip



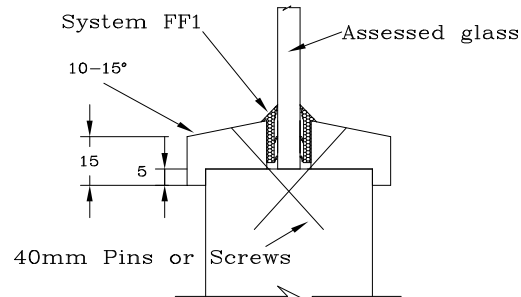
Sealmaster Ltd
Fireglaze



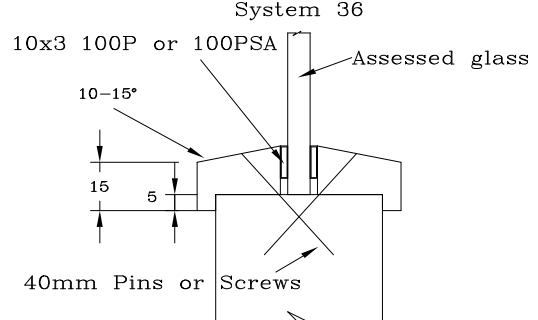
Reddiplex Group Plc



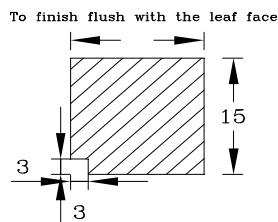
Lorient Polyproducts Ltd
System 36



Lorient Polyproducts Ltd
System FF1

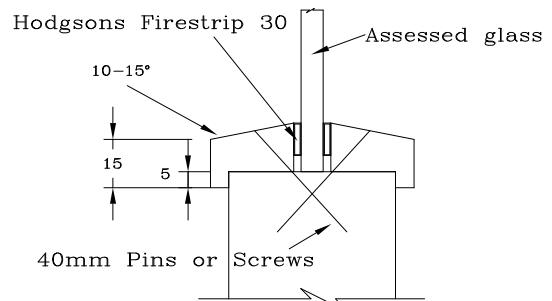


Mann McGowan Ltd
Pyroglaze 30



The bead shape above may be used with the following glass types and appropriate glazing system:

- 7mm Pyrobelite
- 7mm Pyrodur Plus
- 10mm Pyrodur
- 12mm Pyrobel
- 14mm Swissflam Lite
- 15mm Pyrostop
- 16mm Pyrobel



Hodgsons Sealants Ltd
Firestrip 30

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Appendix C

Revisions and Amendments

Revision No.	Date	Description
Revision A (CIFL ref 99097)	29.7.99	2 year revalidation and update
Revision B (CIFL ref 01407)	20.7.00	Revalidation for 2 years, inclusion of overpanels and updating of various paragraphs
Revision C (CIFL ref 02147)	20.8.02	Revalidation for 5 years and company name change
Revision D	20.11.02	Reinstatement of smaller door frame sections for use with limited leaf dimensions.
Revision E (CIFL ref 07161)	12.9.07	5 year revalidation and general update

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Appendix D

Data Sheets for:

Sentry II 30 & Sentry II Slimline Doorsets

FD30 Performance

To be Read in Conjunction with Assessment No. FEA/F97028 Revision E

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Sentry II 30 & Sentry II Slimline Doorsets – FD30 Performance

Latched Single Acting Single Doorsets

LEAF SIZES		Height (mm)	Width (mm)
(Extended sizes)	From:	2444	x 1647
	To:	3259	x 1235
(Standard Sizes Using 10 x 4 Seals for use with hardwood/MDF door frames)	From:	2108	x 915
	To:	2200	x 884
GLAZING	Max. glazed area:	1.94m ²	
	Approved systems:	See section 6 & appendix B	
FRAME SPECIFICATION	Min. Section (mm):	See table in section 7	
	Material:	Softwood or Hardwood or MDF	
	Density:	510kg/m ³ , 640kg/m ³ & 750kg/m ³ respectively	

APPROVED INTUMESCENT MATERIALS - PVC cased Palusol 100

HEAD:

Extended Leaf Sizes:- 20 x 4mm fitted centrally in the leaf or frame. For leaves over 2600mm high increase to 25 x 4mm.

Standard Leaf Sizes:- 10 x 4mm fitted centrally in the leaf or frame for leaves **hung in hardwood/MDF door frames.** 10 x 4mm seals may be used in softwood frames for doorsets with a maximum leaf height of 2134mm.

Note: Softwood frames may be used with **all** leaf dimensions under the 'extended leaf sizes' range provided that 20 x 4mm seals are used (increased to 25 x 4mm over 2600mm high) in the leaf head or frame reveal.

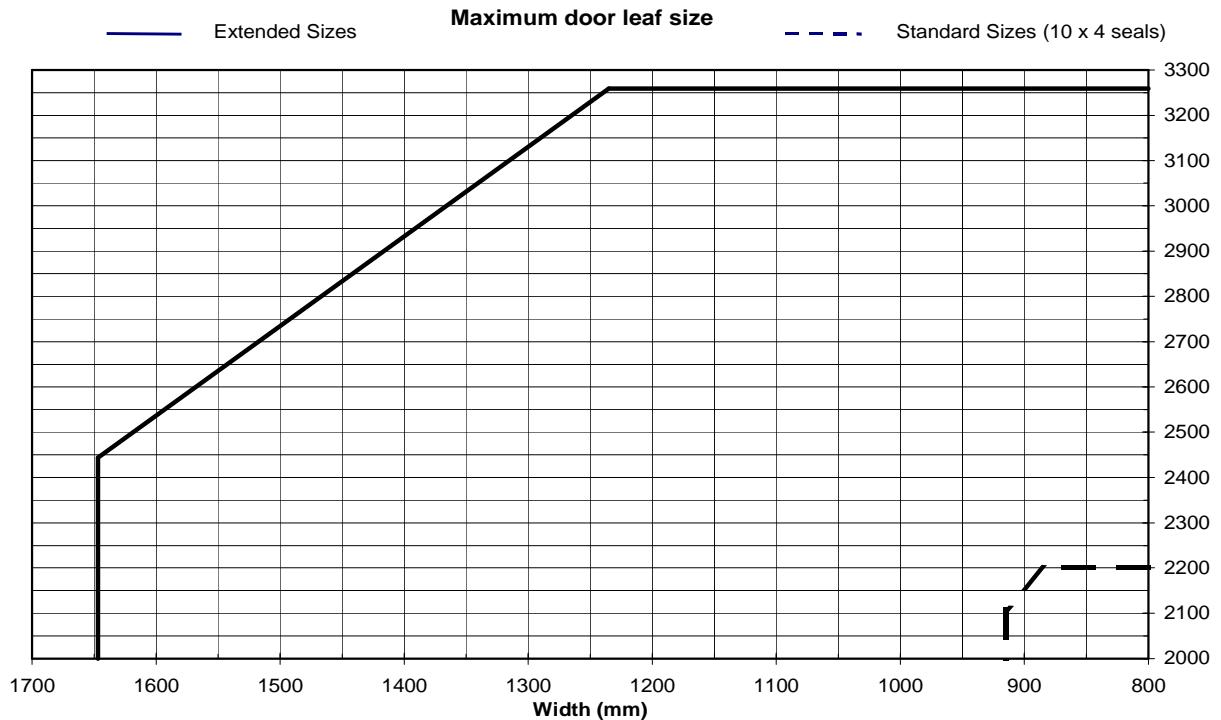
JAMBS:

Extended Leaf Sizes:- 15 x 4mm fitted centrally in the leaf or frame.

Standard Leaf Sizes:- 10 x 4mm fitted centrally in the leaf or frame for leaves **hung in hardwood/MDF door frames.** 10 x 4mm seals may be used in softwood frames for doorsets with a maximum leaf width of 914mm.

Note: Softwood frames may be used with all leaf dimensions under the 'extended leaf sizes' range provided that 15 x 4mm seals are used in the vertical edges of the leaf or frame jambs.

IRONMONGERY PROTECTION: See section 9



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Sentry II 30 & Sentry II Slimline Doorsets – FD30 Performance

Unlatched Single Acting & Double Acting Single Doorsets

LEAF SIZES		Height (mm)	x	Width (mm)
(Extended sizes)	From:	2135	x	1194
	To:	2769	x	915
(Standard Sizes Using 10 x 4 Seals for use only with hardwood/MDF door frames)	From:	2108	x	915
	To:	2200	x	884
GLAZING	Max. glazed area:	1.94m ²		
	Approved systems:	See section 6 & appendix B		
FRAME SPECIFICATION	Min. Section (mm):	See table in section 7		
	Material:	Softwood or Hardwood or MDF		
	Density:	510kg/m ³ , 640kg/m ³ & 750kg/m ³ respectively		

APPROVED INTUMESCENT MATERIALS - PVC cased Palusol 100

HEAD:

Extended Leaf Sizes:- 20 x 4mm fitted centrally in the leaf or frame. For leaves over 2600mm high increase to 25 x 4mm.

Standard Leaf Sizes:- 10 x 4mm fitted centrally in the leaf or frame for leaves **hung only in hardwood/MDF door frames**,

Note: Softwood frames may be used with **all** leaf dimensions under the 'extended leaf sizes' range provided that 20 x 4mm seals are used (increased to 25 x 4mm over 2600mm high) in the leaf head or frame reveal.

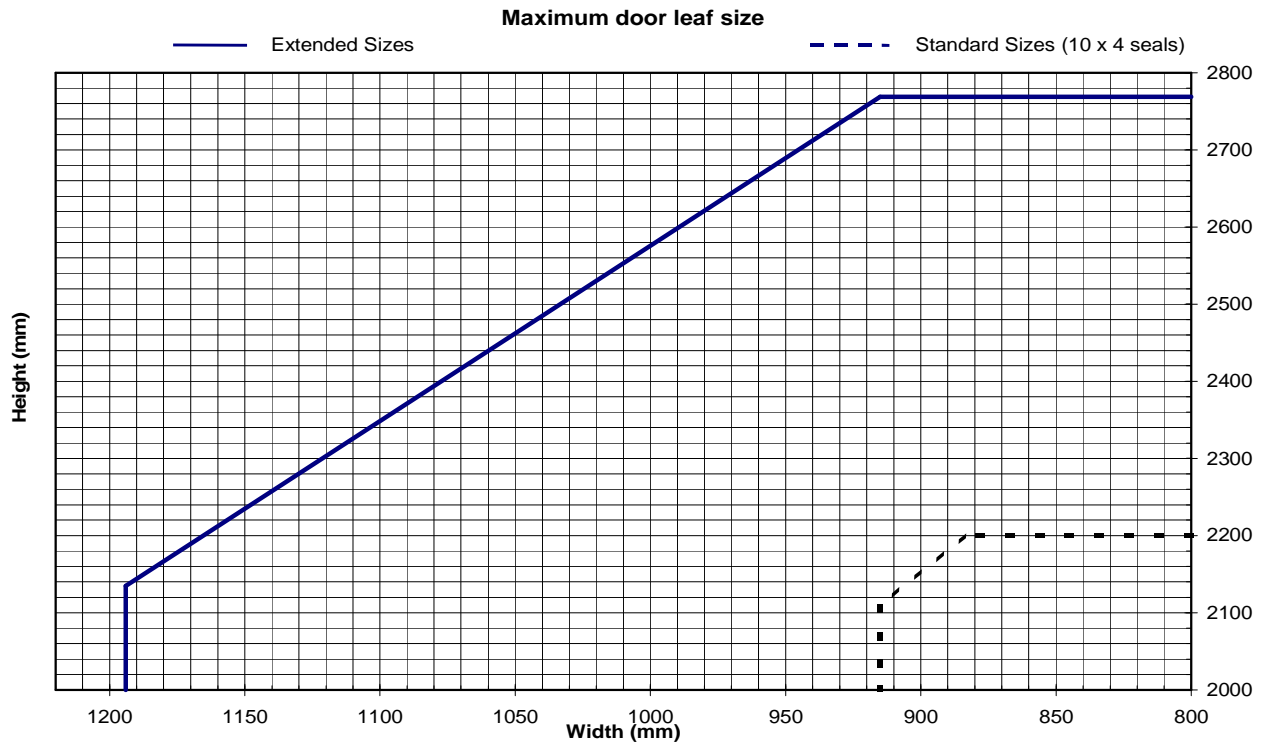
JAMBS:

Extended Leaf Sizes:- 15 x 4mm fitted centrally in the leaf or frame.

Standard Leaf Sizes:- 10 x 4mm fitted centrally in the leaf or frame for leaves **hung only in hardwood/MDF door frames**.

Note: Softwood frames may be used with **all** leaf dimensions under the 'extended leaf sizes' range provided that 15 x 4mm seals are used in the vertical edges of the leaf or frame jambs.

IRONMONGERY PROTECTION: See section 9



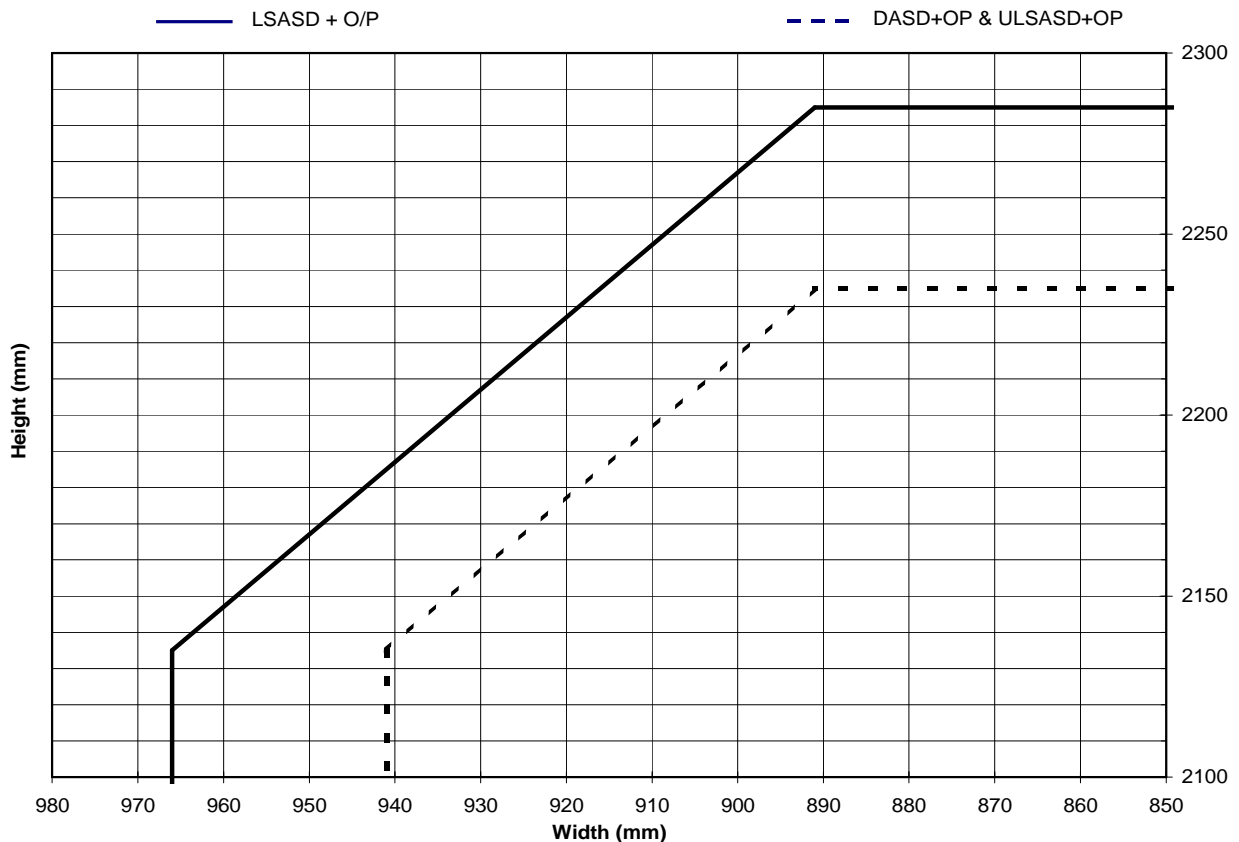
The legal validity of this report can only be claimed on presentation of the complete report.

Sentry II 30 & Sentry II Slimline Doorsets – FD30 Performance

Latched & Unlatched Single & Double Acting Single Doorsets + Overpanel

Leaf sizes	Configuration		Height (mm)	Width (mm)
	LSASD+OP	From:	2135	x 966
		To:	2285	x 891
	DASD+OP & ULSASD+OP	From:	2135	x 941
		To:	2235	x 891
Max. Overpanel height (mm)			2000	
Glazing		Max. glazed area:	1.94m ²	
		Approved systems:	See section 6 & Appendix B	
Frame specification		Min. Section (mm):	See table in section 7	
		Material:	Softwood, Hardwood or MDF	
		Density:	510 kg/m ³ , 640kg/m ³ or 750kg/m ³ respectively	
	APPROVED INTUMESCENT MATERIALS - PVC cased Palusol 100			
HEAD:				
Square: 25 x 4mm exposed and fitted centrally in the bottom of overpanel.				
JAMBS:				
15 x 4mm exposed and fitted centrally in the leaf or frame.				
IRONMONGERY PROTECTION: See section 9				

Maximum door leaf size



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Sentry II 30 & Sentry II Slimline Doorsets – FD30 Performance

Latched, Unlatched Single Acting & Double Acting Double Doorsets

LEAF SIZES		Height (mm)	Width (mm)
LSADD	From:	2135	x 1169
	To:	2719	x 915
ULSADD & DADD	From:	2135	x 1144
	To:	2669	x 915
Glazing	Max. glazed area:	1.94m ²	
	Approved systems:	See section 6 & appendix B	
Frame specification	Min. Section (mm):	See table in section 7	
	Material:	Softwood, Hardwood or MDF	
	Density:	510kg/m ³ , 640kg/m ³ & 750kg/m ³ respectively	

APPROVED INTUMESCENT MATERIALS - PVC cased Palusol 100

HEAD:

25 x 4mm fitted centrally in the leaves or frame. For leaves over 2300mm high increase to 30 x 4mm.

MEETING EDGES:

Square: 15 x 4mm fitted centrally in one leaf. For leaves over 1000mm wide increase to 20 x 4mm.

Rebated: 15 x 4mm exposed and fitted centrally in the rebate of each leaf.

JAMBS:

15 x 4mm fitted centrally in the leaf or frame. For leaves over 1000mm wide increase to 20 x 4mm

IRONMONGERY PROTECTION: See section 9



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Sentry II 30 & Sentry II Slimline Doorsets – FD30 Performance

Latched & Unlatched Single & Double Acting Double Doorsets + Overpanel

Leaf sizes	Configuration		Height (mm)	Width (mm)
	LSADD+OP	From:		2135
To:			2185	x 891
DADD+OP & ULSADD+OP	Max:		2135	x 891
Max. Overpanel height (mm)			1500	
Glazing	Max. glazed area:		1.94m ²	
	Approved systems:		See section 6 & appendix B	
Frame specification	Min. Section (mm):		See table in section 7	
	Material:		Softwood, Hardwood or MDF	
	Density:		510kg/m ³ , 640kg/m ³ & 750kg/m ³ respectively	

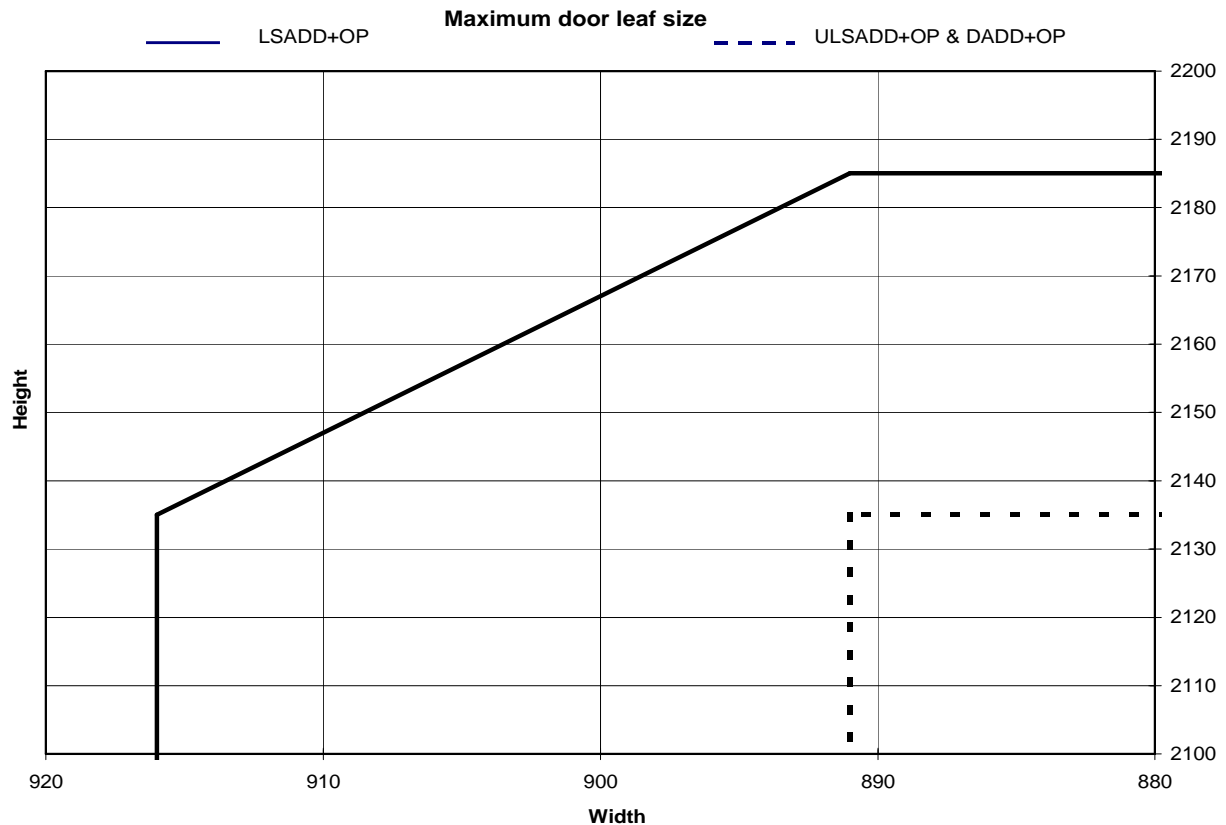
APPROVED INTUMESCENT MATERIALS - PVC cased Palusol 100

HEAD:
Square: 30 x 4mm exposed and fitted centrally in the bottom of overpanel.

MEETING EDGES:
Square: 2 x 15 x 4mm exposed and fitted 5mm each side of the centreline in one edge only.
Rebated: 15 x 4mm exposed and fitted centrally in the rebate of each leaf.

JAMBS:
 15 x 4mm exposed and fitted centrally in leaf or frame.

IRONMONGERY PROTECTION: See section 9



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Sentry II 30 & Sentry II Slimline Doorsets – FD30 Performance

Latched Single Acting Single Doorsets

LEAF SIZES		Height (mm)	Width (mm)
LSASD	From:	2135	x 1085
	To:	2491	x 930
Glazing	Max. glazed area:	0.2m ²	
	Approved systems:	See section 6 & appendix B	
Frame specification	Min. Section (mm):	See table in section 7	
	Material:	Softwood, Hardwood or MDF	
	Density:	510kg/m ³ , 640kg/m ³ & 750kg/m ³ respectively	

APPROVED INTUMESCENT MATERIALS

HEAD:

20 x 4mm fitted centrally in leaf or frame. For leaves over 2300mm high increase to 25 x 4mm.

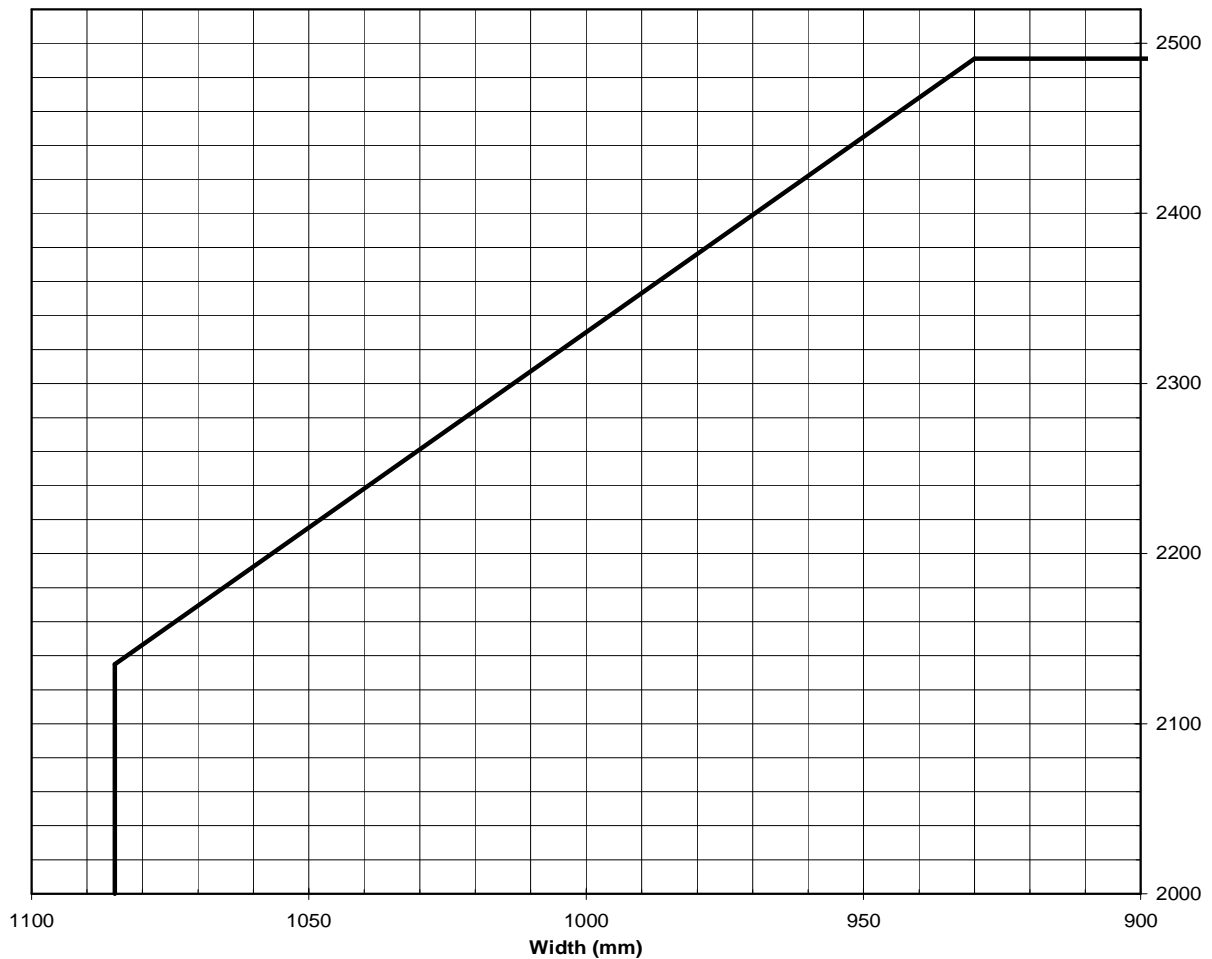
JAMBS:

15 x 4 mm fitted centrally in the leaf or frame. For leaves over 1050mm wide increase to 20 x 4mm.

IRONMONGERY PROTECTION: See section 9

Maximum door leaf size

— LSASD



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