High Wycombe Office:
Chiltern House, Stocking Lane,
High Wycombe,
HP14 4ND,
United Kingdom
T: +44 (0)1494 569750
W: www.warringtonfire.com

Title

Supplementary Field of Application for:

The use of Datim Ltd firestopping products to protect the rear of doorframes of proven timber based firedoors.

For 30 & 60 minutes Fire Resistance

Report No.:

WF534960

Issue Date:

5th February 2024

Valid Until:

5th February 2029

Prepared for:

Datim Ltd.
Foxwood Industrial Estate
Foxwood Road
Chesterfield
S41 9RN
United Kingdom

The version/revision stated on the front of this supplementary 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 supplementary Field of Application cannot be used once an updated supplementary Field of Application has been issued under a new revision.

Contents

Page No.

1. Foreword

This Supplementary Field of Application (FoA) report has been commissioned by Datim Ltd and relates to the application of fire stopping products installed to protect the rear of door frames of proven 30 and 60 minute, timber based, 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 Supplementary Field of Application (scope) uses established empirical methods of extrapolation and experience of fire testing similar doorsets, including firestopping methods applied to the rear of doorframes, 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 BS 476 Part22: 1987.

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

This Supplementary 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 scope of application and is summarised in section 3.

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 Supplementary 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.

The drawings provided in this report are for guidance and illustrative purposes only. Please note that the written scope of application takes precedence.

This supplementary assessment has been specifically written to consider the use of fire stopping products and methods installed behind the frame of timber-based fire resisting doorsets, outside of third-party certification schemes for the manufacture of fire resisting doorsets.

2. Proposal

It is proposed to consider the fire resistance performance of proven timber based doorsets installed utilising Datim Ltd 6523.310/600 intumescent mastic and 6531G.750 foam, as described in the technical specification in section 4 of this report for 30 and 60 minutes integrity performance, if the doorsets were to be tested to the requirements of BS 476 Part 22: 1987, *Methods for determination of the fire resistance of non-loadbearing elements of construction.*

The doorsets fitted with the aforementioned firestopping method are required to provide 30 or 60 minutes integrity performance, in terms of the current fire resistance testing standard for non-loadbearing elements, BS 476: Part 22: 1987.

The supplementary field of application defined in this report is based on the fire resistance test evidence for the doorset designs installed with the aforementioned firestopping method, 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.

In order to install a doorset design using the fire stopping methods described herein, this supplementary field of application has to be used in conjunction with a door manufacturers current and valid primary evidence for the door design that the fire stopping methods are to be fitted to. This supplementary field of application cannot be used to support the fire resistance of a doorset design by itself.

This supplementary field of application only provides information relevant to the fire stopping methods used behind the frame and certain doorset construction requirements that need to be met as a minimum. All other construction details and design limitations must be in accordance with the primary evidence for the doorset design, as appropriate.

Whilst specific items are included within this supplementary field of application report that may be used to provide additional performance characteristics (such as acoustic or smoke control for example), it is beyond the remit of this supplementary field of application report to provide scope for performance characteristics other than fire resistance integrity performance. Any other performance requirement for the door designs contained herein is to be subject to a separate analysis.

2.1 Assumptions

- All densities referred to in this document are based upon an assumed moisture content of 10 - 12%
- It is assumed that unless otherwise documented in this report, doorsets designs intended to be used with this report have been constructed in accordance with their associated test evidence or relevant supporting documentation.
- For components created using solid timber sections referred to in this assessment, it is assumed that, for all timbers, they will be of a quality deemed to meet or exceed class J30 as specified in BS EN 942: 2007, subject to adequate repairs, other than glazing beads which must meet a minimum class J10. Note that areas under intumescent seals/gaskets are not considered to be concealed faces and defects must be repaired.
- Where timber is referred to within this document it is assumed that the timber element is made from a continuous solid piece, unless specifically detailed otherwise.
- All dimensions detailed herein may be varied by ±2% except where minimum, maximum or a range of dimensions are given.

3. Test Data

The test evidence summarised below has been generated to support the fire resistance performance of the firestopping methods that are the subject of this supplementary field of application. The summary details are considered to be the key aspects of the design tested. These test summaries are not intended to be a definitive guide to constructing a doorset. The details for the construction of a doorset must be taken from the relevant sections within the associated supporting documentation for the specified doorset.

Note:

- Dimensions are in mm unless otherwise stated.
- Abbreviations: (h) = height; (w) = width; (t) = thickness; (d) = deep: (l) = long.
- Latches fitted but disengaged for the test, are reported as ‘unlatched’.

The test evidence has been generated across a number of different doorset configurations, including single leaf, double leaf, latched and unlatched doorsets.

Some of the test evidence used in the evaluation is over 5 years old. In accordance with industry guidance, the evidence has been reviewed to consider its suitability. Warringtonfire are satisfied that there have been no significant revisions to the relevant test standards which would render the evidence irrelevant.

The Datim Ltd 6523.310/600 intumescent mastic and 6531G.750 foam products must remain exactly as tested although they may be products rebranded to these references provided the chemical and physical properties are identical to those tested.

3.1 Test Report WF520849

The referenced test report, the essential details of which are summarised below, is supporting data for the use of the 6523.310/600 intumescent mastic in timber door frames for up to 60 minutes integrity performance.

Date of test	14th July 2022	
Identification of test body	Warringtonfire Testing and Certification Ltd. UKAS Notified Body 1762.	
Sponsor	Datim Ltd	
Tested Product	2No Halspan Optima based, latched, single acting, single leaf, timber based flush doorsets. Doorset A installed opening in towards the furnace Doorset B installed opening out, away from the heating conditions	
Summary of test specimen (mm)	**Specimens A & B comprised:** a particleboard core with integral structural facings and 0.8(t) paper decorative facings. All leaf edges were lipped with 9(t) Oak of nominal density 708kg/m^3. **Leaf Sizes:** 2265(h) x 928(w) x 56(t). **Leaf Edge Intumescent Seals**: 1No Norseal 104DF and 1No 154FO graphite-based perimeter intumescent seals were fitted in the frame reveals of the head and jambs. **Door frame**: Beech of nominal density 737kg/m^3 46mm thick with 15 high integral stop and with 18 thick MDF architraves on both faces. An MDF frame extension 151(l) x 18(t) was installed at the head and jambs. **Cill**: 100 (w) x18 (t) Sapele **Hardware – both doorsets:** The doorset was hung on 4No Hoppe AR8182 bearing butt steel hinges; a Rutland ITS.11204 concealed overhead mounted closer with Winkhaus multipoint latch with a 1770mm high forend (engaged at all 3 points for the test), a Norseal dropseal ref: NOR810DB and a Zoo Hardware eye viewer ref: ZAB30MB. **Installation:** Doorset A installed opening in towards the furnace Doorset B installed opening out, away from the heating conditions. Both installed within a plasterboard clad, steel stud partition comprised of 2No 15 (t) boards and double 70 (w) studs, wall thickness total of 201mm. A bead of 6523.310/600 intumescent mastic 10 - 40 deep and 5 - 23mm wide was installed to both faces under the architraves with 6531G.750 foam filling the void between the mastic beads.	
Test Standard	BS 476: Part 22: 1987	
Performance	Specimen A	Specimen B
	Integrity: 65 minutes Insulation: 65 minutes	Integrity: 66 minutes Insulation: 66 minutes

3.2 Test Report WF391843

The referenced test report, the essential details of which are summarised below, is supporting data for the use of the 6523.310/600 intumescent mastic in timber door frames for up to 30 minutes integrity performance.

Date of test	11th November 2017	
Identification of test body	Exova Warringtonfire, now trading as Warringtonfire Testing and Certification Ltd. UKAS Notified Body 1762.	
Sponsor	Details held on file, in confidence at Warringtonfire	
Tested Product	2No Falcon Panel Products Ltd Strebord44 based, latched, single acting, single leaf, timber based glazed doorsets.	
Summary of test specimen (mm)	**Specimens A & B comprised:** a particleboard core with integral facings. All leaf edges were lipped with 6(t) Sapele of nominal density 640kg/m^3. Leaves were glazed, apertures were 784 (h) x 234 (w). **Leaf Size: A:** 2235(h) x 1050(w) x 44(t); **B:** 2140(h) x 916(w) x 44(t). **Leaf Edge Intumescent Seals**: 2No STS STS104FO perimeter intumescent seals were centrally fitted in the frame reveals of the head and jambs. **Door frame**: European Redwood of nominal density 510kg/m^3 29mm wide with 18 thick Redwood architraves on both faces. **Hardware – both doorsets:** The doorset was hung on 3No H101 lift of type steel hinges; an Astra 4000 series jamb mounted closer was fitted at approximately mid height of the door leaf with an ERA Surefire MPL multipoint latch with a 1630mm high forend (engaged at all 3 points for the test). **Installation:** The doorsets were oriented to open in towards the furnace, installed within a plasterboard clad, timber stud partition. A bead of 6523.310/600 intumescent mastic 10-15 deep and 12.5mm wide was installed to both faces leaving a void between the beads.	
Test Standard	BS 476: Part 22: 1987	
Performance	Specimen A	Specimen B
	Integrity: 51 minutes Insulation: 36 minutes	Integrity: 47 minutes Insulation: 39 minutes

3.3 Test Report WF526852

The referenced test report, the essential details of which are summarised below, is supporting data for the use of the 6523.310/600 intumescent mastic in timber door frames for up to 30 minutes integrity performance.

Date of test	12th January 2023	
Identification of test body	Warringtonfire Testing and Certification Ltd. UKAS Notified Body 1762.	
Sponsor	Datim Limited	
Tested Product	2No Vicaima '832713 Primed 2 Go' based, latched, single acting, single leaf, timber based flush doorsets.	
Summary of test specimen (mm)	**Specimens A & B** **Core comprised:** a 40mm thick particleboard core with whitewood stiles and rails and 2mm thick MDF facings. Vertical leaf edges were lipped with 4(t) Meranti of nominal density 550kg/m^3. **Leaf Size:** 2040(h) x 926(w) x 44(t). **Leaf Edge Intumescent Seals**: 2No STS STS104FO perimeter intumescent seals were centrally fitted in the frame reveals of the head and jambs. **Door frame**: Datim Limited engineered timber of nominal density 571.75kg/m^3 ref: RB-1-SBD; 100mm wide x 32mm thick with a 17mm high integral stop and 22mm thick MDF architraves on both faces. **Hardware – both doorsets:** The doorset was hung on 3No Datim lift of type steel hinges; a Rutland UK face mounted closer ref: TS3204, an STS ST422GT dropseal a Winkhaus AV2 multipoint latch with a 1765mm high forend (engaged at all 3 points for the test). **Installation:** Doorset A was oriented to open out, away from the heating conditions, doorset B was oriented to open in towards the furnace, installed within a plasterboard clad, steel 'twin stud' partition of 170mm overall thickness A bead of 6523.310/600 intumescent mastic 10 and 25mm wide was installed to one face under the architraves with 6531G.750 foam filling the void between the mastic beads the full depth of the frame.	
Test Standard	BS 476: Part 22: 1987	
Performance (Test terminated at 41 minutes)	Specimen A	Specimen B
	Integrity: 41 minutes Insulation: 41 minutes	Integrity: 37 minutes Insulation: 37 minutes

3.4 Test Report WF384630 Revision A

The referenced test report, the essential details of which are summarised below, is primary data for the use of the 6523.310/600 intumescent mastic in timber door frames for up to 30 minutes integrity performance.

Date of test	15th June 2017
Identification of test body	Exova Warringtonfire, now trading as Warringtonfire Testing and Certification Ltd. UKAS Notified Body 1762.
Sponsor	Details held on file, in confidence at Warringtonfire
Tested Product	A Strebord 44 based, latched, single acting, double leaf, timber based flush doorset.
Summary of test specimen (mm)	**Specimen A comprised:** a particleboard leaf with integral facings. All leaf edges were lipped with 8(t) Sapele of nominal density 640kg/m^3. **Leaf Size:** 2440 (h) x 1050/400 (w) x 44 (t). **Leaf Edge Intumescent Seals**: 2No STS ST104FO perimeter intumescent seals were centrally fitted in the reveal of the frame head and 2No STS ST1504FO perimeter intumescent seals were centrally fitted in the frame jambs. **Door frame**: Engineered softwood of nominal density 510kg/m^3 32mm wide with 12mm high stop and 18mm thick engineered softwood architrave on exposed face only. **Hardware:** The doorset was hung on 4No H101 lift off steel hinges; a Rutland TS5204 overhead closer was fitted to one leaf with an Arrone AR1500 to the other. A Laidlaw DIN latch with a 235 high forend was fitted and engaged for the test with an electric strike plate. **Installation:** The doorset was oriented to open in towards the furnace, installed within a plasterboard clad, timber stud partition. Tightly packed mineral fibre was capped with a 10 x 10 bead of 6523.310/600 intumescent mastic filling the full depth of the structural opening.
Test Standard	BS 476: Part 22: 1987
Performance	Integrity: 43 minutes Insulation: 43 minutes

3.5 Test Report WF385685

The referenced test report, the essential details of which are summarised below, is primary data for the use of the 6531G.750 foam in timber door frames for up to 30 minutes integrity performance.

Date of test	13th July 2017
Identification of test body	Exova Warringtonfire, now trading as Warringtonfire Testing and Certification Ltd. UKAS Notified Body 1762.
Sponsor	Details held on file, in confidence at Warringtonfire
Tested Product	A Falcon Stredor FD30 based, unlatched, single acting, double leaf, timber based flush doorset.
Summary of test specimen (mm)	**Specimen comprised:** a 3-layer plywood lamel core with 8 thick MDF facings. All leaf edges were lipped with 6(t) Sapele of nominal density 640kg/m^3. **Leaf Size:** 2400 (h) x 950/950 (w) x 44 (t). **Leaf Edge Intumescent Seals**: 2No STS ST104FO perimeter intumescent seals were centrally fitted in the reveal of the frame head and 1No STS ST1504FO perimeter intumescent seal was centrally fitted in the frame jambs. **Door frame**: Engineered softwood of nominal density 510kg/m^3 32mm wide with a 12mm high stop and 15mm thick engineered softwood architraves on both faces. **Hardware:** The doorset was hung on 3No H101 lift off steel hinges; an Arrone AR1500 face fitted closer was installed on both leaves. A Zoo Hardware steel latch with a 235 high forend was fitted, disengaged for the test. **Installation:** The doorset was oriented to open in towards the furnace, installed within a plasterboard clad, steel stud partition. 10mm width 6531G.750 foam was installed filling the full depth of the structural opening. Un- named plastic packers were installed at all frame fixing points, the full width of the frame with no protection applied to the faces of the packers.
Test Standard	BS 476: Part 22: 1987
Performance	Integrity: 40 minutes Insulation: 40 minutes

3.6 Test Report WF396750 AR1 – Doorset B

The referenced test report, the essential details of which are summarised below, is primary data for the use of the 6531G.750 foam in timber door frames for up to 60 minutes integrity performance.

Date of test	28th February 2018
Identification of test body	Exova Warringtonfire, now trading as Warringtonfire Testing and Certification Ltd. UKAS Notified Body 1762.
Sponsor	Details held on file, in confidence at Warringtonfire
Tested Product	A Falcon Panel Products Ltd Strebord60 based, unlatched, single acting, single leaf, timber based flush and glazed doorset.
Summary of test specimen (mm)	**Specimen B comprised:** a particleboard core with integral facings. Vertical leaf edges, only, were lipped with 6(t) Sapele of nominal density 640kg/m^3. Leaf was glazed, aperture was 1142 (h) x 445 (w). **Leaf Size:** 2040 (h) x 929 (w) x 54 (t). **Leaf Edge Intumescent Seals**: 2No STS ST1504 perimeter intumescent seals were centrally fitted in the frame reveals of the head and jambs. **Door frame**: Sapele of nominal density 640kg/m^3 32mm wide with 12mm high stop and 15mm thick MDF architraves on both faces. **Hardware:** The doorset was hung on 3No bearing butt steel hinges; an Arrone AR1500 overhead closer was fitted with a Zoo hardware latch with a 234mm high forend (disengaged for the test). **Installation:** The doorset was oriented to open in towards the furnace, installed within a plasterboard clad, steel stud partition. 6531G.750 foam was installed filling the 15mm wide gap behind the door frame jambs and head for the full width of the gap between architraves. TiMco plastic packers were installed at all frame fixing points, the full width of the frame with no protection applied to the faces of the packers.
Test Standard	BS 476: Part 22: 1987
Performance	Doorset B Integrity: 62 minutes Doorset B Insulation: 32 minutes

3.7 Test Report WF392155

The referenced test report, the essential details of which are summarised below, is primary data for the use of the 6531G.750 foam in timber door frames for up to 60 minutes integrity performance.

Date of test	24th November 2017
Identification of test body	Warringtonfire Testing and Certification Ltd. UKAS Notified Body 1762.
Sponsor	Details held on file, in confidence at Warringtonfire
Tested Product	A Falcon Stredor FD60 based, unlatched, single acting, double leaf, timber based flush doorset.
Summary of test specimen (mm)	**Specimen comprised:** a 3-layer plywood lamel core with 10 thick plywood facings. All leaf edges were lipped with 8(t) Sapele of nominal density 640kg/m³. **Leaf Size:** 2400 (h) x 952/952 (w) x 54 (t). **Leaf Edge Intumescent Seals**: 2No STS ST154FO perimeter intumescent seals were centrally fitted in the reveal of the frame head, jambs and one meeting edge. **Door frame**: Sapele of nominal density 640kg/m³ 32mm wide with 12mm high stop and 18mm thick MDF architrave on both faces. **Hardware:** The doorset was hung on 4No H101 lift off steel hinges; a Rutland Size 3 11352 cam action slide arm overhead closer was installed on both leaves. An Arrone steel latch with a 235 high forend was fitted disengaged for the test. **Installation:** The doorset was oriented to open in towards the furnace, installed within a plasterboard clad, timber stud partition. 7 – 14 mm thick 6531G.750 foam was installed filling the full depth of the structural opening. TiMco plastic packers were installed at all frame fixing points, the full width of the frame with no protection applied to the faces of the packers.
Test Standard	BS 476: Part 22: 1987
Performance	Integrity: 57 minutes* Insulation: 57 minutes

* Initial integrity failure was recorded 300mm up from the threshold on the meeting edges. No further failures were recorded prior to 68 minutes. It is the opinion of Warringtonfire that the initial failure is remote from the installation details herein and is therefore, deemed not to contradict the outcome of this assessment.

3.8 Test Report WF386959 Revision A

The referenced test report, the essential details of which are summarised below, is supporting data for the use of the 6523.310/600 intumescent mastic capping 6531G.750 foam in timber door frames for up to 60 minutes integrity performance.

Date of test	18th August 2017
Identification of test body	Exova Warringtonfire, now trading as Warringtonfire Testing and Certification Ltd. UKAS Notified Body 1762.
Tested Product	A: Falcon Strebord44 based, unlatched, single acting, single leaf, timber based flush doorset. B: Falcon Strebord54 based, latched, single acting, double leaf, timber based flush doorset.
Sponsor	Details held on file, in confidence at Warringtonfire
Summary of test specimens (mm)	**Specimen A comprised:** a single leaf Strebord 44 particleboard core with integral facings. All leaf edges were lipped with 8(t) Sapele of nominal density 640kg/m³. **Leaf Size:** 2438(h) x 950(w) x 44(t). **Leaf Edge Intumescent Seals**: 1No STS STS154FO perimeter intumescent seals were centrally fitted in the frame reveals of the head and jambs. **Door frame**: European Redwood of nominal density 510kg/m³ 31mm wide with 12mm high stop and 15mm thick MDF architraves on both faces. **Hardware:** The doorset was hung on 4No H101 lift of type steel hinges; a Rutland ITS11024 concealed head mounted closer with a Porta DIN sashlock with a 230mm high forend (disengaged for the test) and an Abloy EA280 cable loop in the hanging edge. **Specimen B comprised:** a double leaf Strebord FD60 particleboard core with integral facings, a 10mm diameter hole was drilled horizontally across the full width of the core. All leaf edges were lipped with 8(t) Sapele of nominal density 640kg/m³. **Leaf Size:** 2438(h) x 1050/400(w) x 54(t). **Leaf Edge Intumescent Seals**: 2No STS STS154FO perimeter intumescent seals were centrally fitted in the frame reveals of the head and jambs and one meeting edge. **Door frame**: Sapele of nominal density 640kg/m³ 31mm wide with 12mm high stop and 15mm thick MDF architraves on both faces. **Hardware:** The doorset was hung on 4No H101 lift of type steel hinges; a Rutland TS52014 surface mounted closer with a Winkhaus mortice latch with a 310mm high forend (disengaged for the test) and GEM electric strike and an Abloy EA280 cable loop in the hanging edge. **Installation A & B:** The doorsets were oriented to open in towards the furnace, installed within a plasterboard clad, timber stud partition. A bead of 6523.310/600 intumescent mastic 15 deep and 10mm wide was installed to both faces capping a full depth of 6531G.750 foam. Broadfix plastic packers were installed at all frame fixing points with their faces capped by 6523.310/600 intumescent mastic.

Test Standard	BS 476: Part 22: 1987	
Performance	Specimen A	Specimen B
	Integrity: 32 minutes Insulation: 32 minutes	Integrity: 61 minutes Insulation: 61 minutes

3.9 Test Report WF372245

The referenced test report, the essential details of which are summarised below, is supporting data for the use of the 6531G.750 foam in timber door frames for up to 60 minutes integrity performance.

Date of test	30th September 2016
Identification of test body:	Exova Warringtonfire, now trading as Warringtonfire Testing and Certification Ltd. UKAS Notified Body 1762.
Sponsor:	Details held on file, in confidence at Warringtonfire
Tested Product:	A Falcon Panel Products Ltd Strebord60 based, unlatched, single acting, double leaf, timber based flush and glazed doorset.
Summary of test specimen:	**Specimen comprised:** a particleboard core with integral facings. Vertical leaf edges, only, were lipped with 6(t) sapele of nominal density 640kg/m^3. Both leaves were glazed, both apertures were 998 (h) x 195 (w). **Leaf Size:** 1310 (h) x 635/640 (w) x 54 (t). **Leaf Edge Intumescent Seals**: 2No STS ST1504 perimeter intumescent seals were centrally fitted in the frame reveals of the hanging edges and head, and within one closing jamb, together with a 10 x 3 ST1009 environmental seal against the upstand of the frame stops. **Door frame**: Sapele of nominal density 640kg/m^3 32mm wide with 16mm high stop and 18mm thick Sapele architraves on both faces. **Hardware:** The doorset was hung on 2No bearing butt steel hinge per leaf; an Arrone AR1500 overhead closer was fitted to both leaves. Zoo hardware flush bolts were fitted top and bottom of one leaf. **Installation:** The doorset was oriented to open in towards the furnace, installed within a plasterboard clad, timber stud partition. 6531G.750 foam was installed filling the 20mm wide gap behind the door frame jambs and head for the full width of the gap behind one architrave.
Test Standard:	Principles of BS 476: Part 22: 1987
Performance	Integrity: 44 minutes[1] Insulation: 0 minutes[2]

Notes:

1. The initial failure at 44 minutes due to continuous flaming at the meeting edges which is considered to be remote to the effects of the installation method of the door frame. No failures at the hanging edges, leaf head or the rear of the frame were recorded prior to termination the test at 65 minutes, therefore this failure is not deemed to contradict this assessment.
2. In accordance with Section 8.6.1 of BS 476: Part 22: 1987, the specimen was not evaluated for insulation.

4. Technical Specification

4.1 General

The technical specification for the Datim Ltd 6523.310/600 intumescent mastic and 6531G.750 foam products is given in the following sections and is based on the test evidence summarised in section 3.

4.2 Datim Ltd Materials

Datim Ltd 6523.310/600 intumescent mastic and 6531G.750 foam products are manufactured utilising proprietary compounds, which have been demonstrated to form a fire-resistant seal for door frame installations in 30 & 60 minute, timber based, fire resisting doorsets.

These Products are supplied by Fire Door Sundries (FDS) which is a Datim Ltd Brand.

4.3 Intended Use

The intended use of the Datim Ltd 6523.310/600 intumescent mastic and 6531G.750 foam products is to fill and protect the void between a doorset design and the supporting structure, while inhibiting premature failure under test conditions. The intended use of a doorset which is intended to be utilised with the two products being assessed is as 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.

4.4 Fire Resisting Doorsets

The installation details herein are only applicable to timber-based door leaves mounted in timber-based door frames. It is beyond the remit of this report to comment on the potential fire resistance performance of the two products evaluated herein with any other doorset design (i.e. those made from composite materials or metals).

Other than for the specific installation requirements and minimum frame specification detailed herein, the relevant supporting documentation for the specified doorset design must be referred to for all construction details.

The doorset design must be assessed by Warringtonfire to provide 30 or 60 minutes integrity in terms of performance to BS 476: Part 22: 1987 for the required doorset. The assessment for the doorset design is to be considered the primary evidence, and this supplementary assessment must be used in conjunction with the primary evidence to justify the performance of the doorset with the fire stopping method.

5. Door Frame Construction

This supplementary FoA report supports the use of softwood, hardwood and MDF door frames only. The relevant supporting documentation for the specified doorset design must be referred to for all construction details of permitted door frames.

The door frame specifications below are the minimum size and density which have been successfully tested and assessed by this report. The door frame must be constructed to meet the following, relevant, specification as a minimum. If the doorsets supporting primary evidence requires larger frame sections or a greater timber density, then these must be complied with.

Door Frame Specification			
Integrity Performance Required	**Material**[2]	**Minimum Density** (kg/m^3)	**Minimum Section Size** (mm) [1]
30 minutes	Softwood Hardwood MDF	510 510 710	Frame[1]: 70 (w) x 32 (t) (excluding stop) Stop: Minimum 12(h)
60 minutes	Hardwood	640	Frame[1]: 70 (w) x 32 (t) (excluding stop) Stop: Minimum 12(h)

Notes:

1. Where the gap size to be protected is in excess of 15mm, the frame width must be increased to 100mm.
2. The use of engineered timber for door frames is limited to the Datim Ltd engineered timber design ref: RB-1-SBD as tested in WF526852 at the tested 100mm wide x 32mm thick with a 17mm high integral stop and density of 572kg/m^3. The Datim Ltd engineered timber frame design ref: RB-1-SBD is permitted but only at the minimum sizes and density stated above. The plasterboard extension piece to the back of the frame must be installed in all cases when using this frame design, as tested.

6. Overpanels & Fanlights, Sidepanel & Sidelights

This supplementary FoA report supports the use of doorsets incorporating solid, timber-based panels when the door assembly is fire-stopped using the Datim Ltd 6523.310/600 intumescent mastic and 6531G.750 foam products. The supporting assessment for the proven doorset design must permit timber based panels and their associated frame construction must comply fully with the requirements of section 5 above.

This supplementary FoA report does not support the use of the Datim Ltd 6523.310/600 intumescent mastic and 6531G.750 foam products as firestopping materials for glazed fanlights or sidelights.

7. Hardware

7.1 General

It is beyond the remit of this assessment to consider acceptable items of hardware for the proposed doorset design. Suitable items of hardware for the proposed doorset design are given in the doorset supporting evidence which must be complied with. Please bear in mind the minimum frame requirements for this supplementary assessment given in section 5, or the minimum requirements for the frame in the doorset supporting evidence, whichever is greater, must be complied with.

For use with timber-based fire door designs, the following items of hardware must bear the UKCA or CE Mark in addition to the requirements outlined in the relevant sections of the supporting documentation for the specified doorset. The UKCA or CE mark must indicate that the hardware is suitable for fire doors in the classification code and declaration of performance issued by the hardware manufacturer:

- 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.

Where an item of hardware is not covered by the scope of a relevant harmonised or designated standard, and cannot therefore be UKCA or CE Marked, inclusion of the hardware is not permitted within the doorset design, unless it is specifically identified within the appropriate section of the supporting documentation for the specified doorset design. All items of hardware must be fitted in accordance with requirements of the supporting documentation for the specified doorset.

Hardware items should generally be fitted in accordance with the manufacturer's instructions. **However, the parameters and requirements of the supporting evidence for the specified doorset design always take precedence, including specified protection such as hardware gaskets.**

Any concealed items of hardware within the frame must not interact with any of the permitted fire stopping methods permitted within this document.

8. Door Frame Installation

8.1 General

This section considers the installation of doorsets. This section considers:

- the fire stopping between the frame and the wall
- the door frame and architrave installation position relative to the wall
- the fixing requirement including packers.

8.2 Firestopping

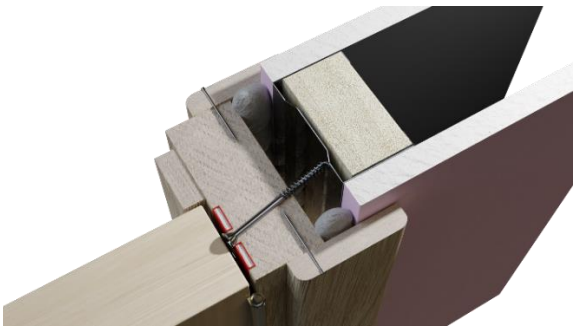
The firestopping requirements between the back of frame and wall are dependent on the gap size between the substrates. The section below provides the requirements based upon the gaps size for utilisation of the Datim Ltd 6523.310/600 intumescent mastic and 6531G.750 foam products. Please note that in the 3D depictions noted below show the application where a door frame is of the same depth as the overall wall thickness.

8.2.1 30 Minute Applications

For 30 minutes integrity performance, gaps up to a maximum of 20mm between the frame and structural opening may be protected as detailed below.

Architrave material in all cases may be MDF, softwood or hardwood, of a minimum density of 510kg/m^3, irrespective of the door frame material. Where fitted, architraves must overlap at least 15mm each side of the installation gap (i.e. the wall and the supporting structure).

For options 2 and 3 an architrave may be installed on the fire exposed face only, if required. See section 8.3 for further options.

Gap (mm)	**Requirement**	**3D model depiction**
Option 1 0 – 2	In practice, unlikely to occur, but if present, must be sealed with architraves, fitted over a bead of 6523.310/600 intumescent mastic, pushed into the gap as far as practicable - aiming to achieve a 10mm deep bead of mastic which is then protected by architraves on both faces. Architraves of a minimum 18mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	N/A
Option 2 3 – 10	Gap must be sealed on both sides with a 10mm depth of 6523.310/600 intumescent mastic. The use of mineral fibre or 6531G.750 foam between the mastic beads is optional. Architraves of a minimum 18mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	
Option 3 10 – 20	Gaps between 10mm and 20mm must be tightly packed with mineral fibre or fully filled 6531G.750 foam, capped on both sides with a minimum, 10mm depth of 6523.310/600 intumescent mastic. Architraves of a minimum 18mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	

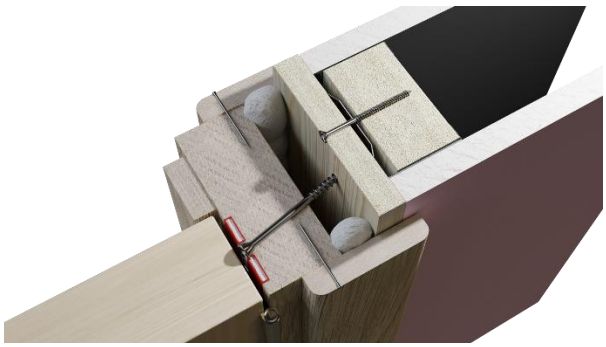
Gap (mm)	**Requirement**	**3D model depiction**
Option 4 10 – 20	Gaps up to 20mm may be filled with 6531G.750 foam, additional mastic capping is not required. Architraves of a minimum 18mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	
Option 5 Over 20	This would 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 a continuous bead of 6523.310/600 intumescent mastic and fixed to the supporting structure, the gap between door frame and subframe filled as follows: Gaps 5 to 10mm filled on both sides with 10mm depth of 6523.310/600 intumescent mastic or full depth fill of 6531G.750 foam. Architraves of a minimum 18mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	 

8.2.2 60 Minute Applications

For 60 minutes integrity performance, gaps up to a maximum of 20mm between the frame and structural opening may be protected as detailed below.

Architrave material in all cases may be MDF, softwood or hardwood, of a minimum density of 510kg/m^3, irrespective of the door frame material. Where fitted, architraves must overlap at least 15mm each side of the installation gap (i.e. the door frame and the supporting structure).

For all installation options detailed below, architraves must always be fitted to both faces, except in the specific instances detailed in section 8.3.

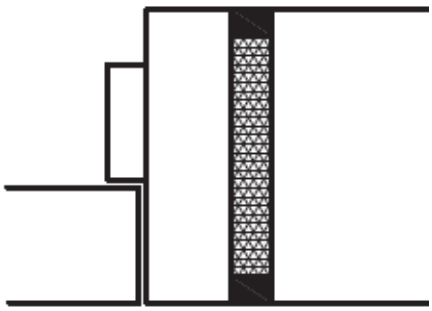
Gap (mm)	**Requirement**	**3D model depiction**
Up to 20 Option 1	Gaps up to a maximum 20mm may be tightly packed with mineral fibre or 6531G.750 foam, capped on both sides with a minimum, 10mm depth of 6523.310/600 intumescent mastic. Architraves of a minimum 18mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	
Up to 20 Option 2	Gaps up to 20mm may be filled 6531G.750 foam, additional mastic capping is not required. Architraves of a minimum 18mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	
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 a continuous bead of 6523.310/600 intumescent mastic and fixed back to the supporting structure, the gap between door frame and subframe filled as follows: Gaps 5 to 10mm filled on both sides with 10mm depth of 6523.310/600 intumescent	

Gap (mm)	Requirement	3D model depiction
	mastic or full depth fill of 6531G.750 foam. Architraves of a minimum 18mm thick must be fitted to both faces, fitted with a minimum 15mm overlap to the door gap.	

8.3 Additional Installation Options

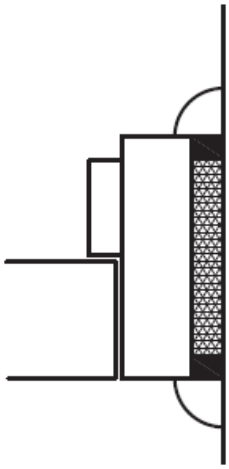
In line with the requirements of table 3 in section 9.4.1 of BS8214: 2016 '*Timber-based fire door assemblies – Code of practice*', the options below for installation of door frames without architraves is permitted in both 30 and 60 minute applications. Installation is permitted into all wall types permitted by reference to section 8.6 herein, whether they are likely to exhibit significant distortion or not.

Gaps up to 15mm must be tightly packed with mineral fibre and capped on both sides with a minimum, 10mm depth of 6523.310/600 intumescent mastic.



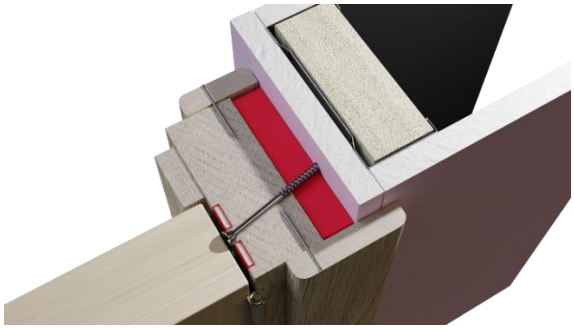
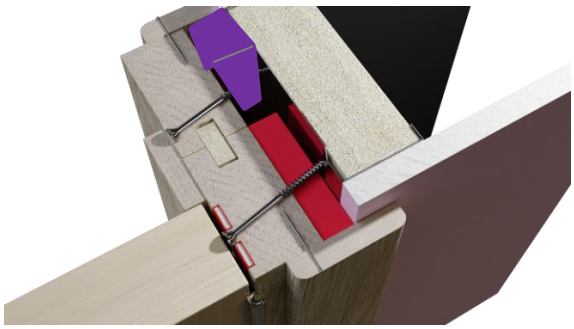
Door frames may also be installed as illustrated below. Gaps up to 20mm are permitted provided the supporting construction to frame gap is protected as required in section 8.2.1 or 8.2.2.

Quadrant beads as shown must be installed. They must be hardwood of minimum density 640kg/m^3 and must overlap the frame by a minimum of 15mm and be a minimum of 10mm thick.



8.4 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 coloured seal. For further clarification of the approved firestopping systems see section 8.2.

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 5. 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 if applied (where required in section 8.2) architraves may be fitted such that the architrave abuts the wall.
	Where split frames are permitted by the supporting evidence of the specified doorset design, they shall be fire stopped as follows: • The primary frame section (to which the leaf is hung) shall be fire stopped. • The extension added to the rear of the frame must be fire stopped as tested in WF520849 and WF526852, capped with a minimum, 10mm depth of 6523.310/600 intumescent mastic depicted (left).

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.

8.5 Packers

Packers can be timber of equal density to the frame, or plywood or plastic packers if fire tested for this application to BS 476: Part 22: 1987 or BS EN 1634-1.

The use of plastic packers has been proven in the testing cited in section 3 at both 30 and 60 minutes integrity performance (WF385685, WF396750 AR1, WF392155 & WF386959 Rev A). Packers may be installed with their faces exposed (i.e. it is not necessary to hide the edges of the packers with mastic or foam), prior to installation of any architraves.

8.6 Wall Types, Structural Opening & Fixity

8.6.1 Wall Types

The following wall types are approved for use with the 6523.310/600 intumescent mastic and 6531G.750 foam products providing they are suitable for the specified doorset design:

a) Plasterboard clad timber stud partitions
b) Plasterboard clad steel stud partitions including timber lining
c) Masonry constructions

Wall types a & b above must have supporting fire resistance test evidence which demonstrates that it is capable of staying in place and intact for a minimum of 30 or 60 minutes, as appropriate, supporting a timber based doorset design.

Wall type c above must be determined to be able to provide at least the same level of fire resistance of the specified doorset design.

All wall types detailed above shall provide a suitable medium to permit adequate fixity, it is anticipated that for:

- Plasterboard clad timber stud partitions, the timber stud will be of sufficient dimensions such that the fixing for the door frame penetrates into solid timber.
- Plasterboard clad steel stud partitions will include a timber lining of sufficient dimensions such that the fixing for the door frame penetrates into solid timber.
- Masonry constructions are anticipated to be constructed of a solid block or brickwork to receive the fixings.

Notes:

- Other tested solutions to achieve adequate fixity may be detailed within the above noted supporting fire resistance test evidence.
- In all instances the wall must be a minimum of 100mm thick.

8.6.2 Structural Opening

For all wall types the structural opening shall be square, plumb and provide a flat surface for installation of the doorset and application of the fire stopping material.

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

8.6.3 Fixity

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. The specification below must be considered a minimum, details within the supporting documentation for the specified doorset take precedence where they require more frequent or larger fixings at closer centres.

For single leaf doorsets, the frame jambs only are to be fixed to the supporting construction using steel fixings at 600mm maximum centres and maximum of 150mm from corners. 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.

9. Conclusion

This supplementary field of application considers the installation of proven timber based doorsets as defined in section 4.4, utilising Datim Ltd products fitted protecting the installation of timber based doorset designs.

Providing the installation details and minimum requirements provided in this scope of application document, and all other details as given in the relevant supporting doorset documentation are followed, it is the opinion of Warringtonfire that the relevant doorset will provide a minimum 30 or 60 minutes fire resistance, as appropriate, if tested in accordance with BS 476: Part 22: 1987.

10. 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:

DocuSigned by:
Rolf Ingram
D0C30A4EA63B419...

Name: Rolf Ingram

Position: IT & Compliance Manager

Date: 21-Feb-2024

For and on behalf of: **Datim Ltd**

11. Limitations

The following limitations apply to this assessment:

1) This supplementary field of application addresses itself solely to the elements and subjects discussed and do not cover any other criteria or modifications. All other details not specifically referred to should remain as tested or assessed.
2) This supplementary 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 supplementary 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 supplementary 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, against the ISO 834 time/temperature curve that is stipulated in the standard this assessment concludes to. 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 supplementary field of application report represents our opinion as to the performance likely to be demonstrated on a test in accordance with BS 476: Part 22: 1987, 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 supplementary 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 supplementary field of Application cannot be used once an updated supplementary field of Application has been issued under a new revision.

12. Validity

1) The assessment is initially valid for five years after which time it is recommended to be submitted to Warringtonfire for re-appraisal.
2) This assessment report is not valid unless it incorporates the declaration given in Section 10 duly signed by the applicant.

Signature:	DocuSigned by: DE15B987D373423...	DocuSigned by: 43935C1A192A419...
Name:	***A M Winning**	***N Whitelock**
Title:	Senior Product Assessor	Technical Manager Doors & Smoke Leakage

* For and on behalf of Warringtonfire

Appendix A: Revisions

Revision	Warringtonfire Reference	Date	Description