CERTIFICATE OF APPROVAL
No CF 5974

This is to certify that, in accordance with
TS00 General Requirements for Certification of Fire Protection Products
The undermentioned products of

ALTRO LIMITED

Works Road, Letchworth Garden City, Hertfordshire SG6 1NW
Tel: 01462 489286

Have been assessed against the requirements of the Technical Schedule(s) denoted below and are approved for use subject to the conditions appended hereto:

CERTIFIED PRODUCT	TECHNICAL SCHEDULE
Altro™ Doorsets – FD60	**TS10 Fire Resisting Door Assemblies with Non Metallic Leaves**

Signed and sealed for and on behalf of Warringtonfire Testing and Certification Limited

Paul Duggan
Certification Manager

Issued: 28th April 2021
Valid to: 7th November 2023

CERTIFICATE No CF 5974
ALTRO LIMITED

ALTRO™ DOORSETS – FD60

This approval relates to the use of the above door assemblies in providing fire resistance of 60 minutes integrity and 60 minutes insulation (if incorporating not more than 20% of uninsulating glass) as defined in BS 476: Part 22: 1987. Subject to the under mentioned conditions, the doors would be expected to meet the relevant requirements of BS 5588 and BS9999 for FD60 door assemblies when used in accordance with the provisions therein.

1. This certification is provided to the client for its own purposes and we cannot opine on whether it will be accepted by Building Control authorities or any other third parties for any purpose.

2. The doors are approved on the basis of:

   i) Initial type testing
   ii) A design appraisal against TS10
   iii) Inspection and surveillance of factory production control
   iv) Certification under a CERTIFIRE approved Quality Management System.
   v) Audit testing in accordance with TS10

3. The door assemblies comprise door leaves with a flaxboard or chipboard core within a softwood internal perimeter frame, for use with timber frames (code ITT FD60).

4. This approval is applicable to both complete door assemblies and door leaves. Where the door is not supplied in a completely fitted form it is a condition of this approval that an agreed data sheet accompanies the product and is complied with in its entirety.

5. This approval is applicable to single and double-acting, single and double-leaf, latched and unlatched ITT door assemblies at leaf dimensions up to those given in Table 1 and Table 2. Double-leaf door assemblies incorporating unequal sized door leaves are also permitted, as detailed within the data sheet.

6. Glazing shall only be undertaken by the door manufacturer, and shall be in accordance with the Data Information Sheet and Construction Specification. No site cutting of apertures is permitted.

7. Hardware items, including closing devices and intumescent edge seals, shall be CERTIFIRE approved or otherwise as specified in the data sheet.

8. The door assemblies shall be mechanically fixed to wall constructions having a fire resistance of at least 60 minutes.

Issued: 28th April 2021
Valid to: 7th November 2023

CERTIFICATE No CF 5974
ALTRO LIMITED

ALTRO™ DOORSETS – FD60

9. Labels to the CERTIFIRE design referencing Altro Limited, CERTIFIRE and CERTIFIRE Ref. No. CF5974 and FD60 fire resistance shall be affixed to each door in the prescribed position.

10. This approval relates to on-going production. The product and/or its immediate packaging is identified with the manufacturer's name, the product name or number, the CERTIFIRE name and mark together with the CERTIFIRE Certificate number and application where appropriate.

Configuration	Max Height (mm)	Max Width (mm)	Max Area(m^2)
Single or Double-acting, Single-leaf (latched/unlatched)	2800 (at 1280 width)	1280 (at 2800 height)	3.58
Single or Double-acting, Double-leaf (latched/unlatched)	2800 (at 1178 width)	1280 (at 2578 height)	3.30

Table 1 - Maximum Permitted Leaf Sizes (Postformed Door assemblies & Antivlam Faces)

Configuration	Max Height (mm)	Max Width (mm)	Max Area(m^2)
Single or double-acting, Single-leaf (latched/unlatched)	2800 (at 1150 width)	1280 (at 2515 height)	3.22
Single or Double-acting, Double-leaf (latched/unlatched)	2578 (at 1152 width)	1178 (at 2520 height)	2.97

Table 2 - Maximum Permitted Leaf Sizes (Postformed Door assemblies & Fimapan Faces)

Note: Under no circumstances must either the maximum height or maximum width be exceeded without separate CERTIFIRE approval.

Issued: 28th April 2021
Valid to: 7th November 2023

CF 5974 DATA SHEET

1. General

This door leaf has been fire tested and is certified by CERTIFIRE as being capable of providing fire resistance of 60 minutes integrity and 60 minutes insulation (if incorporating not more than 20% of uninsulating glass) as defined in BS 476: Part 22: 1987, when installed in accordance with the following conditions. Subject to these, the door would be expected to meet the relevant requirements of BS 9999 for FD 60 door assemblies when used in accordance with the provisions therein.

In recognition of this, the leaf carries a prefixed label on the top or hanging edge of the door, issued under the terms of the British Woodworking Federation - CERTIFIRE scheme. This label uniquely identifies the door leaf, the manufacture of which complies with BS: ISO 9000 for quality systems and is subject to on-going surveillance. **This label shall not be removed.**

It is emphasised that the certification is conditional upon the following instructions being complied with in their entirety. **Failure to do so will invalidate this approval and may jeopardise the fire performance of the door.** Door assemblies supplied pre-fitted with components by Altro Limited may be considered to meet the requirements in respect of those items.

2. Door Leaf Dimensions

This leaf may be used in single or double-acting, single or double-leaf, latched and unlatched ITT door assemblies at leaf dimensions up to those given in Table 1 and Table 2. Double-leaf door assemblies including unequal sized door leaves are permitted on the assumption that the smaller leaf is no less than 30 % of the width of the larger leaf. The smaller leaf of such door assemblies should be rendered inactive by top and bottom surface mounted shoot bolts or flush bolts protected by nominally 1 mm thick Interdens or intumescent mastic/paste.

Configuration	Max Height (mm)	Max Width (mm)	Max Area(m^2)
Single or Double-acting, Single-leaf (latched/unlatched)	2800 (at 1280 width)	1280 (at 2800 height)	3.58
Single or Double-acting, Double-leaf (latched/unlatched)	2800 (at 1178 width)	1280 (at 2578 height)	3.30

Table 1 - Maximum Permitted Leaf Sizes (Postformed Door assemblies & Antivlam Faces)

Configuration	Max Height (mm)	Max Width (mm)	Max Area(m^2)
Single or double-acting, Single-leaf (latched/unlatched)	2800 (at 1150 width)	1280 (at 2515 height)	3.22
Single or Double-acting, Double-leaf (latched/unlatched)	2578 (at 1152 width)	1178 (at 2520 height)	2.97

Table 2 - Maximum Permitted Leaf Sizes (Postformed Door assemblies & Fimapan Faces)

Note: Under no circumstances must either the maximum height or maximum width be exceeded without separate CERTIFIRE approval.

3. Door Frame

Mode of Action	Frame Material	Minimum Density	Minimum Lining Dimensions		Minimum Stop / Rebate
Single action	Hardwood (excluding Beech)	530kg/m^3	69mm by 32mm		12mm deep pinned, screwed or rebated from solid
Double action	Hardwood (excluding Beech)	530kg/m^3	Jambs	100 mm x 32mm	N/A
			Head	100mm x 44mm	

Split door frames: Permitted providing the section opposite the door edge is compliant with the minimum requirements for single section timber frames.

Frame Projection: Frame to project from the face of the wall by no more than one third of its thickness, for example 45 mm frame = 15 mm projection.

Jointing Mitred joints with head screw fixed to the jambs using two steel screws.

Door to Frame Gaps Not to exceed 4 mm except at the threshold where up to 10 mm is permitted and 5 mm at the meeting stiles.

4. Overpanels/Sidepanels

Flush overpanels above double-leaf assemblies, manufactured to the same specification as the door leaves, may be included up to a maximum size of 600 mm high, and up to 1000 mm over single leaves. Flush overpanels shall be lipped to the bottom edge.

Concealed closers cannot be fitted to doorsets incorporating flush overpanels.

Transomed overpanels, manufactured to the same specification as the door leaves, may be included up to 2000 mm high, with a minimum 32 mm thick transom rail.

Mullioned sidepanels, manufactured to the same specification as the door leaves, may be included up to 1000 mm wide, with a minimum 32 mm thick mullion.

Overpanels/Sidepanels shall be fixed using steel screws at a maximum of 400 mm centres and a maximum of 100 mm from each corner, through centre of panel to a depth of at least 30 mm.

5. Glazed Fanlights/Sidelights

Any CERTIFIRE approved glazing systems may be used providing the specification and installation details given in the appropriate certification documents are adhered to.

6. Supporting Construction

The door assemblies are approved to be installed in brick, block, masonry, timber or steel stud of minimum thickness 85 mm, providing at least 60 minutes fire resistance. Where stud partitions are used these should be suitably constructed to provide a secure fixing for the door assemblies as recommended by the partition manufacturer.

7. Installation

The opening may be lined with hardwood which shall be continuous and of minimum width, 85mm. Each door frame jamb to be fixed through to the wall at not less than four points with steel or nylon fixings at maximum 600 mm centres penetrating the wall to at least 50 mm. Architraves are optional with no restrictions on material, size or fixing.

Door assemblies shall be installed as stated in BS 8214. Suitable CERTIFIRE approved lineal gap sealing systems may also be utilised to protect the frame/supporting construction gap, subject to the conditions contained within the relevant certificate.

The following option is permitted in conjunction with timber architraves minimum 14mm thick, fitted to both sides of the opening:

- Pyroplex foam may be used at the rear of frame installations for gaps up to 10mm - to full depth of the gap.

Other methods of protecting the frame to wall gap may be permitted should suitable test evidence be available.

The use of third party accredited installers provides a means of ensuring that installations have been conducted by knowledgeable contractors, to appropriate standards, thereby increasing the reliability of the anticipated performance in fire.

A maximum of two door assemblies may be installed with frames back to back in which case a single 25 mm wide by 2 mm thick Palusol 100P or Type 617 seal shall be recessed into the back of one frame and the frames screwed from alternate sides at maximum 300 mm centres. ‘Banked’ door assemblies shall include timber frames and be installed into masonry or concrete supporting constructions.

Door leaves may not be trimmed to fit the frame, due to the decorative finish to the leaf edges.

Note that the maximum door to frame and door to threshold gaps specified shall not be exceeded, nor shall the door edge fitted with the CERTIFIRE label be trimmed since removal of the label will invalidate the certification.

8. Glazed Apertures

All apertures to be factory prepared. No site cutting of apertures permitted as this will invalidate the certification.

9. Intumescent Seals

CERTIFIRE certificated intumescent seals are required to be fitted to these doors as below.

For door assemblies to BS476: Part 22 – classified as FD60

9.1 Timber Frames (postformed doors)

Configuration	Position	Lorient '617' Intumescent Protection – Postformed door assemblies
Single-acting and Double-acting Single-leaf door assemblies	Head	1 no. 20mm wide by 2mm thick Lorient Polyproducts Palusol seal positioned centrally within the rebate to the door frame concealed beneath PVC facing or 1 No 20 x 4mm Lorient Polyproducts 'Type 617' (LP2004) fitted exposed in the door frame **plus** 1 no. 20mm wide by 4mm thick Lorient Polyproducts 'Type 617' positioned along the centre line within the door leaf edge
	Vertical edges	1 no. 20mm wide by 2mm thick Lorient Polyproducts Palusol seal positioned centrally within the rebate to the door frame concealed beneath PVC facing or 1 No 20 x 4 mm Lorient Polyproducts 'Type 617' (LP2004) fitted exposed in the door frame **plus** 1 no. 20 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' positioned along the centre line within the door leaf edge
Single-acting and Double-acting Double-leaf door assemblies	Head	1 no. 20mm wide by 2mm thick Lorient Polyproducts Palusol seal positioned centrally within the rebate to the door frame concealed beneath PVC facing or 1 No 20 x 4mm Lorient Polyproducts 'Type 617' (LP2004) fitted exposed in the door frame **plus** 1 no. 20 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' positioned along the centre line within the door leaf edge
	Hanging edges	1 no. 20 mm wide by 2 mm thick Lorient Polyproducts Palusol seal positioned centrally within the rebate to the door frame concealed beneath PVC facing or 1 No 20 x 4 mm Lorient Polyproducts 'Type 617' (LP2004) fitted exposed in the door frame **plus** 1 no. 20 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' positioned along the centre line within the door leaf edge
	Meeting edges	1 no. 20 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' LP2004 positioned centrally within each door leaf such that they are directly opposing

9.2 **Timber Frames – Including concealed overhead & transom mounted closers.**

Configuration	Position	Required Intumescent Protection – Concealed Single action closers (Geze Boxer / Dorma ITS 96)
Single-acting Single-leaf door assemblies	Head	2 no. 15 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' (LP1504) positioned 8-12 mm apart either side of the centre line within the rebate to the frame or adjacent to each other within same groove
	Vertical edges	2 no. 15 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' (LP1504) positioned 8-12 mm apart either side of the centre line within the rebate to the frame or adjacent to each other within same groove
Single-acting Double-leaf door assemblies	Head	2 no. 15 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' (LP1504) positioned 8-12 mm apart either side of the centre line within the rebate to the frame or adjacent to each other within same groove
	Hanging edges	2 no. 15 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' (LP1504) positioned 8-12 mm apart either side of the centre line within the rebate to the frame or adjacent to each other within same groove
	Meeting edges	2 no. 15 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' (LP1504) positioned 8-12 mm apart either side of the centre line and 1 no. 15 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' (LP1504) positioned centrally in the door edge of the opposing leaf.

Configuration	Position	Required Intumescent Protection – Concealed Double action closers (Geze Boxer / Dorma ITS 96) & Transom closers (Geze TS500 / TS550)
Double-acting Single-leaf door assemblies	Head	2 no. 15 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' (LP1504) positioned 8-12 mm apart either side of the centre line within the rebate to the frame or adjacent to each other within same groove. **The above specification is to be included in the top edge of the door and the frame head when using TS500 / TS550 transom closers**
	Vertical edges	2 no. 15 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' (LP1504) positioned 8-12 mm apart either side of the centre line within the rebate to the frame or adjacent to each other within same groove
Double-acting Double-leaf door assemblies	Head	2 no. 15 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' (LP1504) positioned 8-12 mm apart either side of the centre line within the rebate to the frame or adjacent to each other within same groove. **The above specification is to be included in the top edge of the door and the frame head when using TS500 / TS550 transom closers**
	Hanging edges	2 no. 15 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' (LP1504) positioned 8-12 mm apart either side of the centre line within the rebate to the frame or adjacent to each other within same groove
	Meeting edges	2 no. 15 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' (LP1504) positioned 8-12 mm apart either side of the centre line and 1 no. 15 mm wide by 4 mm thick Lorient Polyproducts 'Type 617' (LP1504) positioned centrally in the door edge of the opposing leaf.

See Table 1 and Table 2 for applicable size restrictions

Seals may be interrupted at hinge and latch positions.

Intumescent strips cannot be changed from the specific size type and location specified within the data sheet.

Smoke seals may be included subject to the conditions contained within the relevant CERTIFIRE certificate for the smoke seal.

10. Hinges

Hinges shall be CE Marked against EN 1935 for use on 60 minute timber fire door assemblies.

Projection hinges / falling butt hinges / rising butt hinges are not permitted.

10.1 Butt / Lift Off Hinges – General requirements

Number:	Doors ≤ 1200 mm high, 2 hinges per leaf Doors ≤ 2134 mm high, 3 hinges per leaf Doors > 2134 mm high, 4 hinges per leaf	
Type:	Steel, Phosphor Bronze or Brass lift-off or butt hinges	
Positions*:	200 mm (±100 mm) from the top of the leaf 275 mm (±100 mm) from the bottom of the leaf. The 3rd hinge can be positioned 300 mm (±100 mm) below the top hinge or centrally between the top and bottom hinge. Where 4No hinge are required the hinges will be fitted in either a 2No at the top, 1No at the bottom and 1No in the middle configuration or a 1No top & bottom with the remaining 2No hinges positioned equally between.	
Dimensions:	Blade height:	125 mm (+10 / - 35 mm)
	Blade width:	38/44 mm (+/- 3 mm)
	Blade thickness:	3 mm (+/- 0.5 mm)
	Knuckle dia.:	13 mm (+/- 1mm) or 16 mm (+/- 1mm)
Fixings:	Min 3 No. steel screws per hinge blade at Min No. 8 by 30 mm long	
Intumescent: protection**	1 mm thick Interdens to each hinge blade	

10.2 Cooke Bros Ltd - 7700 Series Butt / Lift Off Hinges (certificated under CF 351)

Number:	Doors ≤ 1200 mm high, 2 hinges per leaf Doors ≤ 2134 mm high, 3 hinges per leaf Doors > 2134 mm high, 4 hinges per leaf	
Type:	Steel, concealed bearing lift off and fixed pin	
Positions*:	200 mm (±100 mm) from the top of the leaf 275 mm (±100 mm) from the bottom of the leaf. The 3rd hinge can be positioned 300 mm (±100 mm) below the top hinge or centrally between the top and bottom hinge. Where 4No hinge are required the hinges will be fitted in either a 2No at the top, 1No at the bottom and 1No in the middle configuration or a 1No top & bottom with the remaining 2No hinges positioned equally between.	
Dimensions:	Blade height:	102 mm (+25 / - 2 mm)
	Blade width:	30 mm (+ 10 / - 0 mm)
	Blade thickness:	3 mm (+/- 0.5 mm)
	Knuckle dia.:	13 mm (+/- 1mm)
Fixings:	Min 3 No. steel screws per hinge blade at Min No. 8 by 30 mm long	
Intumescent: protection**	1mm Interdens or graphite protection is required under both hinge blades.	

* The datum in all cases is the centreline of the hinge.

** This specification overrides any requirement for additional intumescent identified in the hinge manufacturer's certification providing the hinge specification falls within the parameters identified above, specifically maximum dimensions and material.

Any other CERTIFIRE approved hinge may be fitted, providing the hinge dimension are no greater than 10% in blade width and 25% in blade height from that approved above.

Where the Certifire approved hinge exceeds the specification given above, the minimum requirement for intumescent protection to the hinges, by-passing perimeter intumescent, and the material density and thickness for the door and frame elements given in the hinge manufacture's CERTIFIRE certificate shall apply.

Any other CERTIFIRE approved hinges may be used, subject to the conditions contained within the relevant certificate.

11. Locks and Latches

Locks/latches are not necessary, but where fitted shall be CE Marked in accordance with BS EN 12209 or EN179 for use on 60 minute timber fire doors.

Mortice type, automatic (sprung) latch bolt, cylinder rim nightlatches and knobsets.

Max. case dimension:	168.5 mm high x 98 deep x 20 wide
Max. forend dimension:	235 mm high x 25.5 mm wide
Max. keep dimension:	180 mm high x 24 mm wide (excluding latch plate)
Latchbolt material:	Steel or brass
Position:	Max. 1400 mm from bottom of door to top of lockcase A secondary latch / lock can be fitted, but we must maintain min 100mm between faceplates. The secondary latch / lock cannot be fitted in excess of 1400mm from the bottom of the door to the top of the latch / lock case.
Intumescent: protection*	Lockcase and strike plate/keep bedded on 1mm Interdens or 1mm graphite material, or 1mm bed of intumescent mastic

* This specification overrides any requirement for additional intumescent identified in the lock manufacturer's certification providing the lock/latch specification falls within the parameters identified above, specifically maximum dimensions and material.

Any other CERTIFIRE approved lock/latch may be fitted, providing no lock/strikeplate dimension is more than 25% of that approved above and subject to the conditions contained within the relevant certificate.

Where the Certifire approved lock/latch exceeds the specification given above, the minimum requirement for intumescent protection to the locks, latches and strikeplates, by-passing perimeter intumescent, and the material density and thickness for the door and frame elements given in the lock/latch manufacture's CERTIFIRE certificate shall apply.

Recessing for locks should result in a tight fit, allowing for any intumescent protection where required.

No restriction on type and material of mechanical lever handles and knobs.

The use of mechanical locks in conjunction with electromechanical handles must be either CERTIFIRE approved for the application or subject to specific appraisal.

12. Self-Closing Devices

All doors are required to be fitted with a CERTIFIRE certificated self-closing device. The exceptions are doors kept locked shut such as service access doors. Note: closers with mechanical hold-open mechanisms are not permitted to be used. Building Regulations may identify locations within domestic locations where self-closing devices are not mandatory.

The closers shall have a power rating appropriate to the leaf sizes, subject to the closer having the ability to close the door from any angle and against any latch and/ or seals fitted. The closer shall have the ability to provide size 3 closing force. Where doors are unlatched a minimum size 3 shall be maintained.

Closers shall be CE Marked against EN 1154 and categorised as grade 1 – suitable for use on fire / smoke door assemblies.

CERTIFIRE approved closers for use with timber doors and metal frames (ITM) must be CERTIFIRE approved for this configuration specifically.

12a Surface mounted overhead closers

Any CERTIFIRE approved surface mounted overhead closer may be fitted, subject to the conditions contained within the relevant certificate.

12b Transom Mounted and Concealed Closers

Transom closers and concealed overhead closers can be used, however, they require modified door constructions and intumescent arrangements, therefore advice should be sought prior to on-site recessing (see section 9.3). Please contact Altro Limited for further details.

The use of concealed overhead closers in conjunction with flush overpanels is not permitted.

Perko Powermatic R100:	Door assemblies may incorporate the R100 Perko Powermatic closer when fitted in accordance with CF370

12c Floor Springs

Double-acting door assemblies are to be fitted with a CERTIFIRE approved floor spring and associated hardware (Top Pivot) and are to be bedded onto 1 mm thick Interdens.

13. Ancillary items

Please note that hardware items other than those discussed within this certificate of approval are not permitted.

13a Pull Handles

Face fixed pull handles, screw-fixed, bolt-fixed from the back and back-to-back fixed, of steel, brass, aluminium and nylon coated, are permitted providing any through-bolt fixing is of steel.

Door assemblies may include singular or offset back to back recessed pull handles in stainless steel or aluminium. The leaf cut-out shall be completely lined with 1 mm thick Interdens. For maximum recessing dimensions, please contact Altro Limited.

13b Protection plates and signage

Surface mounted plastic, laminate, steel, aluminium or brass plates are acceptable on the basis that they are:

- < 2 mm thick – Steel, Brass & Aluminium
- < 2.5 mm thick – Laminate & PVC
- may be installed on one or both faces of the proposed door leaves
- Plates/signage can be bonded with a thermally softening adhesive. Additionally screws may be used within 50 mm of each corner, additional screw fixings are to be no closer than 250 mm, where the plate dimensions permit.
- Up to 2.0 mm thick steel / stainless steel faces with or without returns at two or four edges may be bonded to the door leaves with a thermo softening adhesive.

13c Flushbolts

Steel Only

Max. dimension	609 mm high x 24 mm deep x 20 mm wide
Material:	Steel
Position:	Top and bottom on door edge or face (positioned a minimum of 50 mm from leading edge of the door to the centre of the bolt)
Intumescent: protection*	1 mm Interdens / graphite intumescent sheet material or 1 mm bed of intumescent mastic to base of bolt body and beneath keep.

13d. Air transfer grilles

No site cutting of apertures permitted as this will invalidate the certification.

Where apertures are pre-cut by the manufacturer or a CERTIFIRE approved Licensed Door Processor, Intumescent Air Transfer Grilles may be fitted on site by NON-CERTIFIRE approved staff, however, the Intumescent Air Transfer Grilles shall be CERTIFIRE approved for use in FD60 timber based doors. The air transfer grilles must be fitted into apertures prepared in line with the relevant CERTIFIRE certificate for the air transfer grille. Care must be taken to ensure all fitting instructions are followed, including any constraints imposed by the CERTIFIRE certificate with regards to position of the air transfer grille within the door assembly.

Air Transfer Grille Reference	Positioning within the door	Min door thickness (mm)	Max Area (m^2)	Shape
Lorient LVN20S	The upper edge of the grille shall be no higher than 800mm from the bottom edge of the door	43	0.16	Any rectangular shape
Lorient LVN25	The upper edge of the grille shall be no higher than 800mm from the bottom edge of the door	50	0.2	Any rectangular shape
Lorient LVN25S	The upper edge of the grille shall be no higher than 800mm from the bottom edge of the door	50	0.16	Any rectangular shape
Lorient LVV40	The upper edge of the grille shall be no higher than 3000mm from the floor level. The lower edge of the grille shall be no closer than 400mm to the bottom edge of the door.	43	0.36	Any rectangular shape, up to 600 x 600mm.
Lorient LVC40	The upper edge of the grille shall be no higher than 3000mm from the floor level. The lower edge of the grille shall be no closer than 400mm to the bottom edge of the door.	43	0.28	Circular up to 600mm diameter.

Note: Additional mild steel covers may be added to the Lorient Air Transfer Grilles listed above

13e. Letter Plates

Where letter plates are fitted, the aperture for a letter plate may be formed on site by NON-CERTIFIRE approved staff, however, the letter plates shall be CERTIFIRE approved for use in FD60 timber based doors. The letter plates must be fitted into apertures prepared in line with the relevant CERTIFIRE certificate for the letter plate. Care must be taken to ensure all fitting instructions are followed, including any constraints imposed by the CERTIFIRE certificate with regards to position of the letter plate within the door assembly.

13f. Dropseals

Where dropseals are fitted, the recess for a dropseal may be formed on site by NON-CERTIFIRE approved staff. Care must be taken to ensure all fitting instructions are followed, including any constraints imposed by the CERTIFIRE certificate.

Note: Threshold gaps as stated in Section 3 are to be maintained

13g. Door Viewers

Door viewers may be fitted into the leaf providing the viewer comprises a metal sleeve and an optical glass lens and is not positioned higher than 1550 mm from the threshold. The viewer should have an external diameter of not greater than 12 mm be tightly fitted within the leaf.

The aperture provided for the installation of the viewer should be lined with intumescent mastic or 1mm Interdens intumescent sheet material.

13h. Coat Hooks and Other Surface Mounted Hardware

Ancillary items which are wholly surface mounted may be fitted providing:

- These items are screw fixed or bonded only
- Are not bolted through the full thickness of the door
- Are not directly above, or closer than 100 mm to any non-insulated glazing

13i. Concealed Loops

Door assemblies may incorporate concealed wiring loops when fitted in accordance with door assembly manufactures details. Concealed loops will be bedded on 1mm Interdens and require opposing intumescents in the door / frame.

13j. Abloy 351 electro-mechanical latch in top edge

Double action doors may incorporate the Abloy 351 electro-mechanical lock when fitted in accordance with the following:

Min leaf thickness:	54mm	
Frame head:	Min. 44mm thick	
Intumescents:	Frame head - 2No LP1504-617 strips (25mm apart)	
	Top edge of door – as required to suit closer type	
Max. Keep dimensions:	‘Criuciform’ 150 x 54mm overall, with 23mm wide main section and 60mm strike section to both faces x 3mm thick	
Intumescent protection:	Lockset:	Fully encased in 2mm Interdens or graphite material
	Strike:	Bedded on 2mm Interdens or graphite

14. Further Information

Further information regarding the details contained in this data sheet may be obtained from Altro Limited (Tel: 01462 489286).

Further information regarding the CERTIFIRE certification and other approved products can be obtained from Warringtonfire Testing and Certification Limited (Tel: +44 (0) 1925 646777).