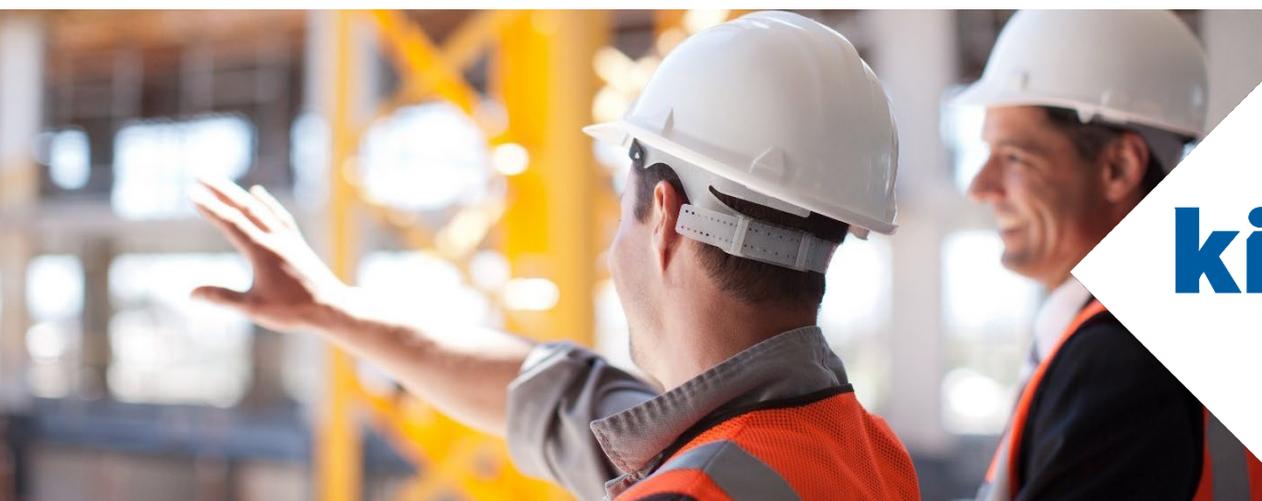


# Field of Application Report

Kiwa Fire Safety Compliance Report PAR/24342/01 Revision A

Fire Resistance Standard: BS 476-22: 1987



## Prepared for:

Complete Fire Protection Limited

## Assessed Product/System:

Complete Fire Protection Limited 'FrameFit' Intumescent Seal system, for use with Timber Door Leaves Installed in Timber Frames

## Assessed Performance:

30 or 60 minutes fire resistance (as applicable)

## Issue Date

11 February 2025

## Expiry Date

31 January 2029

Partner  
for  
Progress

**Kiwa Fire Safety Compliance**  
Ground Floor, Suite A, Building 2  
Bear Brook Office Park  
Walton Street  
Aylesbury, Buckinghamshire  
HP21 7GQ

## Kiwa Fire Safety Compliance

Kiwa Fire Safety Compliance (KFS) is part of the **Kiwa UK Group**. The company is a specialist engineering consultancy delivering independent, honest, and practical fire safety solutions to professionals across the built environment. The sought after fire safety advice protects life, preserves property, and safeguards business continuity.

Formerly called International Fire Consultants, the company was established in 1985 to provide high quality and impartial technical expertise concerning fire safety. Since then, the team of highly qualified Fire Engineers and Fire Safety Professionals have continued to deliver robust, innovative, and cost-effective fire safety solutions, including Assessments, Designs and Inspections.

Kiwa Fire Safety Compliance lend their insight and practical expertise for: Fire Safety Engineering, Fire Risk Management, Product Evaluation, Fire Life Safety Systems, Expert Witness Testimony, and Fire Protection Training, to developments of all sizes and complexities; from residential, education and healthcare structures to sporting venues, airports and iconic heritage buildings, such as historical royal palaces and stately homes.

Recognised internationally as the go-to professionals in all aspects of fire safety, Kiwa Fire Safety Compliance is one of the world's leading fire engineering and solution providers, trusted by many of the most prestigious construction firms, architects and estate owners.

**HEAD OFFICE/CORRESPONDENCE ADDRESS:**

**Kiwa Fire Safety Compliance Limited**

Ground Floor, Suite A, Building 2

Bear Brook Office Park

Walton Street

Aylesbury, Buckinghamshire

HP21 7GQ

**REGISTERED ADDRESS:**

**International Fire Consultants Limited**

Kiwa House

Malvern View Business Park

Stella Way, Bishops Cleeve

Cheltenham

GL52 7DQ

**+44 (0)1844 275500**

[uk.firesafety@kiwa.com](mailto:uk.firesafety@kiwa.com)

**Registered No: 2194010**

## Private and Confidential

This report should not be manipulated, abridged or otherwise presented without the written consent of Kiwa Fire Safety Compliance.

<b>Report Reference Number:</b>	Kiwa Fire Safety Compliance Report PAR/24342/01 Revision A
<b>Prepared on behalf of:</b>	Complete Fire Protection Limited
<b>Client Address:</b>	Unit 2, Ferry Steps Industrial Estate, Albert Road, St Philips, Bristol, BS2 0XW
<b>Issue Date:</b>	11 February 2025
<b>Expiry Date:</b>	31 January 2029
<b>Ref ID:</b>	#25410

## Issue and Amendment Record

REV	DATE	AUTHOR	REVIEW	SECTION	AMENDMENTS
Draft 1	August 2023	CS	CH	-	-
Draft 2	October 2023	CS	CH	-	-
-	January 2024	CS	CH	-	-
Revision A	11 February 2025	CS	WL	-	Inclusion of additional test data. Minor updates throughout

## Contents

1. Introduction	6
2. Test Evidence	7
3. Scope of Approval	8
3.1 Complete Fire Protection Limited 'FrameFit' Seals	8
3.2 Approved Door Configurations	9
3.3 44mm Thick Halspan Prima or Optima – Option A	12
3.4 44mm Thick Halspan Prima or Optima – Option B	15
3.5 44mm Thick Halspan Prima or Optima – Option C	17
3.6 54mm Thick Halspan Prima or Optima – Option A	20
3.7 54mm Thick Halspan Prima or Optima – Option B	22
3.8 45mm Thick Halspan IT30	25
3.9 44mm Thick Vicaima	28
3.10 44mm Thick Falcon Panel Products Strebord	31
3.11 54mm Thick Falcon Panel Products Strebord	34
3.12 44mm Thick Premdor FD30 44	37
3.13 Maximum Assessable Door Leaf Sizes	39
3.14 Installation, Supporting Construction and Door Edge Gaps	39
3.15 Ambient Temperature Smoke Seals	40
4. Conclusion	41
5. Declaration by the Applicant	42
6. Limitations	43
7. Validity	45
Appendix A Approved Leaf Size Envelopes	46
A.1 Approved Leaf Size Envelope	47
A.2 Approved Leaf Size Envelope	48
A.3 Approved Leaf Size Envelope	49
A.4 Approved Leaf Size Envelope	50
A.5 Approved Leaf Size Envelope	51
A.6 Approved Leaf Size Envelope	52
A.7 Approved Leaf Size Envelope	53
A.8 Approved Leaf Size Envelope	54
A.9 Approved Leaf Size Envelope	55
A.10 Approved Leaf Size Envelope	56
Appendix B General Guidance on Installation of Essential and Non-Essential Hardware	57

---

B.1	Door Closers	57
B.2	Bolts	57
B.2.1	Push plates, Kick plates etc	57
B.2.2	Pull Handles	58
B.2.3	Security viewers	58
B.2.4	Lever Handles	58
Appendix C	Summary of Fire Test Evidence	59

# 1. Introduction

This report has been prepared by Kiwa Fire Safety Compliance (hereafter referenced as KFS), on the instruction of Complete Fire Protection Limited, to define the Field of Application for the 'FrameFit' intumescent seal system, which is proposed for use with timber based door assemblies, comprising timber door leaves installed in timber frames, that are required to provide 30 or 60 minutes fire resistance performance when adjudged against BS 476-22: 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, KFS complies with the principles found in the following documents:

- [PD 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: 2023: 'Extended application on the fire performance of construction products and building elements: Principle of EXAP standards and EXAP reports'](#)

It is proposed that variations to the tested specifications, as described in the following sections, may be utilised with the proposed FrameFit system, when accommodated into door assemblies, without reducing their potential to achieve a 30 or 60 minute integrity rating (as applicable), if tested in accordance with the method and criteria of BS 476-22: 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.

The FrameFit system has been tested with various timber door assemblies, incorporating various door core types. A specification will be provided for the FrameFit system for use with each door type, based upon the provided test data.

Generally, it is more onerous to test timber door assemblies, hinged or pivoted, with the specimen installed with the leaf opening in towards the furnace. Testing in this orientation is therefore incorporated into Field of Application Reports to cover doors opening in the opposite direction. The principle is only applicable when the door construction, and any features within the door leaf, such as glazing, are symmetrical.

Unless stated otherwise, herein, this Field of Application considers the scope of approval for door assemblies that may be installed in either orientation, that being 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.

### Comparison of EN 1634-1 and BS 476-22: 1987 Test Methods

Approved Document B of the Building Regulations (2019 Edition with 2020 and 2022 Amendments), the Scottish Building Standards Technical Handbook (2022 Edition), or the Building Regulations (Northern Ireland) 2012 (and subsequent 2014, 2016 and 2022 Amendments) stipulate that all fire resisting door assemblies must have been successfully fire tested in accordance with BS 476-22: 1987 or BS EN 1634-1:2014+A1:2018.

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 BS 476-22: 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 BS 476-22: 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 BS 476-22: 1987 test procedures are both generally based upon the ISO 834 fire resistance test method, there are differences. The major ones are thus;

- a. 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 BS 476-22: 1987 test, and therefore the heat input is higher than that given in BS 476 at any given time during approximately the first 15 minutes of a fire resistance test.
- b. 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 BS 476-22: 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 BS 476-22: 1987. This is borne out by KFS'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 BS 476-22 test method, or when making assessments and judgements against the BS 476-22 criteria, but not vice versa.

### 3. Scope of Approval

#### 3.1 Complete Fire Protection Limited 'FrameFit' Seals

The Complete Fire Protection Limited 'FrameFit' system comprises various thicknesses of low modulus, fire retardant graphite, fixed to either the door frame reveal, door leaf meeting edge (for double leaf assemblies), the base of the door leaf, or to the threshold. The dimensions of the individual seals which make up the FrameFit system are as follows;

PRODUCT REFERENCE	DEPTH	THICKNESS
HE44	44mm	1.5mm
LM1.5/44	44mm	1.5mm
LM3/44	44mm	3mm
LM4/44	44mm	4mm
LM5/44	44mm	5mm
HE54	54mm	1.5mm
LM1.5/54	54mm	1.5mm
LM3/54	54mm	3mm
LM4/54	54mm	4mm
LM5/54	54mm	5mm

*Table 1 - Specification of seals forming the 'FrameFit' system*

For each door type with which the 'FrameFit' system has been tested, a maximum gap width has been approved. For gaps larger than 5mm, the FrameFit system must be made up of multiple layers of intumescent, at various thicknesses (as detailed in Table 1). It is permitted that multiple layers of the intumescent may be used in order to achieve the overall required thickness. This is on the basis that the seals are fitted tightly together, ensuring there are no gaps between layers, whilst maintaining the minimum thickness of intumescent. Additionally, it is permitted that multiple layers may be staggered to account for uneven gaps between the door leaf and frame, and the door leaf and floor, assuming the maximum gap sizes, and maximum thicknesses of the FrameFit system (as described herein), are met. However, where possible, door leaf to frame gaps should be maintained such that gaps are consistent across the door assembly. All junctions should incorporate either the intumescent seal fitted within the door leaf edge/frame reveal, or the HE44/HE54 (as applicable), located to the outer edge of the junction such that seal can close the gap between the door leaf and frame.

As noted above, the FrameFit system is either secured to the door frame reveal, door leaf meeting edge (for double leaf assemblies), the base of the door leaf, or to the threshold. When fitted to the door frame reveal, or meeting edges of double leaf assemblies, the FrameFit system is to be fitted using double sided adhesive tape, located on the rear of the seals. Once the seals are adhered in place, a minimum of 20mm long panel pins are to be fitted through the system, at no more than 200mm centres. An 'MES (Meeting Edge Seal) cover strip' is fitted over the intumescent at the meeting edges, when fitted to double leaf door assemblies.

When the FrameFit system is secured to the base of the door leaf, the seals are to be adhered in place, then secured into the bottom of the leaf, at 200mm centres (unless stated otherwise for the specific door type), with screws or panel pins of sufficient length such that there is a minimum of 10mm penetration into the door leaf, prior to being covered with a 'BDS (Bottom Door Seal) cover strip'. Where the FrameFit system is fitted to the floor, the system must be secured using 5no. screws, appropriate

for the floor covering, with a minimum penetration of 75mm into the floor. The FrameFit system is to be secured to the bottom of the door leaf, unless otherwise stated within the relevant Section, below.

## 3.2 Approved Door Configurations

The FrameFit system has been approved for use with the following door types, subject to the specifications listed herein;

- 44mm thick Halspan Prima and Optima (single and double door leaf assemblies)
- 44mm thick Halspan IT30 (single door leaf assemblies only)
- 54mm thick Halspan Prima (single and double door leaf assemblies)
- 44mm thick Falcon Panel Products Strebord (single door leaf assemblies only)
- 54mm thick Falcon Panel Products Strebord (single door leaf assemblies only)
- 44mm thick Premdor FD30 44 (single door leaf assemblies only)

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

It is noted that the door types listed above have been directly tested in conjunction with the FrameFit system. Alternative door types are not permitted within the scope of this Field of Application, however, it is the opinion of KFS that this system may be compatible with alternative door types to improve the fire resistance performance where door leaf to frame gaps are in excess of what is considered 'standard', or where door leaf to frame gaps are in excess of what has been tested with the relevant door type.

Where the FrameFit system is required to be used in conjunction with door types not listed above, it is recommended that KFS undertake a full review of the relevant assemblies to determine if approval of the use of the FrameFit system with the relevant door type can be provided, on a case by case basis (based upon the test data described herein, and subject to suitable test data for the relevant door type).

### 3.2.1 Door Cores

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.

Unless specified otherwise, the core for each leaf type shall be formed from one single piece.

It is noted that the Halspan Prima door core was incorporated into multiple tests, however, the specification across the tests differed. Therefore, KFS have provided a specification based upon each tested system, with limitations stipulated for each option.

### 3.2.2 Lippings

Unless specified otherwise, lippings are to be fitted to all 4 edges of the door leaf. Lippings are to be straight grained hardwood, with a minimum measured density at 15% 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.

When fitted to door assemblies required to provide 60 minutes fire resistance, white beech (*Fagus sylvatica*) is not permitted.

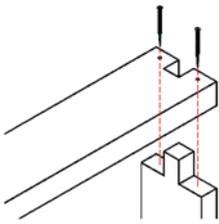
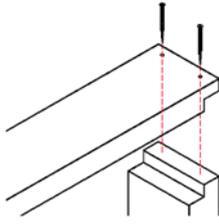
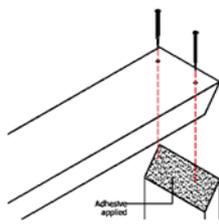
### 3.2.3 Door Frames

Timber for door frames must have a minimum measured density at 15% moisture content (minimum density specified in the relevant table for each door core type). The timber must be straight grained and of appropriate quality in accordance with BS EN 942: 2007. The moisture content shall be  $11 \pm 2\%$  for UK market, (or to suit internal joinery moisture content specification of export countries).

The door stop is to comprise the same material as the door frame and may be either planted and pinned using steel pins/screws with a minimum 20mm penetration into the door frame, at nominally 300mm centres, or integral with the main door frame, providing the minimum frame thickness remains as stated.

The overall frame depth may be increased by the use of extension linings, but the joint between the main frame and the extension lining must not intrude in the plane of the door thickness.

The door frame must be jointed using one of the following methods;

<b>HEAD/JAMB JOINT</b>	Mortice and tenon, or half-lapped joint, head twice screwed to each jamb <u>or</u> mitred joint which is glued with a non-thermally softening adhesive and the head twice screwed to each jamb.		
	<b>MORTICE AND TENON JOINT</b>	<b>HALF-LAPPED JOINT</b>	<b>MITRED JOINT</b>
			
<b>ARCHITRAVES</b>	Where the face of the frame, and the door, are flush with the face of the wall, loose architraves may be optional, subject to the method of fire stopping.  The gap sealing between the supporting construction and timber frames should follow the recommendations given in Section 9.4 of <a href="#">BS8214: 2016, 'Timber-based fire door assemblies – Code of practice'</a> , using a product proven in such timber applications.		

Door frames for door assemblies required to provide 60 minutes fire resistance are to be produced from hardwood with a minimum density of  $640\text{kg/m}^3$ , however, white beech (*Fagus sylvatica*) is not permitted.

### 3.2.4 Essential Hardware

For each door type, various items of hardware will be used with the proposed door assemblies which will have a positive contribution to the overall performance ('essential hardware').

General guidance for all items of hardware is outlined within the relevant section for each door type, 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 476-22: 1987 or EN1634-1, and/or assessed by KFS 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.

Where door types are to be latched, it is critical to ensure that the latch fully engages into the keep, taking into account any excessive gap based upon the inclusion of the FrameFit system.

Where applicable, additional information for essential hardware is summarised in Appendix B.

### 3.2.5 Non-Essential Hardware

KFS have not considered the performance of non-essential hardware within this Field of Application report. Where non-essential hardware is fitted to a door leaf, it must not interface with the leaf/frame junction, and test data must be available to demonstrate its suitability for use with that door type.

General guidance for non-essential hardware is summarised in Appendix B.

### 3.2.6 Intumescent Seal Specification

Graphite based, Palusol or Lorient 617, pvc encased seals may be employed across the complete range of door sizes and configurations approved herein. 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 KFS Certification, to ensure product quality and consistency.

The intumescent seal specifications, widths, and positions are specified within the relevant Section, below, and are based upon tested details.

The 'typical' gap between the door leaf and the frame is nominally 2-4mm. This is the standard operating gap at which the majority of intumescent seals are tested, to close the void between the leaf and frame under heating conditions.

Where systems described herein did not include the FrameFit system to one edge of the leaf (either the head, hanging edges or meeting edges), but do include an intumescent specification, the gap at that edge should be maintained between 2 and 4mm.

Where no recessed intumescent seal is fitted, and the only intumescent product at the relevant leaf to frame junction is the FrameFit system, the specified maximum thickness of the FrameFit system must be utilised, as this is the demonstrated level of intumescent to close the specified leaf to frame gaps. It is not permitted to reduce the thickness of the FrameFit system in these instances.

### 3.3 44mm Thick Halspan Prima or Optima – Option A

The approved leaf sizes and configurations of door assemblies comprising timber door leaves are specific to the door type tested, when incorporating the Complete Fire Protection Ltd ‘FrameFit’ system (As tested in UKTC Report - 220220311-005314 Rev A - Specimen A).

CONFIGURATION		ENVELOPE OF APPROVED LEAF SIZES	APPROVED FIRE RESISTANCE PERFORMANCE
	<ul style="list-style-type: none"> <li>Latched or unlatched</li> <li>Single Acting</li> <li>Single Door</li> <li>Without Overpanel</li> </ul>	Figure PAR/24342/01 Rev A:01 in Appendix A	30 minutes (integrity and insulation)

#### 3.3.1 Door Leaf Specification

The 44mm thick Halspan Prima/Optima door leaf construction comprises a particleboard door core, with details of the constructional specifications given below.

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		Halspan Prima or Optima	620-630kg/m <sup>3</sup>	44mm thick
STILES/RAILS		N/A	N/A	N/A
FACINGS		N/A	N/A	N/A
LIPPINGS	SQUARE EDGES	Hardwood	640kg/m <sup>3</sup>	8–12mm thick
ADHESIVE	LIPPING	PU or UF adhesive	-	-
MINIMUM LEAF THICKNESS		-	-	44mm
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

#### 3.3.2 Door Frame Specification

The approved door frame specification for use with the 44mm thick Halspan Prima/Optima door leaf construction is as follows;

MATERIAL	MINIMUM DENSITY	MINIMUM FACE WIDTH	MINIMUM FRAME DEPTH	MINIMUM STOP SIZE
Softwood, MDF or Hardwood	510kg/m <sup>3</sup>	32mm, excluding stop	80mm	35mm deep x 25mm wide

### 3.3.3 Essential Hardware

#### Hinges

Fixed pin, washered butt, ball bearing butt, lift-off type or journal supported hinges, bedded on 1mm thick Interdens/Therm-A-Strip intumescent, may be used with the proposed door type. The hinges must have maximum dimensions of 89-115mm high, 30-36mm wide and 2.5-3.5mm thick. A minimum of 3no. hinges must be fitted per leaf, fitted 150-175mm from the head, 100-250mm up from the base, and equispaced between the two.

#### Locks

Where mortice latches or locks are fitted, they shall be centred at 1000mm ( $\pm$  200mm), above the bottom of the door leaf, and should comply with the following specifications:

ELEMENT	SPECIFICATION
LATCH/LOCK TYPE	Mortice latches, tubular mortice latches, sashlocks and deadlocks
MAXIMUM FOREND HEIGHT	200mm x 20mm wide
MAXIMUM STRIKE PLATE HEIGHT	170mm x 25mm wide
MAXIMUM LATCH/LOCK BODY DIMENSIONS	200mm high x 55mm wide x 20mm thick
MATERIAL	Steel based with no essential part of the lock/latch to comprise polymeric or other low melting point (<800°C) materials and should not contain any flammable materials
POSITIONS	Centred at 1000mm ( $\pm$ 200mm) above the bottom of the door leaf
INTUMESCENT PROTECTION	The latch body, strike plate and forend must be bedded on 1mm thick Interdens/Therm-A-Strip intumescent material

Over-morticing is to be avoided; mortices shall be as tight as possible to the latch. If gaps occur around the case (not exceeding 2mm), then these must be made good with intumescent mastic or sheet material. Holes for spindles or cylinders should be kept as small as is compatible with the operation of the hardware.

#### Door Closers

Tested face-fixed overhead door closers that have been tested, assessed or otherwise approved for use with the proposed Halspan Prima/Optima system may be utilised in accordance with the specification described herein (See Appendix B also).

### 3.3.4 Intumescent Seals

1no. 15x4mm seal to be fitted centrally within the frame reveal or the leaf edge (see also Section 3.2.6).

### 3.3.5 Complete Fire Protection Ltd 'FrameFit' Specification

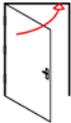
The following Complete Fire Protection Ltd 'FrameFit' seal specification has been approved, up to the gap sizes noted, for use with the 44mm thick Halspan Prima/Optima door type.

	MAXIMUM GAP SIZE (BEFORE FRAMEFIT SYSTEM)	MAXIMUM GAP SIZE (AFTER FRAMEFIT SYSTEM)	MAXIMUM THICKNESS OF FRAMEFIT SYSTEM
Hanging edge	3mm wide	1-2mm wide	1.5mm
Closing edge	14mm wide	1.7-2.9mm wide	12.3mm
Top edge	12mm wide	2.5-4mm wide	9.5mm
Bottom edge	25mm wide	1-2.5mm wide	24mm

As noted in Section 3.1, the total required thickness of the FrameFit system can comprise multiple different strips of the intumescent, with varying thicknesses, on the assumption that the gap sizes listed above are maintained.

### 3.4 44mm Thick Halspan Prima or Optima – Option B

The approved leaf sizes and configurations of door assemblies comprising timber door leaves are specific to the door type tested, when incorporating the Complete Fire Protection Ltd ‘FrameFit’ system (As tested in UKTC Report - 20220624-105409 Rev A - Specimen B).

CONFIGURATION		ENVELOPE OF APPROVED LEAF SIZES	APPROVED FIRE RESISTANCE PERFORMANCE
	<ul style="list-style-type: none"> <li>Latched</li> <li>Single Acting</li> <li>Single Door</li> <li>Without Overpanel</li> </ul>	Figure PAR/24342/01 Rev A:02 in Appendix A	30 minutes (integrity and insulation)

#### 3.4.1 Door Leaf Specification

The 44mm thick Halspan Prima/Optima door leaf construction comprises a particleboard door core, with details of the constructional specifications given below.

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		Halspan Prima or Optima	620-630kg/m <sup>3</sup>	44mm thick
STILES/RAILS		N/A	N/A	N/A
FACINGS		N/A	N/A	N/A
LIPPINGS	SQUARE EDGES	Hardwood	640kg/m <sup>3</sup>	6–10mm thick
ADHESIVE	LIPPING	PU or UF adhesive	-	-
MINIMUM LEAF THICKNESS		-	-	44mm
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

#### 3.4.2 Door Frame Specification

The approved door frame specification for use with the 44mm thick Halspan Prima/Optima door leaf construction is as follows;

MATERIAL	MINIMUM DENSITY	MINIMUM FACE WIDTH	MINIMUM FRAME DEPTH	MINIMUM STOP SIZE
Hardwood	640kg/m <sup>3</sup>	32mm, excluding stop	72mm	25mm deep x 25mm wide

### 3.4.3 Essential Hardware

#### Hinges

Fixed pin, washered butt, ball bearing butt, lift-off type or journal supported hinges, bedded on 1mm thick Interdens/Therm-A-Strip intumescent, may be used with the proposed door type. The hinges must have maximum dimensions of 89-115mm high, 30-36mm wide and 2.5-3.5mm thick. A minimum of 3no. hinges must be fitted per leaf, fitted 150-175mm from the head, 100-250mm from the base, and equispaced between the two.

#### Locks

The DLSF 4560985B Multi-point lock is approved for use with the Halspan Prima/Optima door core, as described within this section. The multi-point lock is to be fitted such that all 3 locking locations engage into the door frame (taking into account the inclusion of the 'FrameFit' system). The lock bodies, keeps and forend are to be lined with 1mm thick graphite based intumescent.

Over-morticing is to be avoided; mortices shall be as tight as possible to the latch. If gaps occur around the case (not exceeding 2mm), then these must be made good with intumescent mastic or intumescent sheet material. Holes for spindles or cylinders should be kept as small as is compatible with the operation of the hardware.

#### Door Closers

Tested face-fixed overhead door closers that have been tested, assessed or otherwise approved for use with the proposed Halspan Prima/Optima system may be utilised in accordance with the specification described herein (See Appendix B also).

### 3.4.4 Intumescent Seals

No intumescent seals are rebated into either the leaf edges or opposing frame reveal with this door option. The thickness of FrameFit system, as detailed in Section 3.4.5, must be maintained.

### 3.4.5 Complete Fire Protection Ltd 'FrameFit' Specification

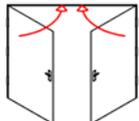
The following Complete Fire Protection Ltd 'FrameFit' seal specification has been approved, up to the gap sizes noted, for use with the 44mm thick Halspan Prima/Optima door type.

	MAXIMUM GAP SIZE (BEFORE FRAMEFIT SYSTEM)	MAXIMUM GAP SIZE (AFTER FRAMEFIT SYSTEM)	MAXIMUM THICKNESS OF FRAMEFIT SYSTEM
Hanging edge	4.5mm wide	2-3mm wide	1.5mm
Closing edge	9mm wide	2mm wide	7mm
Top edge	9mm wide	2mm wide	7mm
Bottom edge	25mm wide	2mm wide	24mm

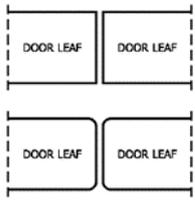
As noted in Section 3.1, the total required thickness of the FrameFit system can comprise multiple different strips of the intumescent, with varying thicknesses, on the assumption that the gap sizes listed above are maintained.

### 3.5 44mm Thick Halspan Prima or Optima – Option C

The approved leaf sizes and configurations of door assemblies comprising timber door leaves are specific to the door type tested, when incorporating the Complete Fire Protection Ltd ‘FrameFit’ system (As tested in UKTC Report -20220817-105713 Rev A - Specimen B).

CONFIGURATION	ENVELOPE OF APPROVED LEAF SIZES	APPROVED FIRE RESISTANCE PERFORMANCE
 <ul style="list-style-type: none"> <li>Latched or unlatched</li> <li>Single Acting</li> <li>Double Door <sup>Note 1</sup></li> <li>Without Overpanel</li> </ul>	Figure PAR/24342/01 Rev A:03 in Appendix A	30 minutes (integrity and insulation)

Note 1 Double leaf door assemblies must have square edged (or slightly rounded) meeting stiles.

Square edged meeting stiles or Slightly rounded meeting stiles	
--	---

Double door assemblies may comprise leaves of the same width, up to the maximum width indicated in Appendix A. For latched/bolted unequal pairs, there is no limit on the ratio of leaf widths, (although the large leaf must still be within the limitations outlined in Appendix A). For unlatched 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 A). 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.

#### 3.5.1 Door Leaf Specification

The 44mm thick Halspan Prima/Optima door leaf construction comprises a particleboard door core, with details of the constructional specifications given below.

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		Halspan Prima or Optima	620-630kg/m <sup>3</sup>	44mm thick
STILES/RAILS		N/A	N/A	N/A
FACINGS		N/A	N/A	N/A
LIPPINGS	SQUARE EDGES	Hardwood	640kg/m <sup>3</sup>	6–10mm thick
ADHESIVE	LIPPING	PU or UF adhesive	-	-
MINIMUM LEAF THICKNESS		-	-	44mm
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

### 3.5.2 Door Frame Specification

The approved door frame specification for use with the 44mm thick Halspan Prima/Optima door leaf construction is as follows;

MATERIAL	MINIMUM DENSITY	MINIMUM FACE WIDTH	MINIMUM FRAME DEPTH	MINIMUM STOP SIZE
Softwood, MDF or Hardwood	510kg/m <sup>3</sup>	32mm, excluding stop	80mm	25mm deep x 15mm wide

### 3.5.3 Essential Hardware

#### Hinges

Fixed pin, washered butt, ball bearing butt, lift-off type or journal supported hinges, bedded on 1mm thick Interdens/Therm-A-Strip intumescent, may be used with the proposed door type. The hinges must have maximum dimensions of 89-115mm high, 30-36mm wide and 2.5-3.5mm thick. A minimum of 3no hinges must be fitted per leaf, fitted 150-175mm from the head, 100-250mm from the base, and equispaced between the two.

#### Locks

Where mortice latches or locks are fitted, they shall be centred at 1000mm ( $\pm$  200mm), above the bottom of the door leaf, and should comply with the following specifications:

ELEMENT	SPECIFICATION
LATCH/LOCK TYPE	Mortice latches, tubular mortice latches, sashlocks and deadlocks
MAXIMUM FOREND HEIGHT	200mm x 20mm wide
MAXIMUM STRIKE PLATE HEIGHT	170mm x 25mm wide
MAXIMUM LATCH/LOCK BODY DIMENSIONS	200mm high x 55mm wide x 20mm thick
MATERIAL	Steel based with no essential part of the lock/latch to comprise polymeric or other low melting point (<800°C) materials and should not contain any flammable materials
POSITIONS	Centred at 1000mm ( $\pm$ 200mm) above the bottom of the door leaf
INTUMESCENT PROTECTION	The latch body, strike plate and forend must be bedded on 1mm thick Interdens/Therm-A-Strip intumescent material

Over-morticing is to be avoided; mortices shall be as tight as possible to the latch. If gaps occur around the case (not exceeding 2mm), then these must be made good with intumescent mastic or sheet material. Holes for spindles or cylinders should be kept as small as is compatible with the operation of the hardware.

#### Door Closers

Tested face-fixed overhead door closers that have been tested, assessed or otherwise approved for use with the proposed Halspan Prima/Optima system may be utilised in accordance with the specification described herein (See Appendix B also).

### 3.5.4 Intumescent Seals

1no. 15x4mm seal to be fitted centrally within the frame reveal or the leaf edge (see also Section 3.2.6). The meeting edge is not to be fitted with a seal. The junction between the meeting edges must be fitted with the FrameFit system, up to the maximum gap sizes detailed in Section 3.5.5.

### 3.5.5 Complete Fire Protection Ltd 'FrameFit' Specification

The following Complete Fire Protection Ltd 'FrameFit' seal specification has been approved, up to the gap sizes noted, for use with the 44mm thick Halspan Prima/Optima door type.

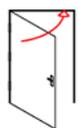
	MAXIMUM GAP SIZE (BEFORE FRAMEFIT SYSTEM)	MAXIMUM GAP SIZE (AFTER FRAMEFIT SYSTEM)	MAXIMUM THICKNESS OF FRAMEFIT SYSTEM
Hanging edge	4mm wide	1.5-2.5mm wide	1.5mm
Meeting edge	12.8mm wide	3.5-3.8mm wide	4.5mm (each leaf)
Top edge	7mm wide	3.5-4mm wide	3.5mm
Bottom edge	13mm wide	1-3.5mm wide	9.5mm

As noted in Section 3.1, the total required thickness of the FrameFit system can comprise multiple different strips of the intumescent, with varying thicknesses, on the assumption that the gap sizes listed above are maintained.

The number of FrameFit layers fitted to each meeting edge should be equal, such that there are the same number of layers on each leading edge.

### 3.6 54mm Thick Halspan Prima or Optima – Option A

The approved leaf sizes and configurations of door assemblies comprising timber door leaves are specific to the door type tested, when incorporating the Complete Fire Protection Ltd ‘FrameFit’ system (As tested in UKTC Report -220220311-005314 Rev A - Specimen B).

CONFIGURATION		ENVELOPE OF APPROVED LEAF SIZES	APPROVED FIRE RESISTANCE PERFORMANCE
	<ul style="list-style-type: none"> <li>• Unlatched</li> <li>• Single Acting</li> <li>• Single Door</li> <li>• Without Overpanel</li> </ul>	Figure PAR/24342/01 Rev A:04 in Appendix A	60 minutes (integrity and insulation)

#### 3.6.1 Door Leaf Specification

The 54mm thick Halspan Prima/Optima door leaf construction comprises a particleboard door core, with details of the constructional specifications given below.

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		Halspan Prima or Optima	620-630kg/m <sup>3</sup>	54mm thick
STILES/RAILS		N/A	N/A	N/A
FACINGS		N/A	N/A	N/A
LIPPINGS	SQUARE EDGES	Hardwood	640kg/m <sup>3</sup>	8–12mm thick
ADHESIVE	LIPPING	PU or UF adhesive	-	-
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

#### 3.6.2 Door Frame Specification

The approved door frame specification for use with the 44mm thick Halspan Prima/Optima door leaf construction is as follows;

MATERIAL	MINIMUM DENSITY	MINIMUM FACE WIDTH	MINIMUM FRAME DEPTH	MINIMUM STOP SIZE
Hardwood*	640kg/m <sup>3</sup>	32mm, excluding stop	80mm	25mm deep x 35mm wide

\* White beech (*Fagus sylvatica*) is not permitted

### 3.6.3 Essential Hardware

#### Hinges

Fixed pin, washered butt, ball bearing butt, lift-off type or journal supported hinges, bedded on 1mm thick Interdens/Therm-A-Strip intumescent, may be used with the proposed door type. The hinges must have maximum dimensions of 89-115mm high, 30-36mm wide and 2.5-3.5mm thick. A minimum of 3no. hinges must be fitted per leaf, fitted 150-175mm from the head, 100-250mm from the base, and equispaced between the two.

#### Locks

No locks are permitted with this door type.

#### Door Closers

Tested face-fixed overhead door closers that have been tested, assessed or otherwise approved for use with the proposed Halspan Prima/Optima system may be utilised in accordance with the specification described herein (See Appendix B also).

### 3.6.4 Intumescent Seals

2no. 15x4mm seals are to be fitted centrally within the frame reveal or the leaf edge, 10mm apart (see also Section 3.2.6).

### 3.6.5 Complete Fire Protection Ltd 'FrameFit' Specification

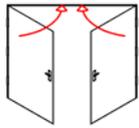
The following Complete Fire Protection Ltd 'FrameFit' seal specification has been approved, up to the gap sizes noted, for use with the 54mm thick Halspan Prima/Optima door type.

	MAXIMUM GAP SIZE (BEFORE FRAMEFIT SYSTEM)	MAXIMUM GAP SIZE (AFTER FRAMEFIT SYSTEM)	MAXIMUM THICKNESS OF FRAMEFIT SYSTEM
Hanging edge	3.5mm wide	1-2mm wide	1.5mm
Closing edge	13.5mm wide	3.5mm wide	10mm
Top edge	12mm wide	1.5mm wide	10.5mm
Bottom edge	20mm wide	0-1mm wide	20mm

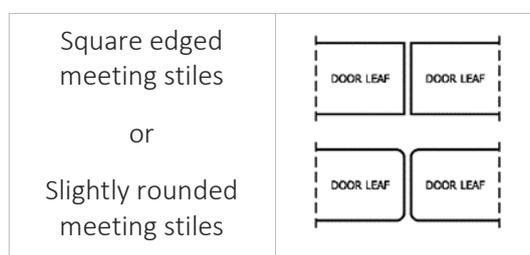
As noted in Section 3.1, the total required thickness of the FrameFit system can comprise multiple different strips of the intumescent, with varying thicknesses, on the assumption that the gap sizes listed above are maintained.

### 3.7 54mm Thick Halspan Prima or Optima – Option B

The approved leaf sizes and configurations of door assemblies comprising timber door leaves are specific to the door type tested, when incorporating the Complete Fire Protection Ltd ‘FrameFit’ system (As tested in UKTC Report - 20231206-004709 Rev A – Specimen A).

CONFIGURATION	ENVELOPE OF APPROVED LEAF SIZES	APPROVED FIRE RESISTANCE PERFORMANCE
 <ul style="list-style-type: none"> <li>• Unlatched</li> <li>• Single Acting</li> <li>• Double Door <sup>Note 2</sup></li> <li>• Without Overpanel</li> </ul>	Figure PAR/24342/01 Rev A:05 in Appendix A	60 minutes (integrity and insulation)

Note 2 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 A. For unlatched 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 A). 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.

#### 3.7.1 Door Leaf Specification

The 54mm thick Halspan Prima/Optima door leaf construction comprises a particleboard door core, with details of the constructional specifications given below.

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		Halspan Prima or Optima	620-630kg/m <sup>3</sup>	54mm thick
STILES/RAILS		N/A	N/A	N/A
FACINGS		N/A	N/A	N/A
LIPPINGS	SQUARE EDGES	Hardwood	640kg/m <sup>3</sup>	6–10mm thick
ADHESIVE	LIPPING	PU or UF adhesive	-	-
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

### 3.7.2 Door Frame Specification

The approved door frame specification for use with the 54mm thick Halspan Prima/Optima door leaf construction is as follows;

MATERIAL	MINIMUM DENSITY	MINIMUM FACE WIDTH	MINIMUM FRAME DEPTH	MINIMUM STOP SIZE
Hardwood*	640kg/m <sup>3</sup>	32mm, excluding stop	100mm	12mm deep x 32mm wide

\* White beech (*Fagus sylvatica*) is not permitted

### 3.7.3 Essential Hardware

#### Hinges

Fixed pin, washered butt, ball bearing butt, lift-off type or journal supported hinges, bedded on 1mm thick Interdens/Therm-A-Strip intumescent, or 2mm thick FrameFit hinge pads, may be used with the proposed door type. The hinges must have maximum dimensions of 89-115mm high, 30-36mm wide and 2.5-3.5mm thick. A minimum of 3no. hinges must be fitted per leaf, fitted 150-175mm from the head, 100-250mm from the base, and equispaced between the two.

#### Locks

No locks are permitted with this door type.

#### Door Closers

Tested face-fixed overhead door closers that have been tested, assessed or otherwise approved for use with the proposed Halspan Prima/Optima system may be utilised in accordance with the specification described herein (See Appendix B also).

### 3.7.4 Intumescent Seals

2no. 15x4mm seals to be fitted within the frame reveal or the leaf edge at the head of the door leaves (see also Section 3.2.6). The first seal is to be fitted 9mm from the opening face, and the second is to be fitted 34mm from the opening face. 1no 15x4mm seal is to be fitted centrally within the head of each leaf. The meeting and hanging edges are to be fitted with 2no 15 x 4mm seals, fitted centrally, 10mm apart. The junction between the meeting edges, and between one hanging edge and the door frame, must be fitted with the FrameFit system, up to the maximum gap sizes detailed in Section 3.7.5.

### 3.7.5 Complete Fire Protection Ltd 'FrameFit' Specification

The following Complete Fire Protection Ltd 'FrameFit' seal specification has been approved, up to the gap sizes noted, for use with the 54mm thick Halspan Prima/Optima door type.

	MAXIMUM GAP SIZE (BEFORE FRAMEFIT SYSTEM)	MAXIMUM GAP SIZE (AFTER FRAMEFIT SYSTEM)	MAXIMUM THICKNESS OF FRAMEFIT SYSTEM
Hanging edge (one edge only)	3.5mm wide	2.3-3.9mm wide	1.5mm
Meeting edge	14.5mm wide	3.5-4mm wide	10mm
Top edge	N/A	N/A	N/A
Bottom edge*	17.4mm wide	2.6-4.4mm wide	13mm

\* The FrameFit threshold is fitted to the floor covering, rather than the bottom of the door leaf, for this door type.

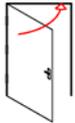
As noted in Section 3.1, the total required thickness of the FrameFit system can comprise multiple strips of the intumescent, with varying thicknesses, on the assumption that the gap sizes listed above are maintained.

The FrameFit system is only required to 1no hanging edge, therefore, the opposite hanging edge should be fitted with intumescent seals, as detailed in Section 3.7.4, with a nominal door frame to door leaf gap of 2-4mm.

The FrameFit system at the meeting edge incorporates the FFMES (FrameFit Meeting Edge Seal), which comprises of a 3mm PVC carrier fitted over the FrameFit intumescent.

## 3.8 45mm Thick Halspan IT30

The approved leaf sizes and configurations of door assemblies comprising timber door leaves are specific to the door type tested, when incorporating the Complete Fire Protection Ltd 'FrameFit' system (As tested in UKTC Report - 20220624-105409 Rev A - Specimen A).

CONFIGURATION		ENVELOPE OF APPROVED LEAF SIZES	APPROVED FIRE RESISTANCE PERFORMANCE
	<ul style="list-style-type: none"> <li>Latched</li> <li>Single Acting</li> <li>Single Door</li> <li>Without Overpanel</li> </ul>	Figure PAR/24342/01 Rev A:06 in Appendix A	30 minutes (integrity and insulation)

### 3.8.1 Door Leaf Specification

The 44mm thick Halspan IT30 door leaf construction comprises a multi-layered door core, with details of the constructional specifications given below.

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		3no. layers of 12mm thick spruce/pine, orientated in cross laminated timber lamels	450kg/m <sup>3</sup>	12mm thick (36mm overall)
STILES/RAILS		N/A	N/A	N/A
FACINGS		MDF	720kg/m <sup>3</sup>	4.5mm thick
LIPPINGS	SQUARE EDGES	Hardwood	640kg/m <sup>3</sup>	8–12mm thick
ADHESIVE	LIPPING	PU or UF adhesive	-	-
	FACINGS	(Not declared)	-	-
MINIMUM LEAF THICKNESS		-	-	45mm
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

### 3.8.2 Door Frame Specification

The approved door frame specification for use with the 44mm thick Halspan IT30 door leaf construction is as follows;

MATERIAL	MINIMUM DENSITY	MINIMUM FACE WIDTH	MINIMUM FRAME DEPTH	MINIMUM STOP SIZE
MDF or Hardwood	690kg/m <sup>3</sup>	30mm, excluding stop	72mm	25mm deep x 20mm wide

### 3.8.3 Essential Hardware

#### Hinges

Fixed pin, washered butt, ball bearing butt, lift-off type or journal supported hinges, bedded on 1mm thick Interdens/Therm-A-Strip intumescent, may be used with the proposed door type. The hinges must have maximum dimensions of 89-115mm high, 30-36mm wide and 2.5-3.5mm thick. A minimum of 3no. hinges must be fitted per leaf, fitted 150-175mm from the head, 100-250mm from the base, and equispaced between the two.

#### Locks

Where mortice latches or locks are fitted, they shall be centred at 1000mm ( $\pm$  200mm), above the bottom of the door leaf, and should comply with the following specifications:

ELEMENT	SPECIFICATION
LATCH/LOCK TYPE	Mortice latches, tubular mortice latches, sashlocks and deadlocks
MAXIMUM FOREND HEIGHT	200mm x 20mm wide
MAXIMUM STRIKE PLATE HEIGHT	170mm x 25mm wide
MAXIMUM LATCH/LOCK BODY DIMENSIONS	200mm high x 55mm wide x 20mm thick
MATERIAL	Steel based with no essential part of the lock/latch to comprise polymeric or other low melting point (<800°C) materials and should not contain any flammable materials
POSITIONS	Centred at 1000mm ( $\pm$ 200mm) above the bottom of the door leaf
INTUMESCENT PROTECTION	The latch body, strike plate and forend must be bedded on 1mm thick Flexi Fire or Interdens/Therm-A-Strip intumescent material

Over-morticing is to be avoided; mortices shall be as tight as possible to the latch. If gaps occur around the case (not exceeding 2mm), then these must be made good with intumescent mastic or sheet material. Holes for spindles or cylinders should be kept as small as is compatible with the operation of the hardware.

#### Door Closers

Tested face-fixed overhead door closers that have been tested, assessed or otherwise approved for use with the proposed Halspan IT30 system may be utilised in accordance with the specification described herein (See Appendix B also).

### 3.8.4 Intumescent Seals

No intumescent seals are rebated into either the leaf edges or opposing frame reveal with this option. The thickness of FrameFit system, as detailed in Section 3.8.5, must be maintained.

### 3.8.5 Complete Fire Protection Ltd 'FrameFit' Specification

The following Complete Fire Protection Ltd 'FrameFit' seal specification has been approved, up to the gap sizes noted, for use with the 44mm thick Halspan IT30 door type.

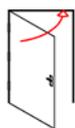
	MAXIMUM GAP SIZE (BEFORE FRAMEFIT SYSTEM)	MAXIMUM GAP SIZE (AFTER FRAMEFIT SYSTEM)	THICKNESS OF FRAMEFIT SYSTEM
Hanging edge	4mm wide	1-2.5mm wide	1.5mm
Closing edge	9mm wide	0.5-1.5mm wide	8.5mm
Top edge	10mm wide	1-3mm wide	9mm
Bottom edge	14mm wide	1-2.5mm wide	13mm

As noted in Section 3.1, the total required thickness of the FrameFit system can comprise multiple different strips of the intumescent, with varying thicknesses, on the assumption that the gap sizes listed above are maintained.

Seals fitted to the bottom edge of the door may be secured at up to 350mm centres.

### 3.9 44mm Thick Vicaima

The approved leaf sizes and configurations of door assemblies comprising timber door leaves are specific to the door type tested, when incorporating the Complete Fire Protection Ltd 'FrameFit' system (As tested in UKTC Report - 20220428-004633 Rev A\_B – Specimen B).

CONFIGURATION		ENVELOPE OF APPROVED LEAF SIZES	APPROVED FIRE RESISTANCE PERFORMANCE
	<ul style="list-style-type: none"> <li>Latched or unlatched</li> <li>Single Acting</li> <li>Single Door</li> <li>Without Overpanel</li> </ul>	Figure PAR/24342/01 Rev A:07 in Appendix A	30 minutes (integrity and insulation)

#### 3.9.1 Door Leaf Specification

The 44mm thick Vicaima door leaf construction comprises a particleboard door core, incorporating stiles and rails, with details of the constructional specifications given below.

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		37mm thick Vicaima core	500kg/m <sup>3</sup>	44mm
STILES		Whitewood (secured to the door core with metal staples)	420-470kg/m <sup>3</sup>	33mm wide x 37mm thick inner stiles, 37mm wide x 37mm thick outer stiles
TOP AND BOTTOM RAILS		Whitewood (secured to the door core with metal staples)	420-470kg/m <sup>3</sup>	33mm wide x 37mm thick
FACINGS		MDF	730kg/m <sup>3</sup>	3.2mm thick
LIPPINGS	SQUARE EDGES	Hardwood	640kg/m <sup>3</sup>	8–12mm thick
ADHESIVE	LIPPING	Not declared (to be in accordance with manufacturers installation instructions)	-	-
	FACINGS	Not declared	-	-
MINIMUM LEAF THICKNESS		-	-	44mm
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

### 3.9.2 Door Frame Specification

The approved door frame specification for use with the 44mm thick Vicaima door leaf construction is as follows;

MATERIAL	MINIMUM DENSITY	MINIMUM FACE WIDTH	MINIMUM FRAME DEPTH	MINIMUM STOP SIZE
Softwood, MDF or Hardwood	550kg/m <sup>3</sup>	30mm, excluding stop	72mm	27mm deep x 30mm wide

### 3.9.3 Essential Hardware

#### Hinges

Fixed pin, washered butt, ball bearing butt, lift-off type or journal supported hinges, bedded on 1mm thick Interdens/Therm-A-Strip intumescent, may be used with the proposed door type. The hinges must have maximum dimensions of 89-115mm high, 30-36mm wide and 2.5-3.5mm thick. A minimum of 3no. hinges must be fitted per leaf, fitted 150-175mm from the head, 100-250mm from the base, and equispaced between the two.

#### Locks

Locks may be omitted when utilising this door type. Where mortice latches or locks are fitted, they shall be centred at 1000mm ( $\pm$  200mm), above the bottom of the door leaf, and should comply with the following specifications:

ELEMENT	SPECIFICATION
LATCH/LOCK TYPE	Mortice latches, tubular mortice latches, sashlocks and deadlocks
MAXIMUM FOREND HEIGHT	200mm x 20mm wide
MAXIMUM STRIKE PLATE HEIGHT	170mm x 25mm wide
MAXIMUM LATCH/LOCK BODY DIMENSIONS	200mm high x 55mm wide x 20mm thick
MATERIAL	Steel based with no essential part of the lock/latch to comprise polymeric or other low melting point (<800°C) materials and should not contain any flammable materials
POSITIONS	Centred at 1000mm ( $\pm$ 200mm) above the bottom of the door leaf
INTUMESCENT PROTECTION	The latch body, strike plate and forend must be bedded on 1mm thick Interdens/Therm-A-Strip intumescent material

Over-morticing is to be avoided; mortices shall be as tight as possible to the latch. If gaps occur around the case (not exceeding 2mm), then these must be made good with intumescent mastic or sheet material. Holes for spindles or cylinders should be kept as small as is compatible with the operation of the hardware.

#### Door Closers

Tested face-fixed overhead door closers that have been tested, assessed or otherwise approved for use with the proposed Vicaima system may be utilised in accordance with the specification described herein (See Appendix B also).

### 3.9.4 Intumescent Seals

1no. 15x4mm seal to be fitted centrally within the frame reveal or the leaf edge (see also Section 3.2.6).

### 3.9.5 Complete Fire Protection Ltd 'FrameFit' Specification

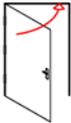
The following Complete Fire Protection Ltd 'FrameFit' seal specification has been approved, up to the gap sizes noted, for use with the 44mm thick Vicaima door type.

	MAXIMUM GAP SIZE (BEFORE FRAMEFIT SYSTEM)	MAXIMUM GAP SIZE (AFTER FRAMEFIT SYSTEM)	MAXIMUM THICKNESS OF FRAMEFIT SYSTEM
Hanging edge	3.5mm wide	1-2mm wide	1.5mm
Closing edge	14mm wide	2-2.5mm wide	12mm
Top edge	11.5mm wide	1.5mm wide	10mm
Bottom edge	24.5mm wide	2-2.5mm wide	22.5mm

As noted in Section 3.1, the total required thickness of the FrameFit system can comprise multiple different strips of the intumescent, with varying thicknesses, on the assumption that the gap sizes listed above are maintained.

### 3.10 44mm Thick Falcon Panel Products Strebord

The approved leaf sizes and configurations of door assemblies comprising timber door leaves are specific to the door type tested, when incorporating the Complete Fire Protection Ltd 'FrameFit' system (As tested in UKTC Report - 20220817-105713 Rev A - Specimen A).

CONFIGURATION		ENVELOPE OF APPROVED LEAF SIZES	APPROVED FIRE RESISTANCE PERFORMANCE
	<ul style="list-style-type: none"> <li>Latched</li> <li>Single Acting</li> <li>Single Door</li> <li>Without Overpanel</li> </ul>	Figure PAR/24342/01 Rev A:08 in Appendix A	30 minutes (integrity and insulation)

#### 3.10.1 Door Leaf Specification

The 44mm thick Falcon Panel Products Strebord door leaf construction comprises a particleboard door core, with details of the constructional specifications given below.

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		Falcon Panel Products Strebord	620kg/m <sup>3</sup>	44mm thick
STILES/RAILS		N/A	N/A	N/A
FACINGS		N/A	N/A	N/A
LIPPINGS	SQUARE EDGES	Hardwood	640kg/m <sup>3</sup>	6–10mm thick
ADHESIVE	LIPPING	PU or UF adhesive	-	-
MINIMUM LEAF THICKNESS		-	-	44mm
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

### 3.10.2 Door Frame Specification

The approved door frame specification for use with the 44mm thick Falcon Panel Products Strebord door leaf construction is as follows;

MATERIAL	MINIMUM DENSITY	MINIMUM FACE WIDTH	MINIMUM FRAME DEPTH	MINIMUM STOP SIZE
Softwood, MDF or Hardwood	540kg/m <sup>3</sup>	30mm, excluding stop	80mm	15mm deep x 25mm wide

### 3.10.3 Essential Hardware

#### Hinges

Fixed pin, washered butt, ball bearing butt, lift-off type or journal supported hinges, bedded on 1mm thick Interdens/Therm-A-Strip intumescent, may be used with the proposed door type. The hinges must have maximum dimensions of 89-115mm high, 30-36mm wide and 2.5-3.5mm thick. A minimum of 3no. hinges must be fitted per leaf, fitted 150-175mm from the head, 100-250mm from the base, and equispaced between the two.

#### Locks

Where mortice latches or locks are fitted, they shall be centred at 1000mm ( $\pm$  200mm), above the bottom of the door leaf, and should comply with the following specifications:

ELEMENT	SPECIFICATION
LATCH/LOCK TYPE	Mortice latches, tubular mortice latches, sashlocks and deadlocks
MAXIMUM FOREND HEIGHT	200mm x 20mm wide
MAXIMUM STRIKE PLATE HEIGHT	170mm x 25mm wide
MAXIMUM LATCH/LOCK BODY DIMENSIONS	200mm high x 55mm wide x 20mm thick
MATERIAL	Steel based with no essential part of the lock/latch to comprise polymeric or other low melting point (<800°C) materials and should not contain any flammable materials
POSITIONS	Centred at 1000mm ( $\pm$ 200mm) above the bottom of the door leaf
INTUMESCENT PROTECTION	The latch body, strike plate and forend must be bedded on 1mm thick Flexi Fire or Interdens/Therm-A-Strip intumescent material

Over-morticing is to be avoided; mortices shall be as tight as possible to the latch. If gaps occur around the case (not exceeding 2mm), then these must be made good with intumescent mastic or sheet material. Holes for spindles or cylinders should be kept as small as is compatible with the operation of the hardware.

#### Door Closers

Tested face-fixed overhead door closers that have been tested, assessed or otherwise approved for use with the proposed Falcon Panel Products Strebord door system may be utilised in accordance with the specification described herein (See Appendix B also).

### 3.10.4 Intumescent Seals

1no. 15x4mm seal to be fitted centrally within the frame reveal or the leaf edge (see also Section 3.2.6).

### 3.10.5 Complete Fire Protection Ltd 'FrameFit' Specification

The following Complete Fire Protection Ltd 'FrameFit' seal specification has been approved, up to the gap sizes noted, for use with the 44mm thick Falcon Panel Products Ltd Strebord door type.

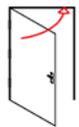
	MAXIMUM GAP SIZE (BEFORE FRAMEFIT SYSTEM)	MAXIMUM GAP SIZE (AFTER FRAMEFIT SYSTEM)	MAXIMUM THICKNESS OF FRAMEFIT SYSTEM
Hanging edge	N/A	N/A	N/A
Closing edge	5.5mm wide	1.5-2.5mm wide	4mm
Top edge	N/A	N/A	N/A
Bottom edge	15mm wide	4.5-6.5mm wide	10.5mm

As noted in Section 3.1, the total required thickness of the FrameFit system can comprise multiple different strips of the intumescent, with varying thicknesses, on the assumption that the gap sizes listed above are maintained.

Seals fitted to the bottom edge of the door may be secured at up to 350mm centres.

### 3.11 54mm Thick Falcon Panel Products Strebord

The approved leaf sizes and configurations of door assemblies comprising timber door leaves are specific to the door type tested, when incorporating the Complete Fire Protection Ltd 'FrameFit' system (As tested in UKTC Report - 20221031-0005814 Rev A - Specimen A).

CONFIGURATION		ENVELOPE OF APPROVED LEAF SIZES	APPROVED FIRE RESISTANCE PERFORMANCE
	<ul style="list-style-type: none"> <li>Latched or unlatched</li> <li>Single Acting</li> <li>Single Door</li> <li>Without Overpanel</li> </ul>	Figure PAR/24342/01 Rev A:09 in Appendix A	60 minutes (integrity and insulation)

#### 3.11.1 Door Leaf Specification

The 54mm thick Falcon Panel Products Strebord door leaf construction comprises a particleboard door core, with details of the constructional specifications given below.

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		Falcon Panel Products Strebord	620kg/m <sup>3</sup>	54mm thick
STILES/RAILS		N/A	N/A	N/A
FACINGS		N/A	N/A	N/A
LIPPINGS	SQUARE EDGES	Hardwood*	640kg/m <sup>3</sup>	6–10mm thick
ADHESIVE	LIPPING	PU or UF adhesive	-	-
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

\* White beech (*Fagus sylvatica*) is not permitted

#### 3.11.2 Door Frame Specification

The approved door frame specification for use with the 54mm thick Falcon Panel Products Ltd Strebord door leaf construction is as follows;

MATERIAL	MINIMUM DENSITY	MINIMUM FACE WIDTH	MINIMUM FRAME DEPTH	MINIMUM STOP SIZE
Hardwood*	640kg/m <sup>3</sup>	42mm, excluding stop	100mm	25mm deep x 15mm wide

\* White beech (*Fagus sylvatica*) is not permitted

### 3.11.3 Essential Hardware

#### Hinges

Fixed pin, washered butt, ball bearing butt, lift-off type or journal supported hinges, bedded on 1mm thick Interdens/Therm-A-Strip intumescent, may be used with the proposed door type. The hinges must have maximum dimensions of 89-115mm high, 30-36mm wide and 2.5-3.5mm thick. A minimum of 3no. hinges must be fitted per leaf, fitted 150-175mm from the head, 100-250mm from the base, and equispaced between the two.

#### Locks

Where mortice latches or locks are fitted, they shall be centred at 1000mm ( $\pm$  200mm), above the bottom of the door leaf, and should comply with the following specifications:

ELEMENT	SPECIFICATION
LATCH/LOCK TYPE	Mortice latches, tubular mortice latches, sashlocks and deadlocks
MAXIMUM FOREND HEIGHT	200mm x 20mm wide
MAXIMUM STRIKE PLATE HEIGHT	170mm x 25mm wide
MAXIMUM LATCH/LOCK BODY DIMENSIONS	200mm high x 55mm wide x 20mm thick
MATERIAL	Steel based with no essential part of the lock/latch to comprise polymeric or other low melting point (<800°C) materials and should not contain any flammable materials
POSITIONS	Centred at 1000mm ( $\pm$ 200mm) above the bottom of the door leaf
INTUMESCENT PROTECTION	The latch body, strike plate and forend must be bedded on 1mm thick graphite based or Interdens/Therm-A-Strip intumescent material

Over-morticing is to be avoided; mortices shall be as tight as possible to the latch. If gaps occur around the case (not exceeding 2mm), then these must be made good with intumescent mastic or sheet material. Holes for spindles or cylinders should be kept as small as is compatible with the operation of the hardware.

#### Door Closers

Tested face-fixed overhead door closers that have been tested, assessed or otherwise approved for use with the proposed Falcon Panel Products Strebord system may be utilised in accordance with the specification described herein (See Appendix B also).

### 3.11.4 Intumescent Seals

2no. 15x4mm seals are required to be fitted centrally, spaced 10mm apart, within the frame reveal or the leaf edge (see also Section 3.2.6).

It is permitted that routed seals may be removed from the leaf/frame junction to the closing edge without 'making good' the seal rebates, however, the junction must be fitted with 3mm of 'FrameFit' intumescent, up to the maximum gap sizes detailed in Section 3.11.5.

### 3.11.5 Complete Fire Protection Ltd 'FrameFit' Specification

The following Complete Fire Protection Ltd 'FrameFit' seal specification has been approved, up to the gap sizes noted, for use with the 54mm thick Falcon Panel Products Ltd Strebord door type.

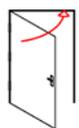
	MAXIMUM GAP SIZE (BEFORE FRAMEFIT SYSTEM)	MAXIMUM GAP SIZE (AFTER FRAMEFIT SYSTEM)	MAXIMUM THICKNESS OF FRAMEFIT SYSTEM
Hanging edge	N/A	N/A	N/A
Closing edge	6mm wide	2-3.5mm wide	3mm
Top edge	N/A	N/A	N/A
Floor*	14mm wide	3-4mm wide	10mm

\* The FrameFit threshold is fitted to the floor covering, rather than the bottom of the door leaf, for this door type.

As noted in Section 3.1, the total required thickness of the FrameFit system can comprise multiple different strips of the intumescent, with varying thicknesses, on the assumption that the gap sizes listed above are maintained.

### 3.12 44mm Thick Premdor FD30 44

The approved leaf sizes and configurations of door assemblies comprising timber door leaves are specific to the door type tested, when incorporating the Complete Fire Protection Ltd 'FrameFit' system (As tested in UKTC Report - 20221031-0005814 Rev A - Specimen B).

CONFIGURATION		ENVELOPE OF APPROVED LEAF SIZES	APPROVED FIRE RESISTANCE PERFORMANCE
	<ul style="list-style-type: none"> <li>Latched <sup>Note 3</sup> or unlatched</li> <li>Single Acting</li> <li>Single Door</li> <li>Without Overpanel</li> </ul>	Figure PAR/24342/01 Rev A:10 in Appendix A	30 minutes (integrity and insulation)

**Note 3** Only the specified night latch, as detailed in Section 3.12.3, is permitted with this door type. It is not permitted to incorporate mortice locks, tubular locks, sash locks or any other locking mechanisms recessed into the edge of the door leaf.

#### 3.12.1 Door Leaf Specification

The 44mm thick Premdor FD30 44 door leaf construction comprises a particleboard door core, with details of the constructional specifications given below.

COMPONENT		MATERIAL	MINIMUM DENSITY	DIMENSIONS
CORE		Premdor FD30 44	Not stated*	38mm thick
STILES/RAILS		Softwood*	Not stated*	38mm deep x 32mm wide
FACINGS		Veneered wood	Not stated*	3.2mm
LIPPINGS	SQUARE EDGES	Hardwood*	Not stated*	4–6mm thick
ADHESIVE	LIPPING	Not stated*	-	-
MINIMUM LEAF THICKNESS		-	-	44mm
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

\* Details not disclosed within test report. It is the responsibility of others to ensure that the specified door leaf construction is equal to the specification of the door leaf tested.

### 3.12.2 Door Frame Specification

The approved door frame specification for use with the 44mm thick Premdor FD30 44 door leaf construction is as follows;

MATERIAL	MINIMUM DENSITY	MINIMUM FACE WIDTH	MINIMUM FRAME DEPTH	MINIMUM STOP SIZE
Softwood	450kg/m <sup>3</sup>	30mm, excluding stop	80mm	32mm deep x 12mm wide

### 3.12.3 Essential Hardware

#### Hinges

Fixed pin, washered butt, ball bearing butt, lift-off type or journal supported hinges, bedded on 1mm thick Interdens/Therm-A-Strip intumescent, may be used with the proposed door type. The hinges must have maximum dimensions of 89-115mm high, 30-36mm wide and 2.5-3.5mm thick. A minimum of 3no. hinges must be fitted per leaf, fitted 150-175mm from the head, 100-250mm from the base, and equispaced between the two.

#### Locks

The following night latch locking system is permitted with the proposed door type;

- Yale 630089001702 Night Latch

The night latch is to be fitted to the opening face of the leaf, and is approved for use when it is oriented toward heating conditions.

The latch is to be fitted between 1150mm and 1350mm from the base of the door leaf to the centre of the lock case.

The night latch is to be fitted with the FrameFit Night Latch Kit for the 32mm  $\emptyset$  core.

Over-morticing is to be avoided; mortices shall be as tight as possible to the latch. If gaps occur around the case (not exceeding 2mm), then these must be made good with intumescent mastic or sheet material

#### Door Closers

Tested face-fixed overhead door closers that have been tested, assessed or otherwise approved for use with the proposed Premdor FD30 44 system may be utilised in accordance with the specification described herein (See Appendix B also).

### 3.12.4 Intumescent Seals

1no. 15x4mm seal is required to be fitted centrally within to the door leaf within the frame reveal or the leaf edge (see also Section 3.2.6).

### 3.12.5 Complete Fire Protection Ltd ‘FrameFit’ Specification

The following Complete Fire Protection Ltd ‘FrameFit’ seal specification has been approved, up to the gap sizes noted, for use with the 54mm thick Falcon Panel Products Ltd Strebord door type.

	MAXIMUM GAP SIZE (BEFORE FRAMEFIT SYSTEM)	MAXIMUM GAP SIZE (AFTER FRAMEFIT SYSTEM)	MAXIMUM THICKNESS OF FRAMEFIT SYSTEM
Hanging edge	N/A	N/A	N/A
Closing edge	6mm wide	3.6-3.8mm wide	3mm
Top edge	N/A	N/A	N/A
Floor*	20.2-20.4mm wide	4.2-4.4mm wide	16mm

\*The FrameFit system fitted at the bottom of the door leaf comprises of the FF BDS system fixed to the leaf, and the FrameFit Threshold Seal (FFTS) fixed to the threshold. The FF BDS system is held to the bottom edge of the leaf with a PVC carrier. The carrier is fixed to the face of the door leaf on both sides with pins, as per the system tested in TR 20221206-004709 (specimen B). No fixings are required through the FF BDS into the bottom of the leaf.

As noted in Section 3.1, the total required thickness of the FrameFit system can comprise multiple different strips of the intumescent, with varying thicknesses, on the assumption that the gap sizes listed above are maintained.

### 3.13 Maximum Assessable Door Leaf Sizes

The calculated envelopes of assessed leaf dimensions for each door type covered by this Field of Application Report are given in Appendix A, based upon using the intumescent seal specification summarised for that door type, as detailed in Section 3.

### 3.14 Installation, Supporting Construction and Door Edge Gaps

The frames must be fixed back to the supporting construction with steel fixings at centres not exceeding 600mm on the vertical edges (minimum 200mm from the top and bottom), and a minimum of one fitted centrally across the width of the frame head of double door assemblies. Screws shall be of sufficient length to penetrate the wall by at least 40mm, and shall be positioned such that they are not exploited by charring of the frame, irrespective of the direction of test exposure; (this may necessitate a twin line of screws). Packers shall be used at all fixing positions.

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

**Note 4** 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.

No part of the rear of the frame section shall be exposed once installed, and leaves must not project beyond the exposed face of the door frame.

This report only applies to scenarios where the frame is fully aligned within the plane of the fire-resisting wall/partition. The approval in this report does not apply where the wall/partition includes decorative 'cladding' on the face of the fire-resisting construction, (e.g. timber panelling on battens, or plasterboard on studs/dabs), such that any part of the frame is aligned within the plane of this decorative cladding. This detail is likely to adversely affect the fire resistance of the door assembly, and KFS should be consulted for specific advice, to determine upgrading measures that will be required in such cases.

The gap between the door and the frame, or between meeting stiles (and between any doors) should, where possible, be 1.5–4mm. The relevant tables in Section 3 provide a maximum gap size based upon the inclusion of the 'FrameFit' system which allows for gaps greater than 4mm. These increased gaps are only permissible based upon the inclusion of the specified thickness of the FrameFit system, and the inclusion of the tested intumescent seals.

Gaps under the door(s) shall not exceed 6mm for fire performance, although, if smoke control is also required, these gaps shall only be 3mm, or smoke seals shall be included (see also Section 3.15 regarding suitability of smoke seals). Larger gaps are permitted for fire performance, based upon the inclusion of the 'FrameFit' system, as detailed in Section 3.

The door assembly design shall be such that, when closed, single acting leaves are fully flush within the frame. The face of leaves in double door assemblies shall be flush with each other at meeting stiles, when closed.

### 3.15 Ambient Temperature Smoke Seals

Smoke seals, or combined intumescent/smoke seals (where the tested intumescent seals incorporate a smoke seal option), that have been tested in accordance with BS EN 1634-3: 2004 (ambient temperature) or BS 476: Part 31: Section 31.1: 1983 and shown not to leak by more than  $3\text{m}^3/\text{m}/\text{hr}$  at 25Pa may be used in conjunction with the proposed door assemblies to provide smoke control.

The orientation of the seals, door edge gaps, degree of hardware interruption, and leaf configuration, will need to be as tested in accordance with BS EN 1634-3: 2004 (ambient temperature) or BS 476: Part 31: Section 31.1: 1983 to achieve the desired level of smoke control.

Test evidence to BS 476-22: 1987 (or EN 1634-1) shall be available to demonstrate that the smoke seals will not adversely affect the overall fire resistance of timber door assemblies, of similar design and thickness, when fitted in the proposed arrangements.

## 4. Conclusion

Based upon the available test evidence, and subsequent analysis performed by Kiwa Fire Safety Compliance, if the proposed door assemblies utilising timber door leaves installed in timber frames, and fitted with the Complete Fire Protection Ltd 'FrameFit' system, were manufactured and installed within the limitations of this Field of Application Report and tested for fire resistance, they would satisfy the integrity criteria of BS 476-22: 1987 for 30 or 60 minutes (as applicable).

This Field of Application Report considers that the door assemblies within the scope approval, herein, may be installed in either orientation and so be exposed to fire conditions from either face.

## 5. Declaration by the Applicant

Kiwa Fire Safety Compliance Field of Application Report	PAR/24342/01 Revision A
Client	Complete Fire Protection Limited
Client Address	Unit 2 Ferry Steps Industrial Estate Albert Road Bristol BS2 0XW
<p>We the undersigned confirm that we have read and complied with the obligations placed on us by the</p>	
<p><b>Passive Fire Protection Forum (PFPF) - Industry Standard Procedure 2021</b>  ‘Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence’</p>	
<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> </ul>	
Signature	
Name	
Position	
Company Name	Complete Fire Protection Ltd
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.

At the time of this report's issue it is understood that references to the use of British Standards for evaluating the fire resistance of products and structures will be removed from Approved Document B in amendments due to take effect on 2 September 2029, and will apply to any projects where the building control application is on or after that date, or where the project has not "sufficiently progressed" on site within 6 months of that date. It is noted that the validity of this report extends beyond this date. KFS stand by the conclusions of this report in relation to the performance of the construction when tested to the relevant British Standard. However, because of this expected change to Approved Document B, KFS cannot make any guarantees as to whether or not testing against British Standards will be an acceptable route for compliance with Building Regulations as that would be dependent on the timescales of the specific 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 Kiwa Fire Safety Compliance 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 Kiwa Fire Safety Compliance 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. Further, the doors must open and close without the use of undue force. The edge gaps/alignment of door leaves must be in accordance with the tolerances defined, herein, when the doors are closed. Any such shortfalls in respect to the condition of the assemblies will invalidate the approval by KFS, 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 KFS.

This report is not intended to be a complete specification for the proposed products/assemblies and it is the responsibility of others to ensure that the products/assemblies are suitable for the intended purpose; whilst incorporating the requirements of this report. Further, the products/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 BS 476-22: 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, KFS 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 KFS for further details/advice.

Where the assessed constructions have not been subject to an on-site audit by Kiwa Fire Safety Compliance, 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. KFS 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, within the frame reveal; either retained by the latch, or self-closing device, or locked shut, as applicable. 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 KFS'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 KFS have been commissioned to liaise with the Authorities that have jurisdiction for the building in question for the purpose of obtaining the necessary approvals, KFS 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 KFS 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 Kiwa Fire Safety Compliance'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 Kiwa Fire Safety Compliance for re-evaluation. For this reason, anyone using this document after 31 January 2029 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:



**Callum Sempill**

BSc (Hons) MSc C.Build E MCABE AIFireE  
Associate Director of Product Evaluation  
Kiwa Fire Safety Compliance.  
*(part of the Kiwa UK Group)*

Reviewed by:



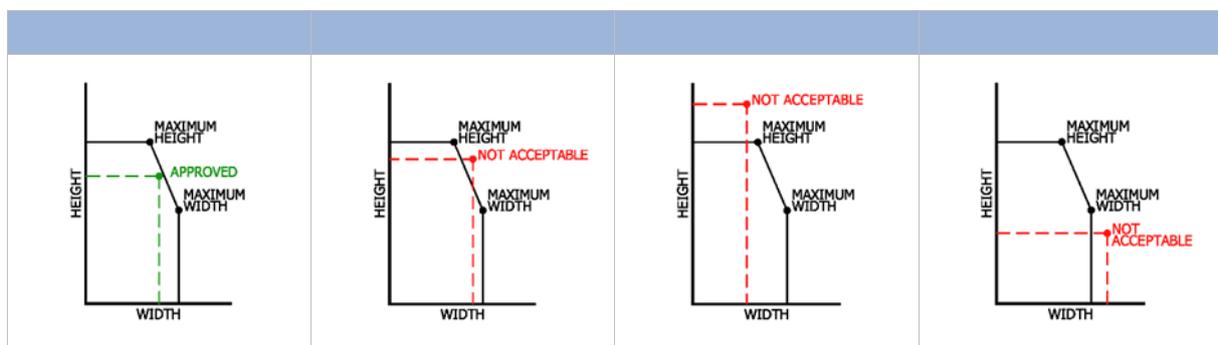
**Will Lightfoot**

BEng (Hons) MSc C.Build E MCABE AIFireE  
Associate Director of Product Evaluation  
Kiwa Fire Safety Compliance.  
*(part of the Kiwa UK Group)*

## Appendix A Approved Leaf Size Envelopes

### Assessed Leaf Size Envelopes for Timber Door Leaves Installed in Timber Frames

Figures PAR/24342/01 Revision A:01 to 10



## A.1 Approved Leaf Size Envelope

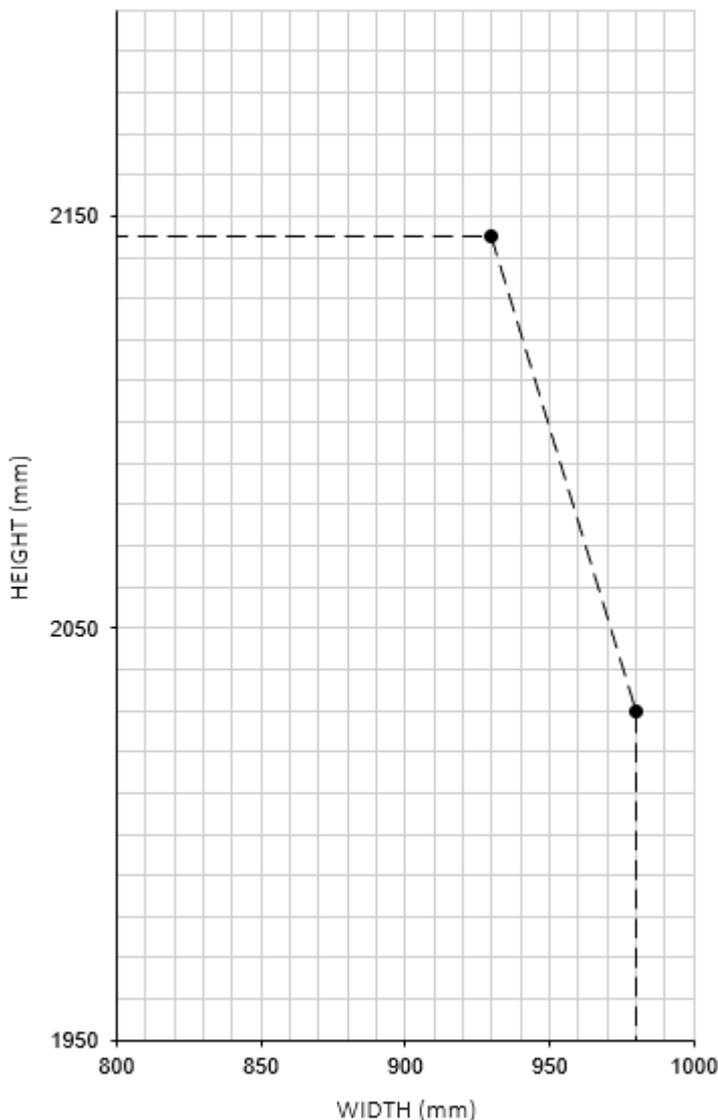
SINGLE ACTING, SINGLE DOOR ASSEMBLIES		FD30
<b>DOOR CONSTRUCTION OPTIONS</b>		
Latched or Unlatched, single door leaf		
Halspan Optima/Prima		
<b>FIRE RESISTANCE PERIOD</b>		
30 Minutes		
<b>ULSASD</b>		
HEIGHT	WIDTH	
2030mm	980mm	
2145mm	930mm	
<b>FLUSH OVERPANELS</b>		
Not permitted		
<b>TRANSOMED OVERPANEL</b>		
Not permitted		
<b>OVERPANEL HEIGHT</b>		
N/A		
<b>Test Report</b>		
UKTC Report 220220311-005314 Rev A Specimen A		

Figure PAR/24342/01 Rev A:01

See Section 3.3 for a full specification of the proposed door type.

## A.2 Approved Leaf Size Envelope

SINGLE ACTING, SINGLE DOOR ASSEMBLIES		FD30
<b>DOOR CONSTRUCTION OPTIONS</b>		
Latched, single door leaf		
Halspan Optima/Prima		
<b>FIRE RESISTANCE PERIOD</b>		
30 Minutes		
<b>ULSASD</b>		
<b>HEIGHT</b>	<b>WIDTH</b>	
2030mm	980mm	
2145mm	930mm	
<b>FLUSH OVERPANELS</b>		
Not permitted		
<b>TRANSOMED OVERPANEL</b>		
Not permitted		
<b>OVERPANEL HEIGHT</b>		
N/A		
<b>Test Report</b>		
UKTC Report 20220624-105409 Rev A Specimen B		

The graph illustrates the approved leaf size envelope for a door assembly. The vertical axis represents the height in millimeters (mm), ranging from 1950 to 2150. The horizontal axis represents the width in millimeters (mm), ranging from 800 to 1000. A dashed line connects three points: (930, 2145), (980, 2145), and (980, 2030). This indicates that the door assembly is approved for a height of 2145mm and a width of 930mm, and also for a height of 2030mm and a width of 980mm.

Figure PAR/24342/01 Rev A:02

See Section 3.4 for a full specification of the proposed door type.

### A.3 Approved Leaf Size Envelope

SINGLE ACTING, DOUBLE DOOR ASSEMBLIES		FD30
<b>DOOR CONSTRUCTION OPTIONS</b>		
Latched or Unlatched, double door leaf		
Halspan Optima/Prima		
<b>FIRE RESISTANCE PERIOD</b>		
30 Minutes		
<b>ULSADD</b>		
HEIGHT	WIDTH	
2030mm	525mm	
2145mm	500mm	
<b>FLUSH OVERPANELS</b>		
Not permitted		
<b>TRANSOMED OVERPANEL</b>		
Not permitted		
<b>OVERPANEL HEIGHT</b>		
N/A		
<b>Test Report</b>		
UKTC Report 20220817-105713 Rev A Specimen B		
The proposed dimensions are the maximum sizes per door leaf.		

Figure PAR/24342/01 Rev A:03

See Section 3.5 for a full specification of the proposed door type.

## A.4 Approved Leaf Size Envelope

SINGLE ACTING, SINGLE DOOR ASSEMBLIES		FD60
<b>DOOR CONSTRUCTION OPTIONS</b>		
Unlatched, single door leaf		
Halspan Optima/Prima		
<b>FIRE RESISTANCE PERIOD</b>		
60 Minutes		
<b>ULSASD</b>		
<b>HEIGHT</b>	<b>WIDTH</b>	
2030mm	980mm	
2145mm	930mm	
<b>FLUSH OVERPANELS</b>		
Not permitted		
<b>TRANSOMED OVERPANEL</b>		
Not permitted		
<b>OVERPANEL HEIGHT</b>		
N/A		
<b>Test Report</b>		
UKTC Report 220220311-005314 Rev A Specimen B		

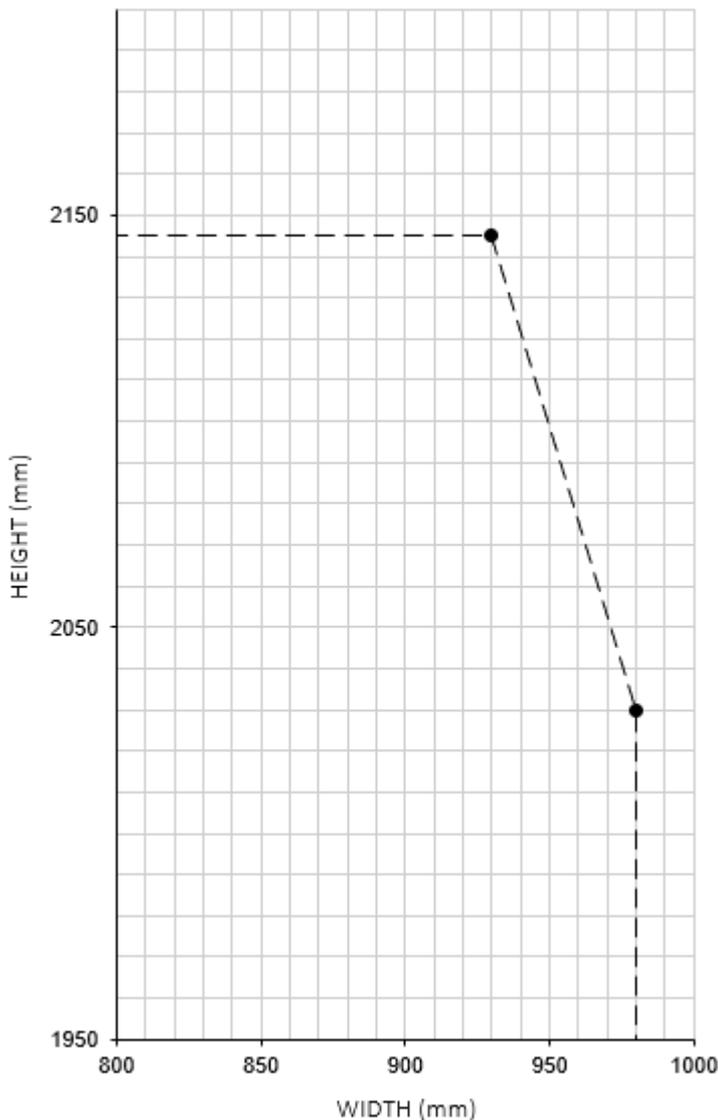
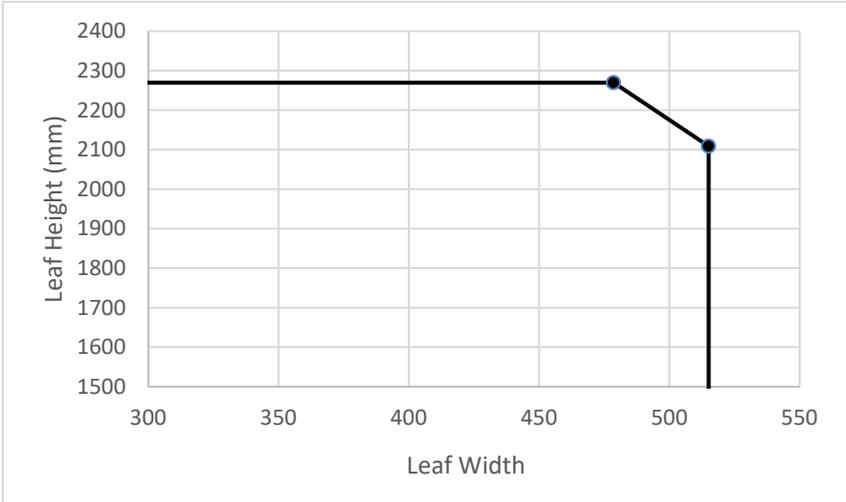
  


Figure PAR/24342/01 Rev A:04

See Section 3.6 for a full specification of the proposed door type.

## A.5 Approved Leaf Size Envelope

SINGLE ACTING, DOUBLE DOOR ASSEMBLIES		FD60										
<b>DOOR CONSTRUCTION OPTIONS</b>												
Unlatched, double door leaf												
Halspan Optima/Prima												
<b>FIRE RESISTANCE PERIOD</b>												
60 Minutes												
<b>ULSADD</b>												
HEIGHT	WIDTH											
2108mm	515mm											
2269mm	478mm											
<b>FLUSH OVERPANELS</b>												
Not permitted												
<b>TRANSOMED OVERPANEL</b>												
Not permitted												
<b>OVERPANEL HEIGHT</b>												
N/A												
<b>Test Report</b>												
UKTC Report 20231206-004709 Rev A Specimen A												
The proposed dimensions are the maximum sizes per door leaf.												
 <table border="1"> <caption>Data points from Leaf Size Envelope Graph</caption> <thead> <tr> <th>Leaf Width (mm)</th> <th>Leaf Height (mm)</th> </tr> </thead> <tbody> <tr> <td>300</td> <td>2269</td> </tr> <tr> <td>478</td> <td>2269</td> </tr> <tr> <td>515</td> <td>2108</td> </tr> <tr> <td>515</td> <td>1500</td> </tr> </tbody> </table>			Leaf Width (mm)	Leaf Height (mm)	300	2269	478	2269	515	2108	515	1500
Leaf Width (mm)	Leaf Height (mm)											
300	2269											
478	2269											
515	2108											
515	1500											
Figure PAR/24342/01 Rev A:05												

See Section 3.7 for a full specification of the proposed door type.

## A.6 Approved Leaf Size Envelope

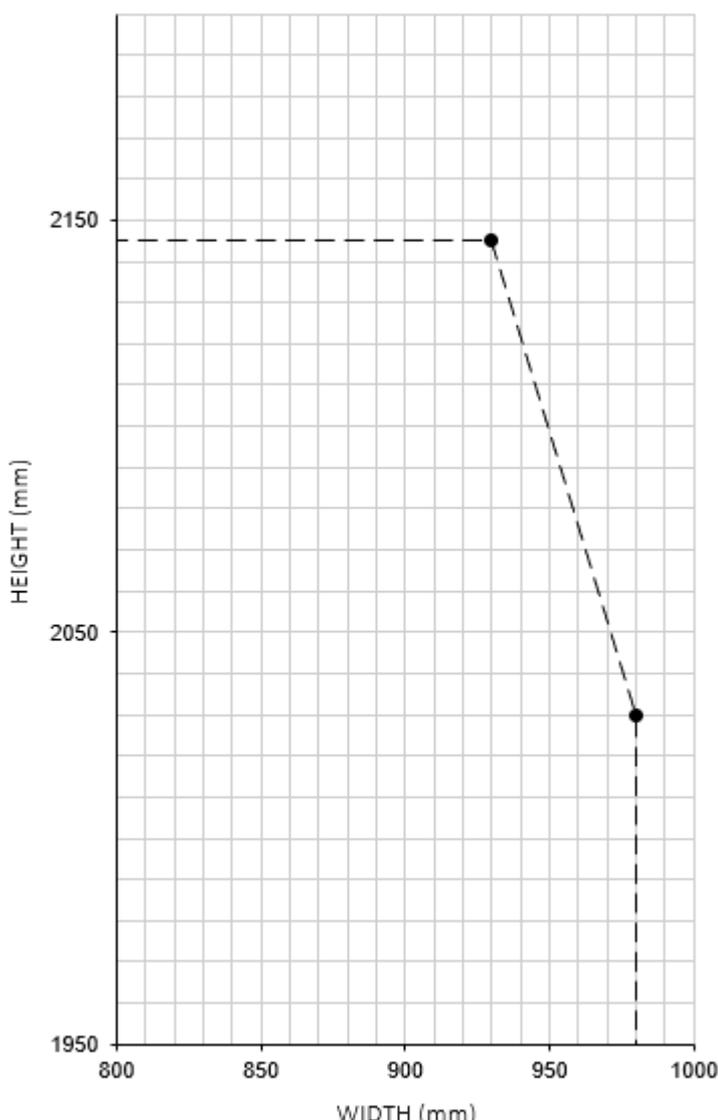
SINGLE ACTING, SINGLE DOOR ASSEMBLIES		FD30
<b>DOOR CONSTRUCTION OPTIONS</b>		
Latched single door leaf		
Halspan IT30		
<b>FIRE RESISTANCE PERIOD</b>		
30 Minutes		
<b>ULSASD</b>		
HEIGHT	WIDTH	
2030mm	980mm	
2145mm	930mm	
<b>FLUSH OVERPANELS</b>		
Not permitted		
<b>TRANSOMED OVERPANEL</b>		
Not permitted		
<b>OVERPANEL HEIGHT</b>		
N/A		
<b>Test Report</b>		
UKTC Report 20220624-105409 Rev A Specimen A		

Figure PAR/24342/01 Rev A:06

See Section 3.8 for a full specification of the proposed door type.

## A.7 Approved Leaf Size Envelope

SINGLE ACTING, SINGLE DOOR ASSEMBLIES		FD30
<b>DOOR CONSTRUCTION OPTIONS</b>		
Unlatched or Latched single door leaf		
Vicaima		
<b>FIRE RESISTANCE PERIOD</b>		
30 Minutes		
<b>ULSASD</b>		
HEIGHT	WIDTH	
2030mm	973mm	
2145mm	926mm	
<b>FLUSH OVERPANELS</b>		
Not permitted		
<b>TRANSOMED OVERPANEL</b>		
Not permitted		
<b>OVERPANEL HEIGHT</b>		
N/A		
<b>Test Report</b>		
UKTC Report		
20220428-004633 Rev		
A_B		
Specimen B		

Figure PAR/24342/01 Rev A:07

See Section 3.9 for a full specification of the proposed door type.

## A.8 Approved Leaf Size Envelope

SINGLE ACTING, SINGLE DOOR ASSEMBLIES		FD30
<b>DOOR CONSTRUCTION OPTIONS</b>		
Latched single door leaf		
Falcon Panel Products Ltd Strebord		
<b>FIRE RESISTANCE PERIOD</b>		
30 Minutes		
<b>ULSASD</b>		
<b>HEIGHT</b>	<b>WIDTH</b>	
2030m m	980mm	
2145m m	930mm	
<b>FLUSH OVERPANELS</b>		
Not permitted		
<b>TRANSOMED OVERPANEL</b>		
Not permitted		
<b>OVERPANEL HEIGHT</b>		
N/A		
<b>Test Report</b>		
UKTC Report 20220817-105713 Rev A Specimen A		

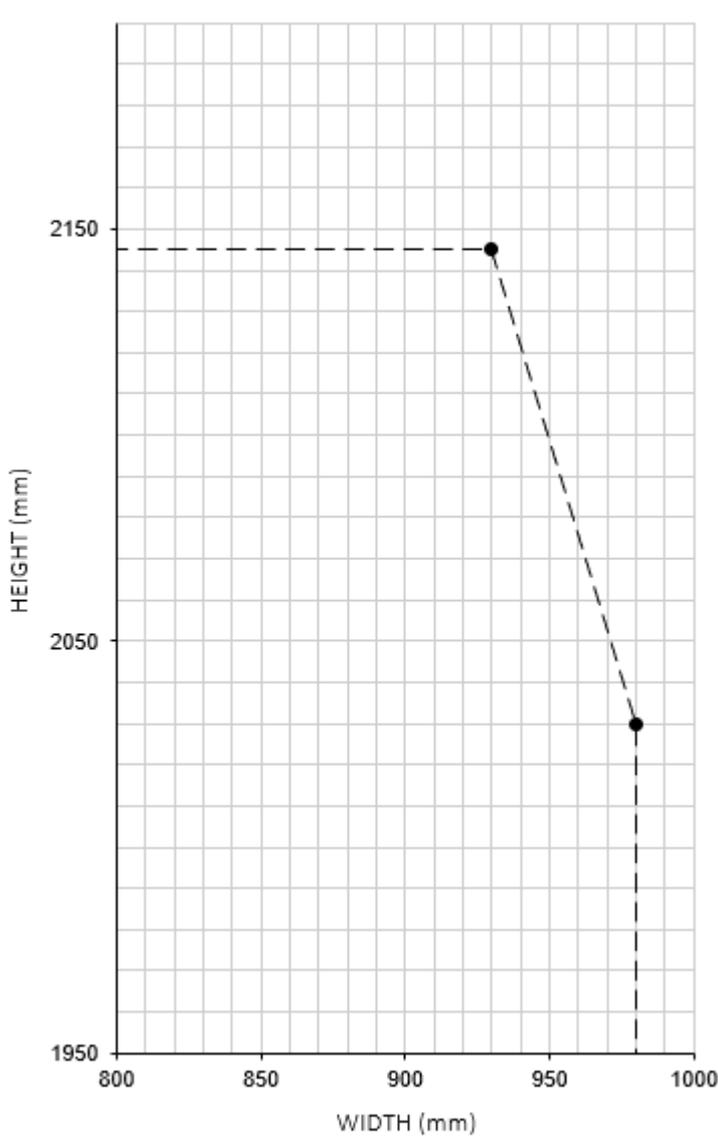


Figure PAR/24342/01 Rev A:08

See Section 3.10 for a full specification of the proposed door type.

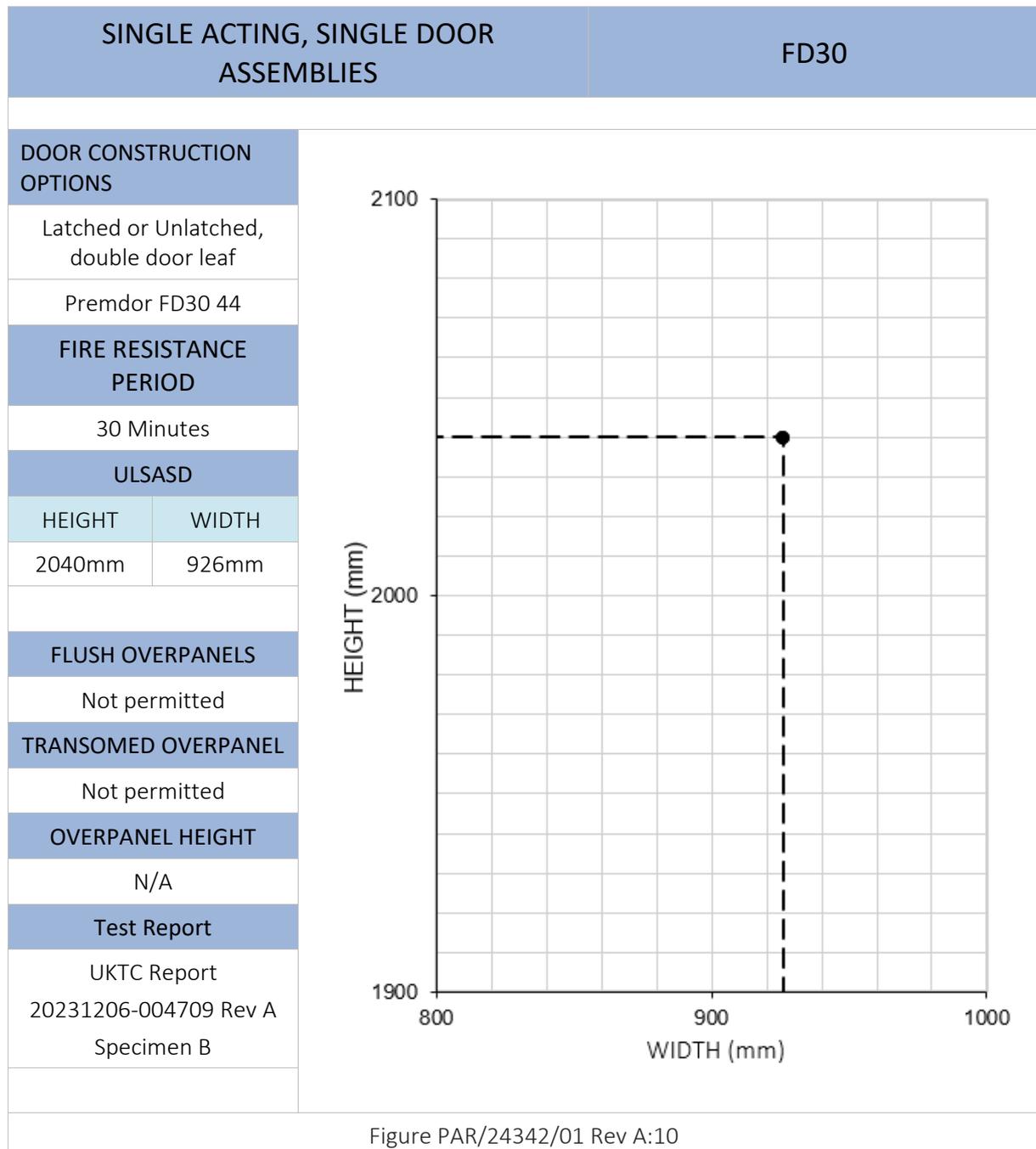
## A.9 Approved Leaf Size Envelope

SINGLE ACTING, SINGLE DOOR ASSEMBLIES		FD60
<b>DOOR CONSTRUCTION OPTIONS</b>		
Unlatched single door leaf		
Falcon Panel Products Ltd Strebord		
<b>FIRE RESISTANCE PERIOD</b>		
60 Minutes		
<b>ULSASD</b>		
<b>HEIGHT</b>	<b>WIDTH</b>	
2030mm	980mm	
2145mm	930mm	
<b>FLUSH OVERPANELS</b>		
Not permitted		
<b>TRANSOMED OVERPANEL</b>		
Not permitted		
<b>OVERPANEL HEIGHT</b>		
N/A		
<b>Test Report</b>		
UKTC Report 20221031-0005814 Rev A Specimen A		

Figure PAR/24342/01 Rev A:09

See Section 3.11 for a full specification of the proposed door type.

## A.10 Approved Leaf Size Envelope



See Section 3.12 for a full specification of the proposed door type.

## Appendix B General Guidance on Installation of Essential and Non-Essential Hardware

### Essential Hardware

#### B.1 Door Closers

Where required by regulatory guidance or specific fire strategy, each hinged door leaf must be fitted with a self-closing device; unless they are normally kept locked shut and labelled as such with an appropriate sign which complies with the BS 5499 series of standards.

Overhead surface mounted closers are recommended. Concealed overhead and concealed jamb mounted closers are not approved by this Report.

It is essential that all closers fulfil the requirements of BS EN 1154: 1997 and are of the correct power rating for the width and weight of the doors (minimum power size 3). They must be fitted according to the manufacturer's instructions, and be adjusted so that they are capable of fully closing the door leaf, against any friction imposed by the latch (and smoke seals, if fitted), from any position of opening.

Face-fixed overhead door closers (and accessories such as soffit brackets) that have been tested, assessed or otherwise approved for use on unlatched FD30 cellulosic door leaves in timber frames may be used.

Any accessory that is located within the door reveal must have appropriate test or assessment evidence.

#### B.2 Bolts

Some of the tests referenced in this report include double leaf doors, but without bolts; bolts are not, therefore, necessary for the doors to achieve fire resistance (subject to an appropriate self-closing device being fitted).

Unless specific fire test evidence is available, all bolts shall be steel. The following limitations and protection apply;

- Face fixed flush bolts shall be fixed so that there is a minimum of 50mm between the bolt and the door edge, and any aperture.
- Surface mounted barrel bolts shall not exceed 400mm in length, but there is no limitation on their width. Screws for fixing bolts must be at least 25mm long, and have thread for the full screw length.

### Non-Essential Hardware

#### B.2.1 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 or handle escutcheons etc.

## B.2.2 Pull Handles

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.

## B.2.3 Security viewers

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

- Viewers must not exceed 15mm outer diameter, and be made from brass or steel;
- Holes bored through the door must be no greater than 1mm larger than the bore of the viewer and must be lined with a non-pressure forming intumescent mastic/sheet;
- The viewer must include an effective shutter/cover plate.
- Where door design is approved with recessed panels, the viewer must be fitted through the full door thickness.
- Viewers shall be at least 40mm away from the door edge, and from any aperture.

## B.2.4 Lever Handles

ELEMENT	SPECIFICATION
MATERIAL	Metal/alloy – should not contain any flammable materials
SPECIFIC INSTALLATION REQUIREMENTS	Holes through the leaf shall be as close fitting as possible to the spindles and/or fixing screws; which must be steel.
INTUMESCENT PROTECTION	None required
ADDITIONAL NOTES	This generic approval only applies to traditional ‘mechanical’ lever handles and does not apply to electro-mechanical handlesets (with security functions); which must be the subject of independent fire testing, and further analysis by KFS

## Appendix C Summary of Fire Test Evidence

### Summary of Primary Fire Test Evidence

TEST LABORATORY AND REPORT NO.	TEST DATE	CONFIGURATION TESTED	LEAF SIZE TEST	TEST STANDARD	INTEGRITY
UKTC Report 220220311-005314 Rev A	14 April 2022	ULSASD	932mm wide x 2040mm high x 44mm thick	BS 476-22: 1987	41 minutes*
		ULSASD	932mm wide x 2040mm high x 54mm thick		63 minutes*
UKTC Report 20220428-004633 Rev A_B	13 May 2022	ULSASD	926mm wide x 2040mm high x 44mm thick	BS EN 1634-1: 2014 +A1: 2018	34 minutes*
UKTC Report 20220624-105409 Rev A	17 August 2022	LSASD	930mm wide x 2040mm high x 45mm thick	BS EN 1634-1: 2014 +A1: 2018	38 minutes*
		LSASD	930mm wide x 2040mm high x 44mm thick		55 minutes*
UKTC Report 20220817-105713 Rev A	12 October 2022	LSASD	930mm wide x 2040mm high x 44mm thick	BS EN 1634-1: 2014 +A1: 2018	31 minutes*
		ULSADD	500/500mm wide x 2040mm high x 44mm thick		38 minutes*
UKTC Report 20221031-0005814 Rev B	29 November 2022	ULSASD	930mm wide x 2040mm high x 54mm thick	BS EN 1634-1: 2014 +A1: 2018	66 minutes*
UKTC Report 20231206-004709 Rev A	1 February 2024	ULSADD	463/463mm wide x 2040mm high x 54mm thick	BS 476-22: 1987	66 minutes*
		ULSASD	926mm wide x 2040mm high x 44mm thick		30 minutes*

\* No failure at termination of testing

LSASD	=	Latched, Single Acting Single Leaf Door assembly
ULSASD	=	Unlatched, Single Acting. Single Leaf Door assembly
ULSADD	=	Unlatched, Single Acting, Double Leaf Door assembly