Sponsor:

Sentry Panel Products Ltd.
Muirhouses
Bo'ness
Edinburgh
EH51 9SS

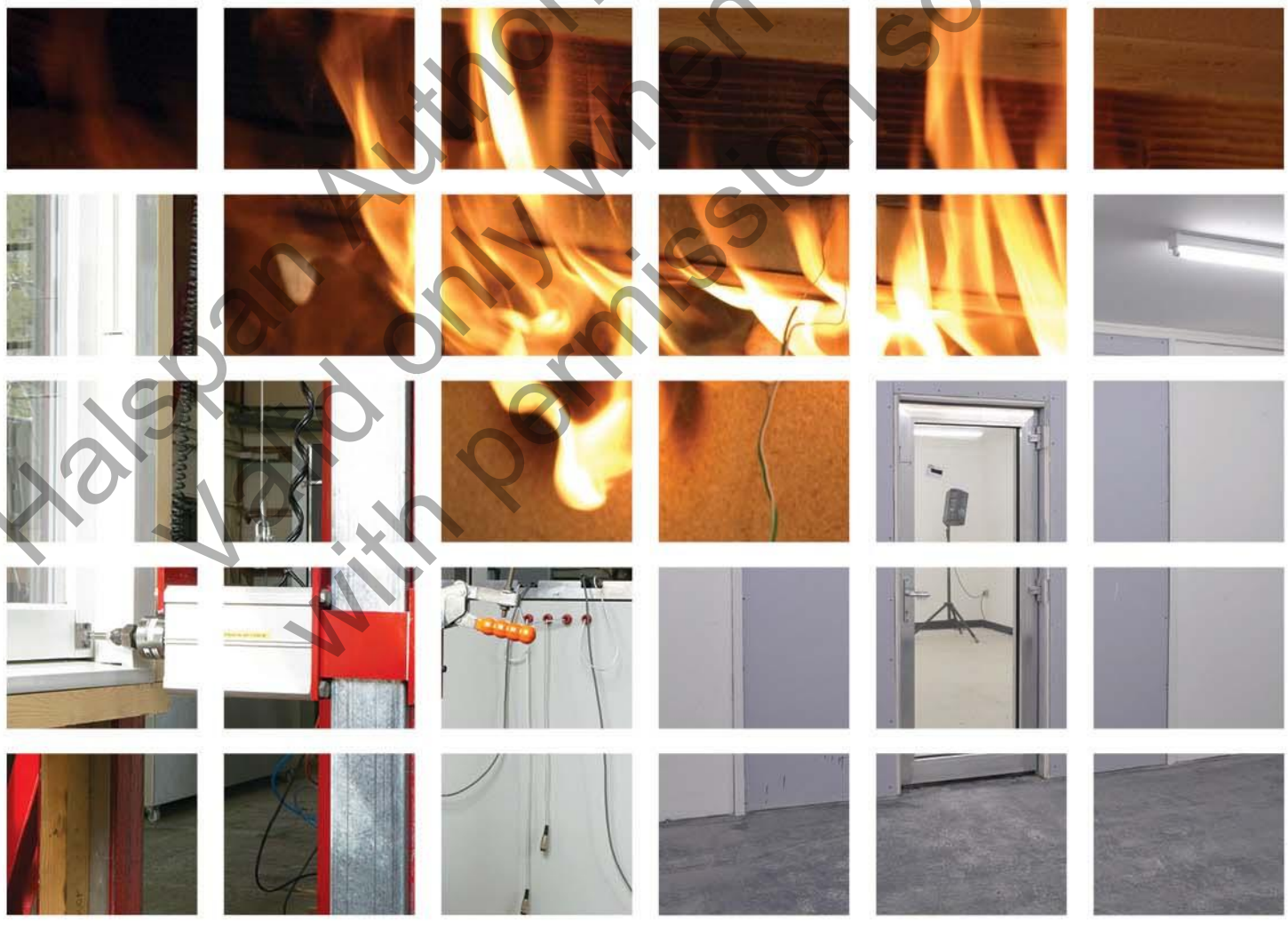
Fire Resistance Assessment

CONFIDENTIAL

Report: Chilt/A13227 Revision A
Contract: CNA/F14048

ProTech 60 Minute Fire Resisting Doorsets

Valid From: 4 April 2014
Valid Until: 2 October 2018



BM TRADA – the new name for Chiltern International Fire Ltd

From July 1st 2013, Chiltern International Fire Ltd commenced trading under the name of its parent company BM TRADA and at the same time adopted a brand new visual identity.

Historically, the group has delivered its services through a number of individual companies: BM TRADA Certification Ltd, TRADA Technology Ltd, Chiltern International Fire Ltd (including Chiltern Dynamics) and a network of international offices. Both BM TRADA Group and these individual companies will now trade under the same name - BM TRADA - and adopt the new visual identity.

To coincide with this change, our Technical Reports, Test Reports, Products Assessments, company stationery and marketing collateral have been re-designed to carry the new branding and visual identity.

The validity of all documents previously issued by the individual companies including certificates, test reports and product assessments is unaffected by this change and a letter to this effect will be available to download from our website www.bmtradagroup.com.

About BM TRADA.

With origins dating back to 1934, we have a deep history and services which are highly valued by our customers. We offer independent certification, testing, inspection, training and technical services around the world. In all these areas we continue to use industry-leading experts in their chosen fields to develop and deliver services – an ethos that has been at the heart of our approach since we began.

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A recent review of our businesses and customers revealed that the individual identities sometimes make communications confusing, and that in an already complex business area, clarity and simplicity in communications is rare, but valued. It also revealed that a single identity and combined offer would help us strengthen our appeal.

With this in mind, we brought the companies together under the name BM TRADA and took the opportunity to create a fresh new visual identity.

We have modernised our image and combined our strengths. However, our values, our people and the integrity of our services remain the same. I hope you will welcome these changes and the improvements they will bring.

Jon Osborn
Chief Operating Officer

Contents

		Page No
1	Introduction	4
2	General Description of Construction	4
3	Leaf Sizes	4
4	Configurations	5
5	Leaf Size Adjustment	5
6	Overpanels	5
7	Glazing	7
8	Leaf Facing Materials	9
9	Door Frames	10
10	Timber Lippings	12
11	Intumescent Materials	13
12	Adhesives	13
13	Hardware	13
14	Supporting Construction	17
15	Fixings	17
16	Door Gaps	18
17	Sealing to Structural Opening	18
18	Insulation	19
19	Smoke Control	20
20	Conclusion	20
21	Declaration by the Applicant	21
22	Limitations	22
23	Validity	22
Appendix A		23
Appendix B		24
Appendix C		26
Appendix D		27

1 Introduction

This document constitutes a global assessment relating to fire resisting doorsets, manufactured by Sentry Panel Products 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 EN 1634-1: 2013 and BSEN 1363-1: 1999.

The assessment is written for the purpose of national application in the United Kingdom or other jurisdictions accepting this approach. The assessment should not be used for the purposes of CE marking or for claiming compliance with regulations outside the afore-mentioned areas of jurisdiction.

2 General Description of Construction

The standard tested construction of the door design comprises the following.

Element		Material	Dimensions (mm)	Density (kg/m³)
Stiles		None fitted	-	-
Rails		None fitted	-	-
Core		Pine 3-layer core comprising outer vertical orientated lamels and inner horizontal orientated lamels	38 wide x 12 thick	450-500*
Facings		Poplar core 5 ply hardwood plywood	9 thick	450*
Adhesive	Facing	WBP melamine	-	-
	Core	WBP melamine	-	-
	Lipping	PU	-	-
Lippings – vertical edges only		Sapele	6 thick	640**

* Stated density, not checked by laboratory
** Nominal density

3 Leaf Sizes

The approval for increased leaf dimensions is based on the test data listed in appendix A and takes into account the margin of over performance above 60 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 with reduced dimensions are deemed to be less onerous, therefore doors manufactured with dimensions that are less than those tested and stated in appendix D, are covered by this assessment.

4 Configurations

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

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

5 Leaf Size Adjustment

Door leaves may be altered as follows.

Element	Reduction
Leaf	The manufactured size of the leaf may be reduced in height or width without restriction, providing the leaf is re-lipped in accordance with section 10.
Timber lippings	The lipping dimensions stated in section 10 may be reduced by 20% for fitting purposes.

6 Overpanels

6.1 Solid

Overpanels of the same construction as the door leaves may be used only when separated from the door leaf by a transom.

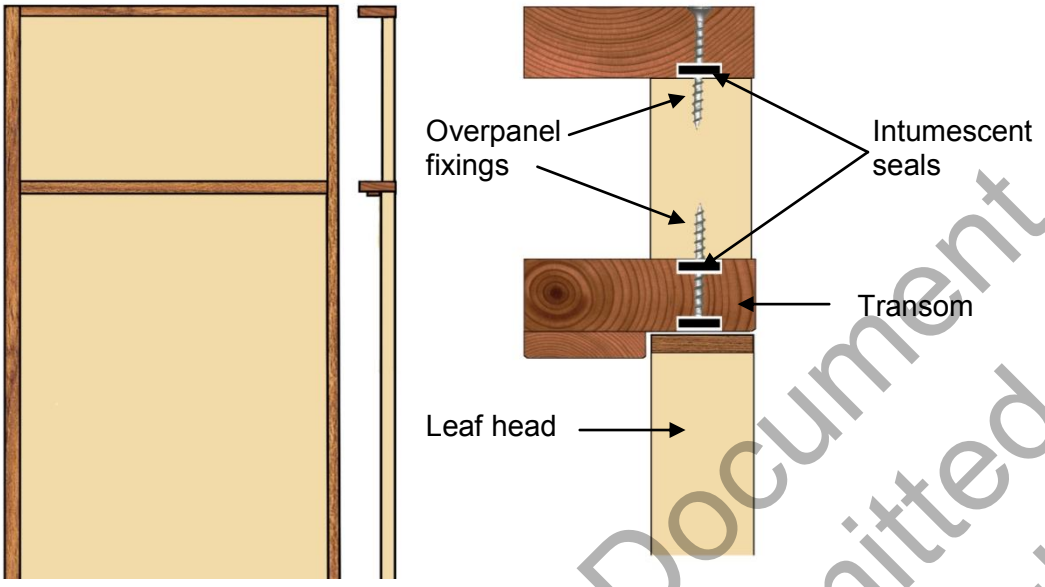
Transoms must be hardwood with a minimum density of 640 kg/m^3 and a have minimum section of 70mm x 32mm. Joints must be mortice and tenon, mortice housed or butt jointed and additionally glued (urea formaldehyde) and screwed. Overpanels must be fixed using the following method:

- 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 specification for overpanel assemblies is defined in appendix D

Maximum assessed overpanel heights are as follows:

Configuration	Max Overpanel Height (mm)
Single doorsets	2000
Double Doorsets	1500



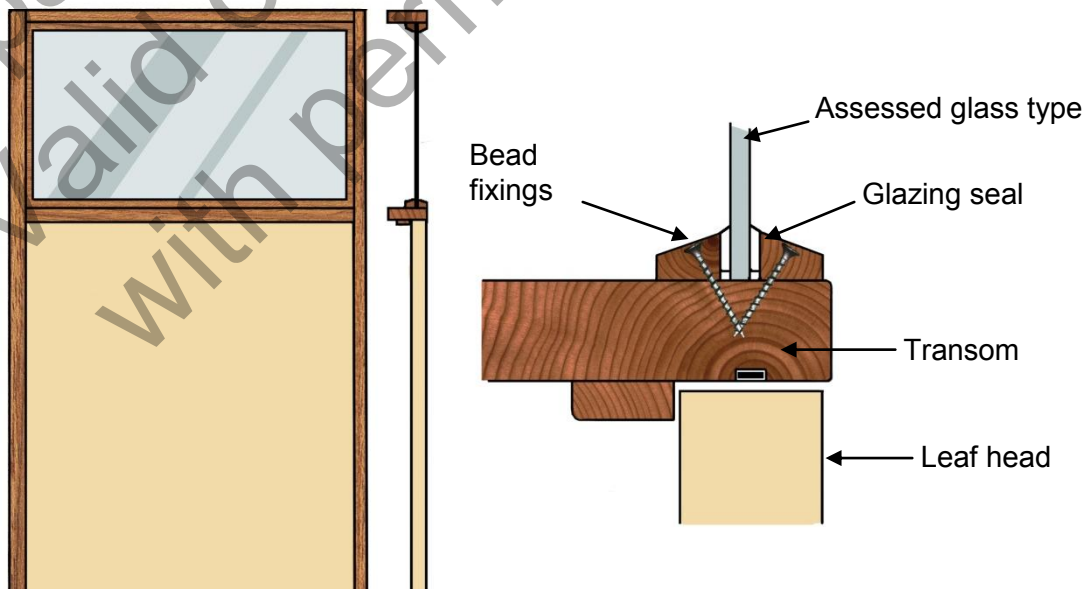
6.2 Glazed Fanlights

Timber frame doorsets including a transom may include a glazed fanlight. The timber frame and glazing beads must be hardwood with a minimum density of 640 kg/m^3, whilst the frame section must be a minimum of 70mm x 44mm. Timber door frame and transom construction must comply with the specification contained in section 9.

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 at the pane dimensions to be installed.

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



7 Glazing

7.1 General

The testing conducted on Sentry ProTech 60 has demonstrated that the design is capable of tolerating glazed apertures, whilst providing a margin of over performance. Glazing is therefore acceptable within the following parameters.

The maximum assessed glazed area for all configurations is 0.5m².

Drawings of approved proprietary glazing systems are contained in appendix B.

7.2 Assessed Glazing Systems

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

Glazing System	Manufacturer
1. Halspan 60	Halspan Ltd
2. Fireglaze 60	Sealmaster Ltd
3. Therm-A-Glaze 60	Intumescent Seals Ltd
4. System 36/15 Plus	Lorient Polyproducts Ltd
5. System 63 (circular apertures only)	Lorient Polyproducts Ltd
6. Pyroglaze 60	Mann McGowan Ltd
7. System 90+	Lorient Polyproducts Ltd

7.3 Tested & Assessed Glass Products

Glass products must be one of the following:

Glass Type	Manufacturer	Thickness (mm)	Maximum Area (m^2)
1. Pyroshield 2*	Pilkington Group Ltd.	6 & 7	0.5
2. Pyran S	Schott Glass Ltd	6	0.5
3. Pyrodur 60-10	Pilkington Group Ltd.	10	0.5
4. Pyroguard EW Maxi	CGI Ltd	11	0.5
5. Pyrobelite 12	AGC Flat Glass UK	12	0.5
6. Pyrodur 60-20	Pilkington Group Ltd.	13	0.5
7. Contraflam Lite	Vetrotech Saint Gobain AG	14	0.5
8. Pyroguard EI30	CGI Ltd	15	0.5
9. Pyrostop 30-10	Pilkington Group Ltd.	15	0.5
10. Pyrobel 16	AGC Flat Glass UK	16	0.5
11. Pyroguard EI60	CGI International	23	0.5
12. Pyrostop 60-101	Pilkington Group Ltd.	23	0.5
13. Pyrobel 25**	AGC Flat Glass Europe	25	0.5

Notes

* See section 7.5

** See 7.4 note 1

Glass types 11, 12 and 13 3 are fully insulating for 60 minutes.

7.4 Glazing Beads & Installation

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

Profile	Min. Density (kg/m^3)	Application	Maximum Permitted Aperture (m^2)
Splayed	640	All proprietary systems detailed in 7.2 and appendix B	0.5
Square	640	Proprietary systems 2, 3 and 7 as specified in 7.2 and glass types 4 - 13 as specified in 7.3	0.5

Notes

1. Glazing bead must be retained in position with 60mm long x 1.6mm diameter steel pins or 60mm long (increase to 70mm for 25mm Pyrobel) No 8 - 10 screws, inserted at 30 - 35º to the vertical at no more than 50mm from each corner and at 150mm maximum centres
2. A square bead profile may be used as an alternative to the splayed beads required for the proprietary systems (see appendix B for square bead profile options)
3. The shape of glazed apertures is not restricted providing the glazing system can accommodate the profile
4. 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
5. 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.

7.5 Pyroshield 2

The following table details the maximum pane sizes and approved glazing systems permitted for Pyroshield 2 in the Sentry ProTech 60 doorset design.

Glass Type	Glazing System (section 7.2)	Maximum Pane Size* (height x width – mm)	Maximum Area (m^2)
Pyroshield 2	3	1300 x 550	0.715
	7	1300 x 310	0.4

*The heights and widths listed are the maximum single dimension allowable for an individual pane utilising the relevant glazing system; maximum dimensions may not be increased even if the other dimension for the pane is reduced.

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.

Glazing bead fixings must be retained in position with 60mm long x 1.6mm diameter steel pins or 60mm long No 6 - 8 screws, inserted at 35 - 40º 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 given above.

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

False timber beads must not be applied across the glass face without specific test evidence to justify the system used.

8 Leaf Facing Materials

8.1 Primary Tested Facings

At the thickness tested, facings are considered structural and therefore substitution with alternative materials is not permitted.

Material	**Dimensions** (mm)	**Density** (kg/m³)
Poplar core 5 ply hardwood plywood	9 thick	450*

* Stated density

8.2 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 must not be reduced 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.

9 Door Frames

9.1 Door Frame Construction

Door frames for Sentry ProTech 60 must be constructed to the following specification.

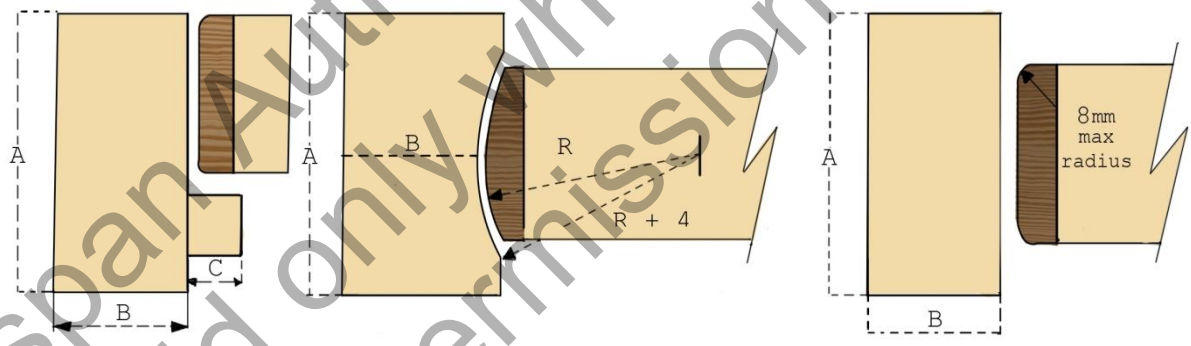
Material	**Section Size** (mm)	**Min Density** (kg/m^3)
Hardwood[1]	70 x 32	640

Notes

1. Timber used for constructing door frames must be joinery quality, straight grained, free from knots, splits and checks.
2. Door frame joints must be one of the 4 methods depicted in section 9.2. All methods require fixing with the appropriate length steel wood screws or ring shank nails.
3. Rounded or rebated quirk edges to door frames are not permitted.

The following diagram depicts the assessed frame profiles and dimensions:

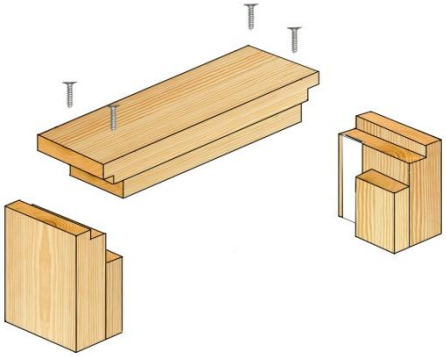
A = min 70mm B = min ≥ 32 mm C = min 12mm
R = radius from floor spring 8mm max radius to create a maximum 2mm edge profiling



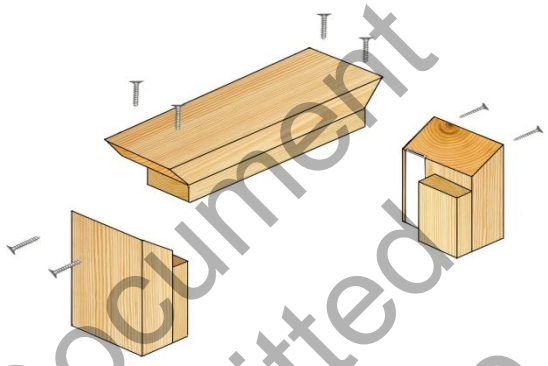
Standard **Scalloped** **Profiled edges**

9.2 Door Frame Joints

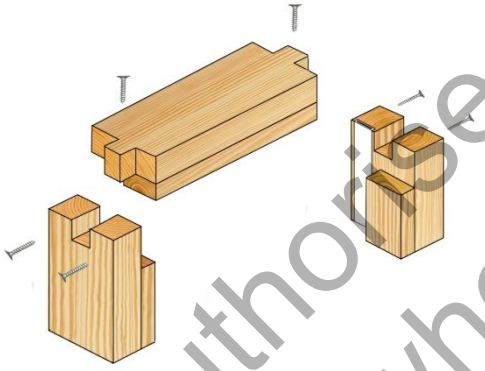
The following door frame jointing methods are acceptable.



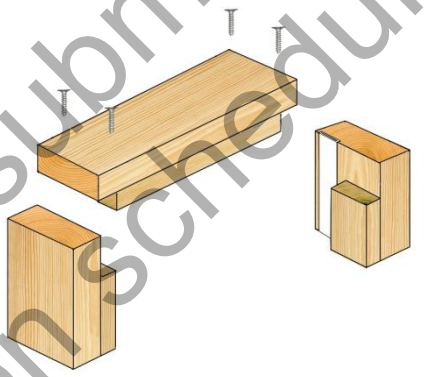
Half Lapped Joint



Mitre Joint



Mortice and Tenon Joint



Butt Joint

9.3 Door Frame Installation

The following diagrams indicate acceptable and unacceptable door frame installations.

10 Timber Lippings

Sentry ProTech 60 must be lipped in accordance with the following specification.

Material	**Size** (mm)	**Min Density** (kg/m^3)
Hardwood	1. Flat = 6 – 12 thick with a maximum of 2mm profiling permitted at corners of lipping (see diagrams below) 2. Rounded = 6 – 12 thick with a radius matching the distance between leaf edge and floor pivot (see diagrams below) 3. Rebated = Not permitted	640

Notes:

1. Overpanels separated from the leaf heads with a transom do not need to be lipped
2. Single and double doorsets only require lipping on the vertical edges but may be additionally lipped on the top and bottom edges if required
3. A 2.5^0 parallel chamfer is permitted to the lipping at the leading edge of leaves providing the door gaps meet the requirements of section 16.

11 Intumescent Materials

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

11.1 Door Edge Seals

Application	Product	Location
Leaf Edge Seals	1. PVC encased Type SLS – Halspan Ltd 2. 500P - Mann McGowan	Frame reveal
		Double Doorsets - One meeting edge

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

11.2 Hardware Protection

Application	Location	Product/Manufacturer
Hinges	Underneath both hinge blades	1. 2mm Interdens - Dufaylite Developments Ltd 2. 2mm MAP paper - Lorient Polyproducts Ltd 3. 2mm Pyrostrip 300 - Mann McGowan 4. 2mm Therm-A-Strip - Intumescent Seals Ltd 5. 2mm SLS-PAD-106 – Halspan Ltd
Lock/latches	Under forend & keep	
Top pivots & flush bolts	Lining all sides of the mortices	
Lining drop seal mortice	Lining all sides of the mortices	1mm SLS-PAD-107 – Halspan Ltd (graphite)

12 Adhesives

The adhesives used in construction of this design must be as detailed in the following table.

Element	Adhesive Type
Facings	WBP melamine
Core	WBP melamine
Lippings	WBP melamine

13 Hardware

13.1 General

The following sections detail the scope and constraints for fitting hardware to the door design.

The following items of hardware must also bear the CE mark: locks and latches (EN 12209), electro mechanically operated locks (EN 14846), single axis hinges (EN 1935), controlled door closing devices (EN 1154), electrically powered hold open devices (EN 1155), door co-ordinators (EN 1158), emergency exit hardware (EN 179), panic exit hardware (EN 1125).

13.2 Tested Hardware

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

Element	Product	Size (mm)
Hinges	Halspan R60 stainless steel bearing butt type Ref. BOM-HIN-200	102 x 30 x 2 (blade size)
Closer	Halspan R60 Eco Power closer Ref. CLR-AGN-101	250 x 66 (footprint size)
Latch - disengaged	Halspan stainless steel mortice latch ref. BOM-LCK-104	235 x 24 (forend size) 180 x 83 x 13 (case size) 83 backset
		150 x 22 (keep size)
Furniture	Aluminium lever type handle	Ø50 (rose size)
Flush bolts – engaged	Carlisle Brass (sunk slide) Product reference AA79CP	101 x 17 (footprint size)
		28 x 16 (keep size)

13.3 Additional & Alternative Hardware

13.4 Latches & Locks

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

Element	Specification
Maximum forend and strike plate dimensions:	235mm high by 25mm wide by 4mm thick
Maximum body dimensions:	18mm thick by 100mm wide by 180mm high.
Materials:	All parts essential to the locking/latching action (including the latch bolt, forend and strike) to be steel
Intumescent protection:	See section 11.2
Position	1000 - 1200mm above threshold

13.5 Hinges

Leaves must be hung on 3 hinges. Hinges with the following specification are acceptable:

Element	Dimensions (mm)	
Blade height:	90 – 120mm	
Blade width (excluding knuckle):	30 – 35 mm	
Blade thickness:	2.5 - 4 mm	
Fixings:	Minimum of 4 No. 30mm long No. 8 or No.10 steel wood screws per blade	
Materials:	Steel or stainless steel	
Hinge positions	Top:	150 –200mm from the head to top of blade
	Bottom	200 – 300mm from foot to bottom of blade
	Remainder	Equispaced between top and bottom
Intumescent protection:	See section 11.2	

13.6 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.

Note: The top pivots to floorspring assemblies must be protected with a 2mm thick intumescent gasket (see section 11) or alternatively the manufacturers tested intumescent pack.

13.7 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.

13.8 Push Plates & Kick Plates

Face-fixed hardware such as push plates and kick plates may be fitted to the doorsets and may be recessed to a maximum depth of 2mm on both sides of the door leaf. These items of hardware are permitted up to a maximum of 20% of the door leaf area if mechanically fixed and a maximum of 30% if bonded with a contact or other thermally softening adhesive. Plates must not return around the door edges.

13.9 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.

13.10 Door Selectors

Selectors may be fitted providing the installation does not require the removal of any timber from the leaf, stop or frame reveal and they do not interfere with the self-closing action of the door leaf.

13.11 Environmental Seals

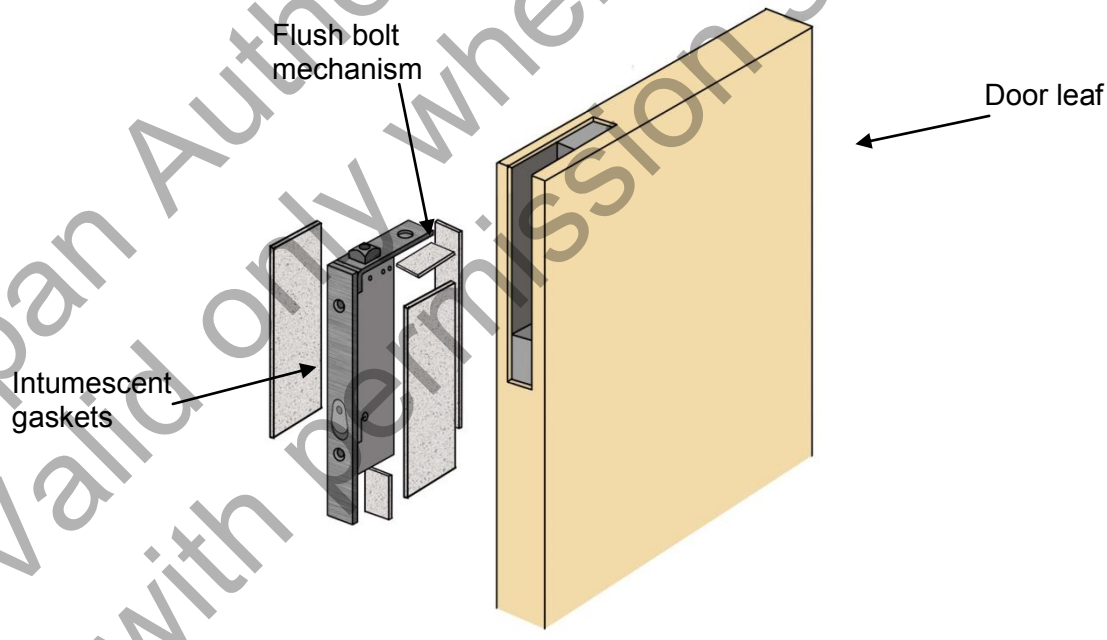
Silicon based flame retardant acoustic, weather and dust seals (e.g. Halspan Triple Fin ref: SLS-TRI-100 range, Norsound 710, Lorient IS1212, IS1511, IS7025, IS7060) may be fitted to this doorset design without compromising the performance, providing their fitting does not interfere with the activation of the intumescent seals or hinder the self closing function of the leaves.

13.12 Flush Bolts

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

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

Flush bolts must be steel 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 11.2. Alternatively the hardware manufacturers tested gaskets may be used.



13.13 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
Halspan	SLS DRP
Lorient Polyproducts	IS8010si
Raven	RP8Si
Athmer	Schall-Ex Duo L-15
Norsound	810

13.14 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 when installed in a timber based doorset of comparable thickness. Products may be fitted up to 1200mm from floor level and no closer than 100mm to any leaf edge.

13.15 Air Transfer Grilles

Air transfer grilles may be fitted providing the product has suitable test evidence to BS 476: Part 22: 1987 or BS EN 1634-1 that demonstrates a minimum 60 minutes integrity performance when installed within a timber based doorset of comparable thickness. Margins to the leaf edges will remain as detailed for glazing and the position of the unit will be dictated by the pressure regime tested in the proving evidence (normally below mid height). The area occupied by the air transfer grille must not exceed that proven by the supporting fire test for the specific type of grille being used, and must be deducted from the area of glazing, if both elements are fitted.

13.15.1 Smoke Control

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(s).

14 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.

15 Fixings

Door frame fixings must meet the following criteria.

Material	Section Size (mm)
4No steel wood screws per jamb	No 10 x 80 long at nominally 600 centres

It is not necessary to fix the frame head, although packers must be inserted.

16 Door Gaps

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

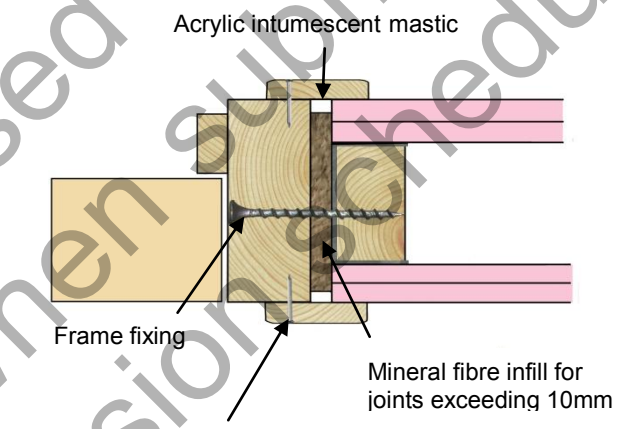
Location	Dimension
Door edge gaps	A minimum of 2mm and a maximum of 4mm.
Alignment tolerances	Leaves must not be proud of each other or from the door frame by more than 1mm.
Threshold gap	A maximum of 10mm between bottom of leaf and top of floor covering.

17 Sealing to Structural Opening

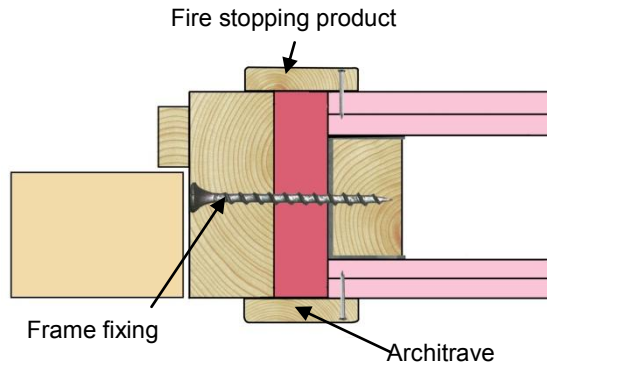
The door frame to structural opening gap must be protected using one of the following methods:

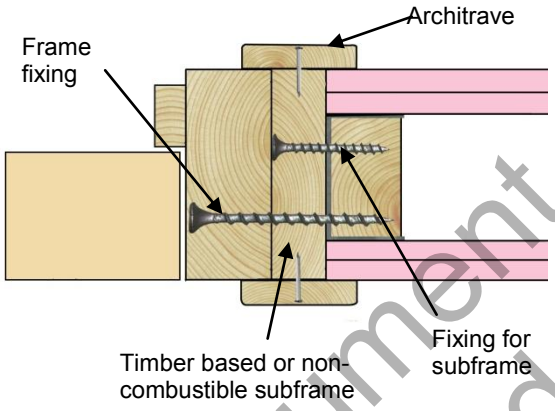
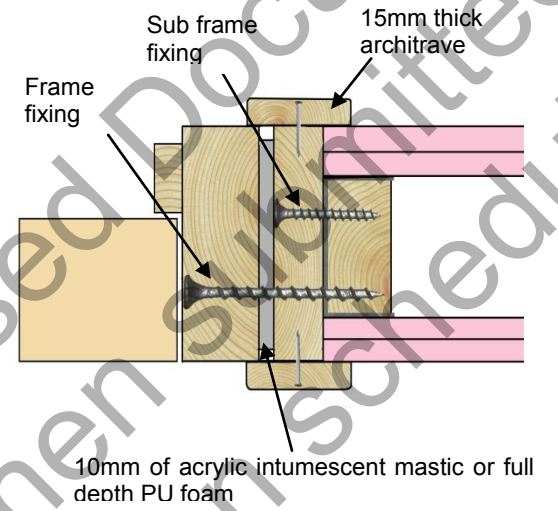
1. Gaps up to 10mm must be sealed on both sides with a 10mm depth of acrylic intumescent mastic, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.

2. Gaps between 10mm and 20mm must be tightly packed with mineral fibre capped on both sides with a 10mm depth of acrylic intumescent mastic, fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1. Architraves are optional.



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. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.



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.	
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. Joint must be fitted with 15mm thick architraves overlapping at least 15mm each side.	

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.

18 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 or partially insulating glazing
Fully insulating	Unglazed doorsets or doorsets glazed with fully insulating glass types (see sections 7.3 & 7.4)

19 Smoke Control

19.1 General

If the doorset design is required to provide a smoke control function to comply with Building Regulations, the doorset must meet one of the following criteria (unless pressurization techniques complying with BS EN 1201-6 are used);

(a) have a leakage rate not exceeding $3m^3/m/hour$ (head and jambs only) when tested at 25Pa under BS 476 *Fire tests on building materials and structures*, Section 31.1 - *Methods for measuring smoke penetration through doorsets and shutter assemblies, Method of measurement under ambient temperature conditions*; or

(b) meet the additional classification requirement of Sa when tested to BS EN 1634-3:2004 - *Fire resistance tests for door and shutter assemblies*, Part 3 – *Smoke control doors*.

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

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

19.2 Further Considerations

Other guidance is available, including BS EN 9999-2008 - *Code of practice for fire safety in the design, management and use of buildings,* which may impose different or additional requirements. It is the responsibility of the relevant parties to stipulate the precise smoke control specification, prior to commencing manufacture and/or installation.

20 Conclusion

If the Sentry ProTech doorset design, constructed in accordance with the specification documented in this global assessment, were to be tested in accordance with BS EN 1634-1: 2013 and BS EN 1363-1: 1999, it is our opinion that it would provide a minimum of 60 minutes integrity and insulation (subject to section 18).

21 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 Panel Products Ltd.

22 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, BM TRADA 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.

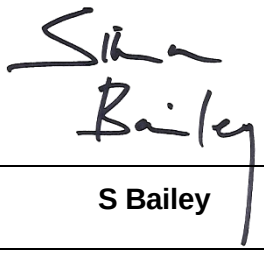
4. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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.

23 Validity

1. The assessment is initially valid for the period shown on the front cover, after which time it must be submitted to BM TRADA for technical review.

2. This assessment report is not valid unless it incorporates the declaration given in section 21 duly signed by the applicant.

Signature		
Name	**A M Winning**	**S Bailey**
Title	Senior Product Assessor	Product Assessor

Appendix A

Performance Data

Primary Data

Report No	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)
RF13144	ULSADD	2134 916 54	BS EN 1634-1: 2008 and BS EN 1363-1: 1999	Integrity: 68 Insulation: 68

Supplementary Data

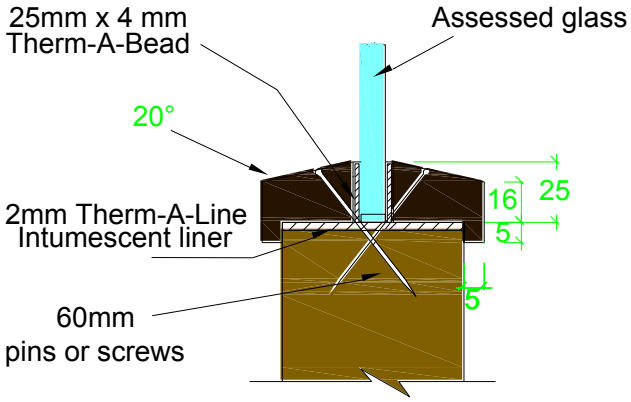
RF12077[1]	A: ULSADD	2050 700 54	BS EN 1634-1: 2008 and BS EN 1363-1: 1999	Integrity: 79 Insulation: 0[2]
	B: ULSADD	2050 700 54		Integrity: 68 Insulation: 0[2]
	C: ULSADD	2050 927 54		Integrity: 61 Insulation: 0[2]

[1] All 3 leaves tested with uninsulating Pilkington Group Ltd Pyroclear 60-001.

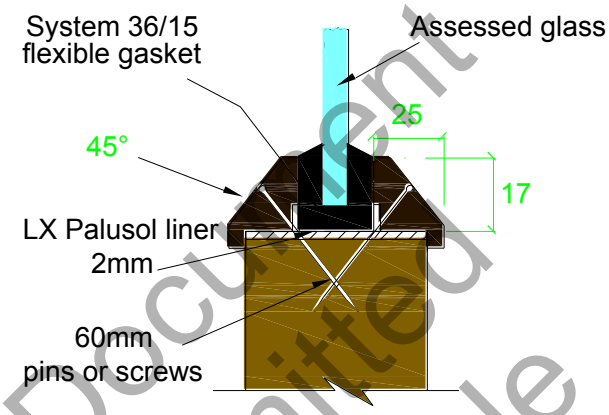
[2] In conformance with section 5.2.2.1 of BS EN 13501-2, the samples were not evaluated for thermal insulation; test data is used to support assessment of un-insulating and partially insulating glass products in addition to the insulating glass tested within RF13196

Appendix B

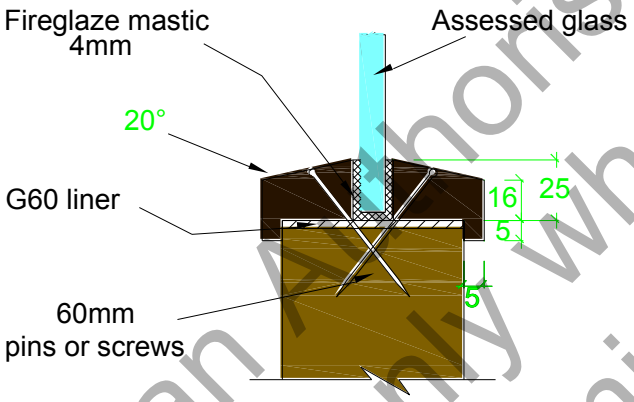
Proprietary 60 Minute Glazing Systems



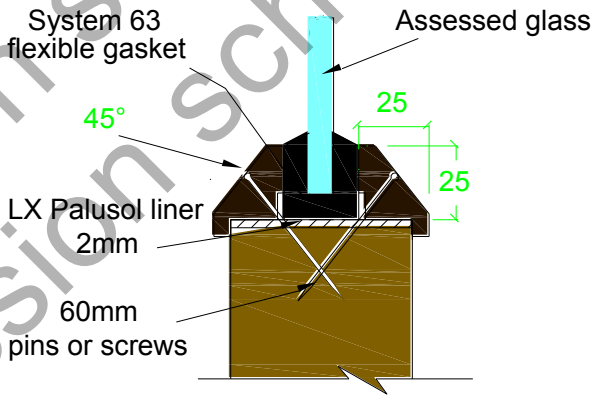
Therm-A-Glaze 60
Intumescent Seals Ltd



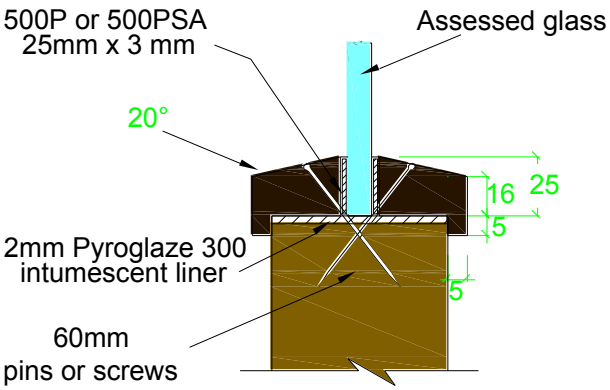
System 36/15
Lorient Polyproducts Ltd



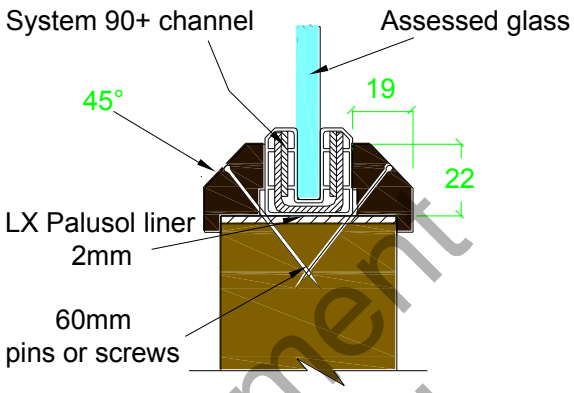
Fireglaze Mastic
Sealmaster Ltd



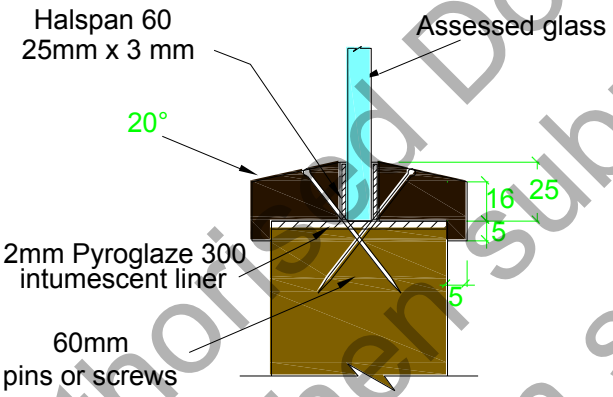
System 63
Lorient Polyproducts Ltd



Pyroglaze 60
Mann McGowan Ltd



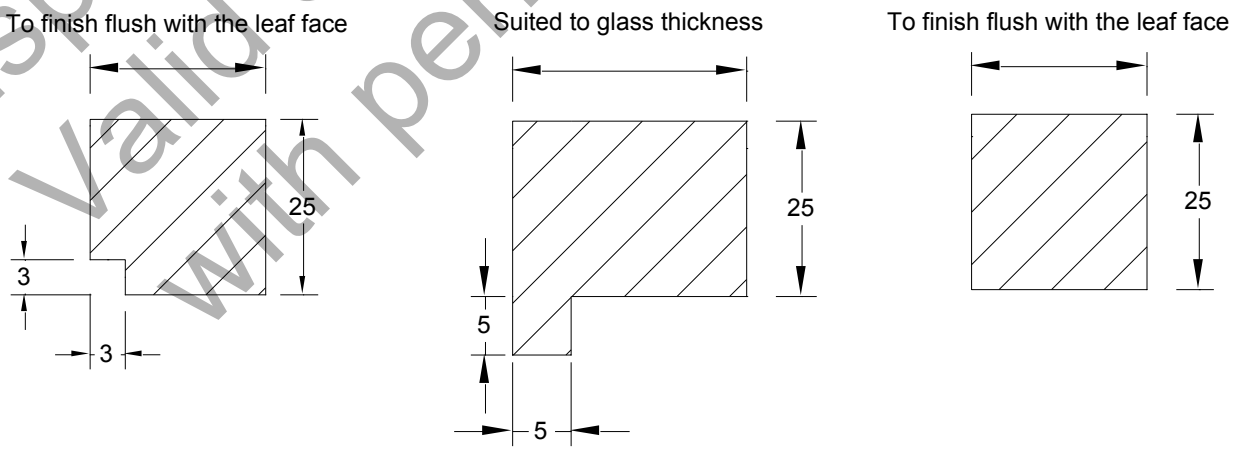
System 90+
Lorient Polyproducts Ltd



Halspan 60
Halspan Ltd

Assessed Square Glazing Bead Profiles

(the following square bead profiled may be used as an alternative to the splayed beads detailed above - refer to section 7 for glazing system and glass restrictions)



Appendix C

Revisions

Revision	BM TRADA Reference	Date	Description
A	A14048	04.04.14	Additional glass coverage based on new test data

Appendix D

Data Sheets for

Sentry ProTech

60 Minute Fire Resisting Doorsets

Sentry ProTech - 60 Minute Fire Resisting Doorsets

Latched and Unlatched Single Acting & Double Acting Single Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2134	x	1046
		To:	2412	x	916
	ULSASD & DASD	From:	2134	x	1021
		To:	2362	x	916
Glazing		Maximum Glazed Area	0.5m^2 (see section 7 for details)		
		Approved systems	See section 7 and appendix B		

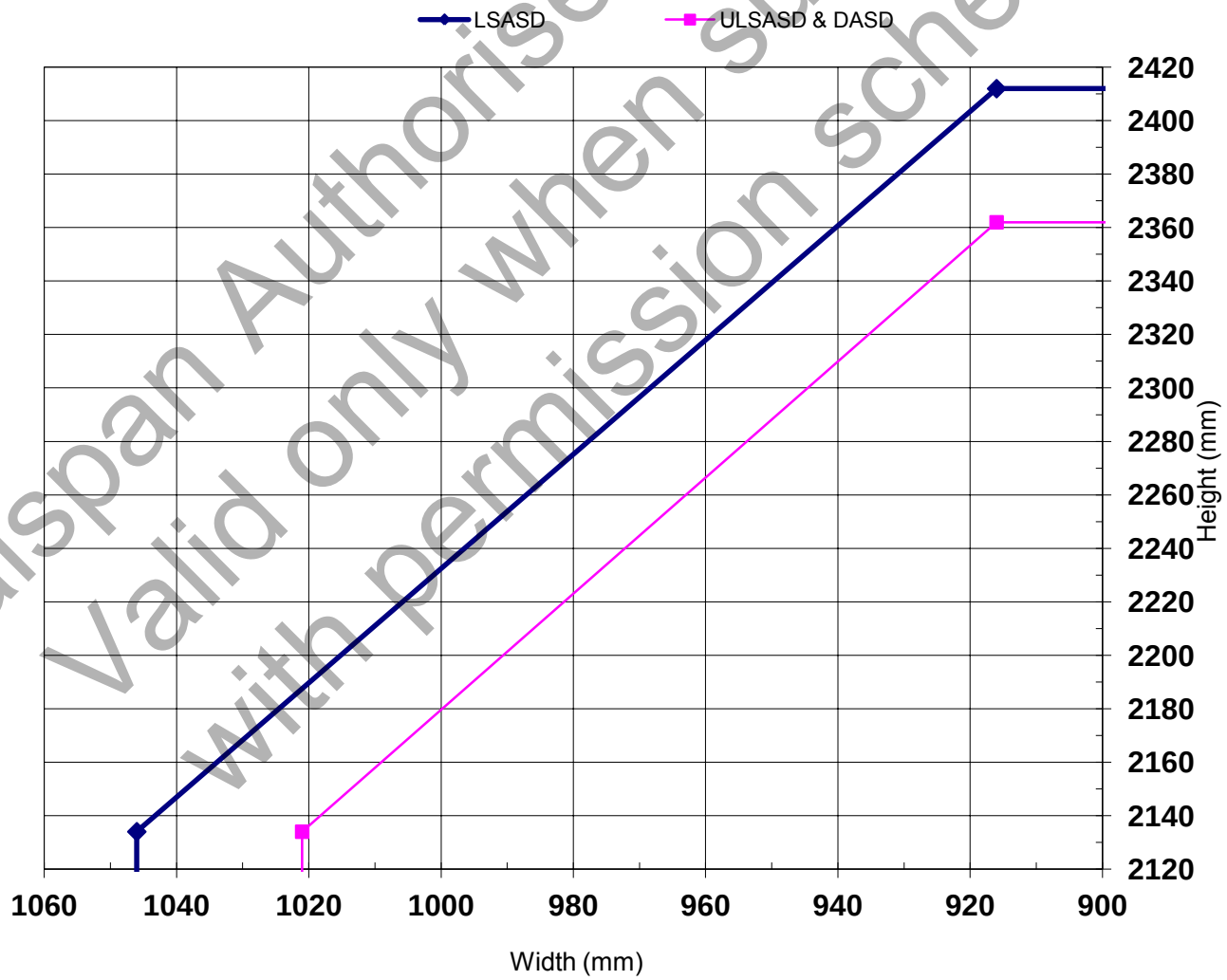
Intumescent Materials: PVC encased, Type SLS – Halspan Ltd or Mann McGowan 500P.

Head 2 No 15 x 4mm exposed and fitted 5mm either side of the centreline in the frame head.

Jambs: 2 No 15 x 4mm exposed and fitted 5mm either side of the centreline in the frame reveal.

Hardware Protection: see section 11

Maximum Door Leaf Size



Sentry ProTech - 60 Minute Fire Resisting Doorsets

Latched and Unlatched Single Acting & Double Acting Double Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2134	x	996
		To:	2312	x	916
	ULSADD & DADD	From:	2134	x	971
		To:	2262	x	916
Glazing		Maximum Glazed Area	0.5m^2 (see section 7 for details)		
		Approved systems	See section 7 and appendix B		

Intumescent Materials: PVC encased, Type SLS – Halspan Ltd or Mann McGowan 500P.

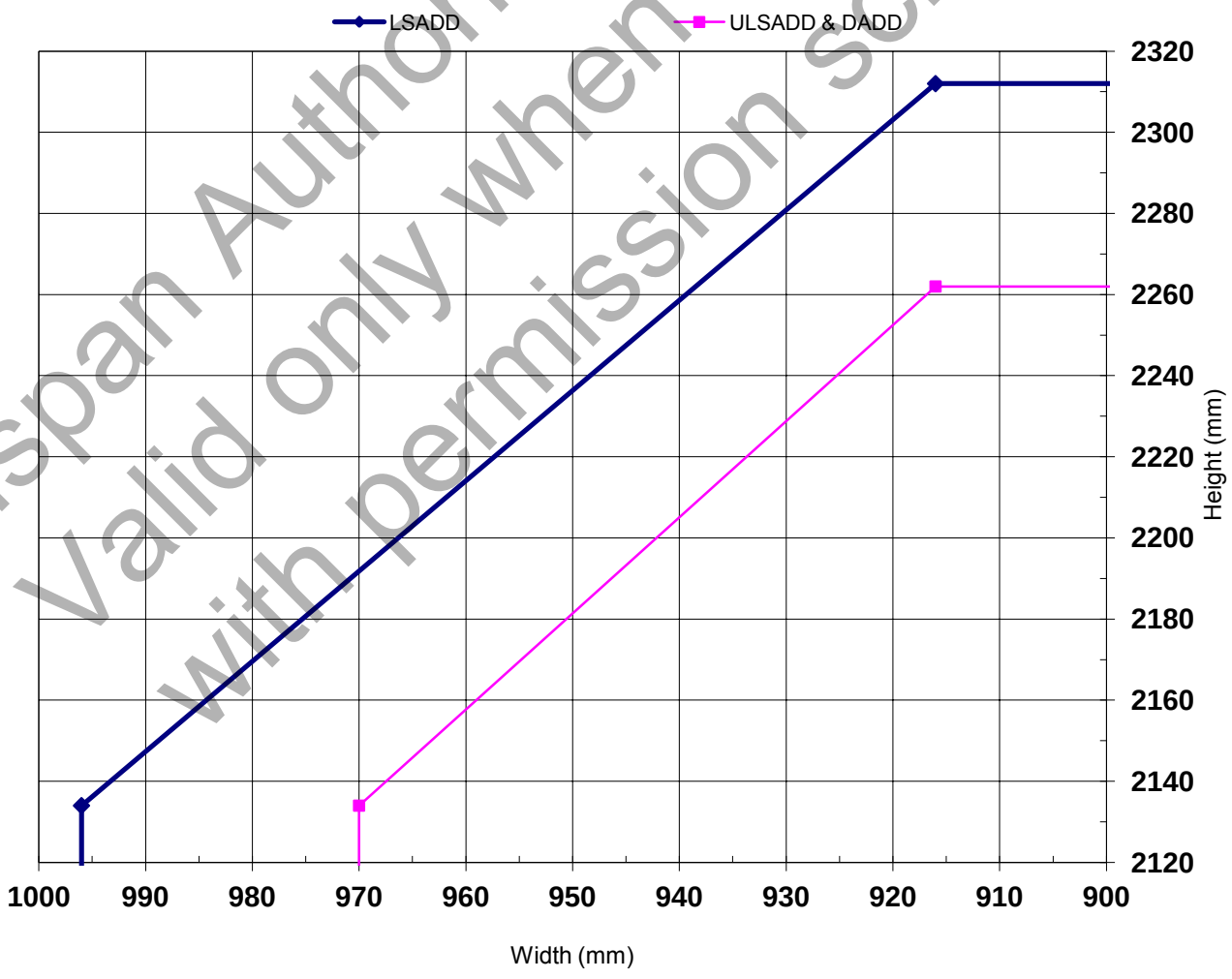
Head:
Square: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in the frame head.

Meeting Edges:
Square: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in one leaf edge only.

Jambs: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in the frame reveal.

Hardware Protection: see section 11

Maximum Door Leaf Size



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