

Field of Application Report

IFC Report PAR/10790/01 Revision D

Fire Resistance Standard: BS476: Part 22: 1987



Prepared for:

Royde & Tucker Ltd

Assessed Product/System:

Fire Resisting Sliding Portman Pocket Doors Installed in Timber Frames within Fire Resisting Partition Walls

Assessed Performance:

30 Minutes Fire Resistance

Issue Date

March 2023

Expiry Date

March 2028

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Issue and Amendment Record

REV	DATE	AUTHOR	REVIEW	SECTION	AMENDMENTS
-	March 2011	DC	DJI	Various	-
A	June 2012	DC	MB	Various	Addition of double leaf doorset test evidence and associated changes
B	September 2013	DC	DJI	Various	Addition of test evidence for 60 minutes fire resistance and additional hardware
C	April 2018	PNB	DC	Various	Addition of recessed pull handles, larger backset for new lock design, clarification on plasterboard required for pocket system, alternative head details for the track mount and track packers, increased design scope when using Halspan and Moralt door cores, clarification on the design scope permitted with generic timber based doors, revised scope with respect to assessed performance (assessment written in terms of BS476: Part 22 for all designs and configurations)
D	September 2022	WL	DC	Various	Revalidation and inclusion of new test reports WF518854 and WF518846 Version 2

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1. Introduction

This report has been prepared by International Fire Consultants Ltd (IFC), on the instruction of Royde & Tucker Ltd, to define the Field of Application for sliding Portman pocket doors installed in timber frames, that are required to provide 30 minutes fire resistance performance, when adjudged against BS476: Part 22: 1987.

This assessment has been produced using the principles outlined in the [Passive Fire Protection Forum \(PFPF\): 'Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence, 2021, Industry Standard Procedure'](#).

When establishing the variations in the construction that can achieve the required fire resistance performance, IFC complies with the principles found in the following documents:

- [BS ISO/TR 12470-2: 2017 'Fire resistance tests - Guidance on the application and extension of results from tests conducted on fire containment assemblies and products. Part 2: Non-load bearing elements'](#)
- [EN 15725: 2010 'Extended application reports on the fire performance of construction products and building elements'](#)

It is proposed that variations to the tested specifications, as described in the following sections, may be accommodated into door assemblies, without reducing their potential to achieve a 30 minute integrity rating, if tested in accordance with the method and criteria of BS476: Part 22: 1987. 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, all other aspects must otherwise be as proven in tests summarised herein.

Unless stated otherwise, herein, this Field of Application considers the scope of approval for door assemblies that may be installed with either face exposed to fire conditions.

2. Test Evidence

The test evidence used to support this Field of Application Report is summarised in Appendix C of this report.

Some of the test evidence referenced in this Engineering Assessment Report is more than 5 years old. In accordance with industry practice, IFC have reviewed this test evidence, and have concluded that the evidence is still valid, and suitable to form the basis of this approval.

The test standard BS EN 1634-1 has been revised several times since some to the testing referenced herein was carried out, and the current version is BS EN 1634-1: 2014+A1: 2018; but the revisions to the test standard do not affect the opinions in the Assessment Report.

The appropriate performance of fire resisting doorsets is defined in Approved Document B of the Building Regulations (2019 Edition with 2020 Amendments), the Scottish Building Standards Technical Handbook (2019 Edition) or the Building Regulations (Northern Ireland) 2012.

Table C1 in Appendix C of Approved Document B, which applies to England, identifies doorsets by their performance under test to BS EN 1634-1 or BS476: Part 22: 1987, in terms of integrity for a period of minutes, (e.g. E30/E60, if their performance is measured in terms of EN 1634-1, or FD30/FD60 for BS476: Part 22: 1987). It should be noted that a suffix (S) is added for doors where restricted smoke leakage at ambient temperatures is needed. The Scottish, Welsh and Northern Ireland documents also refer to the British and European Standards in Section 2D, Table B1 in Appendix B and Section B3 respectively of these documents.

These guidance documents thus give a parity of performance between the two test methods, and although the EN 1634-1 and the BS476: Part 22: 1987 test procedures are both generally based upon the ISO 834 fire resistance test method, there are differences. The major ones are thus;

- The method of measuring the furnace (exposure) temperature in the EN 1634-1 test is by means of plate thermocouples. The 'plates' have a greater thermal inertia than the bead thermocouples used in the BS476: Part 22: 1987 test, and therefore the heat input is higher than that given in BS476 at any given time during approximately the first 15 minutes of a fire resistance test.
- The furnace pressure in the EN 1634-1 test is neutral at a position 500mm above the threshold, compared to a nominal 1 metre in the BS476: Part 22: 1987 test. As a consequence, the pressure over the upper part of the doorset is higher and, therefore, is more onerous in the EN test.

There are other minor procedural matters that also increase the severity of the EN method. These, combined with the issues identified in a) and b) above, mean that the EN 1634-1 test is generally accepted as being a more onerous test than BS476: Part 22: 1987. This is borne out by IFC's experience of fire resistance testing already performed since the introduction of the European test standard.

As such, it is our opinion that any test results on doorsets tested to EN 1634-1 can be utilised in situations requiring a performance defined against the BS476: Part 22 test method, or when making assessments and judgements against the BS476 criteria, but not vice versa.

3. Scope of Approval

The Portman pocket sliding doors includes single leaf and double leaf arrangements installed within an exposed timber frame construction which fixes back to a timber sub frame within a plasterboard lined fire resisting partition wall. An elevation of single and double leaf door assemblies are shown in Figures 1 and 2 below.

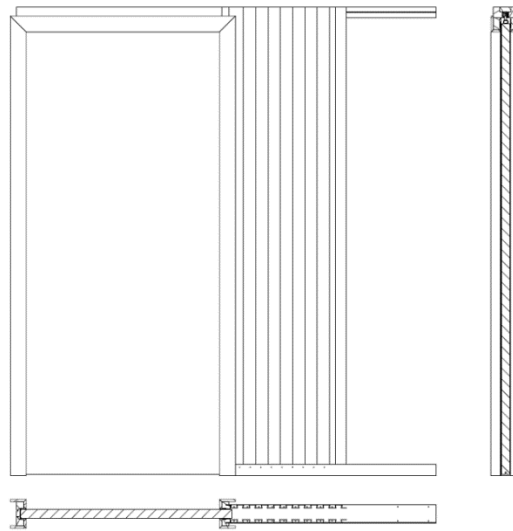


Figure 1 - Elevation of single leaf sliding door assembly

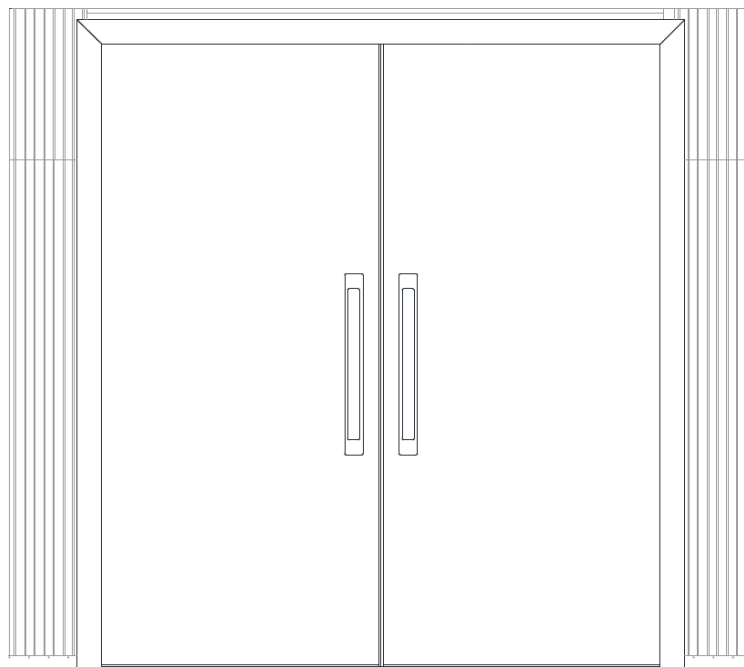


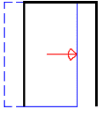
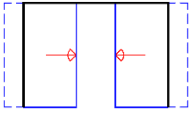
Figure 2 - Elevation of double leaf sliding door assembly

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3.1 Assembly Configuration and Maximum Assessable Door Leaf Sizes

The approved leaf sizes and configurations of door assemblies as detailed herein are outlined below.

The calculated envelopes of assessed leaf dimensions for each door assembly configuration covered by this Field of Application Report are given in Appendix B, based upon using the intumescent seal specifications shown in Appendix A.

	CONFIGURATION	ENVELOPE OF APPROVED LEAF SIZES
	<ul style="list-style-type: none"> • Unlatched • Horizontally Sliding • Single Door 	<p>Figure PAR/10790/01D: B01 in Appendix B</p>
	<ul style="list-style-type: none"> • Unlatched • Horizontally Sliding • Double Door ^{Note 1} 	<p>Figure PAR/10790/01D: B02 in Appendix B</p>

Note 1 Single and double acting double leaf door assemblies must have square edged (or slightly rounded) meeting stiles

Double door assemblies may comprise leaves of the same width, up to the maximum width indicated in Appendix B. For unequal pairs, the width of the small leaf shall not be more than 200mm smaller than that of the large leaf (although the large leaf must still be within the limitations in Appendix B). The width of the small leaf shall not be less than 250mm, since this will affect its vertical stability relative to that of the larger leaf.

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3.2 Door Leaf Construction and Configuration

3.2.1 Leaf Type

Five door leaf constructions are included within the scope of this Field of Application Report and they are as follows (herein referred to as proprietary door cores).

MANUFACTURER	DOOR LEAF	APPROVED FIRE RESISTANCE
Moralt	44mm thick FireSmoke	30 minutes
	44mm thick FireSafe	30 minutes
	54mm thick FireSmoke	30 minutes
Halspan	44mm thick 30 Prima	30 minutes
	54mm thick 60 Prima	30 minutes
Falcon Panel Products	44mm thick Strebord	30 minutes
	54mm thick Strebord	30 minutes
Royde & Tucker	44mm thick joinery door using Palusol® SW panels	30 minutes

Alternatively, otherwise tested 44mm thick timber based door leaves (approved for 30 minute applications only) are also to be considered as part of this assessment (herein referred to as generic door cores). The generic door core types are listed below:

- Graduated density or three-layered particle board (lipped on edges as appropriate)
- Laminated timber core with outer timber based facings (lipped on edges as appropriate)
- Particleboard, flax board or laminated timber core with perimeter timber stiles and rails and outer timber based facings
- Particleboard, flax board or laminated timber core with perimeter timber stiles and rails and outer timber based facings and non-combustible sub-faces
- Timber joinery door with infill panels or glass

3.2.2 Leaf Construction

The Moralt, Halspan, Falcon Panel Products and joinery door leaf types, referenced herein, constructions comprise of the constructional specifications given below.

The leaf construction, below, is based upon the details contained within the test evidence referenced in Appendix C, and defines variations and tolerances, where it is considered that these will not adversely affect the intended fire resistance performance. The construction details are limited to the information available from the test reports.

For the sake of clarity, this report only approves doors that are rectilinear; i.e. adjacent door edges shall be straight, and at 90 degrees to each other, when viewed in elevation. In addition, doors shall be “flat”; i.e. not curved, when viewed in plan.

44mm Thick Moralt FireSmoke, 44mm Thick Moralt FireSafe & 54mm thick FireSmoke

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE ^{Note 2}		Moralt LAMINESSE core (Details held on confidential file by IFC)	Details held on confidential file by IFC	Core thickness depends on facing thickness and door thickness
FACINGS (MUST HAVE SAME OPTION ON EACH FACE OF LEAF)		Particleboard – FireSmoke door only	Details held on confidential file by IFC	3.8mm thick or 6mm thick
		MDF – FireSmoke door only	Details held on confidential file by IFC	6mm thick
		Plywood (Cross-grain veneers) – FireSafe door only	Details held on confidential file by IFC	3.8mm thick or 6mm thick
LIPPINGS ^{Note 3}	SQUARE EDGES	Hardwood	640kg/m ³ ^{Note 4}	6–20mm thick
ADHESIVE	CORE	Details held on confidential file by IFC	-	-
	FACING			
	LIPPING	Urea formaldehyde, cross-linking PVA or cross-linking polyurethane (PU)		
MINIMUM LEAF THICKNESS		-	-	43.5 or 53.5mm
OPTIONAL ADDITIONAL DECORATIVE FINISHES		Timber veneer or decorative plastic based laminate (to leaf faces only)	-	Maximum 2mm thick
		Paint or varnish	-	Maximum 0.5mm thick

Note 2 Unless otherwise tested, and approved by IFC, the core for each leaf shall be formed from one single piece.

Note 3 Lippings to be fitted to all four edges

Note 4 Lippings to be straight grained hardwood, with minimum measured density at 12% moisture content and of appropriate quality in accordance with BS EN 942: 2007. Moisture content to be $11 \pm 2\%$ for UK market in heated buildings between 12-21°C (or to suit internal joinery moisture content specification of export countries).

The machining of the core/lipping, and bonding process, must be such to ensure that no gaps occur between core and lipping.

Adjustment of Door Sizes

- Where door edges are lipped, (irrespective of the door construction), and have square edges, they may be trimmed from each edge; but the minimum lipping width (defined in the Table above) must be maintained. If a greater adjustment is required, after fabrication, new lippings must be applied, complying with details in the Table above.

54mm Thick Halspan Prima

Option 1 - Monolithic Slab

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		Halspan Prima Three-layer particleboard produced by Continuous Press System (CPS) ^{Note 5}	630kg/m ³ ^{Note 5}	54mm thick
LIPPINGS <small>Note 6</small>	SQUARE EDGES	Hardwood	640kg/m ³ ^{Note 7}	6–28mm thick
ADHESIVE		Urea formaldehyde, phenol formaldehyde, polyurethane, PVAc or PVA	-	-
MINIMUM LEAF THICKNESS		-	-	54mm
OPTIONAL ADDITIONAL DECORATIVE FINISHES		Timber veneer or decorative plastic based laminate (to leaf faces only)	-	Maximum 2mm thick
		Paint or varnish	-	Maximum 0.5mm thick

54mm Thick Halspan Prima
Option 2 – ‘Bond-Up’

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		Halspan Prima Three-layer particleboard produced by Continuous Press System (CPS) <small>Note 5</small>	630kg/m ³ <small>Note 5</small>	44mm thick
(MUST HAVE SAME OPTION ON EACH FACE OF LEAF)		Hardwood Plywood	640kg/m ³	5mm thick
		MDF	750kg/m ³	
		Chipboard	750kg/m ³	
LIPPINGS <small>Note 6</small>	SQUARE EDGES	Hardwood	640kg/m ³ <small>Note 7</small>	6–28mm thick
ADHESIVE		Urea formaldehyde, phenol formaldehyde, polyurethane, PVAc or PVA	-	-
MINIMUM LEAF THICKNESS		-	-	54mm
OPTIONAL ADDITIONAL DECORATIVE FINISHES		Timber veneer or decorative plastic based laminate (to leaf faces only)	-	Maximum 2mm thick
		Paint or varnish	-	Maximum 0.5mm thick

Note 5 Average density with a ±10% variation permissible

Unless otherwise tested, and approved by IFC, the core for each leaf shall be formed from one single piece.

Note 6 Lippings to be fitted to vertical edges of each leaf, or can be fitted to all four edges, if required.

Note 7 Lippings to be straight grained hardwood, with minimum measured density at 12% moisture content and of appropriate quality in accordance with BS EN 942: 2007. Moisture content to be 11 ± 2% for UK market in heated buildings between 12-21°C (or to suit internal joinery moisture content specification of export countries).

The machining of the core/lipping, and bonding process, must be such to ensure that no gaps occur between core and lipping.

Adjustment of Door Sizes

- Where doors do not include stiles and rails, and where door edges are not lipped, there is no limit on reduction in door height, after fabrication; subject to compliance with all other parameters herein (e.g. aperture margins).
- Where door edges are lipped, (irrespective of the door construction), and have square edges, they may be trimmed from each edge; but the minimum lipping width (defined in the Table above) must be maintained. If a greater adjustment is required, after fabrication, new lippings must be applied, complying with details in the Table above.

44mm Thick Halspan Prima
Option 1 - Monolithic slab

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		Halspan Prima Three-layer particleboard produced by Continuous Press System (CPS) Note 8	630kg/m ³ Note 8	44mm thick
LIPPINGS Note 9	SQUARE EDGES	Hardwood	510kg/m ³ Note 10	6–28mm thick
ADHESIVE	LIPPING	Urea formaldehyde, phenol formaldehyde, polyurethan, PVAc, PVA or hot melt	-	-
OPTIONAL ADDITIONAL DECORATIVE FINISHES		Timber veneer or decorative plastic based laminate (to leaf faces only)	-	Maximum 2mm thick
		Paint or varnish	-	Maximum 0.5mm thick

44mm Thick Halspan Prima
Option 2 – ‘Bond-Up’ (Maximum Leaf Size 2150mm x 926mm)

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		Halspan Prima Three-layer particleboard produced by Continuous Press System (CPS) Note 8	630kg/m ³ Note 8	Minimum 38mm thick
FACINGS (MUST HAVE SAME OPTION ON EACH FACE OF LEAF)		MDF	720kg/m ³	3mm thick
		Chipboard	750kg/m ³	
		Hardwood Plywood	640kg/m ³	
LIPPINGS Note 9	SQUARE EDGES	Hardwood	510kg/m ³ Note 10	6–28mm thick
ADHESIVE	FACING	Urea formaldehyde, phenol formaldehyde, polyurethane, PVAc, PVA or hot melt	-	-
	LIPPING	Urea formaldehyde, phenol formaldehyde or polyurethane	-	-
OPTIONAL ADDITIONAL DECORATIVE FINISHES		Timber veneer or decorative plastic based laminate (to leaf faces only)	-	Maximum 2mm thick
		Paint or varnish	-	Maximum 0.5mm thick

Note 8 Average density with a $\pm 10\%$ variation permissible

Unless otherwise tested, and approved by IFC, the core for each leaf shall be formed from one single piece.

Note 9 Lippings to be installed at vertical edges of each leaf or can be installed to all four edges, if required. The lippings fitted in Option 2 – ‘Bond-up’ design to be fitted ‘between’ the facings.

Note 10 Lippings to be straight grained hardwood, with minimum measured density at 12% moisture content and of appropriate quality in accordance with BS EN 942: 2007. Moisture content to be $11 \pm 2\%$ for UK market in heated buildings between 12-21°C (or to suit internal joinery moisture content specification of export countries).

The machining of the core/lipping, and bonding process, must be such to ensure that no gaps occur between core and lipping.

Adjustment of Door Sizes

- Where doors do not include stiles and rails, and where door edges are not lipped, there is no limit on reduction in door height, after fabrication; subject to compliance with all other parameters herein (e.g. aperture margins).
- Where door edges are lipped, (irrespective of the door construction), and have square edges, they may be trimmed from each edge; but the minimum lipping width (defined in the Table above) must be maintained. If a greater adjustment is required, after fabrication, new lippings must be applied, complying with details in the Table above.

44mm Thick Falcon Strebord

COMPONENT		MATERIAL	DENSITY	DIMENSIONS
CORE		Solid sheet of Strebord® 44 particleboard	Minimum 570kg/m ³ to maximum 630kg/m ³	44mm thick
LIPPINGS	SQUARE EDGES	Hardwood	Minimum 530kg/m ³	8-28mm thick
ADHESIVE		Polyurethane, PVA, Urea formaldehyde, melamine-urea formaldehyde or resorcinol	-	-
OPTIONAL ADDITIONAL DECORATIVE FINISHES		Timber veneer or decorative plastic based laminate (to leaf faces only)	-	Maximum 2mm thick
		Paint or varnish	-	Maximum 0.5mm thick

54mm Thick Falcon Strebord

COMPONENT		MATERIAL	DENSITY	DIMENSIONS
CORE		Solid sheet of Strebord® 54 particleboard	Minimum 570kg/m ³ to maximum 630kg/m ³	54mm thick
LIPPINGS	SQUARE EDGES	Hardwood	Minimum 530kg/m ³	8-28mm thick
ADHESIVE		Polyurethane, PVA, Urea formaldehyde, melamine-urea formaldehyde, phenol formaldehyde or resorcinol	-	-
OPTIONAL ADDITIONAL DECORATIVE FINISHES		Timber veneer or decorative plastic based laminate (to leaf faces only)	-	Maximum 2mm thick
		Paint or varnish	-	Maximum 0.5mm thick

Note 11 Lippings to be installed at vertical edges of each leaf or can be installed to all four edges, if required.

Note 12 Lippings to be straight grained hardwood, with minimum measured density at 12% moisture content and of appropriate quality in accordance with BS EN 942: 2007. Moisture content to be $11 \pm 2\%$ for UK market in heated buildings between 12-21°C (or to suit internal joinery moisture content specification of export countries)
The machining of the core/lipping, and bonding process, must be such to ensure that no gaps occur between core and lipping.

Joinery Door Comprising Palusol® SW4 Panels

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
LEAF FRAMING	STILES	Softwood or Hardwood	510kg/m ³ Note 13	100mm wide x minimum 44mm thick
	TOP RAIL			100mm wide x minimum 44mm thick
	BOTTOM RAIL			200mm wide x minimum 44mm thick
	MID RAIL (AS REQUIRED)			200mm wide x minimum 44mm thick
PANEL	CORE	Palusol® SW4	1000kg/m ³	10mm thick
	ADDITIONAL FACING USED FOR RAISED AND FIELDDED PANELS	MDF	750kg/m ³	12mm thick reducing to 4mm thick at fielded areas
ADHESIVE – PANEL FACING		PVA	-	-
OPTIONAL ADDITIONAL DECORATIVE FINISHES		Timber veneer or decorative plastic based laminate (to leaf faces only)	-	Maximum 2mm thick
		Paint or varnish	-	Maximum 0.5mm thick

Note 13 Minimum measured density at 12% moisture content and of appropriate quality in accordance with BS EN 942: 2007. Moisture content to be 11 ± 2% for UK market in heated buildings between 12-21°C (or to suit internal joinery moisture content specification of export countries).

Alternative Door Cores

Otherwise tested 44mm thick timber based door leaves (approved for 30 minute applications only) are also to be considered as part of this assessment (herein referred to as generic door cores). The generic door core types are listed below:

- Graduated density or three layered particle board (lipped on edges as appropriate)
- Laminated timber core with outer timber based facings (lipped on edges as appropriate)
- Particleboard, flax board or laminated timber core with perimeter timber stiles and rails and outer timber based facings
- Particleboard, flax board or laminated timber core with perimeter timber stiles and rails and outer timber based facings and non-combustible sub-faces
- Timber joinery door with infill panels or glass

The following conditions must be met when using one of the generic door cores listed above with the Portman Pocket system:

- The door core being considered for use must have test evidence to BS476: Part 22: 1987 or BS EN 1634-1, which has been generated at a UKAS accredited test laboratory. The test evidence must demonstrate that the door design is capable of a minimum of 30 minutes fire resistance in a single or double leaf configuration, as appropriate for the end use application. Other than mounting the door onto the Portman Pocket sliding gear in accordance with the specification given in Section 3 of this report no other changes to the tested specimen are covered by this assessment (e.g. door leaf sizes, glazing, leaf size adjustment).

Note 14 Use of this Field of Application Report with a certificated door design does not automatically maintain the chain of certification of the door. It is strongly recommended that the door manufacturer and/or the certification provider are contacted to understand the limitations of using this assessment in conjunction with a specific Third Party Certified door design. Any identifying certification labels or markings must be removed from the door design unless instructed otherwise by the certification provider.

Alternative door cores meeting the above specification must follow the scope of approval given in Section 3 of this Engineering Assessment Report with respect to installation, pocket details, hardware and intumescent seals etc.

The alternative door cores can be glazed according to their supporting documentation, providing the door core is approved for flush glazing details i.e. glazing beads that do not project from the face of the door due to bolection returns or other decorative details. Such glazing details typically require glass that can provide radiation or insulation performance in terms of transferred heat.

Decorative details, such as face applied mouldings that project from the face of the door, leaf are also not permitted.

For clarification on the use of alternative door cores and associated details, it is recommended to speak with Royde and Tucker Ltd.

3.2.3 Leaf Modifications

The above door types required modifications when used in association with the Portman Pocket Door System. Details of these approved modifications are as follows.

- The base of the door leaves are to be centrally recessed to give a 15 x 12mm rebate, to include a 13 x 12 x 1.5mm plastic channel, bonded with polyurethane adhesive and/or pinned in place. This will locate the leaf over the floor guide.

3.3 Leaf Design Details

3.3.1 Panelled Leaves in Halspan Cores

Recessed Panels

Panels can be formed by machining through the face of the Halspan® Prima door leaf from both sides to leave a minimum of 20mm thickness of core remaining, prior to applying minimum 3mm thick timber-based facings (plywood, MDF, HDF, chipboard or solid timber – minimum density 650kg/m³). All facings to be adhered in position using either urea or phenol formaldehyde.

Infill Panels

Panels can be created by cutting apertures directly into the Halspan® Prima door leaf prior to infilling with either composite or solid chipboard panels. The panels are to comprise one of the following designs and retained in position using panel clips as outlined below.

ELEMENT		SPECIFICATION	
PANEL DESIGN	OPTION 1	12.5mm thick British Gypsum Fireline reinforced plasterboard faced with 4mm thick timber-based facings (plywood, MDF, HDF, chipboard or solid timber – minimum density 650kg/m ³) which is adhered in place using either urea or phenol formaldehyde	
	OPTION 2	25mm thick (standard grade) chipboard	
PANEL CLIPS	HORIZONTAL EDGES	Panels <650mm wide	2no clips Fitted 110-150mm from each corner
		Panels >650mm wide	3no clips Fitted 110-150mm from each corner and one at mid-width
	VERTICAL EDGES	Panels <650mm wide	2no clips Fitted 110-150mm from each corner
		Panels >650mm wide	Minimum 3no clips Fitted 110-150mm from each corner and at minimum 400mm centres thereafter
PANEL CLIP SPECIFICATION		10mm x 10mm 'L-shaped' steel bracket, 1.5mm thick and minimum 25mm long, fitted either side of the panel at the above locations	
PANEL CLIP FIXINGS		Minimum 25mm long steel screws or pins (minimum 1.6mm diameter) attaching the panel clips to the inside edge of the aperture. The fixings inserted parallel to the face of the door leaf.	
PANEL MOLDINGS		15mm high hardwood (minimum density 650kg/m ³) beads fitted over the panel brackets to finish, at a minimum, flush with the leaf face (can be chamfered or square) on both sides of the panel	
PANEL MOULDING FIXINGS		40mm long steel pins fitted 25-40 degrees to the face of the panel positioned 100mm in from the panel corners and at 150mm centres in between.	

ELEMENT	SPECIFICATION
PANEL PERIMETER INTUMESCENT SEAL	A 15 x 2mm strip of low-pressure Mono-ammonium phosphate e.g. Interdens or Therm-A-Strip fitted between the panel perimeter and the aperture cut-out.

Moulded Panels

Using the general 'Bond-up' door design outlined herein (Option 2) it is possible to adhere a profiled moulded HDF facing to either side of a Halspan® Prima 38mm thick core using urea or phenol formaldehyde.

The 38mm thick (or 44mm thick) Halspan® Prima core will need to be grooved to a profile that roughly follows the contours of the 'fielded' areas of the profiled HDF skins but must not reduce the remaining thickness of the core to less than 11mm to produce a finished minimum overall leaf thickness of 22mm in the fielded region. (The minimum thickness of the stiles/rails and 'raised' areas to be 44mm).

Minimum stile/rail width

The Halspan® Prima panelled door designs must contain a minimum of 2 panels (with no maximum limit) and incorporate the following minimum widths of critical frame elements.

FRAMING ELEMENT	MINIMUM WIDTH
Stiles	125mm
Top rail	125mm
Mid rail	150mm
Bottom rail	200mm
Intermediate rails/muntins	125mm

3.3.2 Solid Panels in Joinery Doors

Palusol® SW4 Raised and Fielded Panel Construction

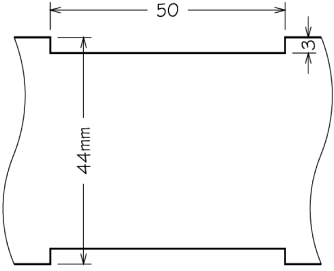
COMPONENT		DETAILS
NUMBER OF PANELS		1 to 10
RAISED AND FIELDED PANELS	CORE	10mm thick Palusol® SW4 HDF Sandwich
	FACING	12mm thick MDF glued with PVA adhesive. Minimum 4mm thick MDF at fielded areas
	MAXIMUM SINGLE PANEL AREA	1.37m ²
PANEL PERIMETER LINER		Mann McGowan Pyrostrip 100 ELSA 2mm thick intumescent material
FRAME GROOVE		18mm wide x 30mm deep groove in the leaf frame to accommodate the panel The panel thickness housed into the framing must not exceed 18mm.
PANEL BEADS		Integral softwood or hardwood of minimum density 510kg/m ³ , as required for leaf size. The leaf framing may be profiled at the perimeter, but any profile must be no deeper than 15mm. Additional planted beads/mouldings may be fitted as required

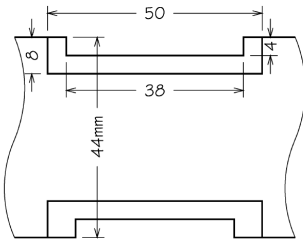
Palusol® SW4 Flat Panel Construction

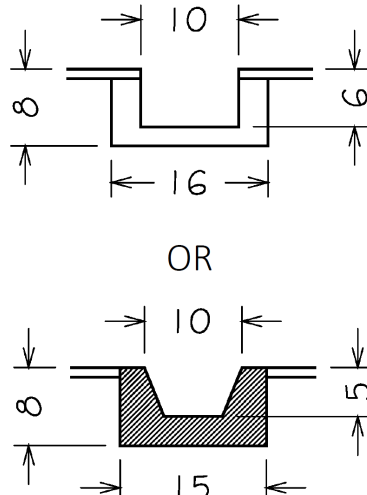
COMPONENT		DETAILS
NUMBER OF PANELS		1 to 10
FLAT PANELS	CORE	10mm thick Palusol® SW4 HDF Sandwich
	MAXIMUM SINGLE PANEL AREA	1.24m ²
PANEL PERIMETER LINER		Mann McGowan Pyrostrip 100 ELSA 2mm thick intumescent material fitted into the bottom of the panel groove
FRAME GROOVE		10mm wide x 30mm deep groove in the leaf frame to accommodate the panel.
PANEL BEADS		Integral softwood or hardwood of minimum density 510kg/m ³ , as required for leaf size. The leaf framing may be profiled at the perimeter, but any profile must be no deeper than 15mm. Additional planted beads/mouldings may be fitted as required.

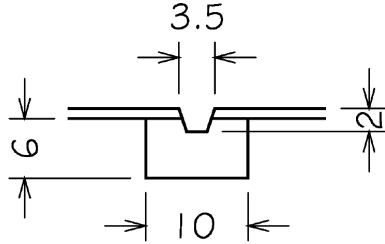
3.3.3 Feature Grooves

The following feature grooves may be used in the associated door types.

REFERENCE		OPTION A
APPROVED DOOR TYPES		44mm thick Halspan Prima and 54mm thick Halspan Prima
FIGURE		
MAXIMUM SIZE	FEATURE GROOVE	50mm wide x 3mm deep
	HARDWOOD INSERT	None – Groove machined directly into the particleboard blank
MAX QUANTITY OF GROOVES		No limitation – see required margins below
GROOVE ORIENTATION/SPACING		<ul style="list-style-type: none"> • Vertical and horizontal • Grooves may intersect one another
MINIMUM DISTANCE TO LEAF EDGE (TOP)		125mm
MINIMUM DISTANCE TO LEAF EDGE (SIDES)		125mm
MINIMUM DISTANCE TO LEAF EDGE (BOTTOM)		225mm
MINIMUM DISTANCE TO GLAZED APERTURE		50mm
APPROVED LEAF SIZE AND CONFIGURATIONS		Maximum leaf size – 2135mm x 926mm Approved for use in Halspan 44mm and 54mm thick Option 1 of 2 leaf construction types

REFERENCE		OPTION B
APPROVED DOOR TYPES		44mm thick Halspan Prima and 54mm thick Halspan Prima - Option 1 of 2 leaf construction types
FIGURE		
MAXIMUM SIZE	FEATURE GROOVE	38mm wide x 4mm deep
	HARDWOOD INSERT	Maximum 50mm wide x 8mm thick timber (minimum 510kg/m ³) using PU or UF adhesive
MAX QUANTITY OF GROOVES		<ul style="list-style-type: none"> • 4no. vertical • 4no. horizontal
GROOVE ORIENTATION/SPACING		<ul style="list-style-type: none"> • Vertical and horizontal • Grooves may intersect one another
MINIMUM DISTANCE TO LEAF EDGE (TOP)		95mm
MINIMUM DISTANCE TO LEAF EDGE (SIDES)		95mm
MINIMUM DISTANCE TO LEAF EDGE (BOTTOM)		195mm
MINIMUM DISTANCE TO GLAZED APERTURE		50mm

REFERENCE		OPTION C
APPROVED DOOR TYPES		44mm thick Halspan Prima and 54mm thick Halspan Prima
FIGURE		
MAXIMUM SIZE	FEATURE GROOVE	Maximum 10mm wide x 6mm deep groove into the hardwood insert
	HARDWOOD INSERT	Maximum 16mm wide x 8mm thick timber (minimum 640kg/m ³ density) using PU or UF adhesive
MAX QUANTITY OF GROOVES		<ul style="list-style-type: none"> Limited by the spacing requirements below A maximum of 4No. horizontal and 2No. vertical may run to the edge of the leaf.
GROOVE ORIENTATION/SPACING		<ul style="list-style-type: none"> Vertical and horizontal Grooves may intersect one another Minimum 100mm spacings
MINIMUM DISTANCE TO LEAF EDGE (TOP)		115mm (other than 2No grooves that may run to the top edge of the leaf)
MINIMUM DISTANCE TO LEAF EDGE (SIDES)		115mm (other than 4No grooves that may run to the sides of the leaf)
MINIMUM DISTANCE TO LEAF EDGE (BOTTOM)		115mm (other than 2No grooves that may run to the top bottom of the leaf)
MINIMUM DISTANCE TO GLAZED APERTURE		50mm
APPROVED LEAF SIZE AND CONFIGURATIONS		Maximum leaf size – 2135mm x 926mm Approved for use in Halspan 44mm and 54mm thick Option 1 leaf construction type only

REFERENCE		OPTION D
APPROVED DOOR TYPES		44mm thick Halspan Prima and 54mm thick Halspan Prima - Option 1 leaf construction type only
FIGURE		
MAXIMUM SIZE	FEATURE GROOVE	Maximum 3.5mm wide x 2mm deep into the hardwood insert
	HARDWOOD INSERT	Maximum 10mm wide x 6mm thick timber (minimum 640kg/m ³ density) using PU or UF adhesive
MAX QUANTITY OF GROOVES		<ul style="list-style-type: none"> Limited by the spacings below 2no. vertical grooves may extend to top and bottom of leaf edge
GROOVE ORIENTATION/SPACING		<ul style="list-style-type: none"> Vertical and horizontal Grooves may intersect one another Minimum 125mm from vertical leaf edges
MINIMUM DISTANCE TO LEAF EDGE (TOP AND BOTTOM)		Vertical grooves may extend to the top and bottom of leaf edges Horizontal grooves no closer than 125mm from the top or bottom leaf edges
MINIMUM DISTANCE TO LEAF EDGE (SIDES)		115mm
MINIMUM DISTANCE TO GLAZED APERTURE		50mm

REFERENCE		OPTION E
APPROVED DOOR TYPES		44mm thick Halspan Prima and 54mm thick Halspan Prima
FIGURE		<p>OR</p> <p>10x1mm Aluminium Insert</p>
MAXIMUM SIZE	FEATURE GROOVE	Maximum 10mm wide x 5mm deep groove into the hardwood insert
	HARDWOOD INSERT	Maximum 16mm wide x 8mm thick timber (minimum 640kg/m ³ density)
GROOVE INFILL (OPTIONAL)	ALUMINIUM TRIM	10 x 1mm thick adhered to the bottom of the 5mm deep groove using a thermally softening adhesive e.g. PVA
MAX QUANTITY OF GROOVES		No limit providing minimum spacings (below) are adhered to
GROOVE ORIENTATION/SPACING		<ul style="list-style-type: none"> • Vertical and horizontal • Grooves may intersect one another and may extend to the leaf edges • Minimum 75mm between vertical and horizontal grooves
MINIMUM DISTANCE TO LEAF EDGE (TOP)		75mm
MINIMUM DISTANCE TO LEAF EDGE (SIDES)		75mm
MINIMUM DISTANCE TO LEAF EDGE (BOTTOM)		75mm
MINIMUM DISTANCE TO GLAZED APERTURE		20mm
APPROVED LEAF SIZE AND CONFIGURATIONS		Maximum leaf size – 2135mm x 926mm Approved for use in Halspan 44mm and 54mm thick Option 1 of 2 leaf construction types

REFERENCE	OPTION F
APPROVED DOOR TYPES	44mm and 54mm thick Moralt FireSmoke door leaves, with 6mm thick MDF facings
MAXIMUM SIZE	Maximum 6mm wide x 4mm deep; but may be straight or curved
MAX QUANTITY OF GROOVES	Feature grooves may cover a maximum of 5% of the door leaf surface
SPACING OF GROOVES	<ul style="list-style-type: none"> • Feature grooves may be machined to create ‘rectilinear ‘mock panel’ effects; but grooves that are parallel to door edges must be positioned minimum 90mm away from the door edge. • Linear feature grooves may generally extend over the full height and/or width of the leaf; e.g. to form a ‘planked’ effect. • Where multiple grooves/patterns are included, there must be a minimum of 90mm between each groove. • Feature grooves that run parallel to any edge of a glazed aperture must be positioned minimum 50mm away from the glazing beads. Feature grooves that ‘intersect’ the position of a glazing aperture shall not pass under the bolection return of the glazing bead. • Feature groove patterns may be included in one or both faces and may be different on each face. It is the responsibility of other parties to ensure that grooves on one face, or dissimilar groove patterns on each face, do not unbalance the door leaf.

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REFERENCE	OPTION G
APPROVED DOOR TYPES	Strebord 44mm door leaf by Falcon Panel Products
MAXIMUM SURFACE AREA OF GROOVES/RECESS ON ANY ONE FACE	30%
MAXIMUM DEPTH OF GROOVE/RECESS WITHOUT ADDITIONAL MATERIAL APPLIED TO BOTTOM OF GROOVE/RECESS	7mm
MAXIMUM DEPTH OF GROOVE/RECESS PRIOR TO APPLYING 3MM (T) TIMBER OR MDF TO BOTTOM OF GROOVE/RECESS	10mm
APPROVED INFILL MATERIALS FOR GROOVES/RECESS	<ul style="list-style-type: none"> • Hardwood (minimum density 640kg/m³) • MDF (minimum density 700kg/m³) <p>Note: It is permitted to groove/recess the infill material applied in the bottom of a groove or recess providing at least 3mm of infill material remains in the bottom of the groove/recess</p>
ADHESIVE FOR INFILL MATERIALS	PVA, Urea Formaldehyde, Polyurethane
PROXIMITY TO DOOR EDGES	75mm for both horizontal and vertical grooves
SPECIFIC REQUIREMENTS	<ul style="list-style-type: none"> • The grooves/recess must not coincide with any apertures. Any groove or recess shall stop a minimum of 5mm short of the aperture cut out. • Grooves and recesses must not coincide with any items of recessed hardware where the body of the hardware is thicker than 20mm.

REFERENCE	OPTION H
APPROVED DOOR TYPES	Strebord 54mm door leaf by Falcon Panel Products
MAXIMUM SURFACE AREA OF GROOVES/RECESS ON ANY ONE FACE	35%
MAXIMUM DEPTH OF GROOVE/RECESS WITHOUT ADDITIONAL MATERIAL APPLIED TO BOTTOM OF GROOVE/RECESS	10mm
MAXIMUM DEPTH OF GROOVE/RECESS PRIOR TO APPLYING 3MM (T) TIMBER OR MDF TO BOTTOM OF GROOVE/RECESS	13mm
APPROVED INFILL MATERIALS FOR GROOVES/RECESS	<ul style="list-style-type: none"> • Hardwood (minimum density 640kg/m³) • MDF (minimum density 700kg/m³) <p>Note: It is permitted to groove/recess the infill material applied in the bottom of a groove or recess providing at least 3mm of infill material remains in the bottom of the groove/recess</p>
ADHESIVE FOR INFILL MATERIALS	PVA, Urea Formaldehyde, Polyurethane
PROXIMITY TO DOOR EDGES	75mm for both horizontal and vertical grooves
SPECIFIC REQUIREMENTS	<ul style="list-style-type: none"> • The grooves/recess must not coincide with any apertures. Any groove or recess shall stop a minimum of 5mm short of the aperture cut out. • Grooves and recesses must not coincide with any items of recessed hardware where the body of the hardware is thicker than 20mm.

REFERENCE	OPTION I
APPROVED DOOR TYPES	Strebord 44mm or 54mm door leaf by Falcon Panel Products & 44mm thick Halspan Prima and 54mm thick Halspan Prima
MAXIMUM SURFACE AREA OF GROOVES/RECESS ON ANY ONE FACE	42%
MAXIMUM DEPTH OF GROOVE/RECESS PRIOR TO APPLYING 3MM (T) TIMBER OR MDF TO BOTTOM OF GROOVE/RECESS	11mm
APPROVED INFILL MATERIALS FOR GROOVES/RECESS	<ul style="list-style-type: none"> Hardwood (minimum density 640kg/m³) MDF (minimum density 700kg/m³) Note: It is permitted to groove/recess the infill material applied in the bottom of a groove or recess providing at least 3mm of infill material remains in the bottom of the groove/recess
ADHESIVE FOR INFILL MATERIALS	Urea Formaldehyde, Polyurethane
PROXIMITY TO DOOR EDGES	147mm
SPECIFIC REQUIREMENTS	<ul style="list-style-type: none"> The grooves/recess must not coincide with any apertures. Any groove or recess shall stop a minimum of 5mm short of the aperture cut out. Grooves and recesses must not coincide with any items of recessed hardware where the body of the hardware is thicker than 20mm.

3.3.4 Feature Grooves/Panels and Glazed Apertures

Section 3.4 details the approved configurations of glazed apertures that may be installed in the respective door assemblies. When incorporating glazed apertures and feature grooves/panels the following limitations apply.

- The minimum margins as detailed in the applicable groove/recess detail shall apply between the edge of the groove/recess and edge of aperture in the door leaf.
- Where recesses are restricted to a maximum area of leaf face, and when glazed apertures are also included, the total glazed and recessed area shall not exceed this limit. The limitations on glazed aperture size and margins as detailed in Section 3.4.4 also apply.

3.4 Glazed Apertures

The following sections detail the glass, glazing system and bead combinations approved for use with the Halspan and Moralt door types approved herein.

3.4.1 Glass Types

The following glass types are approved for use in the doors considered, herein, which are compatible with the identified approved glazing systems given in Section 3.4.2, although some restrictions on size may be given in subsequent sections. See also Section 3.4.6 regarding ladder glazing.

The codes used, below, for the glass types, glazing materials, and bead types, (e.g. G30/1, S30/1 and B30/1), are not those used by the respective manufactures, and are attributed solely by IFC for the purpose of identification and cross-referencing within this assessment.

G30/1	5mm thick Firelite (Southern Ceramics) ^{Note 15}
G30/2	6mm thick Pyroshield 2 Safety Clear (Pilkington)
G30/3	7mm thick Pyroshield 2 Texture (Pilkington)
G30/4	7mm thick Pyrodur Plus (Pilkington)
G30/5	7mm thick Pyroguard Clear (Pyroguard)
G30/6	7mm thick Pyrobelite (AGC Flat Glass)
G30/7	7mm thick Pyroguard Wired (Pyroguard)
G30/8	10mm thick Pyrodur (Pilkington)
G30/9	11mm thick Pyrodur Plus (Pilkington)
G30/10	12mm thick Pyrobelite (AGC Flat Glass)
G30/11	13mm thick Pyrodur (Pilkington)
G30/12	15mm thick Pyrostop (Pilkington)
G30/13	15mm thick Pyroguard Insulation (Pyroguard)
G30/14	16mm thick Pyrobel (AGC Flat Glass)

Note 15 Limitations apply to the pane size of glass types G30/1 (5mm thick Firelite), and G30/3 (7mm thick Pyroshield 2 Texture), as they do not satisfy the requirements of BS6206. Panes are restricted to a smaller dimension not exceeding 250mm and an area not exceeding 0.5m², each measured between glazing beads, in accordance with the requirements of Approved Document N.

Where assemblies require 30 minutes insulation, the following glass types are approved:

G30/15	15mm thick Pyroguard Insulation (Pyroguard)
G30/16	15mm thick Pyrostop (Pilkington)
G30/17	16mm thick Pyrobel (AGC Flat Glass)

Expansion allowances for all glass types shall be as recommended by the glass manufacturer.

3.4.2 Glazing Materials and Systems

The following glazing materials are approved for use in the doors considered, herein, which are compatible with the identified approved glass types listed above, although some restrictions on size may be given in subsequent sections.

S30/1	10 x 2mm Pyrostrip 300 by Mann McGowan (use with G30/1 – G30/17)
S30/2	10 x 2mm Interdens by various suppliers (use with G30/1 – G30/17)
S30/3	10 x 2mm Therm-A-Flex by Intumescent Seals (use with G30/1 – G30/6)
S30/4	10 x 2mm G30 by Sealmaster (use with G30/1 – G30/17)
S30/5	15 x 4mm Fireglaze mastic by Sealmaster (use with G30/1 – G30/17)
S30/6	Figure 1 glazing system by Lorient Polyproducts (use with G30/1 – G30/17)
S30/7	10 x 5mm closed cell foam by various suppliers (use with G30/15 – G30/17)
S30/8	10 x 4mm ceramic fibre tape by various suppliers (use with G30/15 – G30/17)
S30/9	System 36 channel by Lorient Polyproducts, to suit glass thickness (use with G30/1 – G30/17)

3.4.3 Bead Profiles and Installation

Apertures are created with a minimum 9mm thick hardwood lipping applied to the aperture perimeter, in accordance with the lipping specification for the relevant Field of Application Report.

The approved bead sizes and profiles, and relevant fixing details, are shown in the figures below, which also define any limitations upon options of interchangeability with glass types, glazing systems and bead profiles.

REFERENCE	DESCRIPTION	FIGURE
B30/1	<p>Hardwood splayed bead, 14mm high with 15° chamfer. May include an optional 3mm x 3mm quirk rebate.</p> <p>Fixed using 38mm long steel pins/screws at 150mm centres and 50mm from the corners.</p>	<p>The diagram shows a cross-section of a splayed hardwood bead. The bead is 14mm high and has a 15-degree chamfer. It is shown installed in a glazing system with a glass pane. The glass has a maximum 3 x 3mm quirk rebate. The bead is fixed to a substrate using 38mm steel pins/screws. The diagram also indicates an expansion allowance for the glass as recommended by the manufacturer.</p>
B30/2	<p>Hardwood square bead, 14mm high. May include an optional 3mm x 3mm quirk rebate.</p> <p>Fixed using 38mm long steel pins/screws at 150mm centres and 50mm from the corners.</p>	<p>The diagram shows a cross-section of a square hardwood bead. The bead is 14mm high and has a square profile. It is shown installed in a glazing system with a glass pane. The glass has a maximum 3 x 3mm quirk rebate. The bead is fixed to a substrate using 38mm steel pins/screws. The diagram also indicates an expansion allowance for the glass as recommended by the manufacturer.</p>

Glazing beads formed from timber with a minimum measured density at 12% moisture content. The timber must be straight grained and of appropriate quality in accordance with BS EN 942: 2007. The moisture content shall be $10 \pm 2\%$ for UK market, (or to suit internal joinery moisture content specification of export countries).

3.4.4 Assessed Aperture Sizes

Apertures are created by cutting directly into the door slab, with beads fitted directly to the 'core'.

Based upon the size of apertures tested, and subsequent analysis, the following limitations apply to glazed apertures in the door leaves considered herein;

	MORALT FIRESAFE & FIRESMOKE	HALSPAN PRIMA	FALCON STREBORD
Maximum area of single aperture	0.30m ² <small>Note 16</small>	1.3m ² <small>Note 16</small>	1.5m ² <small>Note 16</small>
Maximum total area of apertures	0.30m ² <small>Note 16</small>	1.35m ² <small>Note 16</small>	1.5m ² <small>Note 16</small>
Maximum vertical length of aperture	1400mm <small>Note 16</small>	2020mm <small>Note 16</small>	2085mm
Maximum horizontal length of aperture	250mm <small>Note 16</small>	705mm <small>Note 16</small>	825mm
Minimum distance from leaf edge (top)	200mm	100mm	90mm
Minimum distance from leaf edge (sides)	195mm	100mm	90mm
Minimum distance between apertures	110mm	80mm	150mm
Minimum distance from bottom of leaf	300mm	200mm	150mm

Use of certain hardware items may impose further limits upon margins; refer to Section 3.9.

Note 16 Refer to Section 3.4.1 for restrictions in size of apertures with specific glass panes and Section 3.4.2 for restrictions in size of apertures with specific glazing systems.

3.4.5 Ladder Glazing

To create the effect of narrow glazing bars separating multiple apertures within a door leaf, it is permitted to include a single aperture, with mock glazing bars applied to either face of a single pane of glass. In all cases, the sizes and margins of the aperture(s) must be in accordance with Section 3.4.4.

The mock beads may only be applied to fully insulating glass types and may be bonded to the glass/seal using double sided adhesive tape and mechanically fixed to the perimeter bad. The glazing media can be either S30/7 or S30/8. The profile/size of the mock beads and perimeter bead are shown in Figure 3 below.

Mock glazing beads to be butt jointed to perimeter frame. No mechanical fixing between mock bead and perimeter bead.

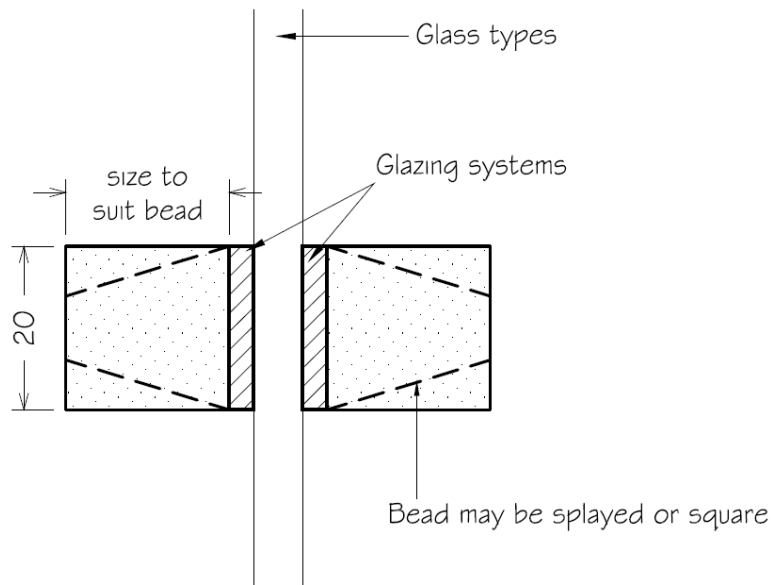


Figure 3 - Mock Glazing Bead

3.5 Framing

There are two options for framing, a plasterboard clad option and a Portman supplied timber option.

All components from softwood must have a minimum density 510kg/m³ and hardwood must have a minimum density 640kg/m³ (measured at 12% moisture content) of appropriate quality in accordance with BS EN 942: 2007. Moisture content to be 10 ± 2% for UK market (or to suit internal joinery moisture content specification of export countries).

In all cases the three sides of the supporting construction are lined with a 45 x 95mm softwood subframe fixed at maximum 300mm centres with minimum 80mm long, 5mm diameter steel screws, or in steel stud assemblies the perimeter stud section is infilled with softwood timber.

3.5.1 Head Section

Plasterboard Clad Option

On both sides of the track, softwood track packers are fixed with 62mm long, 4mm diameter steel screws at maximum 300mm centres.

To frame the recess for the door leaf, in the opening section, softwood head jambs (reference 702-504) are installed with 80mm long, 5mm diameter steel screws at maximum 300mm centres. The head jambs include a 45 x 4mm recess for intumescent seals, see Section 3.8. Covering the head jambs are pre-cut plasterboard corner profiles. The FD30 plasterboard clad option is shown in Figure 4, below.

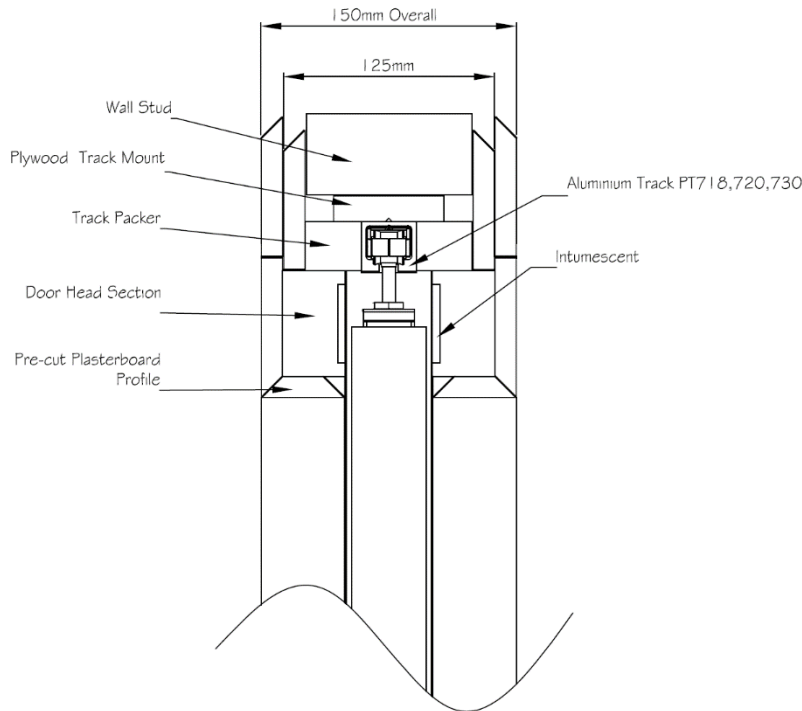


Figure 4 - Plasterboard clad head

Portman Timber Option

To frame the recess for the door leaf, in the opening section, Portman Supplied hardwood head jamb sections are installed with 80mm long, 5mm diameter steel screws at maximum 300mm centres. A 10mm wide shadow gap may be included at the interface with the plasterboard and a 10 x 4mm PVC encased or 10 x 2mm uncased graphite based seal is included in the back of the frame close to the interface. The head jambs include a 45 x 4mm recess for intumescent seals, see Section 3.8. The details are shown in Figure 5 below.

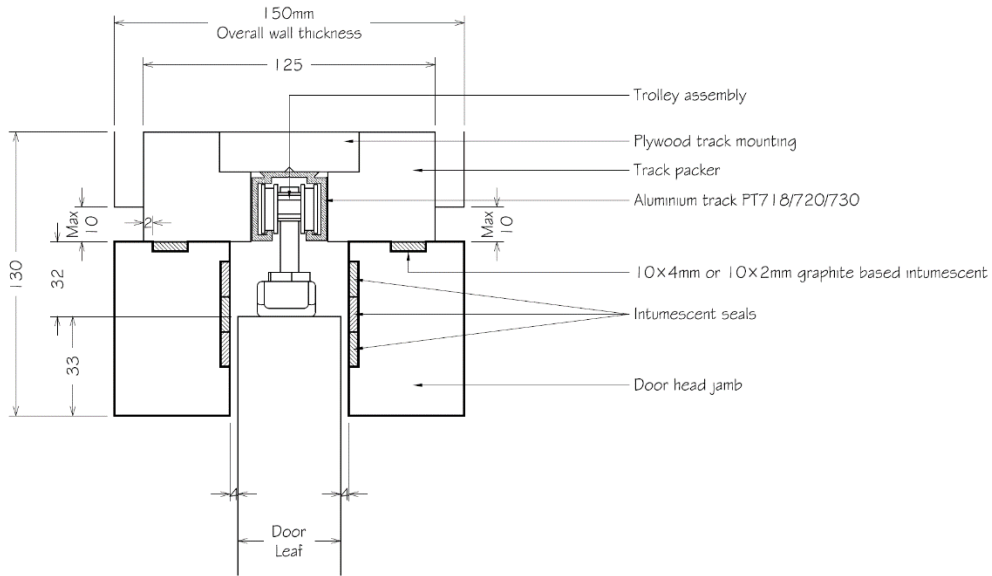


Figure 5 - Timber head

3.5.2 Leading Edge

Plasterboard Clad Option

The leading edge of the frame in a single leaf assembly consists of a softwood cover strip which is fitted between two softwood leading edge jambs (reference 702-502). The leading edge jambs are fixed back to the subframe with 62mm long, 4mm diameter steel screws at maximum 300mm centres. The jamb members include a 15 x 4mm recess for an intumescent seal, see Section 3.8. Covering the jambs are pre-cut plasterboard corner profiles. The details are shown in Figure 6 below.

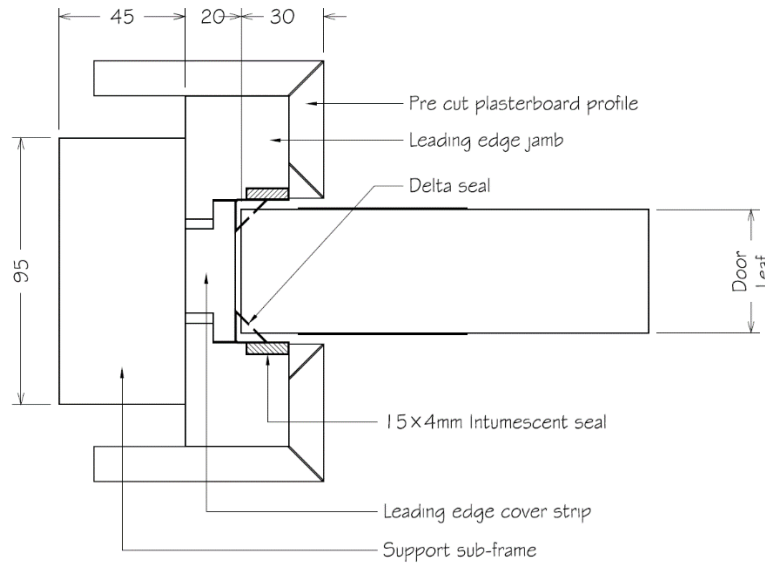


Figure 6 - Plasterboard clad leading edge

Portman Timber Option

The leading edge of the frame in a single leaf assembly consists of a softwood cover strip (reference 702-503) which is fitted between two Portman supplied hardwood leading edge jambs. The leading edge jambs are fixed back to the subframe with 62mm long, 4mm diameter steel screws at maximum 300mm centres. A 10mm wide shadow gap may be included at the interface with the plasterboard and a 10 x 4mm PVC encased or 10 x 2mm uncased graphite based seal is included in the back of the frame close to the interface. The jamb members include a 15 x 4mm recess for an intumescent seal, see Section 3.8. The details are shown in Figure 7 below.

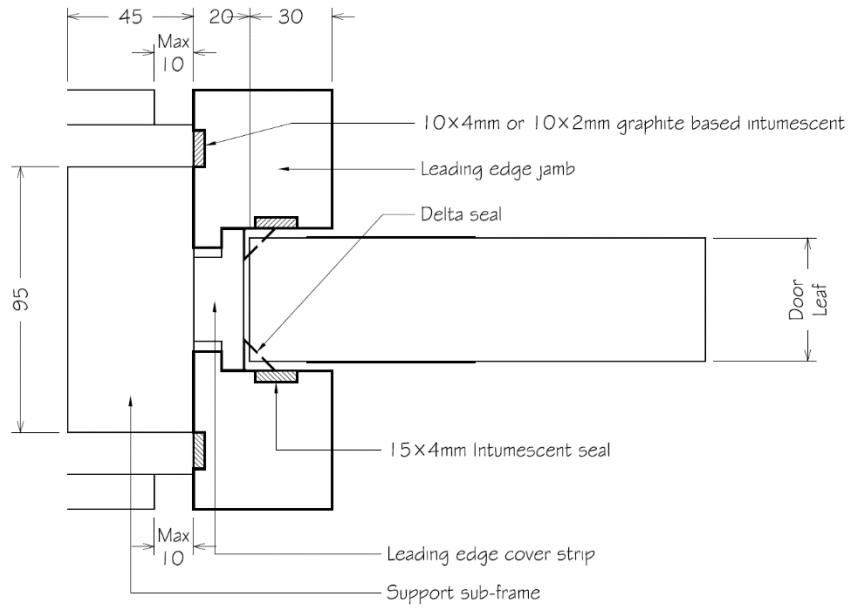


Figure 7 - Timber leading edge

3.5.3 Cassette Edge

Plasterboard Clad Option

The cassette edge of the frame consists of softwood cassette edge jamb sections. The jamb members include a 15 x 4mm recess for an intumescent seal, see Section 3.8. Covering the jambs are pre-cut plasterboard corner profiles. The details are shown Figure 8 below.

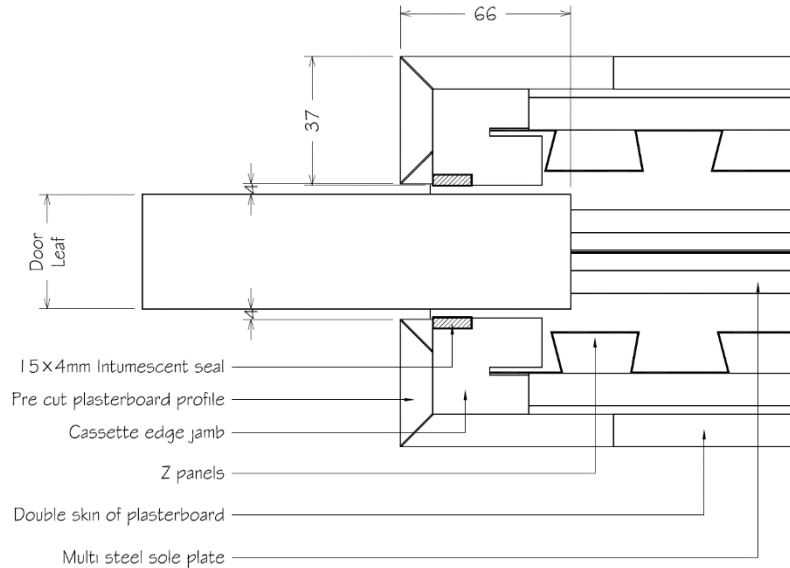


Figure 8 - Plasterboard clad cassette edge

Portman Timber Option

The cassette edge of the frame consists of Portman supplied hardwood cassette edge jamb sections. A 10mm wide shadow gap may be included at the interface with the plasterboard and a 10 x 4mm PVC encased or 10 x 2mm uncased graphite based seal is included in the back of the frame close to the interface. The jamb members include a 15 x 4mm recess for an intumescent seal, see Section 3.8. The details are shown in Figure 9 below.

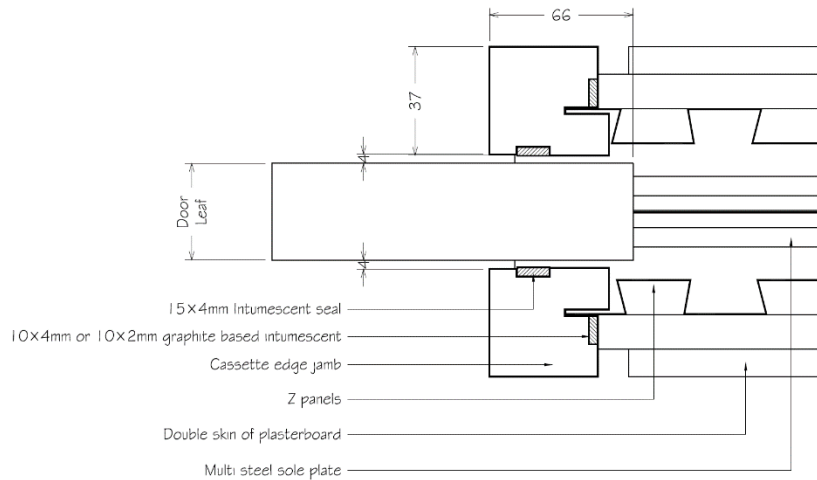


Figure 9 - Timber cassette edge

3.5.4 Base

Plasterboard Clad and Portman Timber Option

At the base of the door assembly, on the sole plate at the edge of the pocket, a mild steel or stainless steel floor guide is installed. This includes a plate with a 25 x 5 x 6mm vertical projection.

3.5.5 Pocket

Plasterboard Clad and Portman Timber Option

In the pocket for all designs and periods of fire resistance, a 60 x 94 x 0.9mm mild steel sole plate is fixed to the threshold with 30mm thick, 4mm diameter steel screws. Galvanised steel Z panels, formed from 0.5mm thick material, are fitted on both sides of the pocket, fixed inside the sole plate, using 15mm long, 4mm diameter self-tapping steel screws, and to the plywood track mounting, using 30mm long, 4mm diameter steel screws. The Portman P5700 rigidity upgrade kit can be included within the pocket assembly. The Z panels are then faced with 12.5mm thick plasterboard to complete the pocket, with a layer of the plasterboard utilised in the supporting construction installed over the top on both faces of the partition. The details are shown in Figures 7 and 8.

The pocket must comprise a double layer of plasterboard on both sides of Z panels, as this will offer a similar level of protection to the system as was used in the supporting test evidence for the design. The thickness of individual boards must be no less than 12.5mm, however, if the manufacturers tested board thickness is thicker than 12.5mm for the selected partition system, this must take precedence. The method of forming the aperture must be as tested by the partition manufacturer.

3.5.6 Meeting Stiles

The meeting stiles of double leaf assemblies consist of flush edges which include recessed intumescent seals. The details are shown in Figure 10 below.

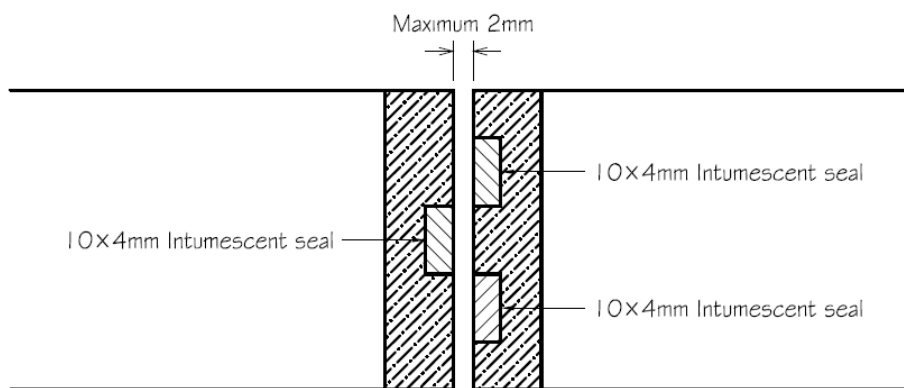


Figure 10 - Meeting Stile Detail

3.6 Supporting Construction

The supporting construction shall be 150mm thick with 44mm thick door leaves and 160mm thick with 54mm door leaves. It may be timber or steel stud ^{Note 17} plasterboard clad partitioning and the construction must be of a type that has been tested or assessed to provide in excess of 30 minutes fire resistance to BS476: Part 22: 1987, at the required size when incorporating doorset openings.

^{Note 17} Reference to steel stud partitions is in the context of permanent elements, such as those designed and proven by the plasterboard manufacturers, with plasterboard on both faces of the studs. This report does not approve use of the proposed door assemblies in proprietary 'demountable' partitions, which must be subject to a full and independent appraisal of the particular system and door assemblies therein.

It is permitted to install the pocket of the sliding door assemblies against the face of an existing fire resisting wall. For this type of installation, the fire resisting wall may replace one face of the pocket. The fire resisting wall must be able to accommodate the required fixings without this being detrimental to its fire resistance performance. The rear of the pocket must be sealed with a minimum of 2no layers of plasterboard to ensure that the pocket of the assembly is not compromised for the duration of the required fire resistance period. A general arrangement of this type of installation is shown below.

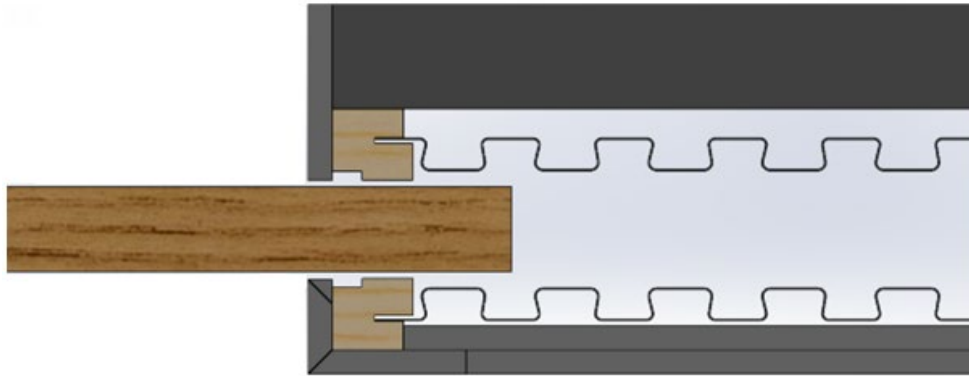


Figure 11 - Installation at face of existing supporting construction

3.7 Door Leaf Installation

Door leaves are to be installed in the Portman Pocket system utilising two trolley assemblies. Door carriers are centrally fixed to the top of the leaf at 150mm to 165mm from each end using 80mm long 5mm diameter steel screws. Two four-wheel sliding trolleys are within the anodised aluminium track. These are components with plastic wheels and an M8 insert which run freely within the track. An M8 bolt is screwed into each of the sliding trolleys and these fit into the door carriers to hang the leaves. Assembly and installation of these components is carried out prior to the installation of one of the cassette edge frame sections.

3.8 Intumescent Seals

Graphite based, pvc encased, seals manufactured by Mann McGowan Fabrications Ltd, Lorient Polyproducts Ltd, Intumescent Seals Ltd, Pyroplex or Sealed Tight Solutions may be employed across the complete range of door sizes and configurations approved herein. (Although options of product/manufacture are approved, all seals in each door assembly must be the same brand.) It is recommended that the intumescent seals are manufactured or supplied by members of the Intumescent Fire Seals Association (IFSA) or that the product is included in a Third Party Certification scheme, such as that provided by IFC Certification, to ensure product quality and consistency.

The intumescent seal specifications, widths, and positions are shown in the table in Appendix A.

Intumescent protection is required for specific items of building hardware and this is detailed in Section 3.9 based upon details tested.

Delta seals may be included in the frame reveal at the leading edges, as shown in Figures 4 and 5.

3.9 Hardware

Some of the various items of hardware to be used with the proposed door assemblies 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.

General guidance for all items of hardware is outlined in the following section, based upon the range of items tested. All hardware beyond the scope of the general guidance must have been subjected to fire resistance testing, in accordance with BS:476: Part 22: 1987 or EN1634-1, and/or assessed by a notified body to support its use in door assemblies where the leaf construction and thickness, and all details at the frame interface, are similar to those proposed herein.

The following conditions must be met when installing door leaves in the Portman Pocket System for fire rated applications:

- The closing force of the closing device must be sufficient to overcome the resistance of smoke seals and any friction from the top track, such that the door leaf is fully closed into the leading edge recess in single leaves or the leaves are fully closed together in double doors.

The following items of hardware can be utilised within Portman pocket doorset assemblies.

3.9.1 Simultaneous Kit

Simultaneous kit P755 and P757 are approved for use on the door assemblies detailed herein and each includes the following components:

- Two cable brackets
- Cable
- Two pulleys
- Cable bracket screw and nut
- Cable bracket connector

A power door kit was included in test CFR1008261 and was not detrimental to the performance of the door assembly. The simultaneous kits listed above include a similar pulley and cable system as the tested PWSW 100 and so on this basis the simultaneous kits can be included in the door assemblies within this Field of Application Report. ^{Note 18}

Note 18 The electrical/hydraulic/mechanical aspects of the “Simultaneous Kit” are not evaluated by this Assessment Report; which only considers the effects of including the recesses and components within the overall design, if a doors were to be included in a fire resistance test. It is the responsibility of others to ensure that the door(s) will be in the closed position in the event of a fire.

Door Closers, Dampers and Holdback Kits

The electrical/hydraulic/mechanical aspects of the “Closer Holdback Damper Kits” are not evaluated by this Assessment Report; which only considers the effects of including the recesses and components within the overall design, if a doors were to be included in a fire resistance test. It is the responsibility of others to ensure that the door(s) will be in the closed position in the event of a fire.

3.9.2.1 Damper

The following conditions must be met for dampers when installing door leaves in the Portman Pocket System for fire rated applications:

- The track, carriage and bracket must be able to support the door(s) for the full fire resistance period, as applicable.
- The closing force of the closing device must be sufficient to overcome the resistance of smoke seals and any friction from the top track, such that the door leaf is fully closed into the leading edge recess in single leaves or the leaves are fully closed together in double doors.

The following dampers are available for Portman pocket door assemblies and have been included in WF518846:

- PC13F – Damper

3.9.2.2 Gravity Closer

The following gravity closer has successfully been tested and proven to achieve 30 minutes fire resistance performance, by Royde & Tucker, CFR1805171 in singles doors and WF518846 in double doors. This closer may be installed for use on all door assemblies approved herein.

ELEMENT	SPECIFICATION
PART NUMBER	PC20-SD2 & PC20-DD2
DESCRIPTION	<p>A steel weight is suspended in the void beneath the cover strip. The weight is attached to the leaf by means of a string attached to the leading edge of the leaf and hung over a roller bracket.</p> <p>A second steel weight with plastic slides is mounted in an aluminium channel set 600mm down the trailing edge of the leaf set 8mm down.</p> <p>A hold open device consisting of a rectangular plastic block with a steel catch plate is mounted inside the leading end of the Portman track.</p>
PEGGED BRACKET	40mm wide x 31mm deep x 3mm thick Peg: 10mm diameter x 10.5mm high
HANGING BRACKET	50mm wide x 14mm deep x 25mm high x 1.2mm T
STEEL WEIGHT	35mm diameter x 200mm high, 1.5kg
CHANNEL	10mm wide x 40mm deep x 1600mm high x 2mm thick
TRAILING BRACKET	24mm wide x 44mm deep x 55mm high x 1.2mm thick
HOLD OPEN BLOCK	37.5mm wide x 26.5mm deep x 18.6mm thick
HOLD OPEN CATCH	66.5mm wide x 10mm deep x 8mm high x 1.4mm thick

The gravity closers tested include variations in the weights depending on the size of the door leaves in the door assembly to which it is fitted. Other than this the specification remains the same and the following variations are approved.

PART NUMBER	DESCRIPTION
PC20-SD1	Single Door Self Closer - Light Duty Up To 40Kg
PC20-SD2	Single Door Self Closer - Medium Duty From 40 To 80Kg
PC20-SD3	Single Door Self Closer - Heavy Duty From 80-120Kg
PC20-DD1	Double Door Self Closer - Light Duty Up To 40Kg
PC20-DD2	Double Door Self Closer - Medium Duty From 40 To 80Kg
PC20-DD3	Double Door Self Closer - Heavy Duty From 80-120Kg

3.9.2.3 Electric Holdback Kits

The following conditions must be met for holdback kits when installing door leaves in the Portman Pocket System for fire rated applications:

- The track, carriage and bracket must be able to support the door(s) for the full fire resistance period, as applicable.
- The closing force of the closing device must be sufficient to overcome the resistance of smoke seals and any friction from the top track, such that the door leaf is fully closed into the leading edge recess in single leaves or the leaves are fully closed together in double doors.

The following holdback kits are available for Portman pocket door assemblies:

PART NUMBER	DESCRIPTION
PC15F	Small sprung closer, damper and electromagnetic holdback (24V)
PC16F	Heavy sprung closer, dampers and electromagnetic holdback (24V)
PC17F	Heavy sprung closer, dampers and electromagnetic holdback (230V)
PC21-FSD	Single door self closer for use with Portman Pocket Door Kits, complete with soft close damper and 24Vdc electromagnetic hold open - light duty up to 40kg
PC22-FSD	Single door self closer for use with Portman Pocket Door Kits, complete with soft close damper and 24Vdc electromagnetic hold open – medium duty from 40 to 80kg
PC23-FSD	Single door self closer for use with Portman Pocket Door Kits, complete with soft close damper and 24Vdc electromagnetic hold open – heavy duty from 80 to 120kg
PC24-FSD	Single door self closer for use with Portman Pocket Door Kits, complete with soft close damper and 230Vac electromagnetic hold open - light duty up to 40kg
PC25-FSD	Single door self closer for use with Portman Pocket Door Kits, complete with soft close damper and 230Vac electromagnetic hold open - medium duty from 40 to 80kg
PC26-FSD	Single door self closer for use with Portman Pocket Door Kits, complete with soft close damper and 230Vac electromagnetic hold open – heavy duty from 80 to 120kg
PC21-FDD	Double door self closer, complete with soft close damper and 24Vdc electromagnetic hold open - light duty up to 40kg
PC22-FDD	Double door self closer for use with Portman Pocket Door Kits, complete with soft close damper and 24Vdc electromagnetic hold open - medium duty from 40 to 80kg

PART NUMBER	DESCRIPTION
PC23-FDD	Double door self closer for use with Portman Pocket Door Kits, complete with soft close damper and 24Vdc electromagnetic hold open - heavy duty from 80 to 120kg
PC24-FDD	Double door self closer for use with Portman Pocket Door Kits, complete with soft close damper and 230Vac electromagnetic hold open - light duty up to 40kg
PC25-FDD	Double door self closer for use with Portman Pocket Door Kits, complete with soft close damper And 230Vac electromagnetic hold open - medium duty from 40 to 80kg
PC26-FDD	Double door self closer for use with Portman Pocket Door Kits, complete with soft close damper and 230Vac electromagnetic hold open - heavy duty from 80 to 120kg

3.9.2 Mortice Latches/Locks

3.9.3.1 Mechanical Lock

The Portman P7512 F mechanical lock was included in test CFR1008261 and included a morticed body with thumb turn and emergency release escutcheons. The lock was located approximately 1000mm above finished floor level.

The Portman P7516 F mechanical lock includes the same basic components as the P7512 F but had a different aesthetic to the handles. On this basis the lock sets can be utilised interchangeably.

The mechanical lock and the handles can be included in single leaf assemblies and at the tested height in door assemblies for all of the fire resistance performances considered within this Field of Application Report.

Intumescent Protection to Mechanical Lock

Single leaf door assemblies for FD30 performance do not require intumescent protection to the lock body or forend and strike plates. In double leaf assemblies for FD30 performances, the lock body is to be wrapped in, and the forend and strike plate bedded on minimum 1mm thick non-pressure forming intumescent material.

3.9.3.2 Electromagnetic Lock

The Portman P7520 electromagnetic lock was included in test CFR 1008261 and this included a unit recessed into the cover strip and leading edge jambs and a keep plate recessed into the leading edge of the leaf. The lock was located at approximately 400mm above finished floor level. Integrity failure occurred at the position of this lock after 33 minutes in the test. The inclusion of the electromagnetic lock was not detrimental to the performance of the door assembly up to 30 minutes integrity and it can, therefore, be included at the tested height in FD30 door assemblies within this Field of Application Report.

3.9.3.3 Touch Latch

The Portman P7598 touch latch was included in test CFR 1302081 and this included a unit recessed into the pocket edge of the leaf. The latch was located at approximately 1000mm above finished floor level. The touch latch can be included, at the tested height, either in the pocket edge of the leaf or in the studwork/supporting construction, in all fire resistances within this Field of Application Report.

3.9.3.4 Privacy Lock with flush pull handle

The Portman PH7150B Privacy Lock with Pull Handles was included in test WF518854. Based on this result, the following privacy locks with flush pull handles may be installed on door assemblies approved in this report.

ELEMENT		SPECIFICATION
PART NUMBER		PH7150B, PH7300B or PH7600B
DESCRIPTION		An inset pull handle, with sliding lever, fitted into rebates in each face of the leaf. Handles minimum 60mm from the leading edge of the leaf. Lock case morticed into leading edge. Keep plate fitted into closing jamb.
MATERIAL		Stainless Steel
DIMENSIONS	HANDLE	PH7150B: 150mm long x 60mm wide x 17mm deep PH7300B: 300mm long x 60mm wide x 17mm deep PH7600B: 600mm long x 60mm wide x 17mm deep
	LOCK CASE	102mm long x 107mm wide x 8.4mm
	FOREND	160mm long x 20mm wide x 2.2mm thick
	KEEP PLATE	60mm long x 20mm wide x 1.5mm thick
FIXING METHOD		Screw fixed
ADDITIONAL PROTECTION		1mm thick Interdens in the bottom of the lock rebates, lining the lock body and behind the forend. The recessed handle mortice must be lined with 1mm thick Interdens:

3.9.3.5 PH5080B twist and turn

The Portman PH5080B with P5716 twist and turn was included in test WF518854.

ELEMENT		SPECIFICATION
PART NUMBER		PH5080B
DESCRIPTION		A twist and turn bathroom lock set with activation bar to escutcheons with thumb turn.
MATERIAL		Stainless steel
DIMENSIONS	FOREND	62mm x 27mm x 3mm
	LOCK BODY	22mm x 69.5mm (excluding forend)
	PH5080B	80mm x 17mm
ADDITIONAL PROTECTION		1mm Interdens in the base of the handle rebate on both sides. 0.8mm thick graphite based intumescent around round of the flush pull and twist turn

3.9.3 Non-Essential Hardware Items

3.9.4.1 Push Plates, Kick Plates etc

Plastic, pvc or metal plates may be surface-mounted to the doors, 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.

3.9.4.2 Pull Handles

Surface Mounted Pull Handle

These may be fixed to the face of door assemblies, provided that the fixing points are no greater than 800mm apart. Pull handles that are fixed through the leaf should use clearance holes as close fitting as possible to the bolt; and fixings passing through the leaf shall be steel. Handles/fixings shall be at least 40mm away from the door edge, and from any aperture.

Recessed Pull Handle

Recessed pull handles for single and double leaf FD30 applications may be located 60mm from the leaf edge.

The following recessed pull handles for FD30 applications may be fitted either within a 15mm deep mortice with the 3mm (d) outer flange protruding from the leaf face or within a 18mm deep mortice with the 3mm (d) outer flange fitted flush with the leaf face. In both cases the mortice must be lined with 1mm thick Interdens:

600mm flush pull (Ref: PH7600):

- 600mm (h) x 60mm (w) x 3mm (d) outer flange
- 550mm (h) x 50mm (w) x 14mm (d) box

300mm flush pull (Ref: PH7300):

- 300mm (h) x 60mm (w) x 3mm (d) outer flange
- 250mm (h) x 50mm (w) x 14mm (d) box

150mm flush pull (Ref: PH7150):

- 150mm (h) x 60mm (w) x 3mm (d) outer flange
- 125mm (h) x 50mm (w) x 14mm (d) box

80mm diameter flush pull (Ref:PH5080)

- 80mm (∅) x 3mm (d) outer flange
- 70mm (∅) x 14mm (d) box

The following alternative recessed pull handles are also approved for FD30 applications:

- Recessed pull handles of maximum size 250 x 250mm may be recessed into the leaf by a maximum of 12mm with no intumescent protection or by a maximum of 20mm, as long as they are bedded on minimum 1mm thick non-pressure forming intumescent material.

Recessed pull handles may be installed 'back to back', subject to the limitations above.

For FD30 applications pull handles may be glued using AckroBond M60, Safe fix FR 300 adhesives or screw fixed to the door core.

3.9.4.3 Leading Edge Finger Pull

The Portman 750-999 recessed leading edge finger pull can be included in single leaf door assemblies without any additional intumescent material. In double leaf door assemblies the mortise for finger pulls must be lined in minimum 0.8mm thick non-pressure forming intumescent material and the centres of the figure pull mortises must be offset in the meeting stiles by minimum 100mm. The centres must also be minimum 100mm distance from the edge of other hardware items.

3.9.4.4 PH7045 Leading edge spring pull

The Portman PH7045 Leading edge spring pull was included in test WF518854.

ELEMENT		SPECIFICATION
PART NUMBER		PH7045
DESCRIPTION		A cased unit morticed into the leading edge of the door, with exposed forend, with a push button to eject a pull handle, handle locks back in when depressed.
DIMENSIONS	CASE	105mm x 75mm x 14mm
	FOREND	220mm x 20mm x 3mm
	PULL HANDLE (EJECTED)	49.5mm x 24mm x 10mm
ADDITIONAL PROTECTION		1mm thick Interdens to all internal faces of rebate

4. Conclusion

4.1 Proprietary Door Cores

Based upon the available test evidence, and subsequent analysis performed by International Fire Consultants Ltd, if the proposed Royde and Tucker Ltd sliding Portman pocket doors installed in timber frames within fire resisting partition walls 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 Appendix B for the following door leaf constructions;

- 54mm thick Moralt Finesse FireSmoke door leaves
- 44mm thick Moralt Finesse FireSmoke or FireSafe door leaves
- 54mm thick Halspan® Prima door leaves
- 44mm thick Halspan® Prima door leaves
- 44mm thick Joinery door leaves including Palusol® SW4 panels

Then the assemblies, as described, would satisfy the following integrity criteria;

- 30 minutes, when adjudged against BS476: Part 22: 1987 (all proprietary door cores)

Hardware and intumescent seal specification must be in accordance with the recommendations of this report.

4.2 Generic Door Cores

Providing the generic door cores as described in Section 3.2.1 meet the conditions stated therein, and are installed in the Portman Pocket system in accordance with the details contained in Section 3 of this Field of Application Report, the assemblies would satisfy the following criteria:

- 30 minutes, when adjudged against BS476: Part 22: 1987, as appropriate

5. Declaration by the Applicant

Kiwa IFC Engineering Assessment Report	PAR/10790/01 Revision D
Client	Royde & Tucker Ltd
Project Address	Bilton Road Hitchin Hertfordshire SG4 0SB
<p>We the undersigned confirm that we have read and complied with the obligations placed on us by the</p>	
<p>Passive Fire Protection Forum (PFPF) - Industry Standard Procedure 2021 ‘Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence’</p>	
<ul style="list-style-type: none"> We confirm that any changes which are subject of this assessment have not to our knowledge been tested to the standard against which this assessment has been made. We agree to withdraw this assessment from circulation should the component or element of structure, or any of its component parts be the subject of a failed fire resistance test to the standard against which this assessment is being made. We understand that this assessment is based on test evidence and will be withdrawn should evidence become available that causes the conclusion to be questioned. In that case, we accept that new test evidence may be required. We are not aware of any information that could affect the conclusions of this assessment. If we subsequently become aware of any such information, we agree to ask the assessing authority to withdraw the assessment. 	
Signature	
Name	
Position	
Company Name	
Date	

6. Limitations

This report 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.

It is the responsibility of others to establish whether the proposed product meets any other relevant requirements, including any other requirements for fire performance and life safety, as defined in documents such as the Building Regulations, and the Fire Strategy/Risk Assessment for the project.

This document only considers the door assemblies 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.

This assessment is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available to International Fire Consultants Ltd (IFC) the assessment will be unconditionally withdrawn and the applicant will be notified in writing. Similarly, the assessment evaluation is invalidated if the assessed construction is subsequently tested since actual test data is deemed to take precedence.

As per the guidance outlined in the [Passive Fire Protection Forum \(PFPF\): 'Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence, 2021, Industry Standard Procedure'](#), appropriate action has been taken to mitigate the risk of a conflict of interest arising during the preparation of this report. All individuals involved in the production, or subsequent review, of this assessment have declared any perceived conflicts of interest, with regards to the sponsor or subject(s) of this report, prior to working on this project.

The assessor and reviewer have been deemed suitable for involvement in the production of this assessment in accordance with the guidance outlined in the [Passive Fire Protection Forum \(PFPF\): 'Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence, 2021, Industry Standard Procedure'](#).

Where the constructional information in this report is taken from details provided to International Fire Consultants Ltd (IFC) and/or from 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.

The analysis and conclusions within this report are based upon the likely fire resisting performance of a complete door assembly that is manufactured and installed in accordance with this document, and offered for fire resistance testing in 'perfect' condition. In practice, management procedures must be in place in any building where the door assemblies are installed, to ensure that no parts of the assembly are damaged or faulty. Any such shortfalls in respect to the condition of the assemblies will invalidate the approval by IFC, and may seriously affect the ability of the assemblies to provide the required level of fire resistance performance. Determination of what constitutes wear or damage, and any corrective actions in order to return assemblies to the required condition, should only be carried out following consultation with the manufacturer and IFC.

This report is not intended to be a complete specification for the proposed assemblies and it is the responsibility of others to ensure that the assemblies are suitable for the intended purpose; whilst incorporating the requirements of this report. Further, the assemblies must be manufactured/installed by experienced/trained personnel using appropriate and established working practices/techniques.

This report applies to fire door assemblies that are evaluated to BS476: Part 22: 1987; which is an applicable test method currently referenced within guidance to Building Regulations in the United Kingdom, and in building codes in some other countries. However, IFC have a duty of care to advise that introduction of CE Marking may become compulsory for fire resisting doorsets marketed in the EU, during the validity period of this report; in which case, users should contact IFC for further details/advice.

Where the assessed constructions have not been subject to an on-site audit by International Fire Consultants Ltd, 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. Designers, manufacturers and installers are reminded of their responsibilities under the CDM Regulations; but particularly with regard to installation and maintenance of heavy or inaccessible items.

This assessment considers the fire resistance performance of the door assemblies when tested with the leaves in the closed position. The door assemblies will only provide the assessed fire performance when in a similar configuration; and it is the responsibility of the building occupants/owner to ensure that this is the case.

This Report is provided to the sponsor on the basis that it is a professional independent engineering evaluation 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 evaluation 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.

7. Validity

This Field of Application Report 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.

The assessment is valid initially for a period of five years after which time it is recommended that it be submitted to International Fire Consultants Ltd for re-evaluation. For this reason, anyone using this document after October 2027 should confirm its ongoing validity.

This assessment report is not valid unless it incorporates the declaration, in Section 5, duly signed by the applicant.

Prepared by:



Will Lightfoot

BEng (Hons) MSc AIFireE ACABE
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And by:



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Reviewed by:



David Cooper

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Director of Product Evaluation
International Fire Consultants Ltd.
(part of the Kiwa UK Group)

Appendix A

Assessed Intumescent Seal Specifications

The assessed Intumescent Seal Specifications for Door Leaves Installed in Sliding Portman Pocket Doors is as follows:

LOCATION	SPECIFICATION
HEAD	3no 15 x 4mm or 1no 15 x 4mm and 1no 30 x 4mm PVC encased graphite based seals; fitted in the head jamb groove on each side of the door leaf, see Figures 2 and 3 herein.
CASSETTE EDGE JAMB	1no 15 x 4mm PVC encased graphite based seal; fitted in the cassette jamb groove on each side of the door leaf, see Figures 6 and 7 herein.
LEADING EDGE JAMB	1no 15 x 4mm PVC encased graphite based seal; fitted in the leading edge jamb groove on each side of the door leaf, see Figures 4 and 5 herein.
SQUARE MEETING STILES	3no 10 x 4mm PVC encased graphite based seals; 2no fitted in one leaf edge, fitted centrally and spaced 10mm apart, and 1no fitted centrally in the other leaf edge. Figure 10 herein.

Notes:

- i. The 4mm thick seals are graphite based, Palusol or Lorient 617 type in a pvc case (see Note ii). Seals should be obtained from Mann McGowan Fabrications Ltd, Lorient Polyproducts Ltd, Intumescent Seals Ltd, Pyroplex or Sealed Tight Solutions. Combined intumescent/smoke seals may be used, maintaining the widths specified above (and subject to the conditions outlined in Section 3.8).
- ii. Intumescent seals may generally be fitted in door/overpanel edges or frame reveals. However, in head locations of double door assemblies, where the intumescent strips specified are solely fitted in the leaf, those strips must be graphite based or Lorient 617 type. If a Palusol specification is chosen, the seal(s) at the head of double door assemblies must be fitted into the frame reveal, or overpanel, as appropriate (see Section 3.8).

Appendix B

Figures PAR/10790/01D:B01 to B02

Assessed Leaf Size Envelopes for Sliding Portman Pocket Door Leaves Installed in Timber Frames

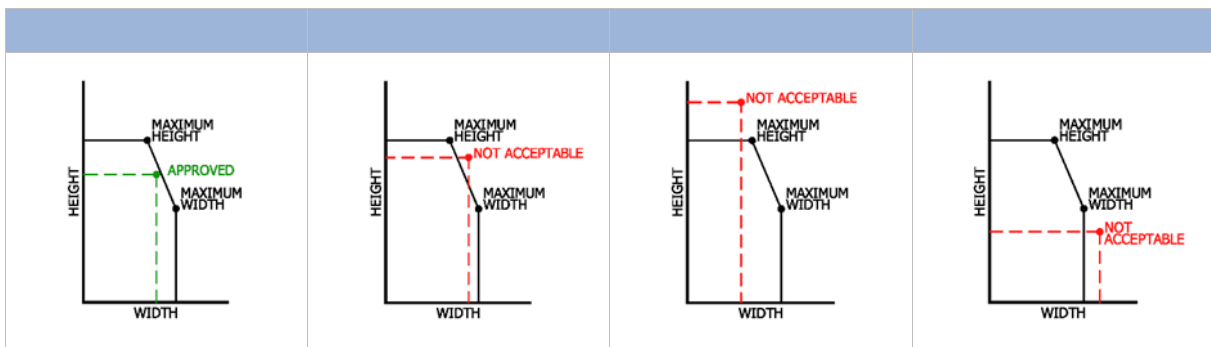
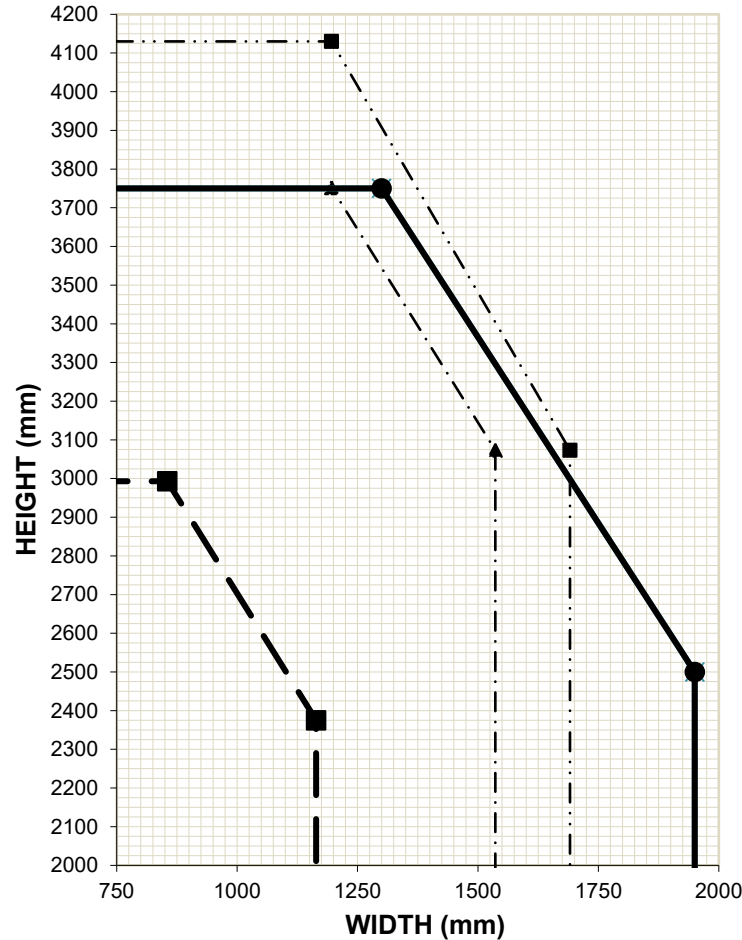


Figure B01 FD30

Configuration: Unlatched, Horizontally Sliding, Single Door



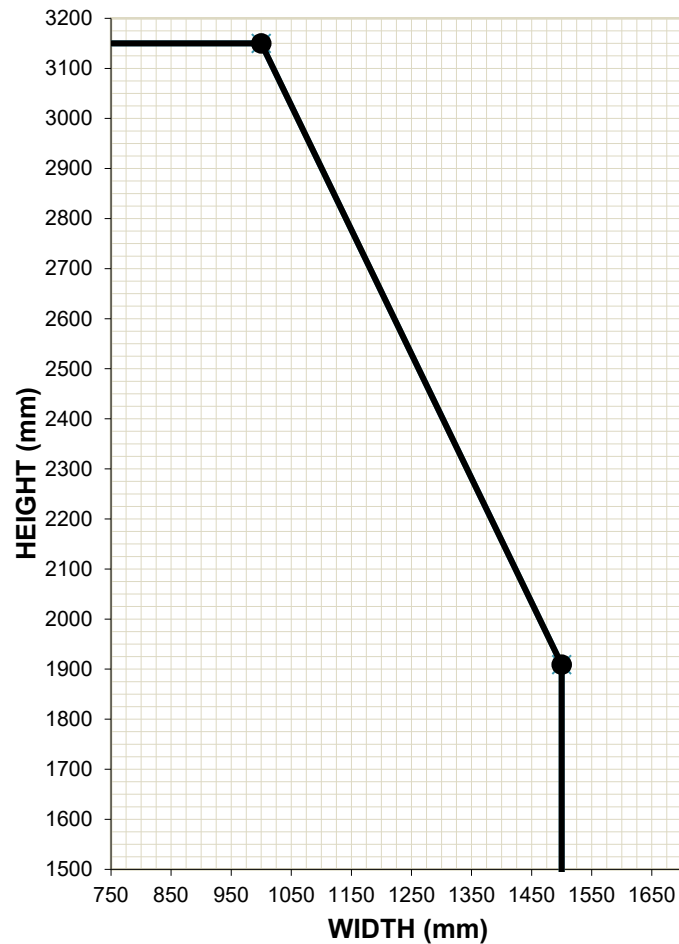
Door Type	Leaf Height	Leaf Width
..... 44mm Halspan Prima	2500mm	1950mm
	3750mm	1300mm
- - - 54mm Halspan Prima	2500mm	1950mm
	3750mm	1300mm
- . - 44mm Moralt FireSmoke	3073mm	1536mm
	3752mm	1196mm
- . . 54mm Moralt FireSmoke	3073mm	1691mm
	4130mm	1196mm
———— 44mm Falcon Strebord	2500mm	1950mm
	3750mm	1300mm
———— 54mm Falcon Strebord	2500mm	1950mm
	3750mm	1300mm
- - - 44mm Joinery Door with Palusol® SW4 solid panels	2375mm	1164mm
	2993mm	855mm

Note that the sizes detailed above do not indicate that these are available from the manufacturer. Leaf size may be limited by that produced by the manufacturer in accordance with the constructional specifications approved herein.

Leaves should be produced from single pieces unless joints in the core have been proven in fire resistance testing to BS 476: Part 22 or BS EN 16434-1: 2014 +A1: 2018

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Figure B02 FD30



Configuration: Unlatched, Horizontally Sliding, Double Door

Door Type	Leaf Height	Leaf Width
..... 44mm Halspan Prima	1909mm	1500mm
	3150mm	1000mm
- - - - 54mm Halspan Prima	1909mm	1500mm
	3150mm	1000mm
- . - 44mm Moralt FireSmoke	Not Approved	
- . . 54mm Moralt FireSmoke	Not Approved	
———— 44mm Falcon Strebord	1909mm	1500mm
	3150mm	1000mm
———— 54mm Falcon Strebord	1909mm	1500mm
	3150mm	1000mm
- - - 44mm Joinery Door with Palusol® SW4 solid panels	Not Approved	

Note that the sizes detailed above do not indicate that these are available from the manufacturer. Leaf size may be limited by that produced by the manufacturer in accordance with the constructional specifications approved herein.

Leaves should be produced from single pieces unless joints in the core have been proven in fire resistance testing to BS 476: Part 22 or BS EN 16434-1: 2014 +A1: 2018

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Appendix C

C.1 Summary of Fire Test Evidence

Summary of Primary Fire Test Evidence

TEST LABORATORY AND REPORT NUMBER	TEST DATE	CONFIGURATION TESTED	LEAF SIZE TESTED	TEST STANDARD	INTEGRITY
Cambridge Fire Research CFR1008261	26.08.2010	Single leaf sliding Portman pocket door installed in a timber frame within a partition wall	2349mm x 1100mm x 44.5mm	BS EN 1634-1: 2008	33 minutes
Chiltern International Fire Chilt/RF08038	08.04.2008	Single leaf sliding Portman pocket door installed in a timber frame within a partition wall	2349mm x 1100mm x 44mm	BS EN 1634-1: 2000	40 minutes
Cambridge Fire Research CFR1302081	08.02.2013	Single leaf sliding Portman pocket door installed in a timber frame within a partition wall	2350mm x 1100mm x 44mm	BS EN 1634-1: 2008	56 minutes
Chiltern International Fire RF97063	24.07.1997	Double leaf sliding Portman pocket door installed in a timber frame within a partition wall	2135mm x 915 + 915mm x 45mm	BS476: Part 22: 1987	45 minutes
Chiltern International Fire RF05080	11.07.2005	Unlatched single acting double leaf door assembly with (infill) panelled leaves installed in a timber frame	2135mm x 915mm x 44mm	BS476: Part 22: 1987	35 minutes
Cambridge Fire Research CFR1805171	17.05.2018	An insulated single sliding pocket doorset without a closing mechanism operating Royde & Tucker P7000 WTD Portman kit	2500mm x 1300mm x 44mm	BS EN 1634-1: 2014	41 minutes
WF 518846 Version 2	23.08.2022	Unlatched double leaf sliding-door assembly installed in a timber frame within a partition wall	2084mm x 984mm x 44mm	BS EN 1634-1:2014+A1:2018	38 minutes
WF 518854	26.08.2022	Latched single leaf sliding door assembly installed in a timber frame within a partition wall	2242mm x 1092mm x 44mm	BS EN 1634-1:2014+A1:2018	41 minutes

Summary of Secondary Fire Test Evidence

TEST LABORATORY AND REPORT NUMBER	TEST DATE	CONFIGURATION TESTED	LEAF SIZE TESTED	TEST STANDARD	INTEGRITY
Chiltern International Fire Chilt/RF08102 – Door A	19.08.2008	ULSADD – joinery door including raised and fielded panels of Palusol® SW4	2100mm x 915 + 450mm x 44mm	BS 476: Part 22: 1987	39 minutes
Chiltern International Fire Chilt/RF08102 – Door B	19.08.2008	ULSASD– joinery door including flat panels of Palusol® SW4	2100mm x 915mm x 44mm	BS 476: Part 22: 1987	32 minutes
Cambridge Fire Research CFR1203301	03.03.2012	An insulated double leaf sliding pocket doorset without a closing mechanism incorporating Royde and Tucker PFD30DD Portman Kit	2100mm x 921 + 923mm x 44mm	BS EN 1634-1: 2008	29 minutes
Chiltern International Fire RF00165	22.11.2000	Unlatched single acting double leaf door assembly with (routed) panelled leaves installed in a timber frame	2042mm x 826mm x 54mm	BS476: Part 22: 1987	66 minutes
Current Version of IFC Field of Application Report PAR/12519/01	Field of Application of the Fire Resistance Moralt LAMINESSE FireSmoke/FireSafe Thickness 44mm FD30 Door Leaf Range Installed in Timber and Aluminium Door Frames			BS 476: Part 22: 1987	30 minutes
Current Version of IFC Field of Application Report PAR/12519/02	Field of Application of the Fire Resistance Moralt LAMINESSE FireSmoke/FireSafe Thickness 54mm FD60 Door Leaf Range Installed in Timber Door Frames			BS 476: Part 22: 1987	60 minutes
Current Version of IFC Field of Application Report IFCA/06166	Field of Application for 44mm Thick FD30 Halspan® Prima Door Leaves Installed in Timber, Steel or Aluminium Frames			BS 476: Part 22: 1987	30 minutes
Current Version of IFC Field of Application Report IFCA/06167	Field of Application for 54mm Thick FD60 Halspan® Prima Door Leaves Installed in Timber or Steel Frames			BS 476: Part 22: 1987	60 minutes

Some of the test evidence referenced in this Engineering Assessment Report is more than 5 years old. In accordance with industry practice, IFC have reviewed this test evidence, and have concluded that the evidence is still valid, and suitable to form the basis of this approval.

Some of the test evidence is not owned by Royde & Tucker; but IFC have written permission from the test sponsor, to use the evidence in support of this assessment.

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