

Altro Whiterock™ hygienic doorsets™ and Altro Fortis™ doorsets – technical guide

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Altro Whiterock hygienic doorsets and Altro Fortis doorsets are a range of top quality timber door and frame sets encapsulated in either Altro Whiterock or Altro Fortis Titanium wall sheet for a hygienic or door protection finish. They are designed for use on their own, or as part of the Altro Wall complete system. Colours can be selected from the Altro Whiterock Satins, wall designs or Altro Fortis Titanium ranges. A range of door plates, handles and locks that suit the customer specification are available. They can be supplied as either FD30(S) and FD60(S) fire rated, or as a non-fire rated doorset configuration.

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Performance

Depending on the performance requirements of the doorset the following doorset construction types are available within the Altro doorset range.

Altro doorset

Solid particleboard core with softwood framing to all 4 edges. Subfacing material both sides with concealed hardwood lippings to both vertical edges or all 4 edges, prepared with 6mm radius to vertical edges.

Acoustic doorset

Solid particleboard core with softwood framing to all 4 edges. Subfacing material both sides with concealed hardwood lippings to both vertical edges or all 4 edges, prepared with 6mm radius to vertical edges.

Leadline

Building on the Altro doorset base construction, the Leadline door incorporates a concealed sheet of lead to the required specification and is faced in MDF, with concealed hardwood lippings to both vertical edges or all 4 edges, prepared with 6mm radius to vertical edges. Lead fillets extend through the edge of the door at the meeting stile to ensure total shielding.

Performance table

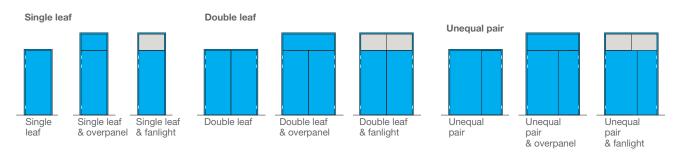
	NR	FD30	FD60	Acoustic	Smoke	Mechanical rating	Radiation shielding	Wet area
Altro doorset	~	~	~	19	V	Severe	N/A	~
Acoustic doorset	V	~	~	32	V	Severe	N/A	N/A
Leadline	V	~	~	19	V	Severe	Code 3-7	N/A

Configurations and handings

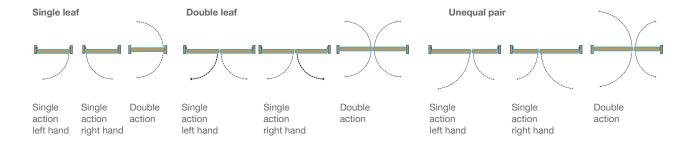
Altro doorsets are available in a range of configurations and handings to suit all project requirements.

Available as single or double doorsets (equal or unequal pairs), single and double swing. All doorset options are available as full height doors, with overpanels, side lights or fanlights (see frame options on page 12 for further details). Overpanels can be fitted with or without a transom.

Configurations



Handings



Dimensioning

The Altro doorset range is available in a multitude of maximum sizes depending on the configuration and performance specified.

Configuration, size, construction and performance characteristics are all interrelated. Specific size ranges for particular products can be found in CERTIFIRE data sheets, please contact Altro for details. Altro manufacture all door leaf sizes to suit individual requirements.

	Maximum certificated doorset sizes for fire performance – sizes are displayed in mm						
	Fire rating	Single action single leaf	Single action double leaf	Double action single leaf	Double action double leaf	Single leaf with overpanel	Double leaf with overpanel
Altro doorset	None	1170x2800	1170x2800	1170x2800	1170x2800	max 1000 high overpanel	max 600 high overpanel
Altro doorset	30	1170x2500	1170x2500	1170x2500	1170x2500	max 1000 high overpanel	max 600 high overpanel
Altro doorset	60	1170x2800	1170x2800	1170x2800	1170x2800	max 1000 high overpanel	max 600 high overpanel
Acoustic doorset 32	30	1170x2500	1170x2500	1170x2500	1170x2500	max 1000 high overpanel	max 600 high overpanel
Acoustic doorset 32	60	1170x2800	1170x2800	1170x2800	1170x2800	max 1000 high overpanel	max 600 high overpanel
Leadline	30	1170x2500	1170x2500	N/A	N/A	N/A	N/A
Leadline	60	1170x2800	1170x2800	N/A	N/A	N/A	N/A

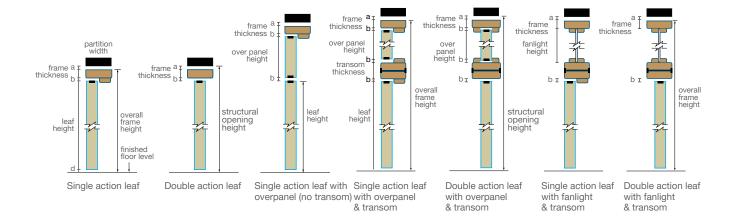
Altro doorsets are continually improving the product offering. Sizes may therefore be subject to change.

Project specific assessments may be available where project requirements exceed these dimensions. Please contact our Technical Team on 01462 707600 to discuss further.

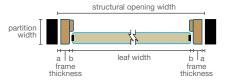
The drawings below set out the terminology for dimensioning doorsets. The maximum clearance permitted from the top of the finished door to the underside of the door leaf for fire resistance is 10mm for 30 and 60 minutes. For smoke control the clearance is 3mm.

Key:

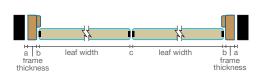
- a) 7mm gap between structural opening and frame assembly
- b) 3mm gap
- c) 4mm gap at meeting stiles
- d) Undercut varies



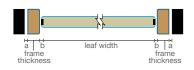




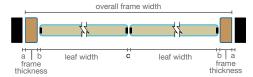
Single action pair of leaves



Double action single leaf



Double action pair of leaves



Effective clear widths

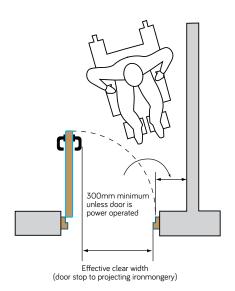
The clear opening width is measured up to any projecting door item including furniture, as shown below. A space of at least 300mm is generally required next to the leading edge of the door to enable wheelchair users to reach and grip the handle, unless the door is power operated. Door opening furniture should be operable with one hand (e.g. lever action).

Approved Document M defines the minimum clear width to the latch side of a manually operated door as 300 mm. However, paragraph 6.4.2 of BS 8300 states: "Increasing this space to 450 mm will improve manoeuvrability, reduce the risk of wheelchairs colliding with the wall, and speed up completion of the task." This view is supported by this guidance, which recommends 450 mm as a minimum clear width to the latch side of the door, to allow for less experienced users, with a preference for 600 mm.

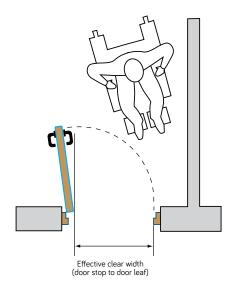
Minimum Clear Widths

Direction & width of approach	New buildings (mm)	Existing buildings (mm)
Straight-on (without a turn or oblique approach)	800	750
At right angles to an access route at least 1500mm wide	800	750
At right angles to an access route at least 1200mm wide	825	775
External doors to buildings used by the general public	1000	775

Door open restricted to 90°



Door opening angle unrestricted



Finishes

Door leaves

Altro Whiterock hygienic doorsets can be faced with Altro Whiterock White, Altro Whiterock Satins and Altro Whiterock wall designs, offering a huge design choice, ensuring it's possible to match or complement the surroundings. These can be used in multiple spaces but are particularly suitable in areas why hygiene is paramount, for example, in healthcare. Where the need for protection is more relevant than hygiene, but easy maintenance is still a factor, there is also the choice of Altro Fortis doorsets, fully encapsulating your door with Altro Fortis Titanium wall protection sheet. Alternatively, Altro Fortis door protection can be added to existing doorsets to protect them where they need it. You can order your Altro Fortis Titanium sheet and cut on site, or, contact us with your measurements and we'll cut it for you.

Altro Whiterock and Altro Fortis Titanium are CE marked, 2.5mm in thickness and 100% watertight and impervious. Altro Whiterock is Hazard Analysis and Critical Control Points (HACCP) approved and is made from a high-quality, virgin-grade, food-safe PVCu polymer that can handle temperatures up to 60°C. It meets all current European Union (EU) Directives on health and hygiene. This makes it particularly suitable for use in commercial kitchens and areas of critical hygiene. Altro Fortis Titanium is also made from a high-quality, virgin-grade, PVCu polymer and gives durable protection for walls, doors and corners. It is suitable for busy public areas, subject to high levels of traffic such as in education and healthcare. It features a lightly textured surface, which camouflages scuffs, keeping the wall area looking better for longer.

Frames - Postformed PVC

Frame sections can be wrapped in Altro Whiterock White, Altro Whiterock Satins, Altro Whiterock wall designs or Altro Fortis Titanium PVCu sheets.

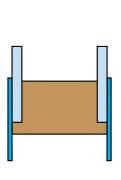
Select a combination of door construction, facing material and frame type to suit fire performance and other requirements

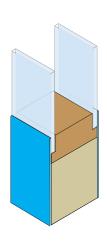
		Facings	Fire perform	nance		Frame type	s		
		PVC Facing	KN KN	FD30	FD60	Frame with separate stop	Frame with integral stop	Split frame with sepa- rate stop	WR
tion	Altro doorset	V	~	V	V	V	V	V	V
Door Construction	Acoustic doorset 32	V	~	V	V	N/A	V	V	N/A
Door C	Leadline	V	~	V	V	•	N/A	N/A	N/A
Frame Construction	PVC Facings		V	V	V	V	V	V	V

Glazing beads and systems

Glazing Option GD 1 and GD 2 (standard or flush detail) for hygienic environments are offered as standard. These are used with various alternative details to suit specific fire ratings, aperture shapes and sizes.

Glazing Option GD 1(standard detail) – PVC facings with chamfered edges, over glass outer panes for a minimal ledge. Most aperture shapes can be accommodated, including larger sizes, and a central glass pane is incorporated when fire rated.

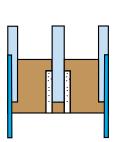


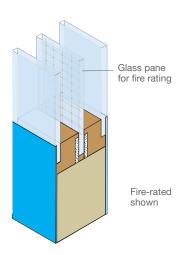


Fire rating:	NR/30/60 mins
Material:	Hardwood
Fixing method:	Pin/screw
Shape:	Rectangular Square

NR shown

Glazing Option GD 2 (Flush detail) – rebated acrylic outer glazing panels to accept PVC or facings with a completely flush joint. Most aperture shapes can be accommodated and a central glass pane is incorporated when fire rated.





Fire rating:	NR/30/60 mins		
Material:	Steel		
Fixing method:	Screw		
Shape:	Rectangular Square		

Vision panels

Glazed vision panels are often used within door leaves to let light into a room, for aesthetic reasons or for safety (i.e. allowing people using the door to be seen).

Glazing systems

Glazing has a major impact on fire performance and limitations are identified in the Approved Documents. Aperture shape and position, glazed area, style of bead and type of glass all influence fire performance, as well as appearance. The most commonly used aperture configurations, available with fire options up to 60 minutes are shown opposite.

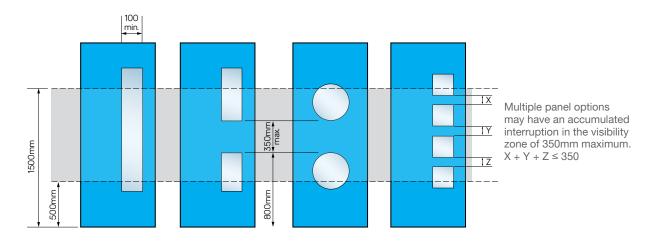
Alternative designs can be accommodated and these should be discussed with us at an early stage as shape, size and position is subject to certification parameters.

To ensure achievement of consistent quality, specified performance levels and fire certification, we strongly recommend that only factory installed glazing be used.

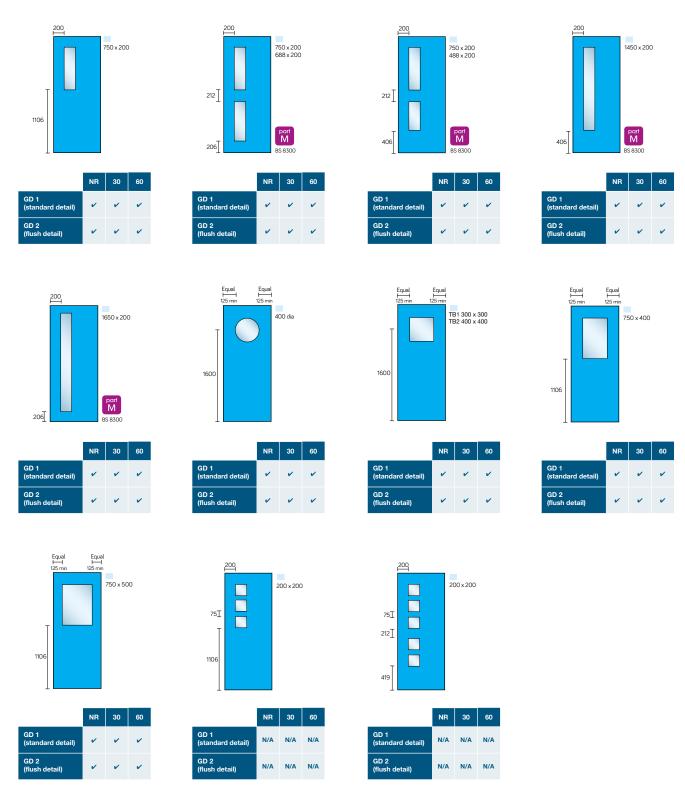
Those designated comply with Approved Document Part M, BS 8300 and the Equality Act. Vision panels should be towards the leading edge and with vertical dimensions including at least the minimum zones shown, either with or without a horizontal rail.

All entrance doors and doorsets, doors across corridors and within lobbies, and where appropriate internal doors require vision panels for door leaves and side panels wider than 450mm.

Visibility requirement for doors under the Equality Act (Part M, BS8300)



Popular vision panel aperture configurations



The two options above are not suitable for water resistant applications.

Privacy vision panels and air transfer grilles

Louvres and grilles

Air transfer grilles or louvres can be fitted into some Altro doorsets and can achieve up to 60 minutes fire resistance with CERTIFIRE approval. Please contact our Technical Team for further details.

Frames

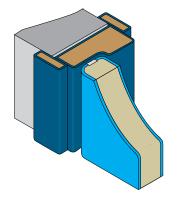
Our popular frame sections are available with radiused edges in a wide choice of finishes. Special sections can also be provided. Sections are produced to suit common standard partition widths of 100, 113, 126 and 144mm, although other widths can be accommodated.

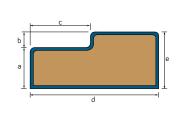
The split frame with separate stop, and frames with integral and separate tops sections can be wrapped in various materials for a maintenance-free, easily cleaned surface that matches the overall appearance of the doorset.

Altro doorset special sections – A wide range of other frame designs in various materials can be provided to suit X-ray protection, acoustic performance (see seals section on page 16) and other specific requirements. Particular requirements can be discussed with our Technical Team.

Frame with integrated stop

One piece section incorporating an internal rebate which eliminates dirt traps. Single sections can be produced up to 200mm wide with extension pieces for wider partitions. The frame with integrated stop is often supplied for exact opening sizes allowing joints to be sealed with a silicon bead on-site for a flush, architrave-free finish. Architraves can be provided on request to match frame finishes.

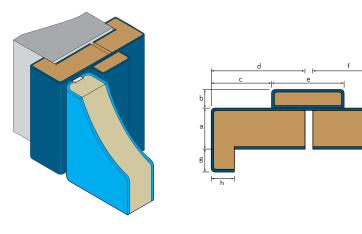




a:	32mm
b:	18mm
c:	Door thickness + 3mm
d:	94 - 144mm
e:	50mm

Split frame with separate stop

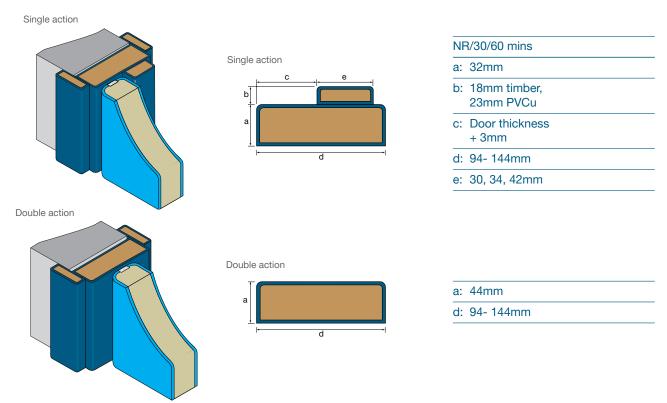
Split frame design with separate stop and radiused integral architraves. The split frame is designed to accommodate varying partition widths simplifying site fixing.



a:	32mm
b:	18mm timber, 23mm PVCu
c:	Door thickness + 3mm
d:	To suit fire rating
e:	Varies to suit partition
f:	Varies to suit partition
g:	18mm
h:	18mm

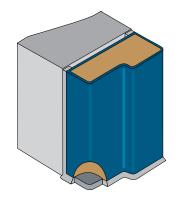
Frame with separate stop

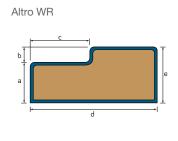
Traditional style frame with, separate stop and radiused edges. Architraves can be provided on request to match frame finishes. Timber and PVC frames available as single or double action.



Water resistant frame

Using the frame with integrated stop, a PVC foot pad is provided at the base of water resistant frames which are totally encapsulated for moisture resistance.





a:	32mm
b:	18mm
c:	Door thickness + 3mm
d:	94 - 144mm
e:	50mm

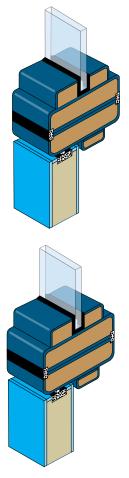
Fanlights, sidelights and overpanels

Doorsets can be supplied with fanlights or overpanels as outlined on page 4.

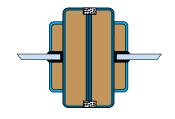
Wired or unwired glass for fanlights can be specified, the maximum individual pane size that can be accommodated is 1000mm wide x 2000mm high for FD30. Alternative details for NR/FD30 and FD60 fire rated fanlights, applicable to both situations, are shown below. Profiles/dimensions will vary depending on specific material and finish required.

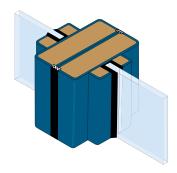
	NR/FD30	FD60
Maximum glass/panel opening	1000mm wide x 2000mm high	Wired glass – max 1494mm wide, max 2359mm high or max 2.25m² unwired glass – 2420mm wide, 2420mm high subject to max 2.15m²
Framing material	Softwood, or hardwood for polish – minimum 410kg/m³	Hardwood – minimum 640kg/m³
Bead system	Hardwood – minimum 510kg/m³	Hardwood – minimum 640kg/m³
Glazing system	Leaderseal System 36/6	Leaderseal System 90+
Glass type	Wired or unwired	Wired or unwired
Solid infill panel	As door construction, finished to suit	As door construction, finished to suit





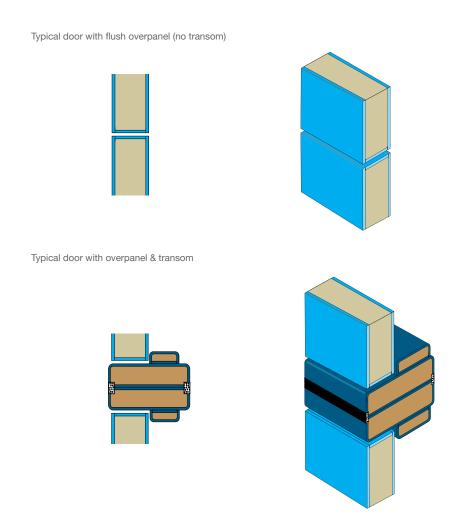
Mullion - Postformed frame





Altro transoms

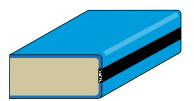
Transoms are available for use with fanlights and with overpanels if required. Overpanels for single or double doors can be accommodated without transoms and are manufactured with plain meeting stiles or with an applied astragal to the overpanel. Please see typical combinations and sections below.



Edge detailing, intumescents and seals

Edge detailing

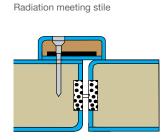
The Altro doorset range utilises a postformed edge detail which conceals hardwood lippings. Doors are fully encapsulated and maintenance free with 6mm radii postformed edges for PVC. The 'softer' radiused vertical edges of Altro PVCu contribute to user-safety.



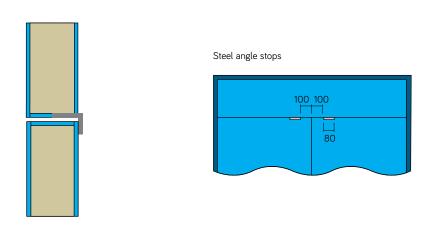


Astragals and angle stops

For pairs of doors, PVC astragals are required to cloak meeting stiles for radiation areas.



Where pairs of doors are used with an overpanel but without transom, steel angle stops are fitted for the doors to close against.



Fire and smoke

For fire rated doors, intumescent seals (tested to BS 476 Part 22) are fitted to the postformed edge and door head. Perimeter fire seals are essential to performance and form an integral part of the doorset fire rating, irrespective of stop size. There are two types available: intumescent and intumescent and smoke seal combined. These systems incorporate exposed intumescent strips to the doorleaf or overpanel. In Altro doorsets the intumescent strip is used as a colour contrast stripe on the leading door edge to comply with the Equality Act. Use of a combined intumescent and smoke seal instead of an intumescent only will provide smoke protection in accordance with BS 476 Part 31.1, providing the gap at the bottom of the door does not exceed 3mm. If it does, an additional threshold seal will be required.

Non-fire

Regardless of fire rating, an intumescent joining strip is used between the two facings of the Altro door. At the meeting stile of pairs of doors, bladed seals are used to block the sightline.

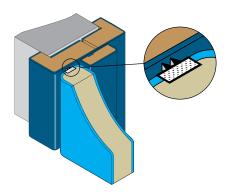
Acoustic

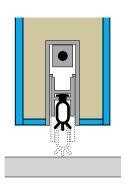
It is possible to factory-fit recessed drop seals into the bottom of the door leaf to meet sound reduction criteria.

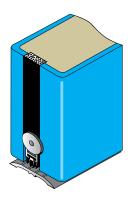
Drop seals should be factory-fitted at the bottom of the door to close the gap with the floor when the door is closed using a mechanical system. This may be useful for smoke containment and low level acoustic control, particularly where the requirements for disabled accessibility call for an unimpeded floor surface. Where supplied and fitted by others, we must be informed early to adjust the door construction to accommodate this. Drop seals cannot be applied to doors installed in wet areas.

Air pressure balancing

Factory-fit recessed drop seals can be added into the bottom of the door leaf to meet air control criteria. Air leakage test results to BS 476 Part 31.1 under various pressure differentials are available for air balancing calculations.







Architectural ironmongery

Integrated performance critical ironmongery is made up of hinges, flush bolts, locks and latches, slide track closers and automatic drop seals as appropriate.

Hinges

All Altro doorsets are supplied with the door leaf and frame prepared for lift off and/or fixed pin hinges. Lift off hinge leaves are factory fitted to both the door leaf and frame to allow simple and quick hanging on-site. Fixed pin hinges are factory fitted to the door leaf.

- CE marked and tested to EN 1935:2002 Grade 13 & 14
- Fully concealed advanced polymer bushed bearings are low friction and maintenance free
- Certifire approved
- Independently tested to 1 million cycles
- Fully radiused corners to suit factory machined preparation and to prevent stress cracking
- Stainless steel Grade 304 (Grade 316 also available)
- BSS brushed stainless steel finish
- SZP satin zinc plated
- 25 year guarantee

Also available as a combination lift off and fixed pin which allows the supply of doors with 2 No. lift off hinges to allow quick hanging with the addition of 1 No. fixed pin hinge for security.

Flush bolt

Lever action flush bolt, primarily intended for mounting in the leading edge of the normally closed leaf of a pair of doors or a leaf and a half.

- Smooth lever action
- Supplied as a pair for the top and bottom of the door
- Supplied with flat keep for fitting to underside of head frame (for top bolt)
- Radius end suitable for Altro doorsets
- Solid satin stainless steel Grade 304
- 10 year guarantee.

Locks and latches

Whilst the choice of other architectural ironmongery is not limited, we offer a high quality European style lockcase range as standard through our integrated doorset product. The range of mortise lockcases has the following features:

- CE marked and fully compliant with EN 12209
- Modular design across a range of lock functions
- Conforms to the dimensional standards of DIN 18251
- 60mm backset suitable for BS 8300 conformity
- 72mm and 78mm (bathroom lock) centres
- Patented spring clip follower to retain lever spindles (where requested)
- Bolt through furniture fixings at 38mm centres
- Single piece stainless steel forend with satin finish
- Springing suitable for unsprung lever furniture
- Radiused forend and strike plates for factory preparation
- 20mm double throw deadbolt.

Functions available include:

- Sashlock
- Deadlock
- Latch
- Bathroom lock
- Escape sashlock
- Nightlatch with anti-thrust
- Bathroom deadlock

Slide track closers

Surface mounted cam action door closers with slide track arm arrangement. The non projecting track makes it less vulnerable to abuse.

- Fully compliant with BS EN 1154
- CE marked
- Adjustable power unit for

EN size 2 - 4

EN size 2 - 5

- Fully fire tested to BS EN 1634 and suitable for use on timber fire doors up to FD60
- Fully adjustable for closing speed and latch action
- Hold-open (mechanics)
- Backcheck and delayed action
- Electro magnetic hold open
- Suitable for mounting in regular transom and parallel positions
- Certifire approved
- Supplied in a satin stainless steel (SS) or silver powder coated finish

Automatic drop seal

Concealed in the bottom edge of the door, the seal has a lightweight spring mechanism which is activated as the door opens/closes. The seal protects as a smoke, draft and acoustic barrier.

- Self levelling, lightweight sprung mechanism
- Smoke seal tested to BS 476: Part 31
- Adjustable to suit door gap from 1 12mm
- Suitable for single swing doors only
- Aluminium section with soft silicon bubble seal
- Tested to 100,000 cycles
- Suitable for fire door applications up to FD60

Please Note: To achieve sound reduction, the drop seal must close onto a hard surface.

Non-performance critical architectural ironmongery

The overall aesthetics are enhanced by combining performance and non-performance critical architectural ironmongery.

For full details of the Altro doorsets architectural ironmongery ranges please contact the Altro technical sales team on 01462 707600.

Installation and maintenance

Altro doorsets should be considered as late second fix items, not for installation until all 'wet trades' have finished.

Installation made easy

Matching discs are provided to conceal fixings. Hinges are recessed as standard, lock and flush bolt bodies are factory recessed where Altro doorsets architectural ironmongery packages are supplied.

All doorsets are carefully wrapped and protected to avoid damage during transportation. To simplify handling, doors and frames are packaged separately. All items are carefully labelled for straightforward reassembly on-site. To avoid damage on-site, it is important that doorsets are stored in dry conditions, with a relative humidity of 40% to 60%, and stacked flat on a minimum of 3 bearers.

Our guarantee does not cover wilful neglect or unskilled installation or any defects which were visible before the installation of the product but not reported within seven days of delivery.

Low maintenance

For laminates, soap and water or mild detergent will usually clean the surface satisfactorily. For PVC surfaces, most marks can be cleaned off as above. Tougher stains, such as grease, marker inks or paints can be removed with a proprietary cleaner and soft bristle brush.

Powder-based cleaners, bleaches or ammonia should not be used as they can leave a residue unless carefully rinsed off. We recommend proprietary cleaners to be tested on a small area prior to cleaning large areas.

On-site modification

Any on-site modification of the door leaf such as reducing the size or cutting of apertures will invalidate our guarantee or performance certification. Please contact the Technical Team for further advice and guidance.

A full technical installation guide is available to download online at www.altro.com

Compliance. Tried and tested

Fire

Fire resistance is one of the most fundamental performance criteria for doorsets. Integrated Doorsets' products are third party certificated by the CERTIFIRE independent product conformity scheme and comply with Part B of the Approved Documents. 30 and 60 minute fire doorsets carry a tamper evident and fully traceable label incorporating clear, essential information.

Smoke

It is now generally acknowledged that, in the event of fire, it is smoke that is the major risk to occupants. Appropriate smoke seals and intumescents are automatically included with our doorsets to suit performance requirements.

Sound

Part E of the Approved Documents 2013 includes quantifiable acoustic performance levels. Altro doorsets offer up to 32 RwdB sound reduction and include appropriate seals to suit performance requirements.

Durability

Altro doorsets meet the requirements of EN 1192 for strength classification and EN 12400 for mechanical durability.

Radiation

Altro radiation doorsets meet the requirements of Public Health England (PHE) in regard to lead thickness and radiation levels.

Water Resistance

Altro doorsets are moisture resistant for wet areas and suitable for use in damp/humid/moisture-laden air areas. Altro water-resistant doorsets have been supplied to the industry for over 20 years so you can be safe in the knowledge that Altro PVCu will perform in wet areas. Doorsets should not be submerged or hosed down as this is not a fully sealed unit.

Particulates

Altro doorsets are capable of meeting the requirements of BS EN ISO 12128 for interlock systems where PCL4 can be achieved and BS EN ISO 14644 where the inclusion of seals ensures that pressure differentials are maintained. Altro PVCu is non-shedding and assists in maintaining a particulate-free environment.

Mobility & access

Altro doorsets comply with Part M and consider additional BS 8300 provisions for accessibility.

Quality control

We have implemented 100% pre-delivery inspections to ensure all products are checked across all manufacturing sites, ensuring the highest quality standards.

ISO 9001

We operate a quality management system which complies with the requirements of ISO 9001:2015.

Notes

Altro Limited, Works Road, Letchworth Garden City, Herts, SG6 1NW, United Kingdom 🖶, 🗗, AltroFix, Altro Whiterock hygienic doorsets, Altro Whiterock, Altro Fortis doorsets and Altro Fortis Titanium are trademarks of Altro Limited.

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