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Title:

Field of Application for:

Deanta Type 5 Flush Doorset Designs, for 30 minutes fire resistance

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The version/revision stated on the front of this Field of Application supersedes all previous versions/revisions and must be used to manufacture doorsets from the stated validity date on this front cover. Previous revisions of the Field of Application cannot be used once an updated Field of Application has been issued under a new revision.

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1 Foreword

This Field of Application report has been commissioned by Deanta Ltd and relates to the fire resistance of 30 minute fire resisting doorset designs.

The report is for National Application and has been written in accordance with the general principles outlined in BS EN 15725: 2010; *Extended application reports on the fire performance of construction products and building elements*.

This Field of Application (scope) uses established empirical methods of extrapolation and experience of fire testing similar doorsets, in order to extend the scope of application by determining the limits for the designs based on the tested constructions and performances obtained. The scope is an evaluation of the potential fire resistance performance, if the variations specified herein were to be tested in accordance with BSEN 1634-1: 2014 +A1: 2018.

This scope document cannot be used as supporting documentation for either a CE marking application nor can the conclusion be used to establish a formal classification against EN13501-2.

This Field of Application has been written using appropriate test evidence generated at UKAS accredited laboratories, to the relevant test standard. The supporting test evidence has been deemed appropriate to support the manufacturers stated door design and is summarised in section 3 and appendix A.

The scope presented in this report relates to the behaviour of the proposed door design variations under the particular conditions of the test; they are not intended to be the sole criterion for considering the potential fire hazard of the door assembly in use.

This Field of Application has been prepared and checked by product assessors with the necessary competence, who subscribe to the principles outlined in the Passive Fire Protection Forum (PFPF) *'Guide to Undertaking Technical Assessments of the Fire Performance of Construction Products Based on Fire Test Evidence'*. The aim of the PFPF guidelines is to give confidence to end-users that assessments that exist in the UK are of a satisfactory standard to be used for building control and other purposes.

2 Proposal

It is proposed to consider the fire resistance performance of the specified proprietary Deanta Type 5 doorset designs, for 30 minutes fire resistance integrity performance (and where appropriate insulation performance), if the doorset designs were to be tested to the requirements of EN 1634-1:2014 +A1: 2018, *Fire resistance test for door and shutter assemblies and openable windows.*

The field of application defined in this report is based on the fire resistance test evidence for the doorset design, which is summarised in section 3. Analysis of specific construction details that require assessment are given within this report against the relevant element of construction, as appropriate.

3 Test data

The test evidence summarised below has been generated to support the fire resistance performance of the door designs that are the subject of this field of application. The summary details are considered to be the key aspects of the design tested.

Primary test data for the Deanta Type 5 design is based on fire resistance performance to the BS EN 1634-1 and BS EN 1363-1 test standards.

Note:

1. Dimensions are in mm unless otherwise stated.
2. Abbreviations: (h) = height; (w) = width; (t) = thickness; (d) = depth: (l) = length.
3. Latches fitted but disengaged for the test, are reported as 'unlatched'.

3.1 Primary test evidence

3.1.1 Test report WF372561

The referenced test report, the essential details of which are summarised below, is primary data for the type 5 door design being considered for assessment in this report.

This test supports unlatched single acting, single leaf doorsets hung in softwood and MDF frames, steel bearing butt hinges, surface mounted overhead closers, steel mortice latches and aluminium lever handles.

Date of Test:	21st February 2017
Test Body Id:	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
Sponsor:	Deanta UK Ltd
Tested Product:	2No. unlatched, single acting, single leaf, timber based glazed doorsets. Doorset A – Augusta Glazed and Doorset B – Galway Glazed
Tested Orientation:	Opening in towards heating condition
Summary of Test Specimen:	LEAVES: Both doorsets: 2400 (h) x 950 (w) x 44 thick. Core: 44 (t) chipboard (550kg/m^3) with 0.6(t) oak veneer. Lipping Doorset A: Oak (720kg/m^3) 18mm thick to all edges, Lipping Doorset B: Oak (720kg/m^3) 3 (t) to all edges. Decorative inserts: both with 15 (w) x 7 (t) hardwood oak inserts with 10 (w) x 5 (d) chamfered grooves (A horizontally orientated, B vertically orientated) FRAME: Doorset A: Deanta Douglas Fir, oak veneered frame (0.6mm veneer) (510kg/m^3) 134 (d) x 43 (w) including a 12 (w) x 88 (d) integral stop. Doorset B: Deanta Primed MDF frame (700kg/m^3) 134 (d) x 32 (w). Integral stop Doorset B: Deanta Primed MDF 44 (d) x 14 (w). Jointing: Both doorsets, butt jointed. Frame Fixing: 4No. 6 x 100 (l) steel screws per jamb. Threshold: Both doorsets, non-combustible. INTUMESCENT: Frame Reveal: 1No 15 x 4 Lorient LP1504 type 617. Fitted 15 from exposed face. Drop down seal: Lorient LAS8001 22 x 57 (end plate size), 14 x 35 (body size). HARDWARE: Hinges: Doorset A 3No. Deanta stainless steel bearing butt type hinges, 101 x 32 (blade size) Doorset B 3No. Deanta stainless steel Hi Load lift off type hinges. Closer: Doorset A Deanta DH series overhead type closer 235 x 60 (footprint size), Doorset B Deanta DH series single chain door edge closer 58 x 27 (forend size), and 22Ø x150 (body size). Lock/Latch: Doorset A Deanta 5 lever stainless steel mortice latch, Doorset B Deanta tubular steel mortice latch

	Lock/Latch Size: Doorset A 165 x 27 (forend size), 80 x 30 (keep size) Doorset B 57 x 26 (forend size) 57 x 26 (keep size) Lock/Latch Status: Both doorsets disengaged for test. Handle: Both doorsets aluminium lever type handle 103 x 42 (footprint size) HARDWARE PROTECTION: Under Hinges: (Doorset A only) Lorient MAP 1 (t) Interdens Under Forend & Keep: Lorient MAP 1 (t) Interdens Encasing latch body: Lorient MAP 1 (t) Interdens GLAZING (Doorset A): Glass: Deanta Fire Glass, 8 (t) Aperture Size all panels: 281 (w) x 281 (h) Sight Size: 255 (w) x 255 (h) Beading: Oak veneered MDF (700kg/m^3), 21 (h) x 25 (w), chamfered with bolection. Bead Fixing: 40 (l) steel pins, at 30°, 50 from corners at 150 centres. GLAZING (Doorset B): Glass: Deanta Fire Glass, 8 (t) Aperture Size all panels: 201 (h) x 406 (w) Sight Size: 175 (w) x 380 (h) Beading: Oak veneered MDF (700kg/m^3), 21 (h) x 25 (w), chamfered with bolection. Bead Fixing: 40 (l) steel pins, at 30°, 50 from corners at 150 centres. GLAZING SYSTEMS: Glazing Perimeter: Lorient System 36/6 Plus glazing gasket, 12 (w) x 15 (h) x 2.6 (t).
Test Standard:	BS EN 1634-1:2014 & BS EN 1363-1: 2012
Performance:	Integrity: 40 minutes Insulation: 40 minutes

3.1.2 Test report WF372564

The referenced test report, the essential details of which are summarised below, is primary data for the Type 5 door design being considered for assessment in this report.

This test supports latched and unlatched single and double acting, single leaf doorsets hung in softwood and MDF frames.

Date of Test:	17th January 2017
Test Body Id:	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
Sponsor:	Deanta UK Limited
Tested Product:	Unlatched, single acting, single leaf, timber based glazed doorsets.
Tested Orientation:	Opening in towards heating condition
Summary of Test Specimen:	LEAF Doorset A: Overall Size: 2400mm (h) x 1100mm (w) x 44mm thick Core: Augusta FD30 (550kg/m3), 44mm thick Lipping: Oak (720kg/m^3), 3mm thick to all four edges Decorative inserts (horizontal both faces): Oak insert 15mm (w) x 7mm thick with 10mm (w) x 5mm deep groove. LEAF Doorset B: Overall Size: 2400mm (h) x 1100mm (w) x 44mm thick Core: Galway FD30 (550kg/m3), 45mm thick Lipping: Oak (720kg/m^3), 18mm thick to all four edges Decorative inserts (horizontal both faces): Oak insert 15mm (w) x 7mm thick with 10mm (w) x 5mm deep groove FRAME Doorset A: Head & Jambs: Deanta Douglas Fir, Oak veneered frame (510kg/m^3), 135mm deep x 32mm (w), with 42mm (w) x 13mm thick planted stop. Frame Fixing: 4No. 6mm dia x 100mm long steel screws per jamb Threshold: Non-combustible Architrave: MDF, 45mm thick x 16mm (w). Fire stopping: Rock mineral fibre capped with acrylic intumescent mastic on both faces 5-10mm (w) x 10mm deep. FRAME Doorset B: Head & Jambs: Deanta Primed MDF frame (700kg/m^3), 135mm deep x 35mm (w), with 45mm (w) x 13mm thick planted stop. Frame Fixing: 4No. 6mm dia x 100mm long steel screws per jamb Threshold: Non-combustible Architrave: MDF, 45mm thick x 16mm (w). Fire stopping: Rock mineral fibre capped with acrylic intumescent mastic on both faces 5-10mm (w) x 10mm deep INTUMESCENT Doorset A: Frame Reveal: 1No 15mm x 4mm Pyroplex Rigid Box seal FO8700 LP2004. Fitted 10mm from exposed face. Acoustic seal: Lorient Polyproducts Ltd LP1504 type 617 15mm x 4mm fitted 10mm from the exposed face. INTUMESCENT Doorset B: Frame Reveal: 1No 15mm x 4mm Pyroplex Rigid Box seal FO8700 LP2004. Fitted 10mm from exposed face. Acoustic seal: Pyroplex R9945 twin flipper seal 10mm (w). HARDWARE Doorset A: Hinges: 3No. Deanta steel bearing butt type hinges 101mm x 28mm (blade size). Closer: 1No. Deanta Dh series single chain door edge closer 48mm x 25mm (forend size), 22Ø x 150mm (body size). Lock/Latch: 1No. Deanta tubular steel mortice latch. Lock/Latch Size: Forend: 58mm x 26mm, Keep: 58mm x 26mm. Lock/Latch Status: Disengaged for test. Handle: Aluminium Lever type handle 103mm x 42mm (footprint size).

	HARDWARE Doorset B: Hinges: 3No. Deanta stainless steel butt type hinges 101mm x 32mm (blade size). Closer: Deanta DH series overhead type closer 245mm x 45mm (footprint size). Lock/Latch: Deanta steel mortice latch. Lock/Latch Size: Forend: 165mm x 26mm, Keep: 180mm x 30mm. Lock/Latch Status: Engaged for test. Handle: Aluminium Lever type handle 103mm x 42mm (footprint size). HARDWARE PROTECTION Both Doorsets: Under Hinges: 1mm thick Lorient Polyproducts Ltd MAP Interdens. Under Forend & Keep: 1mm thick Lorient Polyproducts Ltd MAP Interdens. Encasing latch body: 1mm thick Lorient Polyproducts Ltd MAP Interdens. Under closer forend: 1mm thick Lorient Polyproducts Ltd MAP Interdens.
Test Standard:	BS EN 1634-1:2014 & BS EN 1363-1: 2012
Performance Doorset A:	Integrity A: 40 minutes Insulation A: 40 minutes
Performance Doorset B:	Integrity B: 33 minutes Insulation B: 33 minutes

3.1.3 Test report WF380236

The referenced test report, the essential details of which are summarised below, is primary data for the Type 5 door design being considered for assessment in this report.

This test supports latched and unlatched single and double acting, single and double leaf doorsets hung in softwood frames.

Date of Test:	27th February 2017
Test Body Id:	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
Sponsor:	Deanta UK Ltd
Tested Product:	unlatched, single acting, unequal double leaf timber doorset
Tested Orientation:	Opening in towards heating condition
Summary of Test Specimen:	LEAF Left Leaf: Overall Size: 2400mm (h) x 1000mm (w) x 44mm thick. Core: Oak veneered (550kg/m3), 44mm thick. Lipping: Oak (720kg/m3), 18 thick to all four edges. LEAF Right Leaf: Overall Size: 2400mm (h) x 500mm (w) x 44mm thick. Core: Oak veneered (550kg/m3), 44mm thick. Lipping: Oak (720kg/m3), 3 thick to all four edges. FRAME: Head & Jambs: Deanta Douglas Fir, Oak veneered frame (0.6mm veneer) consisting 3mm MDF inner facing and 3mm plywood outer facing 70mm deep x 32mm (w). Stop: Deanta Douglas Fir, Oak veneered frame, 12 (h) x 20 (w). Frame Fixing: 4No 6mm dia x 80mm (l) steel woodscrews per jamb. Fire stopping: Mineral fibre capped with intumescent mastic on exposed face, 10-15mm (w) x 10mm deep. Architrave: European Redwood (510kg/m3) 45mm thick x 18mm (w). INTUMESCENT: Left leaf (closing edge only): 2No 10mm x 4mm Lorient Polyproducts Ltd LP1004. Fitted 10mm apart, 7 from exposed face in closing edge only. Frame Reveal: Lorient Polyproducts Ltd LP1504 Type 617 15 x 4. Drop down seal: Lorient Polyproducts LAS8001 22mm x 58mm (end plate size) 14mm x 35mm (body size). HARDWARE: Hinges: 4No Deanta stainless steel bearing butt type hinges 100mm (h) x 30mm (w) (blade size). Closer: 1No. Deanta DH series overhead type closer (both leaves) 245mm x 45mm (footprint size). Lock/Latch: Deanta steel mortice latch. Lock/Latch Size: Forend: 155mm x 22mm, Keep: 125mm x 24mm. Lock/Latch Status: Disengaged for test. Handle: Aluminium lever type handle, 101mm x 45mm (footprint size). HARDWARE PROTECTION: Under Hinges: 1mm thick Interdens. Under Forend & Keep: 1mm thick Interdens. Encasing latch body: 1mm thick Interdens.
Test Standard:	BS EN 1634-1:2014 & BS EN 1363-1:2012.
Performance:	Integrity: 32 minutes Insulation: 32 minutes

3.1.4 Test report WF408837

The referenced test report, the essential details of which are summarised below, is primary data for the Type 5 door design being considered for assessment in this report.

This test supports latched and unlatched single and double acting, single and double leaf doorsets hung in softwood frames, fitted with single pane glazing.

Date of Test:	18th January 2019
Test Body Id:	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
Sponsor:	Deanta UK Ltd
Tested Product:	Unlatched, single acting, one and a half leaf timber doorset with glazing.
Tested Orientation:	Opening in towards heating condition
Summary of Test Specimen:	LEAF: Overall Size: Left leaf 2101 (h) x 950 (w) x 44 (t); right leaf, 2101 (h) x 456 (w) x 44 thick Core: Oak veneered chipboard (550kg/m3), 44 (t), veneered to give the appearance of stiles and rails. Lipping: Oak (550kg/m^3) 3 (t), to all four edges Facing: 0.6 (t), Oak veneer FRAME: Head & Jambs: Deanta branded oak veneered engineered softwood lamels faced with 3 (t) MDF and 3 plywood, 30 (w) x 133 deep overall Stop: Oak veneered softwood lamels, 31 (w) x 27 (d) Frame Fixing: 4No. steel screws 4.8 Ø x 100 (l) Fire stopping: Mineral wool capped with acrylic intumescent mastic on the exposed face 12-16 (w) x 10 deep (mastic size) Architrave: Softwood fitted on exposed face only 45 (w) x 18 (t) Threshold: Non combustible INTUMESCENT: Frame Reveal/Leaf Edges (meeting edges only): 1No 15 x 4 Lorient LP1504DS Type 617. Fitted 15 from the exposed face. HARDWARE: Hinges: 4No Smith and Locke Eclipse Ref. SKU9237K EN 1935 Grade 13, 102 x 30 x 3 (blade size) Closer: 1No. Eclipse 73 Series Ref. 28730 overhead type close 180mm x 43mm (footprint size) Lock/Latch: Smith and Locke tubular steel mortice latch Lock/Latch Size: Body: 75 x 22 x 15, forend: 60 x 25, keep: 65 x 25. Lock/Latch Status: Disengaged for test Handle: Smith and Locke Uno lever handle Ref. SKU1224H, Ø50 (rose size) HARDWARE PROTECTION: Under Hinges: Smith and Locke supplied graphite 0.8 (t). Under Latch Forend: Smith and Locke supplied graphite 0.8 thick. Around Lockcase: Smith and Locke supplied graphite 0.8 (t). Under Latch Keep: Smith and Locke supplied graphite 1 (t). GLAZING (Main Leaf): Glass: Pilkington Pyrodur 30-105, 7 thick Aperture Size: 1723 (h) x 657mm (w) Glass Size: 1720 (h) x 654m (w) Sight Size: 1695 (h) x 625 (w) Expansion allowance: 3 (w) Beading: MDF (700kg/m3), 15 (h) x 17 (d). Bead Fixing: Tacwise Brad nails, 18 gauge x 40 (l), at 35 degrees, 150mm centres & 50 from corners. Glazing System: Lorient Polyproducts Ltd System 36 Plus
Test Standard:	BS EN 1634-1:2014 & BS EN 1363-1:2012
Performance:	Integrity: 35 minutes Insulation: 35 minutes

3.1.5 Test report WF416389

The referenced test report, the essential details of which are summarised below, is primary data for the Type 5 door design being considered for assessment in this report.

This test supports latched single acting, single leaf doorsets hung in hardwood frames, fitted with a Deanta overhead closer, Yale Lockmaster multipoint latch, Smith and Locke eye viewer, and 6mm thick ash lippings.

Date of Test:	23rd September 2019
Test Body Id:	Warringtonfire Testing and Certification Ltd. UKAS No. 1762
Sponsor:	Deanta UK Ltd
Tested Product:	Latched, Single Acting, Single Leaf, Timber Doorset
Tested Orientation:	Opening in towards heating condition
Summary of Test Specimen:	LEAF: Overall Size: 2400 (h) x 927 (w) x 44 (t) Core: Chipboard core (600kg/m^3), 44 (t) Lipping: Ash (640kg/m^3), 6 (t) to all four edges Facing: 0.6 (t), Ash veneer. FRAME: Head & Jambs: Sapele (610kg/m^3), 43 (w) x 101 (d), with 12.5 (h) x 56 (w) rebated stop. Frame Fixing: Steel masonry screws 80 (l) Fire stopping: Rock mineral fibre for full depth of frame capped with intumescent mastic on both faces, 10-20 (w) x 10 (d) (mastic size) Architrave: Softwood, 18 (t) x 45 (w) INTUMESCENT: Frame Reveal: 1No 15 x 4 Lorient Polyproducts Ltd LP1504DS Type 617. Fitted 18 from the exposed face. Drop down seal: Lorient Polyproducts Ltd LAS8001si 21 x 56 (end plate size). HARDWARE: Hinges: 3No. Deanta stainless steel radius hinges, 102 x 76 x 3mm (blade size). Closer: 1No. Deanta overhead closer Ref. DRC005, 180 x 65 x 42 (body size). Lock/Latch: Yale Lockmaster multi-point latch. Lock/Latch Size: forend: 1765 x 20, centre case: 200 x 60 x 14mm, top and bottom case: 120 x 40 x 14, centre keep 210 x 20, top and bottom keep: 200 x 35 x 35. Lock/Latch Status: engaged at centre latch for test. Eye viewer: Smith and Locke, Ø26 (footprint size). Handle: Yale Lever type handle, 245 x 35 (footprint size). HARDWARE PROTECTION: Under Hinges: Flexifire Graphite 1 (t). Under Latch Keep: Flexifire Graphite 1 (t). Encasing Latch Bodies: Flexifire Graphite 1 (t), Lorient Polyproducts MAP 1 (t).
Test Standard:	BS EN 1634-1:2014 & BS EN 1363-1:2012.
Performance:	Integrity: 39 minutes. Insulation: 39 minutes.

3.1.6 Test report WF424965

The referenced test report, the essential details of which are summarised below, is primary data for the Type 5 door design being considered for assessment in this report.

This test supports unlatched, single acting, single leaf doorsets hung in softwood frames.

2No doorsets were tested, but only Doorset A is a subject of this report.

Date of Test:	30th March 2020
Test Body Id:	Warringtonfire Testing and Certification Ltd. UKAS accreditation No. 1762
Sponsor:	Deanta UK Ltd
Tested Product:	Doorset A: Unlatched, single acting, single leaf, timber doorsets, 1No. with glazing. Only doorset A is relevant to this report.
Tested Orientation:	Opening in towards heating condition
Summary of Test Specimen:	LEAF: Overall Size: 2040 (h) x 864 (w) x 44 (t). Core: Veneered FD chipboard (600kg/m^3), 44 (t). Lipping: Ash (610kg/m^3), 18 (t) to all four edges. Decorative inserts: Ash (640kg/m^3) 9 (w) x 5 (t) with 4 (d) groove. FRAME: Head & Jambs: finger jointed engineered European Redwood (408-469kg/m^3), 28 (t) x 106 (w).faced with veneered ply and a 15 (h) x 45 (w) pinned European Redwood stop. Frame Fixing: 80 (l) steel wood screws. Fire stopping: Full depth mineral fibre capped with intumescent mastic INTUMESCENT: Frame Reveal: 1No 15 x 4 Therm-A-Blade. Fitted 18 from exposed face. Drop down seal: 1No 35 x 14 Lorient Polyproducts Ltd LAS001 Si. HARDWARE: Hinges: 3No. Deanta stainless steel bearing butt type hinges Ref. HR102753 120 x 32 x 3 (blade size). Closer: 1No Deanta closer Ref DRC005 220 x 55 (body size). Lock/Latch: 1No Deanta tubular steel mortice latch Ref. DHTB2SSNRA. Lock/Latch Size: forend: 58 x 26; keep: 63 x 20 x 14. Lock/Latch Status: disengaged for test. Handle: Deanta Veritas zinc lever type Ref. DHAGHNDMCP. Ø50 (rose) HARDWARE PROTECTION: Under Forend & Keep: 1 (t) Interdens. Encasing latch body (Doorset A only): 1 (t) Interdens. GLAZING Doorset A: Glass: Pyroguard EW30, 7 (t); expansion allowance: 2 all round. Aperture Size: 4No. Apertures 47 apart, 368 (h) x 560mm (w). Glass Size: (all apertures) 358 (h) x 550 (w). Sight Size: 344 (h) x 536 (w). Beading: Veneered MDF,12 (h) x 16.2 (d) including a 2 x 2 quirk Bead Fixing: 40 (l) steel pins, at 35°, 20 from corners @ 100 centres. GLAZING SYSTEM: Glazing Perimeter: Sealmaster Closed cell intumescent foam 10mm x 3mm
Test Standard:	BS EN 1634-1:2014& BS EN 1363-1: 2012
Performance Doorset A:	Integrity: 33 minutes Insulation: 33 minutes

3.1.7 Test report WF503023A

The referenced test report, the essential details of which are summarised below, is primary data for the Type 5 door design being considered for assessment in this report. This test supports latched, single acting, single leaf doorsets hung in hardwood frames, for enhanced security application. 2No. doorsets were tested, but only Doorset B is a subject of this report.

Date of Test:	11th August 2021
Test Body Id:	Warringtonfire Testing and Certification Ltd. UKAS accreditation No. 0249
Sponsor:	Deanta UK Ltd
Tested Product:	Latched, single acting, single leaf, timber doorset, referenced as doorset B.
Tested Orientation:	Opening in towards heating condition
Summary of Test Specimen:	LEAF: Deanta Seville Oak design. Overall Size: 2040 (h) x 926 (w) x 44 (t). Core: FD chipboard (600kg/m³), 42.8 (t) with 0.6 (t) oak/Walnut veneer to each face. Lipping: Ash (640kg/m³), 18 (t) x 44 (w) to all four edges, glued with UF resin and Zhuhai Dingli Gong Mao Co Ltd PVA assembly glue. Decorative inserts: 6No. horizontal and 2No. vertical hardwood inserts: 15 (w) x 5 (d) with a 7 (w) x 3 (d) V groove, glued with UF resin. FRAME: Head & Jambs: Sapele (640kg/m³), 45 (t) x 70 (w) with a 15 (h) x 45 (w) rebated integral stop. Frame Fixing: 100 (l) x 4.8Ø steel wood screws. Fire stopping: Full depth mineral fibre capped with intumescent mastic INTUMESCENT: Frame Reveal: 2No. 10 x 4 Therm-A-Seal & 1No. Therm-A-Blade. Fitted in frame reveal 5 and 25 from the opening face. HARDWARE: Hinges: 3No. Deanta Grade 13 stainless steel bearing butt type hinges Ref. HR102763 102 x 30.5 x 3 (blade size) fitted with 4No. steel countersunk 30 (l) wood screws per bade. Closer: 1No. OUDE LHH608, steel, body: 233 (w) x 79 (h) x38.5 (d) Lock/Latch: Winkhaus multipoint autolock AV2-F Ref: 2070/55 92/8 M2: Forend 1770 (h) x 20 (w) x 3 (t). Thumb Turn Cylinder: Ningbo Sancta Hardware Pro-Tek Nickel Key/Turn 3* cylinder 37/37: 35Ø x 70 (l) fixed with 1No. M5 x 65 (l) supplied screw. Handle: Deanta Veritas zinc lever type Ref. DHAGHNDMCP. Ø50 (rose) Letter Plate: Soterian TS008 – Silver External and TS008 Internal Silver. Body:115 (h) x 300 (w) x 35 (d); Internal plate: 75 (h) x 305 (w) x 35 (d); External plate: 63 (h) x 260 (w). Fixed with 4No. M6 x 24 supplied bolts, and 6No. supplied 3.9 x 25 (l) CSK Zinc CH gimlet screws to internal face. Door viewers: 2No. ZOO hardware ZAB30 steel viewer 14Ø x44 (l) fitted through door leaf at 1100 and 1500 from threshold. Drop down seal: 1No 35 x 14 Lorient Polyproducts Ltd LAS8001 Si automatic rubber threshold seal. 35 (h) x 14 (w) x 926 (l) centrally rebated into threshold and fixed with 1No. 3.5 x 32 (l) CSK CH stainless steel screw through retaining/cover plate at each end of seal. HARDWARE PROTECTION: Lock: Winkhaus AV2/AV3 lock kit pack 5084041 with 0.8 (t) graphite intumescent bedding material. Hinges: Winkhaus FireFrame® hinge pack 5084049 Letter plate: supplied intumescent kit. Viewer: not fitted with intumescent.
Test Standard:	BS EN 1634-1:2014 & BS EN 1363-1:2012
Performance Doorset A:	Integrity: 36 minutes Insulation: 36 minutes

4 Technical specification

4.1 General

The technical specification for the proposed door assembly is given in the following sections and is based on the test evidence for the door designs, summarised in section 3.

4.2 Intended use

The intended use of the proposed door assembly is summarised below:

A pedestrian doorset including any frame, door leaf or leaves which is provided to give a fire resisting capability when used for the closing of permanent openings in fire resisting separating elements, which together with the building hardware and any seals (whether provided for the purpose of fire resistance or smoke control or for other purposes such as draught or acoustics) form the assembly.

4.3 Door leaves

Door leaves to this doorset design comprises of only one type of leaf construction, which is defined by a hardwood veneered chipboard core material and a minimum leaf thickness of 44mm. This leaf construction is referred to as 'Leaf 1' in the subsequent sections, and is fully described in section 5.

Doorset design based on this leaf construction can include the following elements/features:

- Decorative timber inserts and grooves.
- Decorative facings.
- Various hardware items.

See section 5 for further constructional detail.

4.4 Door frames

Door frames to this doorset design comprises of three types of frame construction, which are defined by the type of frame material used (Engineered softwood, Primed MDF, Softwood/Hardwood and Hardwood timber) and with minimum section sizes. These frame constructions are referred to as 'Frame 1, 2, 3 and 4' respectively in the subsequent sections, and are fully described in section 7.

4.5 Door orientation

The primary fire resistance tests for this doorset design were conducted with the doorset hung such that the door leaf opened towards the fire conditions, which is considered the most onerous orientation in terms of fire resistance performance. Based on this testing, assessment is made that the doorsets to this design utilising symmetrical elements may be hung either away from or towards the fire risk side of the doorset (see note to section 10.12). The rationale behind the direction of fire testing timber based doorsets opening towards the fire test conditions is further explained in Annex C of BS EN 1634-1:2014 +A1:2018.

4.6 Door configuration

4.6.1 General

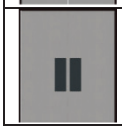
The evaluation of the permitted configuration included in this Field of Application is based on the configuration tested. The principle is that the more components, i.e. door leaves and overpanel – the harder it becomes to pass a test. This is because the junction between two door leaves or door leaf and overpanel introduces a discontinuity into the doorset which can cause failures. This leads to the following statements:

1) A test on a double doorset is more onerous than a test on a single doorset.

2) A test on a doorset with a flush overpanel is more onerous than a test on a doorset without an overpanel. A flush overpanel has the same thickness as the door leaf and is flush with the leaves.
3) A test on an unlatched doorset is more onerous than a test on a latched doorset as the leading edge is unrestrained and will deflect more in fire test conditions.
4) A test on an unlatched single acting doorset is considered to be equivalent to a double acting doorset. This is due to the known and tested deflection of an unlatched single acting doorset moving towards the furnace conditions i.e. away from the door stop, so no benefit is derived from the stop. This condition does not cover doorsets with flush overpanels as there is a need to demonstrate the performance of the top pivot.
5) A doorset with transomed overpanel is considered to perform as the same as a similar doorset without an overpanel. This is because the transom structurally separates the overpanel from the doorset.

4.6.2 Permitted door configurations

The table below shows the permitted configurations for the Deanta Type 5 doorset design.

Depiction	Abbreviation	Description
	LSASD	Latched Single Acting Single Doorset
	ULSASD	Unlatched Single Acting Single Doorset
	DASD	Double Acting Single Doorset
	LSADD	Latched Single Acting Double Doorset
	ULSADD	Unlatched Single Acting Double Doorset
	DADD	Double Acting Double Doorset

Note:

A table of essential hardware is given in section 10.2 as a baseline for the doorset described. The essential hardware contributes significantly in the performance of the doorset and changes in hardware will require the intumescent specification and frame details to be evaluated. The suitability of the item of hardware is given in the appropriate subsection in section 10.

4.7 Door leaf sizes & Intumescent seals

4.7.1 General

The evaluation of the leaf size for each leaf type and frame type and door configuration, is based on the tests listed in section 3 and takes into account:

1) The margin of over performance above 30 minutes integrity for the design.
2) The characteristics exhibited during test, and
3) The doorset configuration tested.

The following sections presents the maximum leaf size for the tested leaf type, frame type and door configuration. Each leaf size envelope is linked to a specific intumescent which is given a unique reference and is based directly on test evidence.

Doorsets with reduced height and width dimensions are deemed to be less onerous. Therefore, doors with dimensions that are less than given in the leaf size envelopes (for the relevant intumescent specification) in the following sections are covered and may be manufactured.

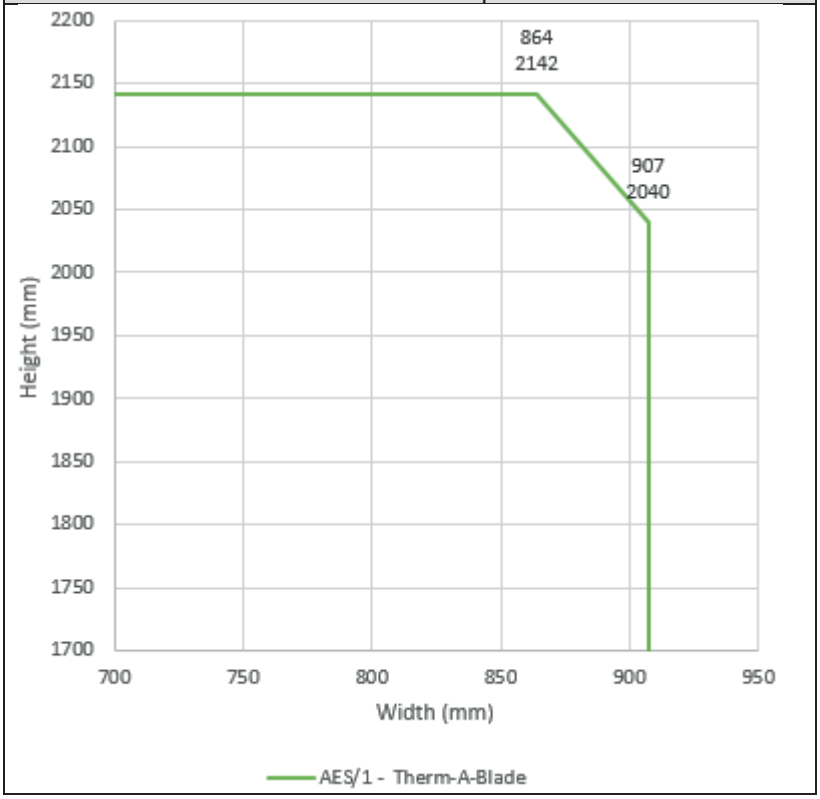
Note:

1. Intumescent seals specified in the tables in the following section are fitted centrally unless stated otherwise.
2. When using these envelopes for double doorsets, the meeting stile intumescent detail must be adequate to contribute to the protection of any hardware present. This means that details based on seals located at the centre of the leaf will be fully interrupted by hardware which could cause a premature failure and this has the effect of limiting the size of lock.
3. Unequal leaf double doorsets are covered by this Field of Application. The smaller door leaf must be no less than 300mm.
4. For double doorsets both leaves must comply with the door leaf envelope size limitations.

4.7.2 LSASD – Leaf sizes & Intumescent seals

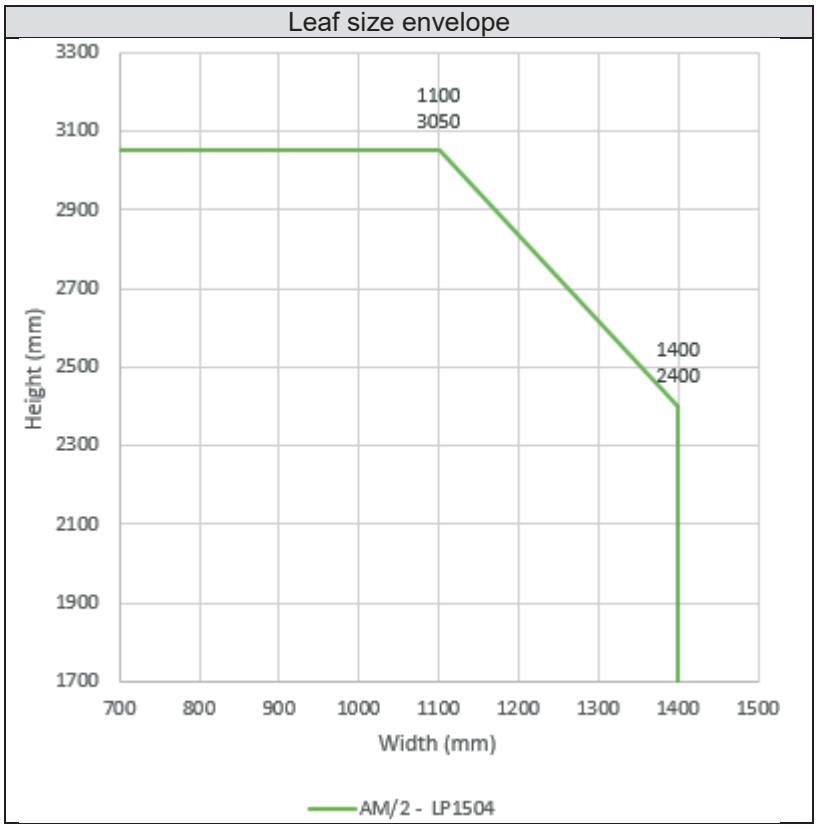
4.7.2.1 Leaf 1 Frame 1

Leaf size envelope



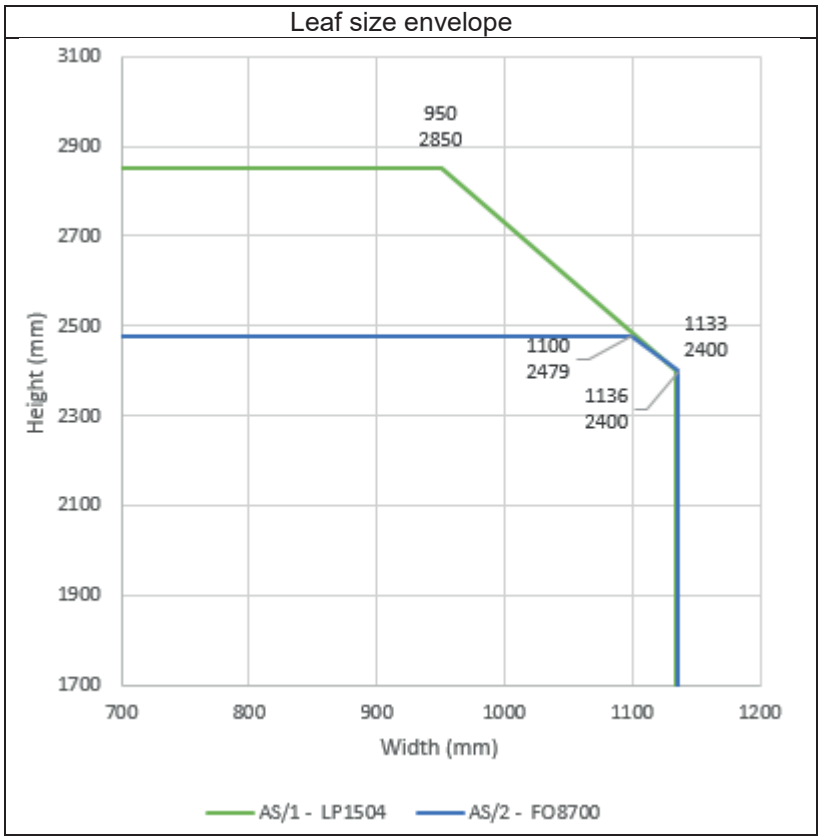
Intumescent seal specification				
Intumescent specification reference	Make / Type	Manufacturer / Supplier	Quantity, Size & Location	Test evidence
AES/1	Therm-A-Blade	Intumescent Seals Ltd	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges	WF424965

4.7.2.2 Leaf 1 Frame 2



Intumescent seal specification				
Intumescent specification reference	Make / Type	Manufacturer / Supplier	Quantity, Size & Location	Test evidence
AM/2	LP1504	Lorient Polyproducts Ltd	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges	WF372564

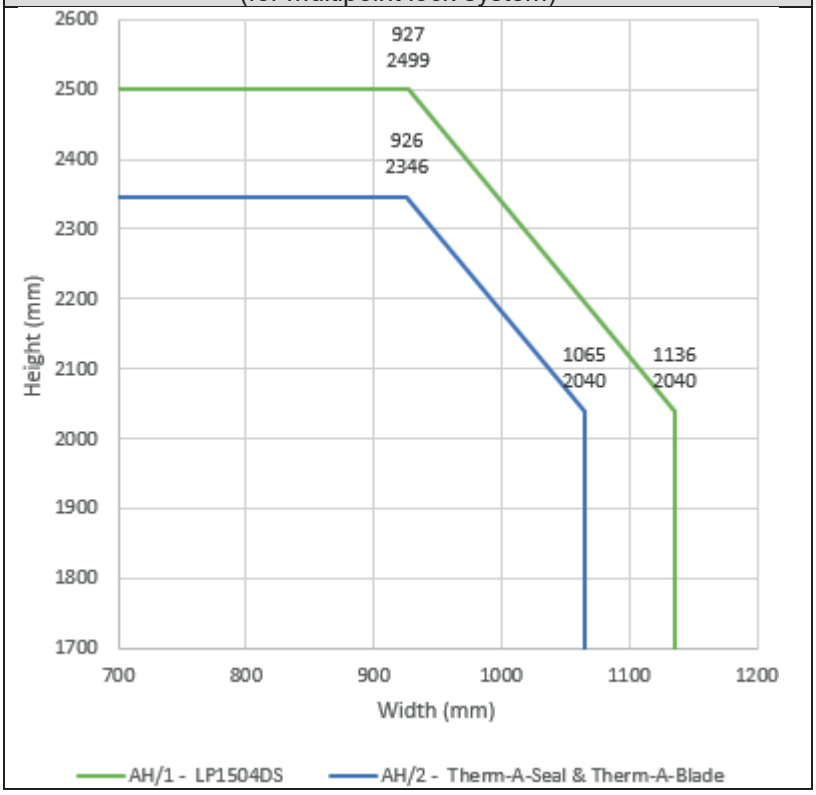
4.7.2.3 Leaf 1 Frame 3



Intumescent seal specification				
Intumescent specification reference	Make / Type	Manufacturer / Supplier	Quantity, Size & Location	Test evidence
AS/1	LP1504	Lorient Polyproducts Ltd	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges	WF372561
AS/2	FO8700	Pyroplex Ltd	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges	WF372564

4.7.2.4 Leaf 1 Frame 4

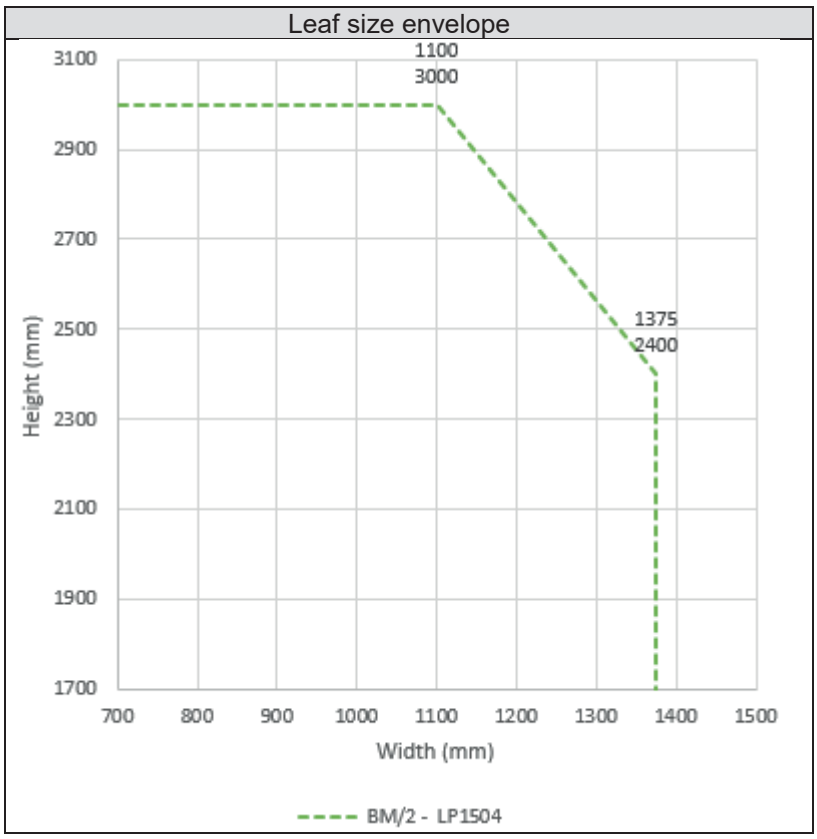
Leaf size envelope
(for multipoint lock system)



Intumescent seal specification			
Make / Type	Manufacturer / Supplier	Quantity, Size & Location	Test evidence
LP1504 or LP1504 DS	Lorient Polyproducts Ltd	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges	WF416389
Therm-A-Seal & Therm-A-Blade	Intumescent seals Ltd	Head & Jambs: 1no 10x4. Fitted 10mm apart in the frame reveal	WF503023A

4.7.3 ULSASD & DASD – Leaf sizes & Intumescent seals

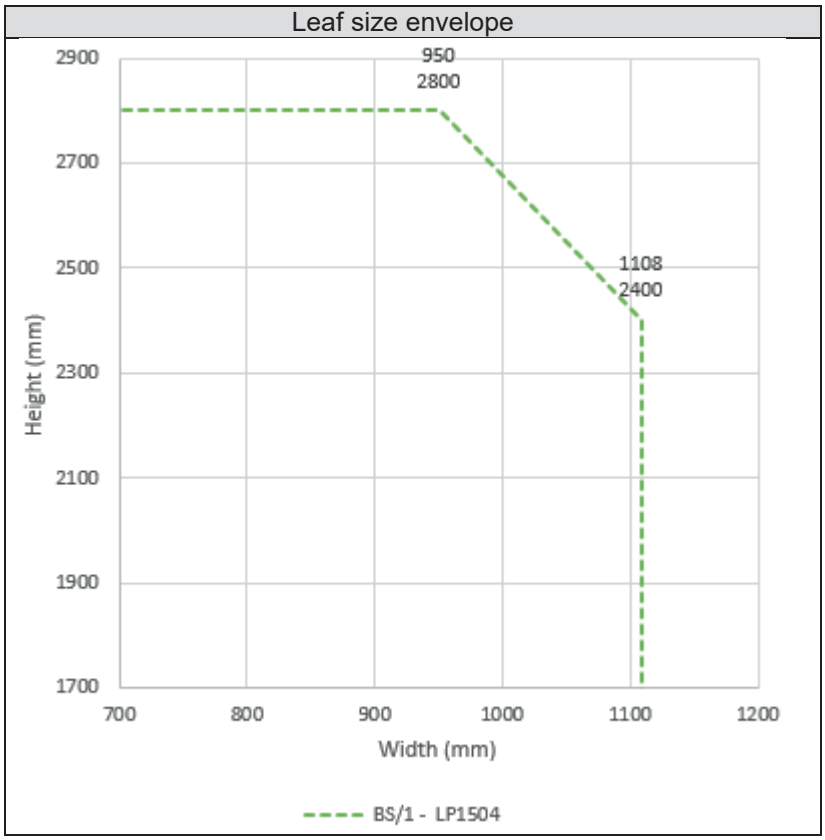
4.7.3.1 Leaf 1 Frame 2



Intumescent seal specification				
Intumescent specification reference	Make / Type	Manufacturer / Supplier	Quantity, Size & Location	Test evidence
BM/2	LP1504	Lorient Polyproducts Ltd	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges	WF372564

Note: These leaf sizes and intumescent specifications have been assessed from ULSASD door configuration, but are also applicable to DASD door configuration.

4.7.3.2 Leaf 1 Frame 3

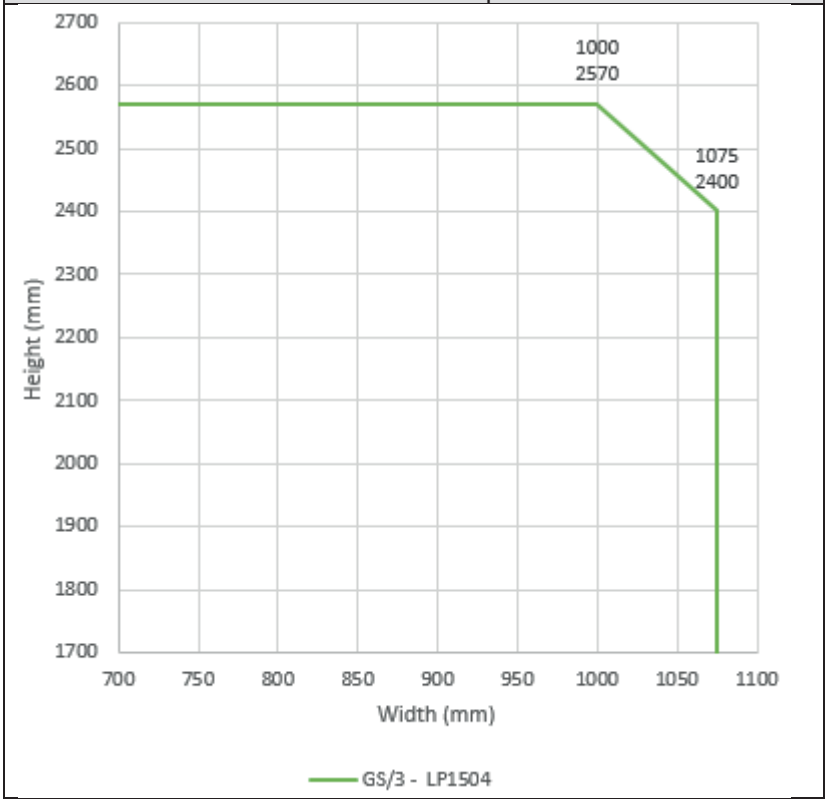


Intumescent seal specification				
Intumescent specification reference	Make / Type	Manufacturer / Supplier	Quantity, Size & Location	Test evidence
BS/1	LP1504	Lorient Polyproducts Ltd	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges	WF372561

4.7.4 LSADD – Leaf sizes & Intumescent seals

4.7.4.1 Leaf 1 Frame 3

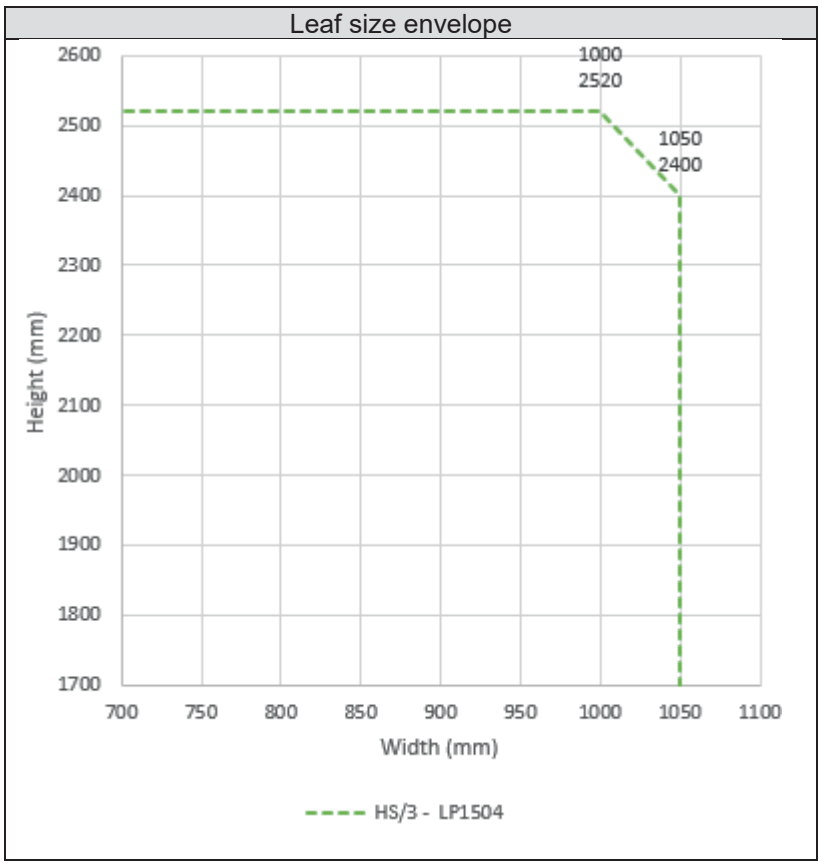
Leaf size envelope



Intumescent seal specification				
Intumescent specification reference	Make / Type	Manufacturer / Supplier	Quantity, Size & Location	Test evidence
GS/3	LP1504 & LP1004	Lorient Polyproducts Ltd	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted 10mm apart in the meeting edge of the main leaf. Partially interrupted at hardware locations with at least 4mm remaining uninterrupted.	WF380236

4.7.5 ULSADD & DADD – Leaf sizes & Intumescent seals

4.7.5.1 Leaf 1 Frame 3



Intumescent seal specification				
Intumescent specification reference	Make / Type	Manufacturer / Supplier	Quantity, Size & Location	Test evidence
HS/3	LP1504 & LP1004	Lorient Polyproducts Ltd	Head & Jambs: 1no 15x4. Fitted in frame reveal or leaf edges Meeting Edge: 2no 10x4. Fitted 10mm apart in the meeting edge of the main leaf. Partially interrupted at hardware locations with at least 4mm remaining uninterrupted.	WF380236

Note: These leaf sizes and intumescent specifications have been assessed from ULSADD door configuration, but are also applicable to DADD door configuration.

5 General description of construction

5.1 Leaf construction

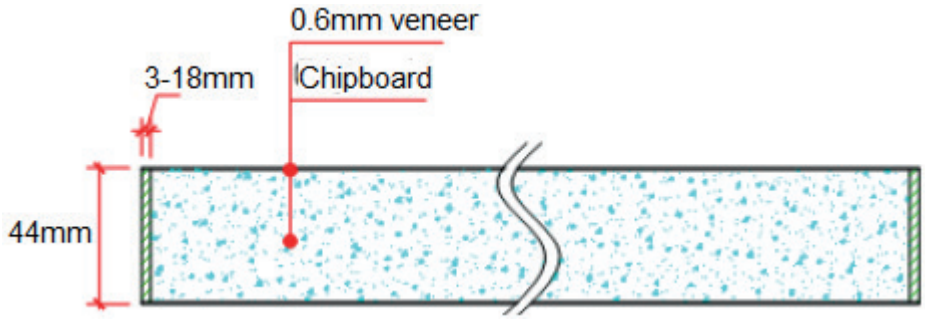
The basic tested construction of door leaves for this design based on test evidence summarised in section 3, comprises the following elements:

Element		Material	Dimensions (mm)	Minimum density (kg/m^3)
Stiles and rails		None fitted	-	-
Core		Oak/Ash veneered Chipboard	44 thick overall (includes 0.6 thick veneer facing)	600 (see note 1)
Facing		Oak/Ash veneer	0.6 thick	640
Lippings		Oak/Ash to all four leaf edges	3-18 thick x 44 wide	640
Adhesive	Lippings	Dingliglue PVA assembly glue (see note 2)		-
	Decorative Inserts	Dingliglue EVA 8633		-
	Veneer	Urea Formaldehyde resin (see note 2)		-

Note:

1. Density stated by client as being audited by Q-Mark at a nominal 600kg/m^3
2. Stated by client, details held on file by Warringtonfire; not verified by laboratory

The figures below shows example drawings of the tested leaf construction.



5.2 Lipping

Doors must be lipped in accordance with the following specification:

Type	Size (mm)
Flat	3-18 thick with a maximum 2mm profiling permitted at corners of lipping (see diagram in section 7.1).
Rounded	Not permitted
Rebated	Not Permitted

Note:

1. Overpanels separated from the leaf heads by a transom do not need to be lipped.
2. Lippings must be from hardwood with a minimum density of 640kg/m^3 and must be applied to all four leaf edges.

5.3 Leaf facing materials

5.3.1 Primary facings

The designs covered by this assessment had integral facings and therefore alternative facings are not required or permitted.

5.3.2 Decorative & Protective facing materials

The following additional decorative and protective materials are permitted for these door designs since they would degrade rapidly under test conditions without significant effect:

Facing Material	Maximum Permitted Thickness (mm)
Paint/Varnish	0.5
Timber veneers	2
Plastic & resin laminates	2
Cellulosic and non-metallic foils	0.5

Note:

1. Metallic facings are not permitted (except for push plates & kick plates).
2. The door leaf thickness must not be reduced to accommodate the chosen finish.
3. Materials must not conceal intumescent strips.
4. Plastic and resin laminates must not be applied to the edges of leaves.

5.4 Inserts & Grooves

Based on the tested horizontal and vertical inserts/groove details in test reports WF372561, WF372564, WF424965 and WF503023A, inserts and grooves with specifications as detailed below, may be applied to both faces of the door leaf.

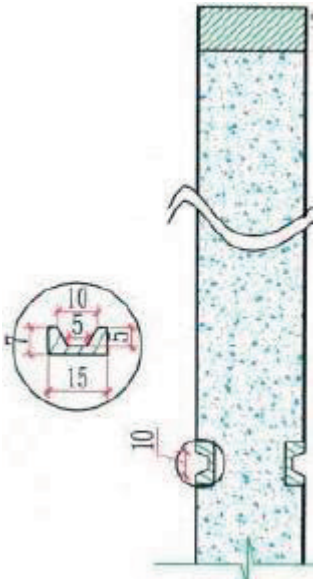
Element	Details	
Inserts	16mm wide x 8mm deep Oak hardwood (minimum density of 720kg/m^3) (see note 1)	
Maximum groove size (Cut into the insert)	11mm wide x 6mm deep (with the bottom of the groove no more than 5mm wide)	
Adhesive	See section 9	
Proximity to door edges	Horizontal grooves	• Must be no less than 142mm from horizontal edges of leaf. • May extend to vertical edges of single leaf doorsets. • Must be no less than 45mm from the meeting edges of double leaf doorsets.
	Vertical grooves	• Must be no less than 100mm from vertical edges of leaf. • May extend to horizontal edges of leaf.
Groove orientation, quantity & spacing	1). Up to 6no horizontal grooves, no less than 182mm apart	
	2). Up to 6no vertical grooves, no less than 182mm apart.	
	3). Up to 6no diagonal grooves, no less than 182mm apart.	
	4). Up to 2no curved grooves, no less than 182mm apart (see note 2)	
	5). Horizontal, vertical, diagonal and curved grooves as detailed above, may intersect each other as shown in the images in section 5.5.1	

Note:

1. The inserts must be manufactured from straight grained joinery quality hardwood free from knots splits and check.
2. Providing the limitations with respect to leaf edges are maintained, grooves may be curved but where more than one individual section of timber is required to create the curve, junctions between sections must be without gaps and must be glued together

with a urea formaldehyde or other thermosetting adhesive. Steaming or bending to create curved grooves is not permitted.

3. Providing the assessed size of the hardwood insert and the maximum groove size is maintained, with no penetration of the insert material, it is permitted to infill the groove with a plastic or aluminium strip, fixed in position with a urea formaldehyde or other thermosetting adhesive.



Timber insert and groove detail

The insert and groove details specified above may be applied in the various pattern/arrangements depicted in the images in section 5.5.1 below without becoming a detriment to the fire resistance performance of the doorset.

5.5 Door leaf styles

Based on the tested door leaf designs, the following door leaf styles incorporating various decorative insert and groove pattern/arrangements are assessed:

UK Design Range	Ireland Design Range	Finish	Construction Type
Amalfi	N/A	Veneered	5
Augusta	N/A	Veneered	5
Cadiz	HP24	Veneered	5
Calgary	N/A	Veneered	5
Ely	HP22	Veneered	5
Flush Oak	Flush Oak	Veneered	5
Galway	N/A	Veneered	5
Montreal	N/A	Veneered	5
Pamplona	HP18	Veneered	5
Ravello	HP35	Veneered	5
Seville	HP12	Veneered	5
Sorrento	N/A	Veneered	5
Torino	N/A	Veneered	5
Valencia	HP33	Veneered	5
N/A	HP14	Veneered	5
N/A	HP19G	Veneered	5

N/A	HP32	Veneered	5
N/A	HP33	Veneered	5
N/A	HP34	Veneered	5
N/A	HP35	Veneered	5
N/A	HP38	Veneered	5

Note:

All Type 5 designs have glazed versions available. Refer to section 6 for glazing options.

5.5.1 Images of assessed door leaf styles

The images below depicts the various Type 5 door leaf styles covered by this assessment.

(A): UK Range: Amalfi
Ireland Range: N/A

(B): UK: Augusta
Ireland: N/A

(C): UK: Cadiz
Ireland: HP24

(D): UK: Calgary
Ireland: N/A

(E): UK Range: Ely
Ireland Range: HP22

(F): UK Range: Flush Oak
Ireland Range: Flush Oak

(G): UK Range: Galway
Ireland Range: N/A

(H): UK Range: Montreal
Ireland Range: N/A

(I): UK Range: Pamplona
Ireland Range: HP18

(J): UK Range: Ravello
Ireland Range: HP35

(K): UK Range: Seville
Ireland Range: HP12

(L): UK Range: Sorrento
Ireland Range: N/A

(M): UK Range: Torino
Ireland Range: N/A

(N): UK Range: Valencia
Ireland Range: HP33

(O): UK Range: N/A
Ireland Range: HP14

(P): UK Range: N/A
Ireland Range: HP32

(Q): UK Range: N/A
Ireland Range: HP34

(R): UK Range: N/A
Ireland Range: HP38

6 Glazing

6.1 General

The Deanta Type 5 door design has been tested incorporating glazed apertures without compromising the integrity performance of the doorset.

Glazing is therefore acceptable within the following parameters:

Based on test evidence WF372561, WF424965, and WF408837.

- Maximum assessed area of glazed aperture for all configurations is **1.58m^2**
- Aperture must not be less than 100mm from any leaf edge.
- Aperture shape is not restricted, providing the glazing system and beads are compatible with that shape, but no aperture angle must be less than 60 degrees.
- Multiple apertures are acceptable within the permitted glazed area, with a minimum dimension of 80mm of core material between apertures, without restriction on individual pane size.
- Additionally, based on test WF424965, multiple apertures are acceptable with a minimum dimension of 47mm of core material between apertures but only to a maximum individual pane size of 0.3m^2.
- Timber for glazing beads must be straight grained joinery quality, free from knots, splits and checks.

6.2 Single pane glass & glazing systems

The glass and glazing system must be one of the following proprietary tested products in the table below.

The table below specifies the maximum assessed area of glazing for each permitted glass type and glazing system.

The numerical figures in the main body of the table are the maximum area of glass (in m^2) that is considered acceptable for an individual glazed aperture, based upon the specific system.

The total area of all glazed apertures must not exceed that state in Section 6.1 above.

Maximum assessed area of glazing (m^2)											
Glass type & manufacturer		Glazing system & manufacturer									
		1.	2.	3.	4.	5.	6.	7.	8		
		Therm A Strip 30 *Intumescent Seals Ltd*	**Fireglaze 30** *Sealmaster UK Ltd*	**Firestrip 30** Hodgeson Sealants Ltd	**Pyroglaze 30** *Mann McGowan Ltd*	**System 36/6 Plus** *Lorient Polyproducts Ltd*	**R8193** *Pyroplex Ltd*	**Flexible Figure 1 (FF1)** *Lorient Polyproducts Ltd*	**Sealmaster closed cell intumescent foam (10x3mm)** *Sealmaster Ltd*		
1	**8mm Deanta Fire Glass** *Deanta UK Ltd*	1.03	1.03	1.03	1.03	1.03	1.03	1.03	0.3		
2	**6-7mm Pyroshield 1 & 2** *Pilkington UK Ltd*	1.58	1.58	1.58	1.58	1.58	1.58	1.58	0.3		
3	**6mm Pyrostem** *Pyroguard UK Ltd*	1.58	1.58	1.58	1.58	1.58	1.58	1.58	0.3		
4	**7mm Pyroguard EW30** *Pyroguard UK Ltd*	1.25	1.25	1.25	1.25	1.25	1.25	1.25	0.3		
5	**7mm Pyrobelite 7** *AGC Flat Glass UK*	1.58	1.58	1.58	1.58	1.58	1.58	1.58	0.3		
6	**7mm Pyrodur 30-104** *Pilkington Group Ltd*	1.58	1.58	1.58	1.58	1.58	1.58	1.58	0.3		
7	**7mm Pyrodur 30-105** *Pilkington Group Ltd*	1.58	1.58	1.58	1.58	1.58	1.58	1.58	0.3		
8	10mm Pyrodur 60-10 *Pilkington UK Ltd*	1.58	1.58	1.58	1.58	1.58	1.58	1.58	0.3		
9	**11mm Pyroguard EW Maxi** *Pyroguard UK Ltd*	1.25	1.25	1.25	1.25	1.25	1.25	1.25	0.3		
10	**11mm Pyranova 15-S2.0** *Schott Glass Ltd*	1.58	1.58	1.58	1.58	1.58	1.58	1.58	0.3		

11	**12mm Pyrobelite 12** *AGC Flat Glass UK*	1.58	1.58	1.58	1.58	1.58	1.58	1.58	0.3		
12	**13mm Pyrodur 60-20** *Pilkington Group Ltd*	1.58	1.58	1.58	1.58	1.58	1.58	1.58	0.3		
13	**15mm Pyroguard EI30** *Pyroguard UK Ltd*	1.58	1.58	1.58	1.58	1.58	1.58	1.58	0.3		
14	**15mm Pyrostop 30-10** *Pilkington Group Ltd*	1.58	1.58	1.58	1.58	1.58	1.58	1.58	0.3		
15	**16mm Pyrobel 16** *AGC Flat Glass UK*	1.58	1.58	1.58	1.58	1.58	1.58	1.58	0.3		

Note:

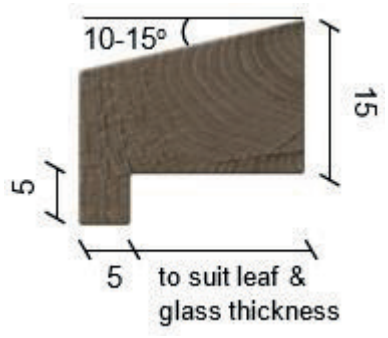
1. All glass types must be fitted fully in accordance with the manufacturer's tested details/installation requirements, particularly with respect to edge cover and expansion allowance.
2. Glass type 1 must only be utilised with the tested System 36 Plus glazing system and fitted exactly as tested with respect to glazing bead edge cover.
3. Glass types 12-15 are fully insulating for 30 minutes in terms of the criteria set out in BS EN 1363-1:2012.

6.3 Glazing installation

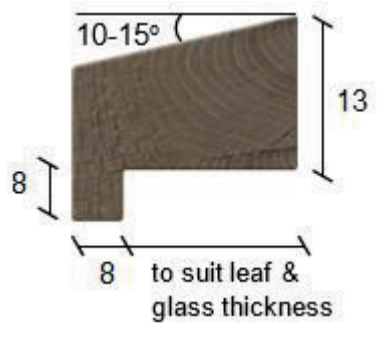
The 3D models in the following sections are provided as a generalised illustration of the glazing installation only; actual installation must be as per the specific details noted within this document.

6.3.1 Chamfered beads – Hardwood & Oak veneered MDF

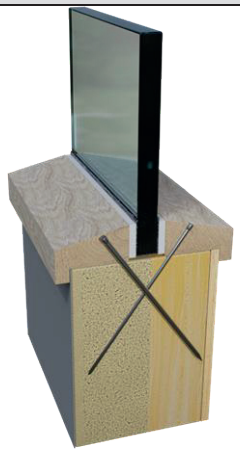
This is permitted for use with all glass types and glazing systems given in the table in section 6.2.



(A): Minimum bead dimensions for Hardwood



(B): Minimum bead dimension for Oak veneered MDF

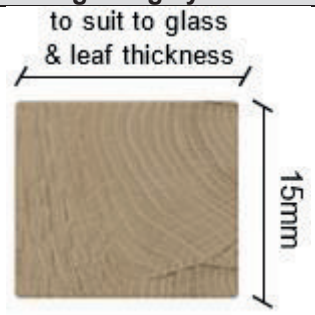


(C): Example illustration of installed glazing assembly

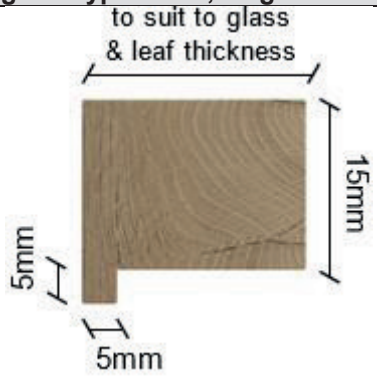
- For Hardwood – The glazing beads must be created from hardwood of a minimum 640kg/m^3 density. Timber material must be straight grained joinery quality, free from knots, splits and checks.
- For Oak veneered MDF – The glazing beads must be created from oak veneered MDF of a minimum 700kg/m^3 density.
- Glazing beads must be retained in position with 40mm long steel pins or 40mm long No. 6-8 screws, inserted at 30-35º to the vertical.
- Fixings must be at 150mm maximum centres and no more than 50mm from each corner. Pneumatically fired pins are acceptable providing the pins meet the specification given in section 6.3.3 below.
- The fitting of the glazing seal between the bead and the glass should generally be in accordance with the manufacturer's instructions with a tight fit present between the substrates.
- Glass should be aligned within the aperture using hardwood or non-combustible setting block placed at the bottom horizontal edge only, sized to provide edge cover and 2-3mm expansion allowance as the specific system requires.

6.3.2 Square bead – Hardwood & Oak veneered MDF

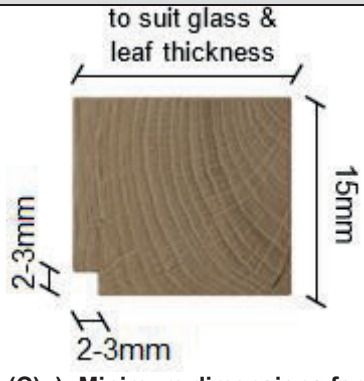
This is permitted for use with glazing systems 1 – 5 for glass types 4 – 8 (see note 1), and glazing systems 1-4 for glass types 9-15, as given in the table in section 6.2.



(A): Minimum dimensions for Flush square beads



(B): Minimum dimensions for square beads with bolection return

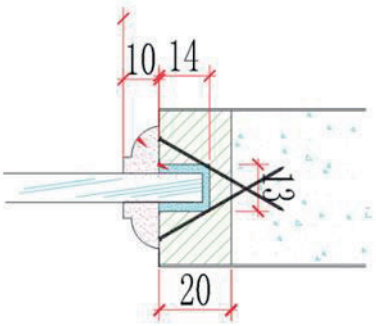


(C):): Minimum dimensions for square beads with quirk (see note 2)

- For hardwood – The glazing beads must be created from hardwood of a minimum 640kg/m^3 density. Timber material must be straight grained joinery quality, free from knots, splits and checks.
- For Oak veneered MDF – The glazing beads must be created from oak veneered MDF of a minimum 700kg/m^3 density.
- Glazing beads must be retained in position with 40mm long steel pins or 40mm long No. 6-8 screws, inserted at 30-35º to the vertical.
- Fixings must be at 150mm maximum centres and no more than 50mm from each corner. Pneumatically fired pins are acceptable providing the pins meet the specification given in section 6.3.3 below.
- A 6 – 10mm thick square aperture liner is permitted for use with square beads providing it is constructed from hardwood of minimum density 640kg/m^3 and glued in position using a UF, PVA or PU type adhesive.
- The fitting of the glazing seal between the bead and the glass should generally be in accordance with the manufacturer's instructions with a tight fit present between the substrates.
- Glass should be aligned within the aperture using hardwood or non-combustible setting block placed at the bottom horizontal edge only, sized to provide edge cover and 2-3mm expansion allowance as the specific system requires.

Note:

1. Square beads are permitted utilising glazing system 5 and glass types 4-8 in section 6.2, based on fire test WF408837, summarised in section 3 of this report.
2. 2 x 2mm maximum quirk for MDF square beads or a 3 x 3mm maximum quirk for hardwood square beads, is permitted at the junction with the leaf.
3. MDF profiled quadrant beads may be applied to the surface of square hardwood beads, as tested, and illustrated in the drawing below.



6.3.3 Glazing pins for glazing within leaf

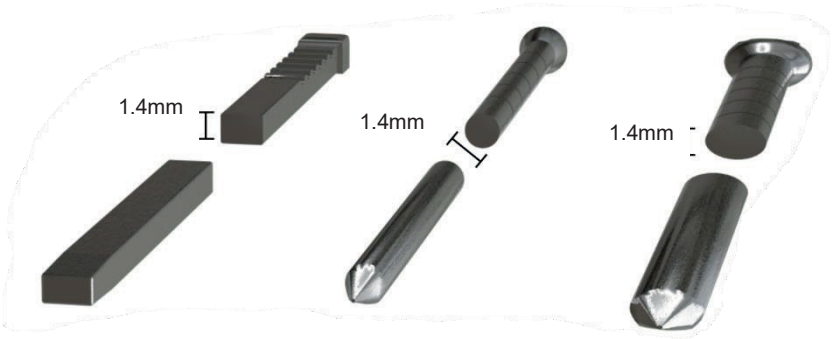
6.3.3.1 Glass types 1 to 7 in section 6.2

Based on fire test WF408837, summarised in section 3 of this report, the following pin specification is permitted and has been considered suitable for applications requiring a pin fixing to glazing beads for glass types 1-7 in section 6.2:

Option 1 – Round, Oval & Rectangular Pins

The following dimension of pin has been approved for round, oval and rectangular shaped pins which are hand applied:

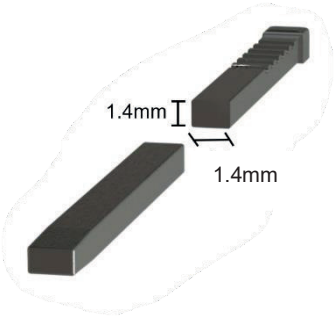
- Minimum Standard Wire Gauge (SWG) 18.
- Minimum cross section area of 1.96mm^2.
- Minimum linear dimension of 1.4mm in any direction, see figure below.



Option 2 – Gun (Pneumatically) Fired Rectangular Pins

The following dimension of rectangular pin has been deemed suitable for gun (pneumatically) fired applications.

- Minimum Standard Wire Gauge (SWG) 18.
- Minimum cross section area of 1.96mm^2.
- Minimum linear dimensions as shown in the figure.



Pins with dimensions less than those stated above are not covered by this assessment.

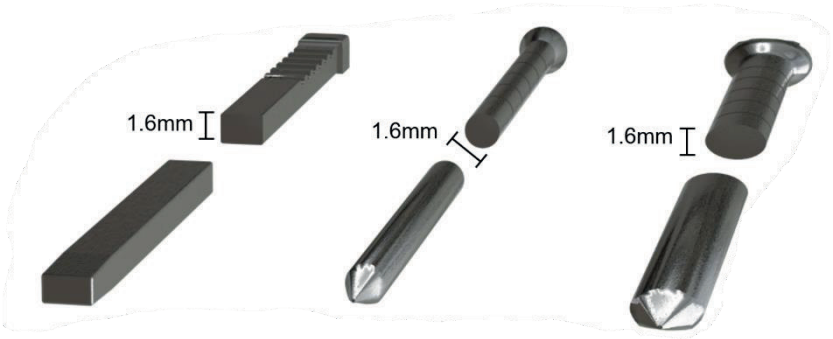
6.3.3.2 Glass types 8 to 15 in section 6.2

Based on the following pin specification is permitted and has been considered suitable for applications requiring a pin fixing to glazing beads for glass types 8-16 in section 6.2:

Option 1 – Round, Oval & Rectangular Pins

The following dimension of pin has been approved for round, oval and rectangular shaped pins which are hand applied:

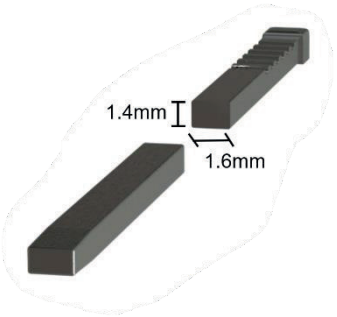
- Minimum Standard Wire Gauge (SWG) 16.
- Minimum cross section area of 2.03mm^2.
- Minimum linear dimension of 1.6mm in any direction, see figure below.



Option 2 – Gun (Pneumatically) Fired Rectangular Pins

The following dimension of rectangular pin has been deemed suitable for gun (pneumatically) fired applications.

- Minimum Standard Wire Gauge (SWG) 16.
- Minimum cross section area of 2.24mm^2.
- Minimum linear dimensions as shown in the figure.



Pins with dimensions less than those stated above are not covered by this assessment.

7 Door frame construction

7.1 Frame specifications

Door frames for this door design must be constructed to meet one of the following specifications:

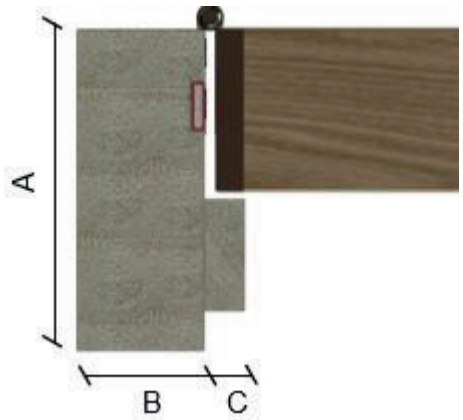
Frame type	Material	Minimum section size (A x B)(mm)	Minimum density (kg/m³)
1	Deanta oak veneered engineered softwood lamels, as tested, faced with 3mm MDF to the inner face and 3mm plywood to the outer face.	108 (d) x 42 (w) overall, including a 12 (d) x 45 (w), oak veneered integral stop (see note 3).	Lamels: 430 (see note 1) MDF: 700
2	Deanta primed MDF (see note 4)	100 deep x 42 thick overall, including a 12 (d) x 45 (w), oak veneered integral stop (see note 3).	700
3	Softwood or hardwood	70 (d) x 32 (w), excluding the stop (see note 3)	510
4	Hardwood	70 (d) x 30 (w), excluding the stop (see note 3)	640

Note:

1. As tested in WF424965 and separately audited by Q-Mark.
2. Timber used for constructing door frames must meet or exceed class J30 as specified in BS EN 942: 2007, providing any defects are adequately repaired.
3. A 12mm deep planted or integral stop is adequate for single acting 30 minute door frames.
4. Integral stops may be created either with a 12mm deep x 44 - 46mm wide rebate into a 42mm thick engineered or MDF frame (Frame type 1 and 2 above), as tested, or a 12mm deep x 44 - 46mm wide rebate into a 44 mm thick solid timber frame (Frame type 3. above).
5. MDF frames are not assessed for use with overpanels.

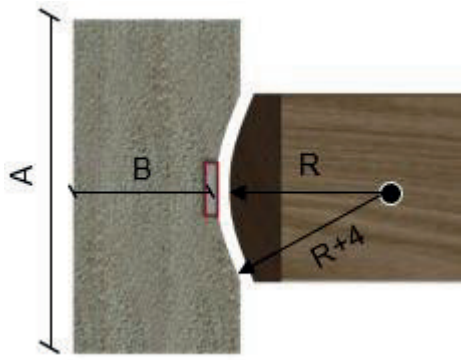
Frame joints must be one of those depicted in section 7.2. Joints require mechanical fixing with the appropriate size ring shank nails or screws.

The following diagram depicts the assessed frame profiles and minimum dimensions.



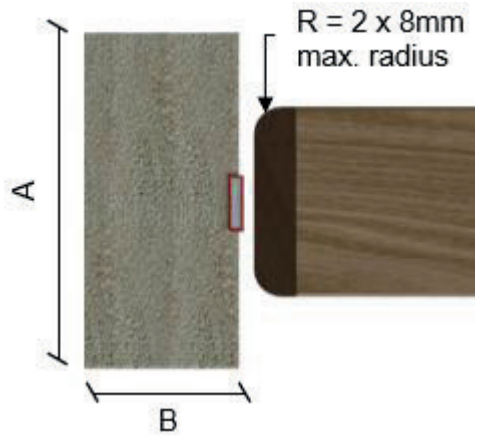
(A): Standard frame detail

A = Frame depth (d) = as specified in the table above.
B= Frame width (w) = as specified in the table above.
C: Stop thick = 12mm minimum



(B): Scalloped frame detail

A = Frame depth (d) = as specified in the table above.
B= Frame width (w) = as specified in the table above.
R = Radius from floor spring or pivot = 50mm.



(C): Square frame detail – only permitted at the CLOSING EDGE

A = Frame depth (d) = as specified in the table above.
B= Frame width (w) = as specified in the table above.
R = Radius to corner of leaf = maximum 8mm to create 2mm edge profiling.

7.2 Frame joints

Frame joints may be mortice and tenoned, half lapped or butted and with no gaps. All jointing methods require mechanical fixing with the appropriate size ring shank nails or screws.

The following diagrams illustrate the permitted types of frame joint:

(A): Half Lapped Joint

(B): Butt Joint

(C): Mortice & Tenon Joint

Note:

Drawing is representative of each type of door frame joint; actual construction in terms of intumescent seal location and material, etc. must be as the text within this document specifies.

8 Overpanels & Fanlights

8.1 Solid overpanels – with transom

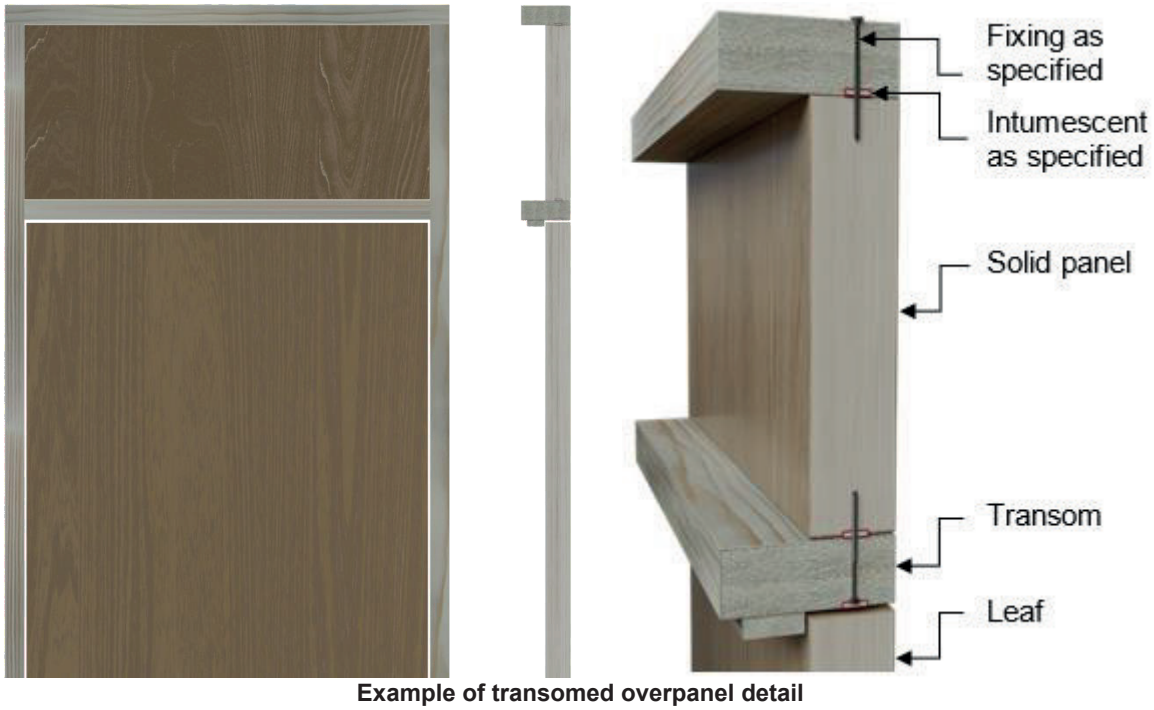
This doorset design can include a transomed overpanel where the overpanel is fully contained within the door frame and the transom.

The following requirements must be complied with:

- The overpanel must be to the same specification as the door leaf. (see diagram below).
- The transom which separates the leaf head from the overpanel must be to the same specification as the door frame construction (see section 7.1).
- Transom joints must utilise one of the following methods: mortice and tenon joints or butt joints (see section 7.2). Either method requires joints to be tight, with no gaps, and require mechanical fixing with the appropriate size ring shank nails or screws. Butt joints must be additionally bonded with urea formaldehyde or equivalent.
- Overpanels must be fixed to the frame and transom by screwing through the rear of the frame with steel screws passing at least 40mm into the centreline of the overpanel. Fixings must be no more than 100mm from each corner and a maximum of 250mm centres in between.
- The jamb intumescent seal specification (per section 4.7) must be fitted in the overpanel edges or frame reveal.

Table below specifies the maximum assessed overpanel dimensions.

Configuration	Maximum overpanel height (mm)	Width (mm)
Single Leaf doorsets	2000	Overall door width
Double Leaf doorsets	1500	Overall door width



Example of transomed overpanel detail

Note:

Drawing is representative of doorset construction only; actual construction must be as the text within this document specifies.

8.2 Glazed fanlight – with transom

This doorset design can include a glazed fanlight where the glazing is fully contained within the door frame and the transom.

The following requirements must be complied with:

- The timber frame and glazing beads must be hardwood with a minimum density of 640kg/m³.
- The frame section for the transom must be a minimum of 70mm (d) x 44mm (w).
- Timber door frame and transom construction must comply with the specification in section 7.
- The maximum assessed fanlight dimensions are detailed in the table below, subject to the following restriction:

  The glazing system and glass must be able to demonstrate adequate performance when tested as a window or screen in accordance with BS EN 1634-1, at the pane dimensions to be installed.

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

Note:

1. Drawing is representative of doorset construction only; actual construction must be as the text within this document specifies.
2. Engineered timber and MDF frame doorsets are not assessed for glazed fanlights.

9 Adhesives

The following adhesives must be used in the construction of the doorsets. These may be hand applied or may be applied using an edgebander. With either method it must be ensured that sufficient glue is applied across the entire surface area between the 2No substrates being adhered to guarantee a robust bond. Other manufacturer's guidance should be followed, for either installation application used.

Element	Product/ Material type
Facings	UF Resin
Lippings	PVA assembly glue, water based resin
Inserts	Dingliglue EVA 863
Veneers & foils	PVA/UF Resin

10 Hardware

10.1 General

The following section details the permitted scope and constraints for fitting hardware to the Deanta Type 5 doorset design. The following items of hardware must bear the CE Mark:

- Latches & locks: Test Standard EN 12209
- Single axis hinges: Test Standard EN 1935
- Controlled door closing devices: Test Standard EN 1154
- Electrically powered hold-open devices: Test Standard EN 1155
- Door co-ordinators: Test Standard EN 1158
- Emergency exit hardware: Test Standard EN 179
- Panic exit hardware: Test Standard EN 1125.

The following sections consider what tested and assessed alternative items of essential and non-essential hardware can be used on the doorset range.

Items of hardware have been considered and approved via the following means:

- The component has been successfully tested to BS 476: Part 22: 1987 or BS EN 1634-1 in a suitably similar type of doorset e.g. timber leaf in timber frame
- As a result of an assessment of the appropriateness of the item of hardware, based on test evidence not commissioned by Deanta UK Ltd.
- As a result of the CERTIFIRE approval of the item of hardware
- Based on the generic guidance or CE marking but final approval will be with another approving body.

Each section will consider the named item of hardware and detail if there are any limitations associated with:

- Leaf size
- Configuration
- Intumescent seals
- Intumescent protection
- Frame configuration requirements

No item of hardware should be within 200mm of another item of hardware unless there is test evidence to demonstrate they can be in closer proximity.

Hardware items should generally be fitted in accordance with the manufacturer's instructions. **However, the parameters and requirements of this assessment always take precedence, including specified protection such as hardware gaskets.** Referenced CERTIFIRE approved hardware may be incorporated subject to the design, material and dimensional limitations identified within this assessment report and identified on the relevant CERTIFIRE certificate.

10.2 Essential hardware

The following table details the essential hardware for each assessed door leaf configuration.

The table includes a self-closing device, but for some permanently locked fire doors a closer is not used, providing it is fitted with the appropriate signage.

Configuration	Essential hardware						
	Hinges	Latch	Closer (overhead surface mounted)	Floor spring	Top pivot / Bottom strap	Bolts (Flush or Surface mounted)	Selector (if meeting stiles are rebated)
LSASD	✓	✓	✓				
ULSASD	✓		✓				
DASD				✓	✓		
LSADD	✓	✓	✓			✓	
ULSADD	✓		✓			✓	
DADD				✓	✓		

10.3 Hardware intumescent protection

The intumescent materials used to protect hardware that have been tested and assessed for this doorset design are detailed below.

Note that any one of the product/manufacturer options listed in the table may be used in the specific application noted. However, only one manufacturer should be considered per doorset application.

The door gap perimeter intumescent seal specifications are documented in conjunction with the leaf envelope size limitations in section 4.7.

Item	Location	Product and Manufacturer
Hinges	Underneath both hinge blades for leaves over 2400mm high	1). 1mm Interdens (Dufaylite Developments Ltd)
		2). 1mm MAP paper (Lorient Polyproducts Ltd)
		3). 1mm Pyrostrip 300 (Mann McGowan Ltd)
		4). 1mm Therm-A-Strip (Intumescent Seals Ltd)
		5). 1mm Flexifire graphite
		6). Lorient acrylic intumescent sealant (Lorient Polyproducts Ltd)
Lock & latches	Under forend & keeps larger than 150mm high	1). 1mm Interdens (Dufaylite Developments Ltd)
		2). 1mm MAP paper (Lorient Polyproducts Ltd)
		3). 1mm Pyrostrip 300 (Mann McGowan Ltd)
		4). 1mm Therm-A-Strip (Intumescent Seals Ltd)
		5). Lorient acrylic intumescent sealant (Lorient Polyproducts Ltd)
Multipoint locks	Under keeps and encasing latch bodies	1). 1mm Flexifire graphite (applicable to Yale multipoint latch/lock only)
		2). 1mm MAP paper (Lorient Polyproducts Ltd) (applicable to Winkhaus AV2 multipoint latch/lock only)

10.4 Latches & Locks

The different types of locking and latching devices tested and assessed for use on this door design are considered in the following sections.

10.4.1 Single point latches & locks

The following single point latches/locks have been successfully tested with this door design.

Tested single point latches & locks specification			
Product reference & Description	Manufacturer	Dimensions (mm)	Test reference
5 lever stainless steel mortice latch	Deanta Ltd	Forend: 165 high x 27 wide Keep: 80 high x 30wide Case: Not detailed	WF372561
Steel mortice latch	Deanta Ltd	Forend: 165 high x 26 wide Keep: 180 high x 30wide Case: Not detailed	WF372564
DHTB2SSNRA tubular steel mortice latch	Deanta Ltd	Forend: 57 high x 26 wide Keep: 57 high x 26 wide Case: 63 deep x 20 wide	WF372561, WF372564, WF424965
Stainless steel mortice latch	Deanta Ltd	Forend: 155 high x 22 wide Keep: 125 x 24 Case: not detailed	WF380236
Tubular steel mortice latch	Smith & Locke	Forend: 60 high x 25 wide Keep: 65 high x 25 wide Case: 75 deep x 22 high x 15 wide	WF408837

These items are permitted for use within the following scope:

- Door configuration: LSASD, LSADD
- Intumescent protection: see section 10.3

10.4.1.1 Alternative single point latches & locks

Latches and locks must either be as tested, or alternatively latches/locks which meet the specifications given in the table below are acceptable, providing they have been tested to BSEN 1634: Part 1 in a 44mm thick solid timber doorset and achieved a minimum of 30 minutes integrity performance.

Element	Specification
Maximum forend and strike plate dimensions	180mm (h) x 35mm (w) x 4mm (t)
Maximum body dimensions	225mm (h) x 100mm (w) x 18mm (t)

Intumescent protection	See section 10.3 Note: must include 2No intumescent strip at the meeting edge of double leaf doorsets, fitted 5mm either side of the centreline, in the leaf edge containing the latch/lock. See intumescent (type / make) for latched double door configuration in section 4.7.
Materials	All parts essential to the locking/latching action (including the latch bolt, forend and strike) to be steel or brass (with a melting point ≥ 800°C)
Location	Between 850 – 1200mm from the threshold to the spindle.

Alternatively a Certifire approved latch/lock having equal or smaller dimensions and the same material to that tested, approved for 30 minutes in an ITT doorset (i.e. a doorset incorporating Intumescent, Timber leaf and Timber frame) is acceptable providing all the requirements for intumescent and frame are complied with.

10.4.2 Multi point latches & locks

The following multi point latches/locks have been successfully tested with this door design:

Tested multi point latches & locks specification			
Product reference & Description	Manufacturer /Supplier	Dimensions (mm)	Test reference
Yale Lockmaster multi point latch	Yale	Forend: 1765 high x 20 wide Centre keep: 210 high x 20 wide Top & Bottom keep: 200 high x 35wide Centre case: 200 high x 60 deep x 14 wide Top & Bottom case: 120 high x 40 deep x 14 wide	WF416389
Winkhaus AV2-F 2070/55 92/8 M2 (Silver), code: R/H 2559895, L/H 2559908 multipoint lock with Armorplate security plate: code: 5077418	Winkhaus	Forend: 1770 high x 20 wide x 3 thick Centre keep: 252 high x 24 wide x 21 deep Top & Bottom keep: 159 high x 24 wide x 28 deep Lock case: 185 high x 73 wide x 16 thick Armorplate: 1 thick steel security plate:	WF503023A

Based on fire test WF503023A the following key/turn cylinder is assessed for use in combination with the above locks:

Ningbo Sancta Hardware Pro-Tek Nickel Key/Turn 3* cylinder 37/37: 35 diameter x 70 long fixed with 1No. M5 x 65 long supplied screw.

These items are permitted for use within the following scope:

- Door configuration: LSASD
- Intumescent protection: as tested

  For Winkhaus multipoint lock – 0.8 graphite intumescent (Winkhaus AV2/AV3 lock kit pack, code: 5084041), as tested

  For Yale lockmaster multipoint latch – see section 10.3

10.4.2.1 Alternative multi point latches & locks

NOT PERMITTED

10.5 Hinges

10.5.1 Butt hinges

The following butt hinges have been successfully tested with this door design,

Tested butt hinge specification			
Product reference & Description	Manufacturer /Supplier	Dimensions (mm)	Test reference
Deanta steel Hi load lift-off hinge	Deanta Ltd	Blade: 100 high x 37 wide	WF372561
Deanta stainless steel butt hinge	Deanta Ltd	Blade: 101 high x 32 wide	WF372561, WF372564
Deanta stainless steel butt hinge	Deanta Ltd	Blade: 101 high x 28 wide	WF372564
Deanta stainless steel radius hinge	Deanta Ltd	Blade: 102 high x 76 wide x 3 thick	WF416389
Deanta Metal Iron butt hinges	Deanta Ltd	Blade: 100 high x 35 wide	Assessed based on size and materials
ZOO Hardware stainless steel bearing butt hinges	ZOO Hardware	Blade: 100 high x 30 wide	WF389652
HR102763	Deanta Ltd	Blade: 102 high x 76 wide x 3 thick	WF503023A, WF424965
Smith & Locke Eclipse SKU9237K EN 1935 Grade 13	Smith & Locke	Blade: 102 high x 30 wide x 3 thick	WF408837

These items are permitted for use within the following scope:

- Door configuration: LSASD, ULSASD, LSADD, ULSADD
- Intumescent protection: see section 10.3
- Leaves less than 2400mm high must be hung on a minimum of 3No hinges. Leaves greater or equal 2400mm high must be hung on 4No hinges. Leaves less than 1200mm high can be hung on a minimum of 2No hinges located 150mm from the top and bottom of the door leaf (top hinge location is measured from the top of the hinge blade to the top of the door leaf and bottom hinge location is measured from the bottom of the hinge blade to the bottom of the door leaf).

10.5.1.1 Alternative butt hinges

Butt hinges must either be as tested, or alternatively butt hinges which meet the following specifications are acceptable, providing they have been tested to BSEN 1634: Part 1 in a 44mm thick solid timber doorset and achieved a minimum of 30 minutes integrity performance.

Element	Specification		
Blade height:	90 – 110mm		
Blade width (excluding knuckle):	30 – 37mm		
Blade thickness	2.5 – 4mm		
Fixings:	Minimum of 4No 30mm long No. 8 or No.10 steel wood screws per blade		
Materials:	Steel or stainless steel		
Hinge position:	Required:	Top	120 –200mm from the leaf head to top of hinge
		Bottom	150 – 300mm from the foot of leaf to bottom of hinge
		Remainder	Equispaced between top & bottom hinges
	If 4No hinges are required:	Top	120 – 200mm from the leaf head to top of hinge
		2nd & 3rd	Equispaced between top and bottom hinges, or 2nd hinge 200mm from top hinge and 3rd hinge equally spaced between 2nd and bottom hinges
		Bottom	150 – 300mm from the foot of leaf to bottom of hinge
Intumescent protection:	See section 10.3		

Alternatively a Certifire approved butt hinge having equal or smaller dimensions and the same material to that tested, which is approved for 30 minutes in an ITT doorset (i.e. a doorset incorporating Intumescent, Timber leaf and Timber frame) is acceptable providing all the requirements for intumescent and frame are complied with.

10.5.2 Concealed hinges

This item is NOT PERMITTED for use on this door design.

10.6 Automatic closing

Automatic closing can be provided by:

- Overhead surface mounted closer

10.6.1 Overhead surface mounted closers

The following overhead surface mounted closers have been successfully tested with this door design,

Tested overhead surface mounted closer specification			
Product reference & Description	Manufacturer /Supplier	Dimensions (mm)	Test reference
DH series overhead closer	Deanta Ltd	Body: 235 wide x 60 high	WF372561
DH series overhead closer	Deanta Ltd	Body: 245 wide x 45 high	WF372564
DH series single chain jamb mounted closer	Deanta Ltd	Forend: 58 x 27 Body: Ø22 x 150	WF372561
DH series single chain jamb mounted closer	Deanta Ltd	Forend: 48 x 25 Body: Ø22 x 150	WF372564
DRC005 closer	Deanta Ltd	Body: 220 wide x 55 high x 42 thick	WF416389, WF424965
Briton 2003 overhead closer	Briton	Body: 250 wide x 45 high	WF389652
TS3204 overhead type closer	Rutland	Footprint: 220 wide x 60 high	Assessed based on size and materials
LHH608	OUDE	Body: 223 wide x 79 high x 38.5 thick	WF503023A
Smith & Locke Eclipse 73 series 28730	Smith & Locke	Footprint: 180 wide x 43 high	WF408837

These items are permitted for use within the following scope:

- Door configuration: LSASD, ULSASD, LSADD, ULSADD
- Intumescent protection: none required

10.6.1.1 Alternative overhead surface mounted closers

Alternatively a Certifire approved overhead surface mounted closer which is approved for 30 minutes in an ITT doorset (i.e. a doorset incorporating Intumescent, Timber leaf and Timber frame) is acceptable providing all the requirements for intumescent and frame are complied with.

10.7 Handles & operating furniture

The following handles and operating furniture have been successfully tested with this door design.

Tested handle/operating furniture specification			
Product reference & Description	Manufacturer /Supplier	Dimensions (mm)	Test reference
DHAGHNDMCP Deanta Veritas, zinc lever handle.	Deanta UK Ltd	Footprint: Ø50 rose.	WF424965
Aluminium lever handle	-	Footprint: 103 x 42	WF372561, WF372561

Winkhaus Palladio quick-fit Lever handle, code: 4978005	Winkhaus	Face plate: 260 x 35 Handle: 124mm	WF503023A
Yale lever type handle	Yale	Face plate: 245 x 35	WF416389
SKU1224H Uno lever handle	Smith & Locke	Footprint: Ø50 rose.	WF408837

These items are permitted for use within the following scope:

- Door configuration: all permitted single action configurations
- Intumescent protection: none required

10.7.1 Pull handles

Pull handles may be surface-fixed or bolted through the door leaf, providing the following specifications are complied with:

- The handles must be made from brass, steel or stainless steel (melting point ≥ 800°C).
- The length is limited to 1200mm between the fixing points.
- If handle is bolted through the door leaf, there must be no more than 1mm clearance between the hole and stud.

10.7.2 Push plates & Kick plates

Push plates and kick plates may be surface-fixed onto both side of the door leaf, providing the following specifications are complied with:

- The plates must be made from steel or stainless steel (melting point ≥ 800°C).
- The plates must not cover more than 20% surface area of the door leaf if mechanically fixed, or more than 30% surface area if bonded with a contact or other thermally softening adhesive.
- The plates must not return around the door edges.

10.8 Security viewers

The following security viewers have been successfully tested with this door design

Tested security viewer specification			
Product reference & Description	Manufacturer /Supplier	Dimensions (mm)	Test reference
Smith and Locke eye viewer	Smith and Locke	Footprint: Ø26	WF416389
ZAB30	Zoo Hardware	Body: Ø14 x 44 long	WF503023A

These items are permitted for use within the following scope:

- Door configuration: LSASD, ULSASD, LSADD, ULSADD
- Intumescent protection: the specified items above were tested without intumescent protection

10.8.1 Alternative security viewers

Alternative security viewers may be fitted to the door leaf, providing the following specifications are complied with:

- The security viewer must be of brass or steel body and glass lenses.
- Body diameter must be less than or equal to 15mm.

- Must be a tight fit through the hole in the leaf (a maximum hole tolerance of +1mm is allowed).
- The security viewer must be protected with a tested acrylic intumescent mastic or a 1mm thick graphite intumescent sheet.
- Must be no closer than 100mm to leaf edge or any hardware.

10.9 Panic hardware

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

10.10 Environmental seals

Silicon based flame retardant acoustic, weather and dust seals (e.g. Lorient IS1212, IS1511, IS7025, IS7060 or Sealed Tight Solutions Ltd. ST1009) may be fitted to this door design without compromising the performance, providing their fitting does not interfere with the activation of the intumescent seals or hinder the self-closing function of the leaves.

Based on test WF503023A the Sealmaster Delta seal is permitted for this design.

10.11 Threshold drop seals

Providing the tested fitting requirements for each manufacturer are complied with, the following types of automatic threshold drop seals may be recessed into the bottom of leaves to this design without compromising the performance.

Drop down seal	Manufacturer	Test reference
IS8010si	Lorient Polyproducts Ltd.	tbc
RP8Si	Raven Products Ltd.	tbc
Schall-Ex Duo L-15	Athmer HG	tbc
NOR810, NOR810S, NOR810dB+	Norsound Ltd.	tbc
LAS8001Si	Lorient Polyproducts Ltd.	WF503023A

10.12 Letter boxes & Plates

The following letter boxes and plates have been successfully tested with this door design

Tested security viewer specification			
Product reference & Description	Manufacturer /Supplier	Dimensions (mm)	Test reference
TS008-External-Silver-FD30 and TS008-Internal-Silver (see note below)	Soterian	Body: 115 high x 300 wide x 35 projection	WF503023A

These items are permitted for use within the following scope:

- Door configuration: LSASD, ULSASD, LSADD, ULSADD
- Intumescent protection: supplied fitted to letter plate

Note:

This item can only be installed on doorsets orientated such that the leaf/leaves open towards the fire risk side of the building or compartment.

10.12.1 Alternative Letter boxes & Plates

Alternative letter boxes/plates may be fitted providing the product has demonstrated contribution to the required integrity performance of this type of door design, when tested to BS EN 1634-1, when installed in a timber based doorset of comparable thickness.

The following fitting requirements must be complied with:

- Letter box/plate may be fitted up to 1200mm from floor level, and no closer than 100mm to any leaf edge.
- Direction of fire risk must be as tested unless the product can demonstrate successful testing in both directions with respect to the fire.

11 Installation

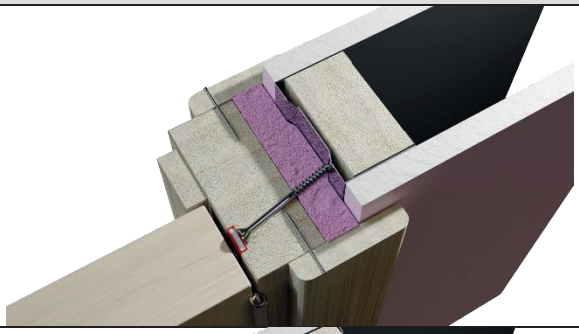
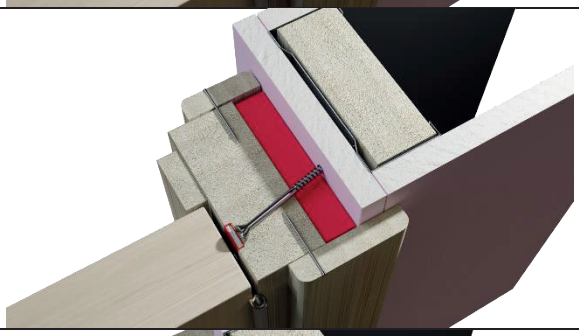
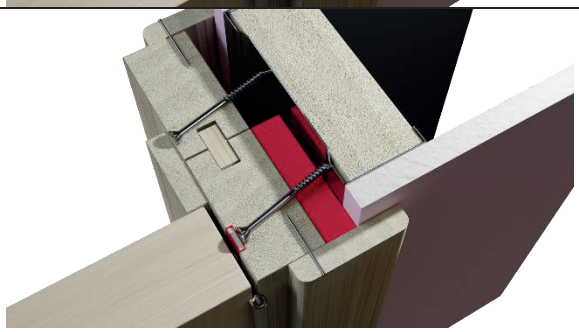
11.1 General

This section considers the installation of direct types of frames and doorset.

- the door frame and architrave installation position relative to the wall.
- the fire stopping between the frame and the wall.
- the fixing requirement including packers.
- the requirements for door edge gaps.
- the trimming of door edges.

11.2 Door frame installation

The following figures indicate the acceptable door frame installations. Please note that the firestopping element is provided in the below 3D models as a generic red coloured seal. For further clarification of the approved firestopping systems see section 11.3.

Permitted Installations	
	Instances where the door frame and the wall of the same depth such that architraves are fitted flush to both faces. Note that the minimum door frame section size (width and depth) must be as per the requirements noted in this report – see door frame section. Architraves requirements are documented in the firestopping section of this report.
	Instances where the wall thickness is greater than the door frame depth. In this scenario timber architraves of minimum 15mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap, other than when the architrave abuts the wall.
	Split frames are permitted providing that both frame sections are secured to the wall in accordance with section 11.5. Furthermore, the main frame section (from which the door is hung) must be constructed to at least the minimum door frame section size (width and depth) as per the requirements noted in this report – see door frame section. The extension piece must be constructed using the same timber species as the main frame section.

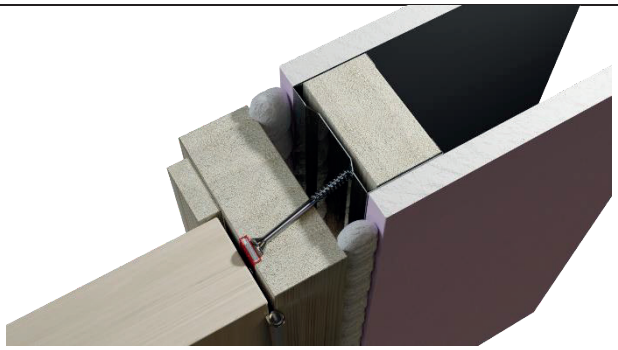
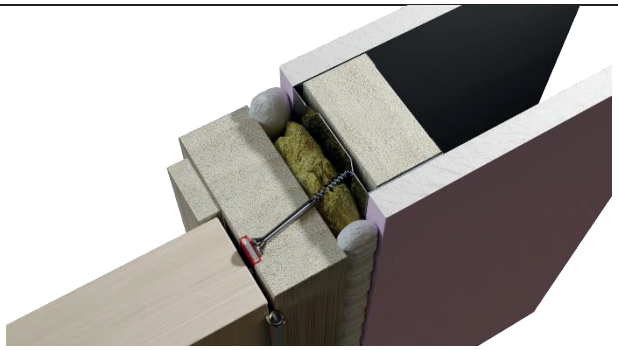
Note:

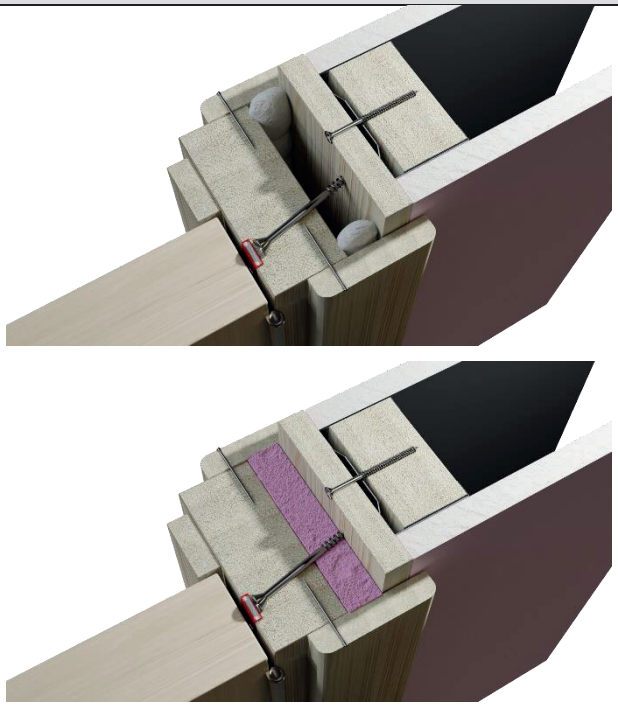
The drawings are provided as a generalised illustration of the door frame installation only; actual installation must be as per the text within this document specifies.

11.3 Fire stopping

The firestopping requirements between the back of frame and wall are dependent on the gap size between the substrates. The table below provides the requirements based upon the

gaps size. Please note that in the 3D depictions noted below show the application where a door frame is of the same depth as the overall wall thickness.

Gap (mm)	Requirement	3D model depiction
0 – 2	In practice, unlikely to occur, but if present, must be sealed with architraves, as below, fitted over a bead of acrylic intumescent sealant, tested as below.	N/A
3 – 10	Gap must be sealed on both sides with a 10mm depth of acrylic intumescent mastic, fire tested for this application to BS EN 1634-1. Timber architraves of a minimum 15mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	
10 – 20	(A): Gap must be tightly packed with mineral fibre capped on both sides with a 10mm depth of acrylic intumescent mastic, fire tested for this application to BS EN 1634-1 Timber architraves is optional or (B): full depth expanding PU foam, fire tested for this application to BS EN 1634-1. Timber architraves of a minimum 15mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	 (A)  (B)

Gap (mm)	Requirement	3D model depiction
Over 20	This would be considered a poor preparation of the structural opening. A timber based or non-combustible subframe up to 50mm thick can be inserted and fixed to the wall bedded on intumescent mastic and the gap between subframe and frame filled as follows: Gaps 5 to 10mm filled on both sides with 10mm depth of acrylic intumescent mastic or full depth expanding PU foam, fire tested for this application to BS EN 1634-1. Timber architraves of a minimum 15mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	

Note:

Guidance for methods of sealing the frame to structural opening gap is also given in BS 8214: 2016, *"Timber-based fire door assemblies. Code of practice"* which may be referred to and implemented where appropriate.

11.4 Packers

Packers can be timber of equal density to the frame or plywood or plastic packers if fire tested for this application to BS EN 1634-1.

11.5 Wall types, structural opening & fixity

For walls that remain rigid during fire exposure (brickwork or blockwork, timber stud for example) the opening should be square, plumb and provide a flat surface for installation of the doorset.

For flexible wall types such as steel stud partitions the structural opening must be prepared in line with the test evidence provided by the wall manufacturer.

The supporting construction must provide at least the required level of fire resistance designated for the doorset design and be a suitable medium to permit adequate fixity.

It must therefore be capable of staying in place and intact for a minimum of 30 minutes. For single leaf doorset without sidepanels, the frame jambs only are to be fixed to the supporting construction using steel fixings at 600mm maximum centres and maximum of 150mm from corner. The fixings must be of the appropriate type for the supporting construction and must penetrate to a minimum depth of 50mm. It is not necessary to fix the frame head, although packers must be inserted.

For all other configurations of doorset, the upper horizontal framing section abutting the structural opening must also be secured to the wall using steel fixings at 600mm maximum centres and maximum of 150mm from corner. The fixings must be of the appropriate type for the supporting construction and must penetrate to a minimum depth of 50mm.

In all instances the fixing position must be such that it provides adequate restraint to the element of construction throughout the exposure to fire. This may therefore sometimes necessitate a twin line of fixings.

11.6 Post production (onsite) leaf size adjustment

Door leaves may be altered as follows as follows:

Element	Reduction
Leaf	The manufactured dimensions of the leaf may not be reduced in height or width.
Timber lippings	The manufactured lipping thickness, as stated in section 5.1, may be reduced by 1mm for fitting purposes but cannot go below the 3mm minimum.

11.7 Door gaps

Door gaps and alignment tolerances must fall within the following range:

Location	Dimension
Door edge gaps	A minimum of 2mm and a maximum of 4mm
Alignment tolerances	Leaves must not be proud of each other or from the door frame by more than 1mm.
Threshold	10mm between bottom of leaf and top of floor covering. This is the maximum tolerance for *fire resistance only*. Where smoke control is required refer to section 13

12 Insulation performance

Insulation performance may be claimed for a doorset to this design meeting the following:

Type		Details
Partially insulating		Doorsets incorporating up to 20% of non-insulating glazing.
Fully insulating	Timber frames	Unglazed doorsets or doorsets including 30-minute insulating glazing (e.g. 15mm Pyrostop or 16mm Pyrobel).

13 Conclusion

If the Deanta UK Ltd Type 5 doorset designs, constructed as specified in this report, were to be tested in accordance with BS EN 1634-1:2014 +A1:2018, it is our opinion that they would provide a minimum of 30 minutes fire resistance integrity and insulation (subject to section 12).

14 Declaration by the Applicant

1) We the undersigned confirm that we have read and comply with obligations placed on us by the Passive Fire Protection Forum (PFPF) Guide to undertaking technical assessments and engineering evaluations based on fire test evidence 2021 Industry Standard Procedure

2) We confirm that any changes to a component or element of structure which are the subject of this assessment have not to our knowledge been tested to the standard against which this assessment has been made.

3) 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.

4) 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.

5) 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.

(in accordance with the principles of FTSG Resolution No. 82: 2001)

Signed: 

Name: Michael Rooney

Position: Technical Manager

Date: 07/03/2022

For and on behalf of: Deanta UK Ltd

15 Limitations

The following limitations apply to this assessment:

1) This field of application addresses itself solely to the elements and subjects discussed and do not cover any other criteria. All other details not specifically referred to should remain as tested or assessed.

2) This field of application report is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available to Warringtonfire, 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.

3) This field of application has been carried out in accordance with Fire Test Study Group Resolution No. 82: 2001.

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

5) This field of application relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions. It does not purport to be a complete specification ensuring fitness for purpose and long-term serviceability. It is the responsibility of the client to ensure that the element conforms to recognised good practice in all other respects and that, with the incorporation of the guidance given in this field of application, the element is suitable for its intended purpose.

6) This field of application report represents our opinion as to the performance likely to be demonstrated on a test in accordance with BSEN 1634: 2014 +A1: 2018, on the basis of the test evidence referred to in this report. We express no opinion as to whether that evidence, and/or this field of application would be regarded by any Building Control authorities or any other third parties as sufficient for that or any other purpose.

7) This report may only be reproduced in full. Extracts or abridgements of reports shall not be published without permission of Warringtonfire. All work and services carried out by Warringtonfire Testing and Certification Limited are subject to, and conducted in accordance with, the Standard Terms and Conditions of Warringtonfire Testing and Certification Limited, which are available at https://www.element.com/terms/terms-and-conditions or upon request.

8) The version/revision stated on the front of this field of application supersedes all previous versions/revisions and must be used to manufacture doorsets from the stated validity date on this front cover. Previous revisions of the Field of Application cannot be used once an updated Field of Application has been issued under a new revision.

16 Validity

1) This field of application report is initially valid until 31st August 2023, after which time it must be submitted to Warringtonfire for technical review and revalidation.
2) The report is not valid unless it incorporates the declaration given in Section 14 duly signed by the applicant.

Signature:		
Name:	***B Freeman**	***S Bailey**
Title:	Trainee Product Assessor	Senior Product Assessor

* For and on behalf of Warringtonfire

17 Appendix A – Summary of Performance data

17.1 Primary Data

Report No.	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)
WF372561 (Type 5 construction)	A: ULSASD (Augusta, glazed)	2400 950 44	BS EN 1634-1: 2014 & BS EN 1363-1: 2012	Integrity: 40 Insulation:40
	B: ULSASD (Galway, glazed)	2400 950 44		Integrity: 40 Insulation:40
WF372564 (Type 5 construction)	A: ULSASD (Augusta)	2400 1100 44	BS EN 1634-1: 2014 & BS EN 1363-1: 2012	Integrity: 40 Insulation:40
	B: ULSASD (Galway)	2400 1100 44		Integrity: 33 Insulation:33
WF380236 (Type 5 construction)	ULSADD (Flush)	2400 1000/500 44	BS EN 1634-1: 2014 & BS EN 1363-1: 2012	Integrity: 32 Insulation:32
WF408837 (Type 5 construction)	ULSADD (Flush)	2400 1000/500 44	BS EN 1634-1: 2014 & BS EN 1363-1: 2012	Integrity: 35 Insulation:35
WF416389 (Type 5 construction)	LSASD (Flush)	2400 927 44	BS EN 1634-1: 2014 & BS EN 1363-1: 2012	Integrity: 39 Insulation:39
WF424965 (Type 5 construction)	A: ULSASD (Flush)	2040 864 44	BS EN 1634-1: 2014 + & BS EN 1363-1: 2012	Integrity: 33 Insulation:33
WF503023A (Type 5 construction)	LSASD	2040 926 44	BS EN 1634-1: 2014 + & BS EN 1363-1: 2012	Integrity: 36 Insulation:36

17.2 Secondary Data

Report No.	Configuration	Leaf Size (mm)	Test Standard	Performance (mins)
WF372566 (Type 1 construction to support Deanta mortice latches)	A: ULSASD Coventry, glazed)	2400 9530 44	BS EN 1634-1: 2014 & BS EN 1363-1: 2012	Integrity: 40 Insulation:40
	B: ULSASD (Bury, glazed)	2400 950 44		Integrity: 32 Insulation:32
WF389652 (Type 1 construction to support Zoo s/s bearing butt hinges)	A: LSASD Cambridge, glazed)	2400 950 44	BS EN 1634-1: 2014 & BS EN 1363-1: 2012	Integrity: 39 Insulation:39

18 Appendix B – Revision & Amendment table

Revision	Warringtonfire Reference	Date	Description
A	WF429051	28.09.2020	Revision to include rebranding to Warringtonfire, reformatting to the guidance in BS EN15725 and rewriting in terms of performance to BS EN1634-1. Additional new test data added to allow an increase in scope for hardware and for larger glazed areas.
B	WF510551	11.01.2022	Revision of report to include additional scope for SBD dual scope purposes. <u>Summary of revisions:</u> A. Addition of test report WF503023A to support: 1. Winkhaus AV2-F 2070/55 92/8 M2 (Silver), code: R/H 2559895, L/H 2559908 multipoint lock. 2. TS008-External-Silver-FD30 and TS008-Internal-Silver letter plate with fire risk from opening face only. 3. LAS8001Si drop seal. 4. ZAB30 eye viewer. 5. Winkhaus Palladio quick-fit Lever handle, code: 4978005. 6. LHH608 closer. 7. Therm-A-Seal & Therm-A-Blade door edge intumescent strips. B. Change of report layout to new Warringtonfire format.