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**FIELD OF APPLICATION REPORT IFCA/08147
REVISION A**

**Field of Application of the Fire
Resistance of E30 or E60 Moralt Finesse
FireSound 40 and 41 Door Leaves
Installed in Timber Door Frames**

Prepared on behalf of:

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AMENDMENT RECORD

Date	Paragraph	Amendment
11/06/09	Various	Inclusion of alternative concealed intumescent material and glazing system and change to minimum density for frames

Revision	IFCA/08147	Revision A				
Author	DC	DC				
Reviewer	DJI	DJI				

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1. INTRODUCTION

This report has been prepared by International Fire Consultants Ltd (IFC) to define the Field of Application for the Moralt Finesse FireSound 40 and 41 door leaves installed in timber door frames, that are required to provide 30 or 60 minutes fire resistance performance, when adjudged against BS EN 1634-1: 2000.

The door leaf constructions included within the scope of this Field of Application Report are as follows;

- 54mm thick Moralt Finesse FireSound 40
- 59mm thick Moralt Finesse FireSound 41

The methodologies used in preparing this document are based upon the guidance in BS ISO/TR 12470: 1998; *'Fire resistance tests - Guidance on the application and extension of results'*.

It is proposed that variations to the tested specifications, as described in the following sections, may be accommodated into assemblies, without reducing their potential to achieve a 30 or 60 minute integrity rating, if tested in accordance with the method and criteria of BS EN 1634-1: 2000. The omission of information on any components or manufacturing methods does not imply a lack of approval of those details but these would need to be the subject of a separate analysis. Only variations specifically mentioned are supported by this assessment document, and all other aspects must otherwise be as proven in tests summarised herein.

2. TEST EVIDENCE

The test evidence used to support this assessment is summarised in Appendix F of this report.

3. SCOPE OF APPROVAL

3.1 Doorset Configuration

The following doorset configurations are approved for the following doorset constructions within the scope of this report:

3.4.1 Moralt Finesse FireSound 40

Latched, Single Acting, Single leaf Doorset	LSASD
Latched, Single Acting, Single leaf Doorset + Overpanel	LSASD + OP <i>Note 1</i>

3.4.2 Moralt Finesse FireSound 41

Latched, Single Acting, Single leaf Doorset	LSASD
Latched, Single Acting, Single leaf Doorset + Overpanel	LSASD + OP <i>Note 1</i>

Note 1 Overpanels may be fitted above a transom member.

3.2 Maximum Assessable Door Leaf Sizes

The calculated envelopes of assessed leaf dimensions for each mode and configuration covered by this Field of Application report are given in Appendix C for E30 and Appendix E for E60, based upon use of the intumescent seal specifications shown in Appendix B for E30 and Appendix D for E60.

3.3 Transommed Overpanels

Transommed overpanels are permitted across the entire range of Moralt Finesse FireSound 40 and 41 doorset configurations. The intumescent seal specification around the overpanel perimeter shall be as defined in Appendix C. Lippings shall be in accordance with Section 3.4; transom members shall be in accordance with Section 3.5; glazing shall be in accordance with Section 3.6 and installation shall be as defined in Section 3.8.

The size of overpanels is limited to the full width of the leaf/leaves contained within the doorset and the following maximum height:

Single leaves:	2000mm high
Double leaves:	1500mm high

In all cases, the overpanel must be a single piece panel across the frame width; i.e. a "double door" overpanel shall not be used above double door leaves. Approval of an overpanel size by IFC does not indicate that such a size can be fabricated, this should be checked with the manufacturer, and will be subject to the ability of the supporting construction providing adequate restraint/support.

3.4 Door Leaf and Overpanel Specification

The Moralt Finesse FireSound 40 and 41 door and overpanel construction comprise bespoke layered core and facing constructions. No stiles or rails are incorporated in the door leaf designs and all four edges are lipped with hardwood. Detailed constructional specifications are given below for the various leaf constructions included in this Field of Application Report.

The leaf constructions, below, are based upon the test evidence detailed in Appendix F, and define variations and tolerances, where it is considered that these will not adversely affect overall fire resistance. (The constructions details are limited to the information available from the test reports).

3.4.1 Moralt Finesse FireSound 40

Component		Species/Material	Dimensions	Minimum Density
Inner core		Acousticcore	13mm thick	750kg/m ³ <i>Note 2</i>
Outer core		Spruce ply veneers	10. 5mm thick on each side of inner core from 4.6mm (+/-1mm) wide lamels	450kg/m ³ <i>Note 2</i>
Stiles and rails		None fitted	–	–
Facings		Sasmox gypsum chipboard	10mm thick	1250kg/m ³ <i>Note 2</i>
Lippings		Hardwood <i>Note 3</i>	8–20mm thick	600kg/m ³ <i>Note 3</i>
Intumescent material centrally fitted behind the lippings		Lorient Palusol or Graphite based intumescent material	38 x 2mm	–
Adhesives	Core	Urea formaldehyde or melamine-urea formaldehyde	–	–
	Outer core veneers	Miracol 13F2 (PVAc)	–	–
	Facings	Urea formaldehyde or melamine-urea formaldehyde	–	–
	Lippings	Polyurethane (PU) or cross linked PVA	–	–
Minimum leaf thickness		–	53.5mm	–
Optional additional decorative finishes		Timber veneer, decorative plastic based laminate, PVC or paint	Maximum 2mm thick	–

Note 2 Nominal stated density

Note 3 Lippings to be straight grained hardwood, with minimum measured density 650kg/m³ (measured at 12% moisture content) of appropriate quality in accordance with BS EN 942: 1996. Moisture content to be 10 ± 2% for UK market (or to suit internal joinery moisture content specification of export countries).

3.4.2 Moralt Finesse FireSound 41

Component		Species/Material	Dimensions	Minimum Density
Inner core		Acousticcore	13mm thick	1000kg/m ³ <i>Note 4</i>
		Acousticcore	13mm thick	500kg/m ³ <i>Note 4</i>
Outer core		Spruce ply veneers	10. 5mm thick on each side of inner core from 4.6mm (+/-1mm) wide lamels	450kg/m ³ <i>Note 4</i>
Stiles and rails		None fitted	–	–
Facings		Chipboard	6mm thick	680kg/m ³ <i>Note 4</i>
Lippings		Hardwood <i>Note 5</i>	8–20mm thick	600kg/m ³ <i>Note 5</i>
Intumescent material centrally fitted behind the lippings		Lorient Palusol or Graphite based intumescent material	38 x 2mm	–
Adhesives	Core	Urea formaldehyde or melamine-urea formaldehyde	–	–
	Outer core veneers	Miracol 13F2 (PVAc)	–	–
	Facings	Urea formaldehyde or melamine-urea formaldehyde	–	–
	Lippings	Polyurethane (PU) or cross linked PVA	–	–
Minimum leaf thickness		–	58.5mm	–
Optional additional decorative finishes		Timber veneer, decorative plastic based laminate, PVC or paint	Maximum 2mm thick	–

Note 4 Nominal stated density

Note 5 Lippings to be straight grained hardwood, with minimum measured density 650kg/m³ (measured at 12% moisture content) of appropriate quality in accordance with BS EN 942: 1996. Moisture content to be 10 ± 2% for UK market (or to suit internal joinery moisture content specification of export countries).

3.5 Door Frames

Door frames must be constructed from hardwood with a minimum measured density of 640kg/m³ (measured at 12% moisture content). Timber must be straight grained and of appropriate quality in accordance with BS EN 942: 1996. Moisture content to be 10 ± 2% for UK market (or to suit internal joinery moisture content specification of export countries).

Minimum dimensions: 27mm face width (excluding stop) by 95mm deep with a minimum 12mm deep integral door stop ^{Note 6}.

Note 6 These dimensions assume that the rear of the frame is protected by the adjacent wall, (and firestopping), and that the frame does not project out from the wall.

The overall frame depth may be increased by the use of extension linings, but the joint between the main frame and the extension lining must not intrude in the plane of the door thickness. Where an integral architrave is used, the face of the door may project beyond the face of the wall, providing the thickness of the architrave is no greater than 10mm and it protrudes at least 15mm beyond the rear face of the door frame. This assumes that the face of the door leaf is flush with the face of the architrave.

Head/jamb joint: Mortice and tenon, or half-lapped joint, head twice screwed to each jamb **or** mitred joint which is glued with a non-thermally softening adhesive and the head twice screwed to each jamb.

Threshold: Between the jambs a Lorient IS4220 aluminium threshold can be installed, bedded on intumescent mastic.

Transom members: When a transom is used between a door and an overpanel, the member shall be at least 70 x 38mm, and shall include minimum 12mm thick door stops on both sides (i.e. making a minimum 70 x 62mm thick overall section). The overpanel must always be on the same plane as the door(s) below.

Architraves: Architraves are optional and have no fire performance requirements. (See Section 3.8 regarding wall/frame gaps).

3.6 Glazed Apertures

3.6.1 Glass Types

The doorset designs outlined in Section 3.4 of this report have been successfully tested with the inclusion of glazed apertures. The following glass type is approved for use in the doors considered herein, and is compatible with the identified approved glazing system given in Section 3.6.2.

20(±1)mm thick Pyrobel 16 (by AGC Flat Glass)

Expansion allowance shall be as recommended by the glass manufacturer.

3.6.2 Glazing Materials and Systems

The following glazing materials are approved for use in the doors considered herein, and are compatible with the identified approved glass type above.

Lorient System 36/21 with 54 x 2mm LX5402 Palusol liner
25 x 4mm Therm-A-Glaze 60 and 54 x 2mm Therm-A-Line aperture liner

3.6.3 Bead Profiles and Installation

Apertures are created by cutting directly into the door blank, with beads fitted directly to the door core. The approved bead sizes and profiles, and relevant fixing details, are shown on the **Figures 08147/01** in Appendix A.

Glazing beads shall be formed from good quality, straight grained, hardwood, with 600kg/m³ minimum density (measured at 12% moisture content. Timber must be free of splits, shakes and checks. Moisture content shall be 10 ± 2% for UK market (or to suit internal joinery moisture content specification of export countries).

Expansion gaps suitable for the size and type of glass must be allowed for within the glazing system.

3.6.4 Assessed Aperture Sizes

Based upon the size of apertures tested, it is the opinion of IFC that the following limitations apply to glazed apertures in the door leaves considered, herein;

- Maximum area of single aperture - 0.3m² *Note 7*
- Maximum vertical length of aperture - 1200mm
- Maximum horizontal length of aperture - 400mm
- Minimum distance from leaf edge (top) - 190mm
- Minimum distance from leaf edge (sides) - 190mm
- Minimum distance from bottom of leaf - 200mm
- Minimum distance between apertures - 100mm

More than one aperture may be included in each door leaf subject to the individual limitations above.

Note 7 Any aperture(s) for intumescent air transfer grilles, (see Section 3.7.4), must also be included in the total area permitted for apertures given above. Margins between apertures apply whether for glazing or grilles.

3.7 Hardware

Some of the various items of hardware to be used with the proposed doorsets will have a positive contribution to the overall performance ('essential hardware') and others are classed as 'non-essential'. However, in all cases it must be ensured that choice of items, or their installation within the assemblies, does not have a detrimental effect upon their achievement of the required period of fire resistance.

All hardware beyond the scope of the general guidance given below must have been subjected to fire resistance testing, and/or assessed by a notified body, to support its use in doors of a similar construction to that proposed, or third party certification shall be available to support its use on doorsets of the proposed type.

General guidance for all items of hardware is outlined below, based upon the range of items tested.

3.7.1 Hinges

The hinges used in testing were Enduromax stainless steel lift off hinges, but other hinges may be used, subject to compliance with the specifications below.

Hinge types: Fixed pin, washered butt, ball bearing butt or journal supported hinges may be used.

Number of hinges: 3no (1.5 pairs) per leaf. (4no should be used on leaves greater than 2200mm high).

Positions: Top hinge set 150mm from head of leaf and bottom hinge set 225mm up from the bottom of the leaf. The middle hinges must be equispaced between the top and bottom hinge or 200-250mm below the top hinge. (All positions ± 25 mm).

Fixings: Steel screws, as recommended by the hinge manufacturers, but in no case smaller than No 8 (3.8mm diameter) by 32mm long, and having thread for the full length. Position of screws (in relation to the door face) in blades of alternative hinge shall be similar to hinges tested with the proposed door type.

Hinge blade sizes: 2.5–3.5mm thick by 100–110mm high by 32–40mm wide. (These dimensions refer to the blade size, i.e. the part of the hinges that are recessed into the edge of the leaves/frame).

Hinge materials: Steel or Stainless Steel. (Aluminium, Nylon or 'Mazac' are not permitted). No combustible or thermally softening materials to be included.

Additional protection: All hinge blades must be bedded on 2mm thick non-pressure forming intumescent material (e.g. Interdens or Intumescent Seals Ltd Therm-A-Strip) and a minimum 9mm width of intumescent seal shall be continuous alongside the hinge blades.

Rising butt, non-cranked butts and spring hinges are not suitable for use on doors approved within the scope of this generic assessment, although may be suitable to form the subject of an individual and specific evaluation.

3.7.2 Mortice latches/locks

The doorset was originally tested with a E*S tubular mortise latch but other mortice locks/latches may be used, subject to compliance with the specifications below.

Mortice latches or locks should be centred at 1000mm (\pm 200mm), above the bottom of the door leaf, and should comply with the following specifications:

Latch/lock types: Mortice latches, tubular mortice latches, sashlocks, deadlocks

Maximum dimensions: Forend plate - 235mm long by 24mm wide
Latch body - 18mm wide (thick)
Strikeplate - 235mm long by 24mm wide

Latches must have no essential part of their structure made from polymeric or other low melting point (<800°C) materials, and should not contain any flammable materials.

The lock/latch body must be encased in, and lock/latch forend must be bedded on, minimum 2mm thick non-pressure forming intumescent sheet.

Over-morticing is to be avoided; mortices should be as tight as possible to the latch. If gaps around the case exceed 2mm, then these must be made good with intumescent mastic or sheet material. Holes for spindles should be kept as small as is compatible with the operation of the hardware.

Where apertures are specified, and are positioned such that locks/latches are included in the margin between the aperture and the door edge, care must be taken to ensure that the effective door 'stile' is not weakened by the mortice. It is a condition of this Field of Application Report that, except where tubular latches are employed, the margin must be at least 75mm wider than the lock/latch mortice. If the mortice latch/lock is fitted in line with a 'rail' between two apertures, no part of the lock mortice shall be closer than 50mm to the edge of any aperture.

3.7.3 Door closers

Each hinged door leaf must be fitted with a self-closing device unless they are normally kept locked shut and labelled as such with an appropriate sign which complies with BS5499: Part 1: 1990. The closer used in the test was not specified but other closers may be used, subject to compliance with the specifications below.

- Face-fixed overhead door closer (and accessories such as soffit brackets) that have been tested, assessed or otherwise approved for use on unlatched E30 or E60, as appropriate, cellulosic door leaves in timber frames may be used. Any accessory that is located within the door reveal must have appropriate test or assessment evidence. In addition, where areas of uninsulated glazing are adjacent to the closer, the selected closer type must have been tested on the unexposed face of an uninsulated steel door, or a fully glazed door fitted with uninsulating glass, to demonstrate that the closer does not emit flammable fluids onto the glass face that would otherwise cause integrity failure before the required period of fire resistance.

- This report does not approve the use of concealed overhead or jamb mounted closers.

It is essential that the closers are of the correct power rating for the width and weight of the doorsets (minimum power size 3). They must be fitted according to the manufacturer's instructions, and be adjusted so that they are capable of fully closing the door leaf, against any friction imposed by the latch, (and smoke seals, if fitted), from any position of opening.

3.7.4 Non-essential hardware items

Letter plates: These must be tested, assessed or otherwise approved for use in 54mm thick (or less) timber/cellulosic E30 or E60, as appropriate, doors. They must be fitted in accordance with the manufacturer's instructions, including all intumescent liners and flaps. Plates must not be less than 100mm away from the leaf edge, or any other aperture.

Note 8 The installation of such items in a door leaf may compromise its performance as a smoke control doorset.

Push plates, kick plates, etc: Plastic, pvc or metal plates may be surface-mounted to the doorsets, but, if more than 800mm in length by nominally 200mm wide, they must be attached in a way that would prevent them distorting the door leaf, e.g. glued with thermally softening adhesive or screwed with short aluminium screws and fitted in such a way so they will not be prevented from falling away by being trapped under door stops, glazing beads or handle escutcheons etc.

Pull handles: These may be fixed to the doorsets, provided that the fixing points are no greater than 500mm apart. Pull handles that are fixed through the leaf should use clearance holes as close fitting as possible to the bolt.

Intumescent air transfer grilles: These must be tested, assessed or otherwise approved for use with 54mm thick (or less) timber/cellulosic E30 or E60, as appropriate, doors. They must be fitted fully in accordance with the manufacturer's instructions, including all intumescent liners and cloaking grilles/beads. They must be no larger than that for which test or assessment evidence exists. (See Section 3.6.4 for restrictions on maximum size and placement of any apertures). These restrictions also apply to grilles, which must also be included in the total area permitted for apertures given in Section 3.6.4.

Note 9 The installation of such items in a door leaf may compromise its performance as a smoke control doorset.

Security viewers: These may be fixed into the proposed doors, subject to the following limitations, unless specific fire test evidence exists to the contrary;

- Viewers must not exceed 15mm outer diameter, and be made from brass or steel;
- Holes bored through the door must be lined with 1mm thick non-pressure forming intumescent mastic, or sheet material, and be no greater than 1mm larger than the bore of the viewer;
- The viewer must include an effective shutter/cover plate.

Dropseals: Lorient IS8010 threshold dropseals can be fitted into the bottom edge of fire rated door leaves, providing that they are encased in minimum 2mm thick low-pressure intumescent material and are positioned centrally within the door thickness.

3.8 Installation, Supporting Construction and Door Edge Gaps

The frames must be fixed back to the supporting construction with steel fixings at centres not exceeding 600mm; this applies to jambs and head. Screws shall be of sufficient length to penetrate the wall by at least 40mm, and shall be positioned such that they are not exploited by charring of the frame, irrespective of the direction of test exposure; (this may necessitate a twin line of screws). Packers shall be used at all fixing positions, although if combustible packers are employed, these must be protected by a layer of firestopping (see below), aligned near to each face of the door frame.

The supporting construction may be either timber or steel stud plasterboard clad partition, blockwork, brickwork or concrete walls, but shall be of a type that has been tested or assessed to provide in excess of 30 or 60 minutes, as appropriate, fire resistance at the required size when incorporating doorset openings. If fitted into timber or steel stud partitions, the method of forming the doorset aperture must be as tested by the partition and/or doorset manufacturer.

Note 10 Reference to steel stud partitions is in the context of permanent elements, such as those designed and proven by the plasterboard manufacturers – this report does not approve use of the proposed doorsets in proprietary 'demountable' partitions, which must be subject to a full and independent appraisal of the particular system and doorsets therein.

No part of the rear of the frame section shall be exposed once installed, (except for integral architraves) and the leaf must be flush with the face of the wall. There shall be no feature rebates or shadow gaps at the junction of the frame and wall.

The fire stopping between the supporting construction and timber frames should follow the recommendations of Table 2 or 3 in BS8214: 1990, "Code of practice for fire door assemblies with non-metallic leaves", using a product proven in such timber applications, and with reference to the correct depth of seal to suit the width of gap between wall and frame. The firestopping shall be positioned on the plane of the door leaf; (unless combustible packers are employed).

The gap between the door and the frame should be 2 – 4mm. Gaps under the door(s) should not exceed 6mm for fire performance, although, if smoke control is also required, these gaps should only be 3mm, or smoke seals should be included in accordance with BS8214 (see also Section 3.10 regarding suitability of smoke seals).

The doorset design should be such that the leaves are fully flush within the frame when in the closed position. They may however be set back from the exposed face of the frame if required.

Overpanels shall be secured into the frame using steel screws fixed through the rear of the frame members, passing at least 40mm into the centre line of the overpanel thickness. (Screws must not be fixed through the overpanel into the stops, or vice versa). Screws must be no more than 100mm from each corner of the overpanel, and at maximum 400mm centres, with a minimum of 2 screws per overpanel edge. The gap between overpanel and frame should be no greater than 1mm.

3.9 Intumescent Seals

Lorient Polyproducts Ltd Type 617 type seals may be employed across the complete range of door sizes and configurations approved herein. Intumescent protection is required for specific items of building hardware and this has been detailed in Section 3.7.

The intumescent seal specifications, widths, and positions are shown in Appendices B and D, based upon tested details.

3.10 Ambient Temperature Smoke Seals

Smoke seals, or combined intumescent/smoke seals (using the intumescent products approved in Section 3.9), that have been tested to BS476: Part 31: Section 31.1: 1983 and shown not to leak by more than 3m³/m/hr at 25Pa may be used in conjunction with the proposed doorsets to provide smoke control.

The orientation of the seals, door edge gaps, degree of building hardware interruption, and leaf configuration, will need to be as tested to BS476: Part 31: Section 31.1: 1983 to achieve the desired level of smoke control, unless these conflict with the intumescent seal widths and positions as shown in Appendix B, in which case, the latter shall take precedence.

Test evidence to BS476: Part 22: 1987 shall be available to demonstrate that the smoke seals will not adversely affect the overall fire resistance of timber doorsets, when fitted in the proposed arrangements.

4. CONCLUSION

It is the opinion of International Fire Consultants Ltd that, if the proposed Moralt Finesse FireSound 40 and 41 door leaves installed in timber frames were manufactured and installed in accordance with the requirements of this Field of Application Report, the leaf sizes are within the envelope of approved dimensions/sizes given for the configuration outlined in Appendices C and E, and the hardware, glazing details, and intumescent seal specification are in accordance with the recommendations of this report, then the assemblies, as described, would satisfy the integrity criteria for 30 or 60 minutes, as required, when tested for fire resistance to the conditions of BS EN 1634-1: 2000.

5. LIMITATIONS

This assessment addresses itself solely to the ability of the proposed assemblies described to satisfy the criteria of the fire resistance test and does not imply any suitability for use with respect to other unspecified criteria.

This document only considers the doorset constructions described herein, and assumes that the surrounding construction will provide no less restraint than the tested assembly, and that it will remain in place and be substantially intact for the full fire resistance period.

Where the constructional information in this report is taken from details provided to IFC and/or fire resistance test reports referenced herein, it is therefore limited to the information given in those documents. It is necessarily dependent upon the accuracy and completeness of that information. Where constructional or manufacturing details are not specified, or discussed herein, it should not, therefore, be taken to infer approval of variation in such details from those tested or otherwise approved.

Where the assessed constructions have not been subject to an on-site audit by IFC, it is the responsibility of anyone using this report to confirm that all aspects of the assemblies fully comply with the descriptions and limitations herein.

Any materials specified in this report have been selected and judged primarily on their fire performance. IFC do not claim expertise in areas other than fire safety. Whilst observing all possible care in the specification of solutions, we would draw the reader's attention to the fact that during the construction and procurement process, the materials used should be subjected to more general examination regarding the wider Health and Safety, and CoSHH Regulations.

This Report is provided to the sponsor on the basis that it is a professional independent engineering opinion as to what the fire performance of the construction/system would be should it to be tested to the named standard. It is IFC's experience that such an opinion is normally acceptable in support of an application for building approvals, certainly throughout the UK and in many parts of Europe and the rest of the world.

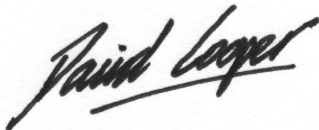
However, unless IFC have been commissioned to liaise with the Authorities that have jurisdiction for the building in question for the purpose of obtaining the necessary approvals, IFC cannot assure that the document will satisfy the requirements of the particular building regulations for any building being constructed.

It is, therefore, the responsibility of the sponsor to establish whether this evidence is appropriate for the application for which it is being supplied and IFC cannot take responsibility for any costs incurred as a result of any rejection of the document for reasons outside of our control. Early submittal of the Report to the Authorities will minimise any risks in this respect.

6. VALIDITY

This assessment has been prepared based on International Fire Consultants Ltd's present knowledge of the products described, the stated testing regime and the submitted test evidence. For this reason anyone using this document after June 2014 should confirm its ongoing validity.

Prepared by:



David Cooper BEng (Hons) AUS
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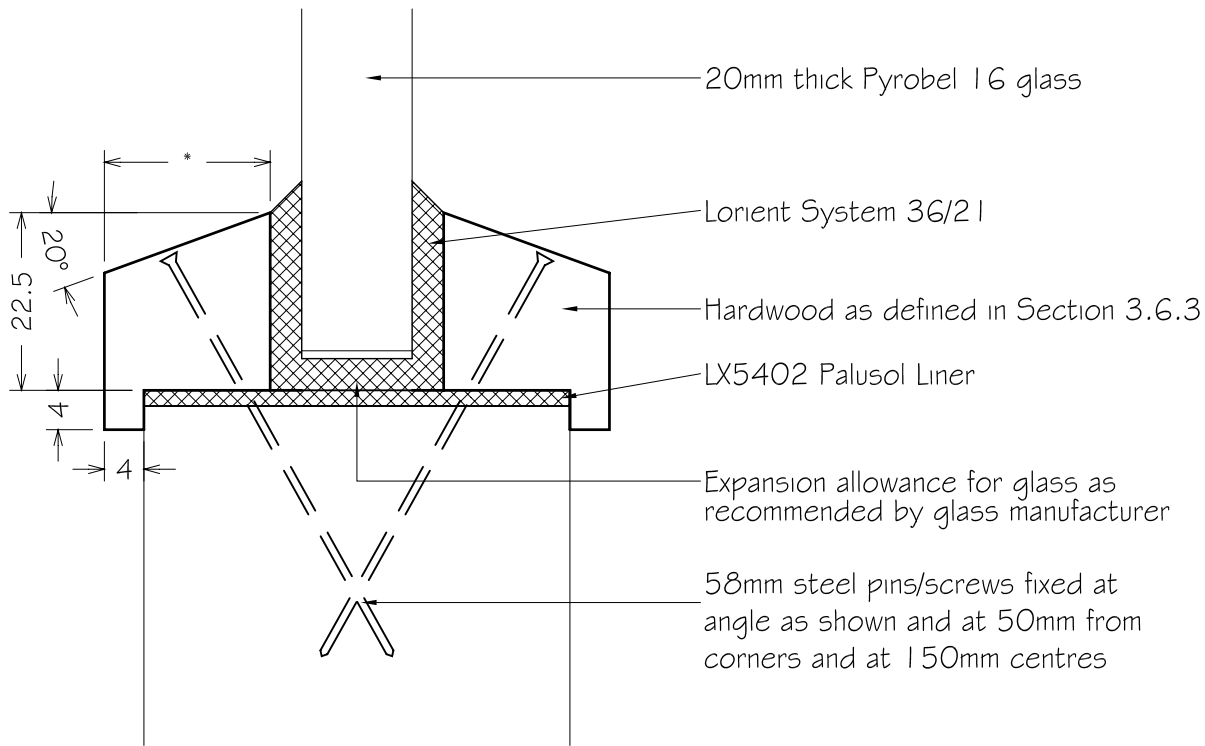
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APPENDIX A

Glazing Details

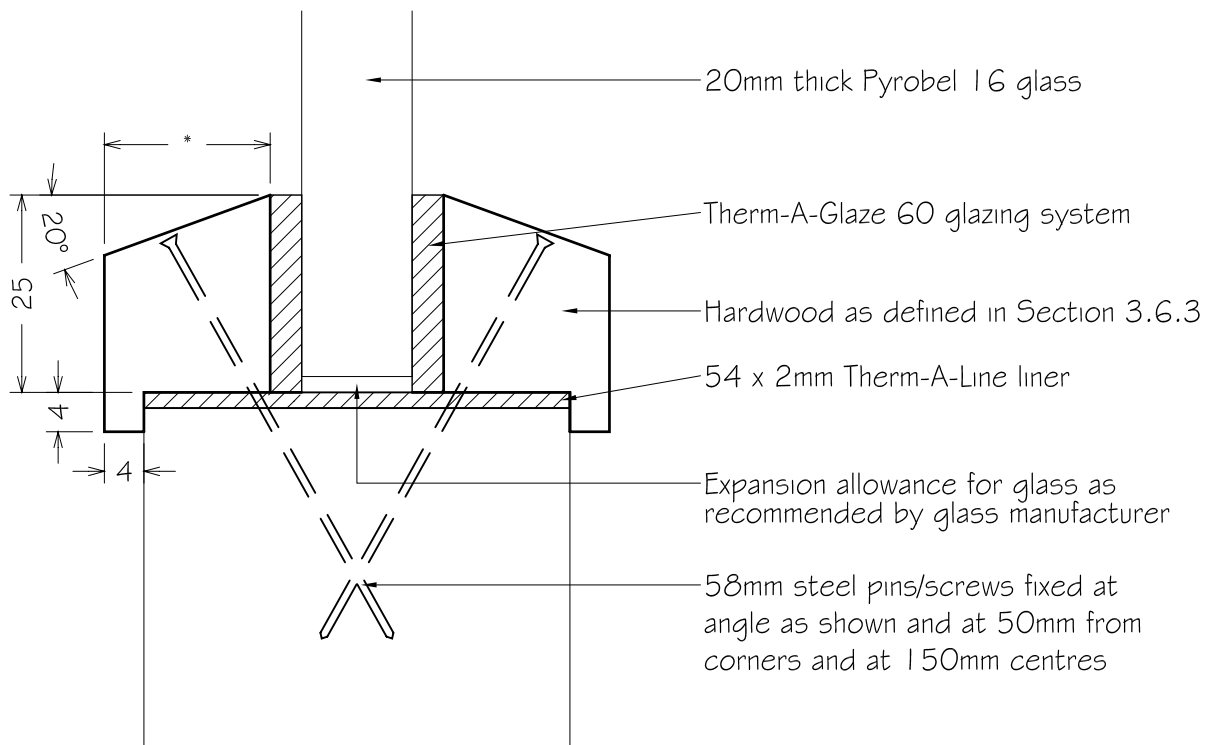
Figure 08147A/01

***The figure in this Appendix is not included
in the sequential page numbering of this report***



BEAD DETAIL B1

*Bead size is dependant upon door leaf thickness



BEAD DETAIL B2

*Bead size is dependant upon door leaf thickness

Refer to text of Report for details of glass and seal types

This drawing is Copyright©
Contractors must check all dimensions. Any discrepancies must be reported before work proceeds.
Only work to dimensions stated on drawing.

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Field of Application Report
IFCA/08147 Revision A
Moralt Tischlerplatten
E30 & E60 Field of Application

Glazing Details

Job number : 9404

Drawn by : CSP Checked by : DJC

Not To Scale June 2009

08147A/01

APPENDIX B

Assessed Intumescent Seal Specification for E30 Moralt Finesse FireSound 40 and 41

**Intumescent Seal Specifications for
E30 Moralt Finesse FireSound 40 and 41**

Location	Intumescent Seal Specification
Hanging and closing edge (stiles/jambs)	2no 15 x 4mm strips, centrally fitted, spaced 10mm apart, fitted in the leaf edge or frame reveal
Head	2no 15 x 4mm strips, centrally fitted, spaced 10mm apart, fitted in the leaf edge or frame reveal
Interface between overpanel and frame/transom	2no 15 x 4mm strips, centrally fitted, spaced 10mm apart, fitted in the overpanel edge or frame reveal

Note:

Lorient Polyproducts Ltd Type 617 type seals may be employed across the complete range of door sizes and configurations approved herein.

APPENDIX C

**Assessed Leaf Size Envelope for E30
Moralt Finesse FireSound 40 and 41**

Figure 08147A/02

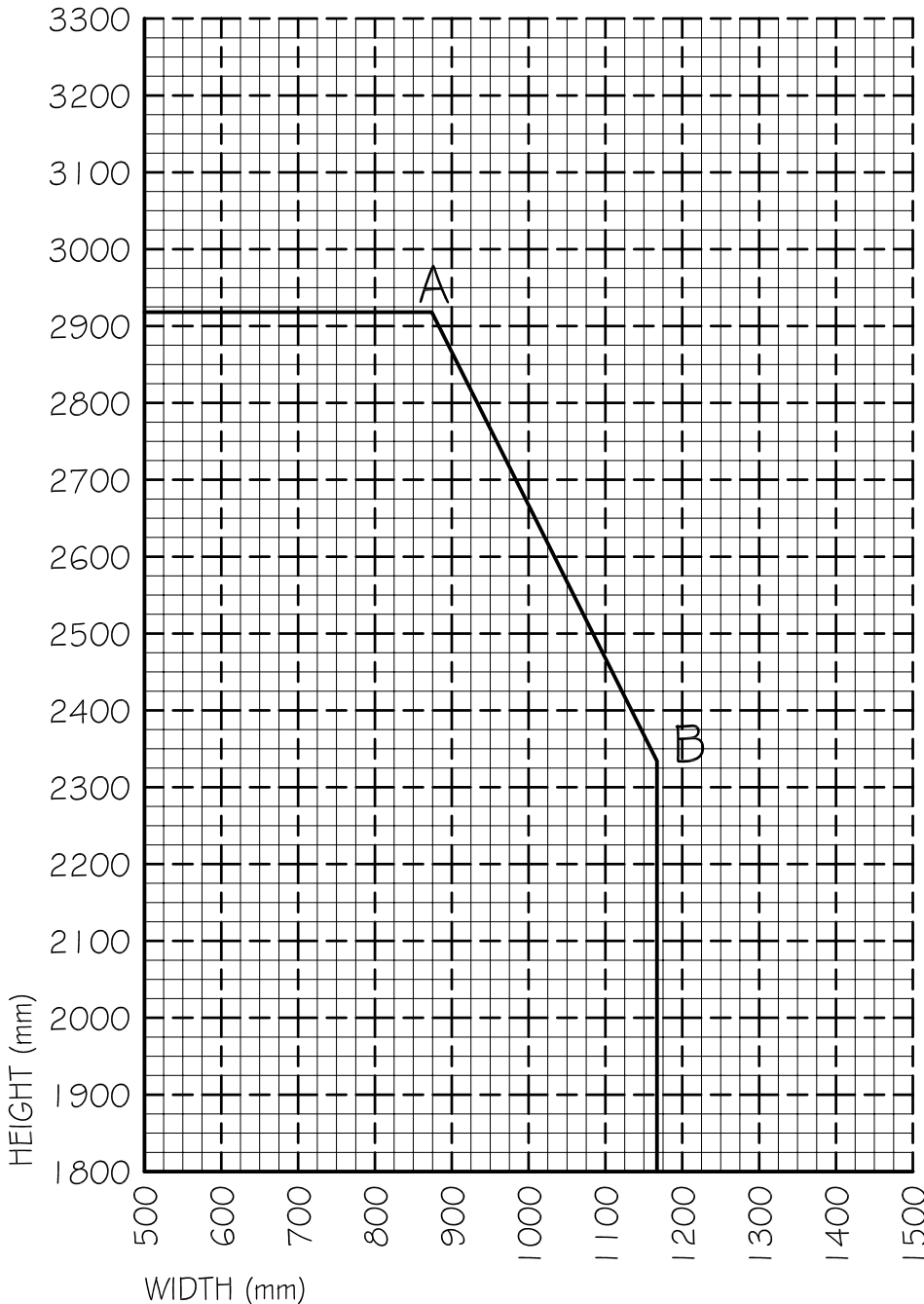
***The figure in this Appendix is not included
in the sequential page numbering of this report***

	A	B
Width	874	1167
Height	2918	2334

LEAF SIZE ENVELOPE POINTS

PROPOSED CONFIGURATION:

LATCHED
SINGLE ACTING
SINGLE LEAF
TRANSOMED OVERPANEL ONLY



Note:

These sizes relate to the door leaf.
Sizes for overpanels are defined in
Section 3.3 of the Report.

This figure must be read in conjunction with
International Fire Consultants Ltd's Field of
Application Report IFCA/08147 Revision A
which contains full details of the assessed
doorset construction.

This drawing is Copyright©
Contractors must check all dimensions.
Any discrepancies must be reported before
work proceeds.
Only work to dimensions stated on drawing.

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Field of Application Report
IFCA/08147 Revision A
Moralt Tischlerplatten
E30 & E60 Field of Application

Envelope of Approved Leaf Sizes
E30 Latched Single Acting
Single Leaf Doorset

Job number : 9404

Drawn by : CSP Checked by : DJC

Not To Scale June 2009

08147A/02

ENVELOPE OF APPROVED LEAF SIZES

The above graph represents the envelope of approved leaf sizes for the proposed door leaf configuration.

Any combination of leaf width and height that falls within the graph axes and the solid line on the graph above are approved.

POINT A represents the maximum leaf height and its associated width.

POINT B represents the maximum leaf width and its associated height.

APPENDIX D

Assessed Intumescent Seal Specification for E60 Moralt Finesse FireSound 40 and 41

**Intumescent Seal Specifications for
E60 Moralt Finesse FireSound 40 and 41**

Location	Intumescent Seal Specification
Hanging and closing edge (stiles/jambs)	2no 15 x 4mm strips, centrally fitted, spaced 10mm apart, fitted in the leaf edge or frame reveal
Head	2no 15 x 4mm strips, centrally fitted, spaced 10mm apart, fitted in the leaf edge or frame reveal
Interface between overpanel and frame/transom	2no 15 x 4mm strips, centrally fitted, spaced 10mm apart, fitted in the overpanel edge or frame reveal

Note:

Lorient Polyproducts Ltd Type 617 type seals may be employed across the complete range of door sizes and configurations approved herein.

APPENDIX E

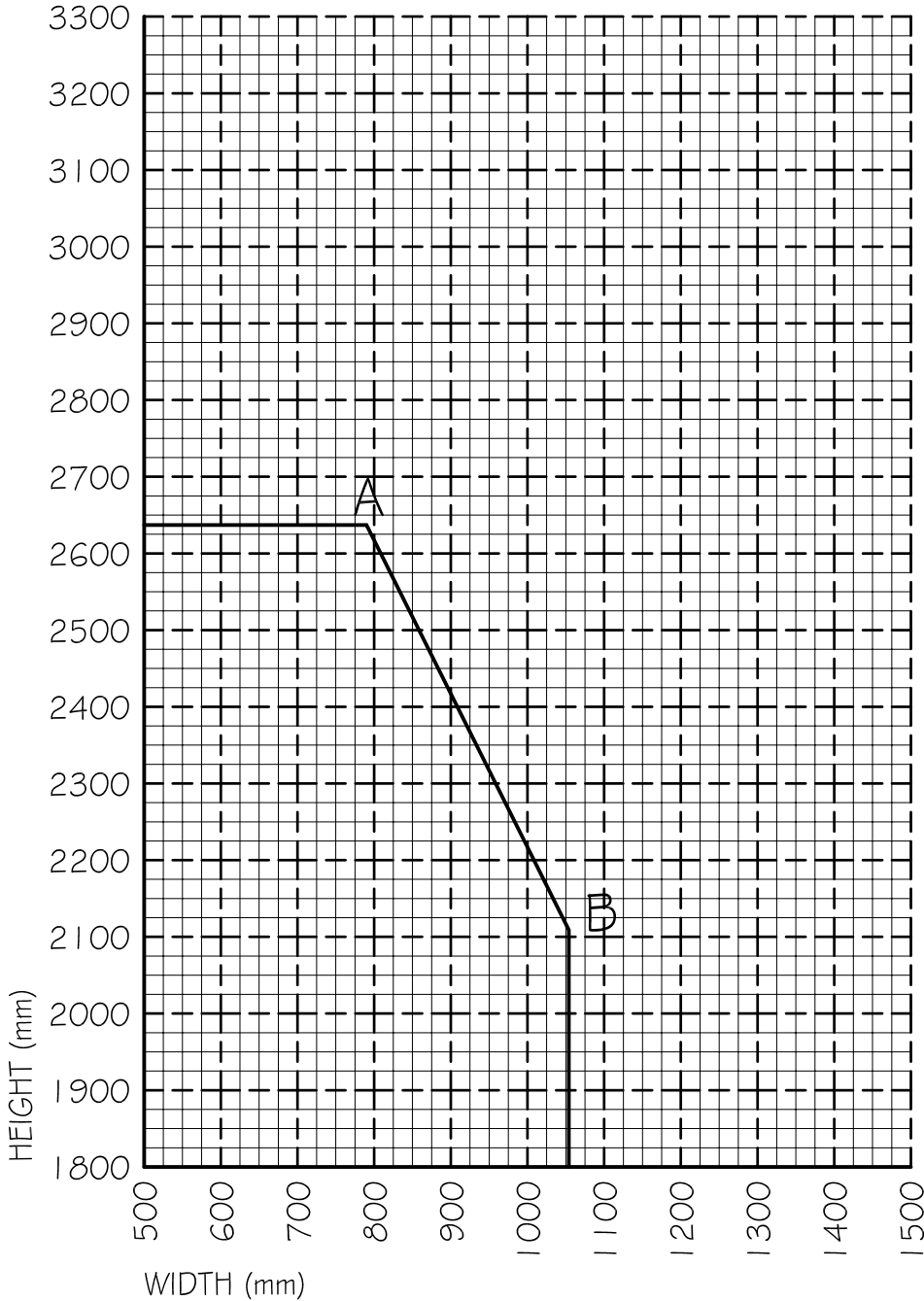
**Assessed Leaf Size Envelope for E60
Moralt Finesse FireSound 40 and 41**

Figure 08147A/03

***The figure in this Appendix is not included
in the sequential page numbering of this report***

	A	B
Width	790	1054
Height	2637	2109

LEAF SIZE ENVELOPE POINTS



ENVELOPE OF APPROVED LEAF SIZES

The above graph represents the envelope of approved leaf sizes for the proposed door leaf configuration.

Any combination of leaf width and height that falls within the graph axes and the solid line on the graph above are approved.

POINT A represents the maximum leaf height and its associated width.

POINT B represents the maximum leaf width and its associated height.

PROPOSED CONFIGURATION:

LATCHED
SINGLE ACTING
SINGLE LEAF
TRANSOMED OVERPANEL ONLY

Note:

These sizes relate to the door leaf.

Sizes for overpanels are defined in Section 3.3 of the Report.

This figure must be read in conjunction with International Fire Consultants Ltd's Field of Application Report IFCA/08147 Revision A which contains full details of the assessed doorset construction.

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Any discrepancies must be reported before work proceeds.
Only work to dimensions stated on drawing.

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Field of Application Report
IFCA/08147 Revision A
Moralt Tischlerplatten
E30 & E60 Field of Application

Envelope of Approved Leaf Sizes
E60 Latched Single Acting
Single Leaf Doorset

Job number : 9404

Drawn by : CSP Checked by : DJC

Not To Scale June 2009

08147A/03

APPENDIX F

Summary of Fire Test Evidence

Summary of Fire Test Evidence

Test Report	Configuration Tested	Leaf Sizes	Test Standard	Integrity
Chilt/ RF08162	LSASD	2135mm high x 914mm wide x 54mm thick	BS EN1634-1: 2000	30 minutes (glazing) 83 minutes (leaf perimeter)
	LSASD	2135mm high x 914mm wide x 59mm thick	BS EN1634-1: 2000	30 minutes (glazing) 77 minutes (leaf perimeter)
LOR 1055	LSASD	926mm high x 926mm wide x 54mm thick	BS EN1634-1: 2000	73 minutes
LOR 1056	LSASD	926mm high x 926mm wide x 59mm thick	BS EN1634-1: 2000	69 minutes

LSASD = Latched, Single Acting, Single leaf Doorset

Note:

Where appropriate, fire test evidence from glass, hardware, and intumescent seal manufacturers has also been considered when preparing this Field of Application Report.