

# 4520AF FLETCHER ALUMINIUM ATLANTIC WINDOWS AND DOORS

*Masterspec sections must be customised to suit the project being specified, by removing irrelevant information and adding project-specific information and selections.*

## 1. GENERAL

This section relates to the manufacture, supply, and installation of FLETCHER ALUMINIUM, Fisher<sup>®</sup>, Nebulite<sup>®</sup>, Rylock<sup>®</sup>, Vistalite<sup>®</sup>:

- aluminium windows
- aluminium doors and frames
- hardware and furniture

*Modify or extend the above description to suit the project being specified.*

## 1.1 RELATED WORK

Refer to GLAZING for glazing.

*Include cross references to other sections where these contain related work.*

*Generally glass is supplied and installed as part of the aluminium windows and doors package.*

*The glazing work section will always need to accompany this work section.*

*Generally, hardware is supplied and installed as part of the aluminium windows and doors package. However, it will be necessary to confirm preferred selections from the range of standard hardware and furniture offered by the window manufacturer. On major projects hardware may be supplied by a specialist hardware supplier for the window manufacturer to fix. Note also special installations such as electronic locks and hydraulic window opening gear.*

## 1.2 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:

WANZ Windows Association of New Zealand

*Refer general section INTERPRETATION & DEFINITIONS for abbreviations used throughout the specification.*

## Documents

## 1.3 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC E2/AS1	External moisture
NZBC F4/AS1	Safety from falling
NZS 3604	Timber Framed Buildings
AS 3715	Metal finishing - Thermoset powder coatings for architectural applications
NZS 4223.3	Glazing in buildings - Human impact safety requirements
WANZ	Powder Coating Quality Assurance System

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

*Delete from the DOCUMENTS clause any document not cited. List any additional cited documents.*

## RELATED DOCUMENTS

*Refer to the following related documents when preparing this section:*

AS/NZS 1170	Structural design actions
NZS 1170.5	Structural design actions - Earthquake actions - New Zealand
NZS 3602	Specifying timber and wood-based products for use in building
NZS 3504	Aluminium windows
NZS 4211	Performance of windows
AS/NZS 4284	Testing of building facades
BRANZ BU 349	Finishes for aluminium
BRANZ BU 362	Finishes on architectural hardware
BRANZ BU 369	Fitting tolerances
BRANZ BU 422	Maintenance of aluminium joinery
BRANZ BU 450	Solar-control glass selection and installation
BRANZ BU 452	Weatherproofing aluminium doors and windows
BRANZ BU 453	Fasteners selection
BRANZ BU 463	Aluminium windows and E2/AS1
BRANZ BU 465	Domestic flashing installation
BRANZ BU 466	Timber-frame parapets, balustrades and columns
BRANZ BU 467	Principles of flashing design

BRANZ BU 471 Insulating glass units  
WANZ Aluminium Window Handbook  
WANZ Installation code for aluminium joinery products

#### 1.4 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:

Fletcher Aluminium High Performance Architectural Solutions for Windows and Doors

WANZ Window installation system:

An Alternative Solution for the installation of Windows and doors  
Part 2: Fletcher Aluminium branded details

Copies of the above literature are available at

Web: [www.designresource.co.nz](http://www.designresource.co.nz)

Web: [www.fisherwindows.co.nz](http://www.fisherwindows.co.nz)

Telephone: 0800 Fisher

Web: [www.nebulite.co.nz](http://www.nebulite.co.nz)

Telephone: 0800 Nebulite

Web: [www.rylock.co.nz](http://www.rylock.co.nz)

Telephone: 0800 4 Rylock

Web: [www.vistalite.co.nz](http://www.vistalite.co.nz)

Telephone: 0800 Vistalite

*It is important to ensure that all personnel on site have access to accurate, up to date technical information on the many products, materials and equipment used on a project. In most cases individual products are not used in isolation, but form part of a building process. Also a particular manufacturer's and/or supplier's requirements for handling, storage, preparation, installation, finishing and protection of their product can vary from what might be considered the norm. Access to technical information can help overcome this potential problem.*

#### Warranties

#### 1.5 WARRANTY

Warrant this work under normal environmental and use conditions against failure of materials and execution

Warranty period: 2 years

Refer to the general section for the required form of WARRANTY AGREEMENT and details of when completed warranty must be submitted.

*Check general section WARRANTIES for the date of commencement of warranties; which is normally practical completion of the contract. Refer to the chosen conditions of contract as it may also contain information on warranties/guarantees.*

*NZS 3504 requires that manufacturers of windows marked to claim compliance with NZS 4211 must warrant their windows will comply for a period of at least two years. However larger contracts may justify a longer term, but any increase in time will have cost implications.*

#### Requirements

#### 1.6 NO SUBSTITUTIONS

Substitutions are not permitted to any specified Fletcher Aluminium system, or associated components and products.

#### 1.7 QUALIFICATIONS

Where supply and installation is required by the manufacturer, carry out fixing by the manufacturer or by a firm nominated and approved by the window manufacturer.

*Where installation is required by the manufacturer, the manufacturer may wish to have the installation carried out by a specialist installer.*

#### 1.8 HARDWARE SAMPLES

Submit for assessment catalogue cuts and data sheets of all hardware, operating systems and security mechanisms before assembly commences.

#### 1.9 FINISH SAMPLES

Submit for assessment before fabrication a sample of the specified finish to all exposed window and door sections in the selected colour.

- 1.10 SHOP DRAWINGS AND INSTALLATION DETAILS  
Provide drawn profiles and preliminary installation details for review.

Shop drawings to show, but not be limited to:

- Construction details (minimum scale 1:10) showing the interface between joinery elements and the building structure.
- Dimensions of all typical elements and of any special sizes and shapes.
- Glazing specification and details.

Refer to the general section DOCUMENTATION for the requirements for submission and review and the provision of final shop drawings.

*Add further detail on the precise form and extent of shop drawings where appropriate.*

*Modify this clause to conform with the appropriate timing for the project. In some cases, preliminary details may need to be supplied at the pricing stage, with final shop drawings by the successful supplier/fabricator only.*

- 1.11 PERFORMANCE - WIND  
Construct windows, exterior doors and frames to withstand design wind pressures to NZS 3604.

*Delete next clause if using the above.*

- 1.12 PERFORMANCE - STRUCTURAL/WEATHER-TIGHTNESS  
The structural and weather-tight performance of the completed joinery, the glazing and infill panels is the responsibility of the window manufacturer.

*It is common for the window supply company to be made responsible for the complete window installation, including the structural and weathertight performance of the glass and glazing system. NZS 3504 recognises this. It specifies that the glass thickness shall be selected from NZS 4223 for the nominated design wind pressure. NZS 4223 is very precise about design wind pressure. See table 15. Glass type would be specified elsewhere (e.g. on drawn schedules) and listed here.*

*If this clause is not used and the glazing is the responsibility of another trade, then 4611 GLAZING will need to be specific about responsibility and guarantees.*

## 2. PRODUCTS

- 2.1 WINDOWS  
Refer to SELECTIONS for type and finish.

- 2.2 DOORS  
Refer to SELECTIONS for type and finish.

- 2.3 FLASHINGS GENERALLY  
Material, grade and colour of head flashings to match the window frames. Ensure that materials used for head, jamb and sill flashings are compatible with the window frame materials and fixings and cladding materials.

*It is now WANZ policy that their members include flashings with every window quote, whether specified or not.*

- 2.4 GLASS  
Refer to GLAZING for type and thickness.

- 2.5 REVEALS - TIMBER PAINTED  
Timber reveals for paint finish with all sides primed grooved for wall linings or flush finished for architraves.

### Components - for direct fix systems

- 2.6 SILL PAN FLASHING  
Flashing for direct fix claddings to collect and drain water that may penetrate through the window or door unit. Size to extend from the inner most point of the aluminium frame out over the external face of the cladding.

- 2.7 WENZ SUPPORT ANGLE  
Support angle for use with the sill pan for deeper claddings to transfer the weight of the window back to the frame.

#### **Components - for cavity systems**

- 2.8 WENZ CAVITY CLOSER  
Flashing device to close the cavity above the window or door unit to direct water that occasionally penetrates the wall cladding into the cavity spaces adjacent to the window.

- 2.9 WENZ SUPPORT BAR  
Extruded aluminium support bar with built in drainage and ventilation to NZBC E2, to provide continuous support to the window unit.

#### **Components**

- 2.10 HARDWARE AND FURNITURE  
Hinges, stays, catches, fasteners, latches, locks and furniture as offered by FLETCHER ALUMINIUM. Refer to SELECTIONS for type and finish. Key alike all lockable hardware able to be keyed alike.  
*Modify or omit this clause when some or all hardware is provided for elsewhere, in this or other sections.*

- 2.11 SAFETY STAYS  
Stainless steel non releasable restrictors to limit window opening to NZBC F4/AS1, Table 2, Acceptable opening sizes for barriers.

- 2.12 WEATHERING SEALANT  
Building sealant used in accordance with manufacturer's instructions for weather sealing glass to glass joints.  
*It is not advisable to mix sealants in the one installation. For example polystyrene and silicone are incompatible, preventing cure.  
Use polyurethane sealant next to thin dimension stone panels supported on curtain walling.  
Silicone sealants can bleed into natural stonework causing coloured stains, Water run-off from silicone sealant can also cause streaking on glass which is difficult if not impossible to clean off.*

#### **Finishes**

- 2.13 ANODISED ALUMINIUM  
Refer to SELECTIONS for type.
- 2.14 EXTERNAL COATED ALUMINIUM  
Polyester powder coating in accordance with WENZ Powder Coating Quality Assurance System for architectural aluminium products and AS 3715.

### **3. EXECUTION**

#### **Conditions - generally**

- 3.1 DELIVERY  
Do not deliver to site any elements which cannot be unloaded immediately into suitable conditions of storage.
- 3.2 UNLOADING  
Unload, handle and store elements in accordance with FLETCHER ALUMINIUM requirements.
- 3.3 AVOID DISTORTION  
Avoid distortion of elements during transit, storage and handling.
- 3.4 PREVENT DAMAGE  
Prevent prefinished surfaces rubbing together, and contact with mud, plaster and cement. Keep paper and cardboard wrappings dry.

3.5 **HARDWARE GENERALLY**  
Factory fit all required and scheduled hardware. Account for all keys and deliver separately to the site manager.

3.6 **SAFETY STAYS**  
Factory fit safety stays to all windows scheduled for safety stays and to all windows where safety stays are required to comply with NZBC F4/AS1 4.0, Opening windows.

#### **Conditions - fixings and fastenings**

3.7 **SUPPLY OF FIXINGS**  
Use only fixings and fastenings recommended by the manufacturer of the component being fixed and to comply with the design wind pressure stated in the STANDARD OF PERFORMANCE clause.

3.8 **EXPOSED FIXINGS AND FASTENINGS**  
Ensure fixings and fastenings exposed to the weather are of aluminium, or Type 316 stainless steel.

3.9 **TIMBER REVEALS**  
Before fixing to aluminium frames, ensure that timber liners which are being painted have been primed on all surfaces.  
*Use only when necessary. See NZS 3504, clause 5.2.*

#### **Installation**

3.10 **CORROSION PROTECTION**  
Before fixing, apply suitable barriers of bituminous coatings, stops or underlays between dissimilar metals in contact, or between aluminium in contact with concrete.

3.11 **CONFIRM PREPARATION OF WALL OPENINGS**  
Confirm that wall openings have been prepared ready for the installation of all window and door frames. Do not proceed with the window and door installation until required preparatory work has been completed.

Required preparatory work includes the following:

- wall cladding underlay/building wrap to openings finished and dressed off ready for the installation of window and door frames to NZBC E2/AS1:9.1.5 Building wrap to wall openings.
- claddings neatly finished off to all sides of openings
- installation of flashings (those which are required to be installed prior to frames).

*Refer to the WANZ website ([www.wanz.org.nz](http://www.wanz.org.nz)) for information on the WANZ WIS Window Installation System. This covers the WANZ recommendations on the preparation of window/door openings, minimum clearances between rough openings and the window/door frame, dressing of the wall wrap into the prepared opening, application of flexible flashing tape to the sill and top corners of the opening, installation of window/door frames and flashings, sealing of the window/door frame into the opening to create a pressure equalisation cavity, installation of flashings and the maintenance of appropriate clearances between the frame and the surrounding construction.*

3.12 **INSTALLATION GENERALLY**  
Fix to comply with the reviewed shop drawings and installation details including flashings and bedding compounds, pointing sealants and weathering sealants.

Fix frames rigidly in place without distortion, to the FLETCHER ALUMINIUM'S and WANZ Aluminium window handbook requirements, plumb, true to line and face, weathertight and with all openings operating freely.

3.13 **INSTALLATION DIRECT FIX**  
Install to WANZ Installation System and Fletcher Aluminium branded details and drawings including sill pans to window and door units.

- 3.14 **INSTALLATION CAVITY CONSTRUCTION**  
Install to WANZ Installation System and Fletcher Aluminium branded details and drawings including WANZ cavity closers, support bars and support angles
- 3.15 **DRAINAGE**  
Provide anti-condensation channels to sills. Sills to sashes and fixed lights to incorporate positive drainage to the exterior.
- 3.16 **INSTALL FLASHINGS**  
Liaise with and agree flashing detail requirements with the cladding manufacturer/installer. Install flashings to heads, jambs and sills of frames as supplied and required by the cladding manufacturer and as detailed on the drawings. Finish head flashings to match window finish.
- Place all flashings so that the head flashing weathers the jamb flashings, which in turn weathers over the upstand of the sill flashing. Ensure that sill flashings drain to the outside air.
- Except where window/door frames are recessed, ensure that head flashings over-sail the unit by 30mm minimum at each end.  
*A 30mm over-sail is recommended by WANZ, this may vary depending on cladding and jamb details, refer to NZBC E2/AS1 for options and modify this clause.*
- Head, jamb and sill flashings are always advisable to ensure weathertightness; and must be used in high and very high wind zones where face sealed claddings are used and where there is insufficient physical protection provided in the form of roof overhangs or canopies.*
- Ensure that flashings are fully detailed, preferably as 3-dimensional diagrams, to ensure that they are fabricated and installed in a manner that will avoid the ingress of moisture.*
- 3.17 **COMPLETE AIR SEAL**  
To NZBC E2/AS1:9.1.6 Air seals. Form an air-tight seal by means of a proprietary expanding foam or sealants used with backing rods, applied between the window / door reveal and structural framing to a depth of 10 - 20mm, to provide a continuous air tight seal to the perimeter of the window or door.  
*Formation of an air seal around all penetrations in the building envelope will greatly reduce the likelihood of water ingress occurring; especially when employed in combination with well designed joinery frames and appropriately detailed and installed flashings. Refer to the Guidance Note above under CONFIRM PREPARATION OF WALL OPENINGS regarding the WANZ WIS.*
- Completion**
- 3.18 **TRADE CLEAN**  
Trade clean window frames, operable windows and doors, glass and other related surfaces inside and out at the time of installation to remove marks, dust and dirt, to enable a visual inspection of all surfaces.  
*Always use this clause. It describes the basic cleaning operation carried out at the time of installation. The expectation is that at that time the installer will leave the site. Note that subsequent damage is a difficult issue on all contracts.*
- 3.19 **PROTECTIVE COVERINGS**  
Provide protective coverings and coatings where required to prevent marking of surfaces visible in the completed work and to protect aluminium joinery from following trades. Remove protection on completion.  
*Modify this clause to suit project requirements. Protective coverings and coatings are not usually supplied automatically. Additional protective coverings are required to protect from following work such as plastering and painting.*
- 3.20 **SAFETY**  
Indicate the presence of transparent glasses for the remainder of the contract period, with whiting, tape or signs compatible with the glass type. Indicators other than whiting must not be applied to the glass surface. Masking tape must not be used for this purpose.  
*Modify this clause to suit. Whiting is used to protect internal finishes exposed to the sun. Along with glazing signs and tape, it also acts as a safety device by clearly indicating during the balance of the construction phase that glass has been installed.*

*This clause does not refer to the NZS 4223 requirement for "manifestations" required for post-construction building use where a glass door or panel could be mistaken for an unimpeded path of travel.*

### 3.21 MANIFESTATIONS

To NZS 4223.3, 303.1: Manifestation (making glass visible).

*Modify this clause to describe project requirements for safety or appearance.*

*Note that both NZS 4223. 3 and NZBC F2 clause F2.3.2 set minimum standards for delineating glass "capable of being mistaken for an unimpeded path of travel." While this issue is best resolved in the basic design of the installation, in some cases applied signs, decals, sandblasting or attached rails are necessary. Consider and specify accordingly.*

### Completion

### 3.22 REMOVE

Remove safety indicators and protective coverings, and wipe down all joinery thoroughly to leave it perfectly clean. Remove debris, unused materials and elements from the site.

### 3.23 CONFIRM

Confirm the proper operation of hardware and operating systems on completion of the installation and again at completion of the contract works.

## 4. SELECTIONS

### Performance

Substitutions are not permitted to the following, unless stated otherwise.

*SELECTIONS is for providing details of the actual selections to be included in the contract works including model numbers, colours and other information necessary to ensure that the correct materials are supplied and installed*

### 4.1 WIND ZONE - DESIGN TO NZS 3604

Building wind zone: ~ (as determined from table 5.1 of NZS 3604)

*The supply of this information is very important for the design of the window frame, window/door members and the proper selection of glass. It must be provided in all instances. Building wind zones include:*

- L (Low wind speed of 32 m/s)	0.65 kPa ULS (Ultimate limit state)
- M (Medium wind speed of 37 m/s)	0.85 kPa ULS
- H (High wind speed of 44 m/s)	1.20 kPa ULS
- VH (Very high wind speed of 50 m/s)	1.55 kPa ULS

*Above 50 m/s specific design information must be provided.*

### Window and door system

### 4.2 ACCEPTABLE SUPPLIERS

Fabrication and supply of FLETCHER ALUMINIUM windows and doors by one of the following.

<u>Fabricator</u>	<u>Contact details</u>
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*Contact Fletcher Aluminium 0-9-574 1500 for a list of fabricators able to supply and install in the area or refer to the Fabricator Locator on [www.fletcheraluminium.co.nz](http://www.fletcheraluminium.co.nz).*

*Available via distribution channel to market: Fisher<sup>®</sup>, Nebulite<sup>®</sup>, Rylock<sup>®</sup>, Vistalite<sup>®</sup>*

### 4.3 AWNING WINDOWS

Brand: Fletcher Aluminium Atlantic System

Platform: 48mm

Frame: Flat face

Sash: Flush/Flanged

Finish: Anodised

Glass: Refer to GLAZING for type and thickness

*Frame option:: 48mm Flanged / Equal leg / 106 or 159 frames*

*Sash option: Beaded sash available for single & double glazed up to 35mm IGU*

*Finish option: Powder coated*

*Double glazing: Up to 35mm*

*Recommended max sash size 1800mm high x 900mm wide (depends on weight & wind load)  
Special Feature - Flush sashes appearance is door like and with a range of frames available.*

#### 4.4 CASEMENT WINDOWS

Brand: Fletcher Aluminium Atlantic Suite  
Platform: 48mm  
Frame: Flat face  
Sash: Flush/Flanged  
Finish: Anodised  
Glass: Refer to GLAZING for type and thickness  
*Sash option: Beaded sash available for single & double glazed up to 35mm IGU  
Finish option: Powder coat  
Double glazing: Up to 35mm  
Casement windows should have a ratio of 2 to 1 to ensure that they operate smoothly. e.g. 1200mm high x 600mm wide  
Casements over 1500mm high should be made with a heavier section, this is for strength and allows for a central morticed lock (most people cannot reach top fasteners that are too high)  
Special Feature - Flush sashes appearance is door like and with a range of frames available.*

#### 4.5 SASHLESS VERTICAL SLIDING WINDOWS

Brand: Fletcher Aluminium Architectural Pacific residential system  
Type: Aneeta™  
Frame: ~  
Lock: Integrated  
Finish: Anodised  
Glass: Refer to GLAZING for type and thickness  
*Frame: Any window or door frame  
Lock option: None - lock is integrated- can be locked in closed and open position  
Finish option: Powder coated  
Ideal usage - because there is no protrusion this is a safe product for schools. Where ever there is a call for ventilation and unobstructed views are a consideration. To replace old sashes in existing frames. In door frames in rooms that have no windows to comply with ventilation regulations. Windows facing small decks or where ever there is no room for a sash to protrude.  
Configurations - 2, 3, and 4 panel (fixed and counterbalanced)  
Double glazing - Up to 16mm (available in 2 panel only)  
Maximum size - 4 metres high and 1.6 metres wide (depends on wind load & glass weight)*

#### 4.6 FOLDBACK® BI-FOLDING WINDOWS

Brand: Fletcher Aluminium Atlantic system  
Platform: 48  
Model: Outline  
Rolling gear: Top hung  
Sill type: Flush  
Frame: Flat face flanged  
Panel: Beaded  
Finish: Anodised  
Glass: Refer GLAZING for type and thickness  
*Sill option: Standard  
Frame option: Chair frame, 106 & 159  
Double gazing: Up to 28mm  
Finish option: Powder coated  
Special feature - Allows panels to fold back against outside cladding. Opens 180 degrees  
Opening direction - Out only  
Configurations- Up to 6 panels - 3 panels folding each way.  
Panel sizes - Height 1.6 metres x width 800mm (depends on wind load)*

#### 4.7 STANDARD BI-FOLDING WINDOWS

Brand: Fletcher Aluminium Atlantic system  
Platform: 48  
Model: Outline  
Rolling gear: Top hung  
Sill type: Flush  
Frame: Flat face flanged  
Panel: Beaded  
Finish: Anodised  
Glass: Refer GLAZING for type and thickness

*Sill option: Standard*  
*Frame option: Chair frame, 106 & 159*  
*Double gazing: Up to 28mm*  
*Finish option: Powder coated*  
*Special feature - Allows panels to fold back against outside cladding. Opens 180 degrees*  
*Opening direction - Out only*  
*Configurations- Up to 6 panels - 3 panels folding each way.*  
*Panel sizes - Height 1.6 metres x width 800mm (depends on wind load)*

#### 4.8 LOUVRE WINDOWS

**Brand:** Altair™ by Breezway  
**Type:** Adjustable  
**Blade type:** Glass  
**Blade depth:** 152mm  
**Operation:** Manual  
**Finish:** Anodised  
*Blade type options: Cedar, Aluminium*  
*Size option: 102mm*  
*Operation options: Remote control manual, remote control electronic*  
*Finish options: Powder coat colours with black clips and handles*  
*Powder coat colours with colour matched clips and handles on request*  
*Features - Standard left hand handle (as viewed from inside) can be specified as right hand*  
*Remote control handle can be specified*  
*100mm restricted opening can be specified where limited opening is required*  
*Variable handle position where handles are difficult to reach in standard position*

#### 4.9 HINGED OUT DOORS - SINGLE AND FRENCH DOORS

**Brand:** Fletcher Aluminium Atlantic system  
**Platform:** 48mm  
**Frame:** Flat face  
**Sill:** Flush  
**Panel Sections:** Standard beaded rails and stiles  
**Finish:** Anodised  
**Glass:** Refer GLAZING for type and thickness  
*Special feature: Flush sill clean uncluttered lines*  
*Frame option: Chair frame, 106 & 159*  
*Double gazing: Up to 28mm*  
*Sill option: Standard*  
*Panel sections: Beaded wide rails*  
*Stiles option: Wide stile*  
*Finish option: Powder coated*  
*Max panel height 2.7 metres, width 1000mm, (depends on wind load). For door sizes outside these specs, refer to Fletcher Aluminium Oakley Commercial section.*

#### 4.10 HINGED IN DOORS - SINGLE AND FRENCH DOORS

**Brand:** Fletcher Aluminium Atlantic system  
**Platform:** 48mm  
**Frame:** Flat face  
**Sill:** Standard  
**Panel Sections:** Standard beaded rails and stiles  
**Finish:** Anodised  
**Glass:** Refer GLAZING for type and thickness  
*Frame option: Chair frame, 106*  
*Double gazing: Up to 28mm*  
*Panel Sections: Beaded rails and stile*  
*Stiles option: Narrow stile*  
*Finish option: Powder coated*  
*Max panel height 2.7 metres, width 1000mm, (depends on wind load). For door sizes outside these specs, refer to Fletcher Aluminium Oakley Commercial section*

#### 4.11 FOLDBACK® BI-FOLDING DOORS

**Brand:** Fletcher Aluminium Atlantic system  
**Platform:** 48mm  
**Special feature:** Allows panels to fold back against outside cladding  
**Model:** Fully framed version (head is encased in aluminium pelmet)  
**Rolling gear:** Top hung

Opening direction: Out only  
Sill Type: Flush  
Frame: Flat face  
Panels: Pocket glazed / beaded  
Finish: Anodised  
Glass: Refer GLAZING for type and thickness

*Opening direction option: None*

*Frame option: Chair frame, 106 & 159*

*Finish: Powder coated*

*Configurations - Up to 6 panels - 3 panels folding each way. Height 2.6 metres, width 900mm (depends on wind load and glass weights)*

*Special feature - Allows panels to fold back against outside cladding - 180 degrees*

*Double glaze up to 28mm*

#### 4.12 STANDARD BI-FOLD DOOR

Brand: Fletcher Aluminium Atlantic system

Platform: 48mm

Rolling gear: Top hung

Sill Type: Flush

Frame: Flat face

Panels: Beaded

Opening direction: Out

Finish: Anodised

Glass: Refer GLAZING for type and thickness

*Frame option: Chair frame, 106*

*Double glazing: Up to 28mm*

*Finish Option: Powder coated*

*Configurations - Up to 6 panels*

*Opens 90 degrees*

*Configurations - Up to 6 panels - 3 panels folding each way. Height 2.6 metres, width 900mm (depends on wind load and glass weights)*

#### 4.13 TOP ROLLING SLIDING DOOR

Brand: Fletcher Aluminium Atlantic system

Platform: 48mm

Rolling gear: Top rolling

Sill type: Flush

Frame: Flat face 106

Panels: Beaded

Finish: Anodised

Glass: Refer GLAZING for type and thickness

*Finish Option: Powder coated*

*Height 3.2 metres, width 1.6 metres per panel. e.g. 2 panels = 3.2 metres, 3 panels = 4.8 metres, 4 panels = 6.4 metres. Sizes are dependant on wind loading and glass weights.*

*Double glaze up to 28mm*

*Special feature - Flat surface sill eliminates build up of dirt and debris. Concealed top hung tracking systems makes it impossible to lift and slip off the door. Doors slide externally for greater weather tightness*

#### 4.14 TOP ROLLING STACKER SLIDING DOOR

Brand: Fletcher Aluminium Atlantic system

Platform: 48mm

Sill type: Flush

Frame: Flat face 159

Panels: Beaded

Finish: Anodised

Glass: Refer GLAZING for type and thickness

*Finish Option: Powder coated*

*Height 3.2 metres, width 1.6 metres per panel. e.g. 2 panels = 3.2 metres, 3 panels = 4.8 metres, 4 panels = 6.4 metres. Sizes are dependant on wind loading and glass weights.*

*Double glaze up to 28mm*

*Special feature - Flat surface sill eliminates build up of dirt and debris. Concealed top hung tracking systems make it impossible to lift and slip off the door. Doors slide externally for greater weather tightness*

- 4.15 **BOTTOM ROLLING SLIDING DOOR**  
 Brand: Fletcher Aluminium Atlantic system  
 Platform: 48mm  
 Frame: Flat face 106  
 Panels: Beaded  
 Finish: Anodised  
 Glass: Refer GLAZING for type and thickness  
*Finish option: Powder coated*  
*Height 3.2 metres, width 1.6 metres per panel. e.g. 2 panels = 3.2 metres, 3 panels = 4.8 metres, 4 panels = 6.4 metres. Sizes are dependant on wind loading and glass weights.*  
*Double glaze up to 28mm*  
*Special feature - Flat surface sill eliminates build up of dirt and debris. Chevron shaped roller and track system allows for better weight distribution and a smoother rolling product. Doors slide externally and suspended for greater weather tightness*

- 4.16 **BOTTOM ROLLING STACKER SLIDING DOOR**  
 Brand: Fletcher Aluminium Atlantic system  
 Platform: 48mm  
 Frame: Flat face 159  
 Panels: Beaded  
 Finish: Anodised  
 Glass: Refer GLAZING for type and thickness  
*Finish option: Powder coated*  
*Height 3.2 metres, width 1.6 metres per panel. e.g. 2 panels = 3.2 metres, 3 panels = 4.8 metres, 4 panels = 6.4 metres. Sizes are dependant on wind loading and glass weights.*  
*Double glaze up to 28mm*  
*Special feature - Flat surface sill eliminates build up of dirt and debris. Chevron shaped roller and track system allows for better weight distribution and a smoother rolling product. Doors slide externally and suspended for greater weather tightness*

### Components

- 4.17 **JAMB REVEALS, TIMBER**  
 Species/grade: Radiata pine  
 Thickness: 19mm  
 Treatment: H3.1  
 Finish: Pre-primed radiata pine (for paint)  
 Type: ~  
*Species/grade: Rimu and other timbers are available*  
*Thickness option: 19mm to 30mm*  
*Treatment: NZS 3602 requires certain timbers be treated*  
*Finish: Clear or paint*  
*Unless specified otherwise, timber reveals are generally supplied pre-primed for an opaque finish Jamb liners can be standard, in which case separate architraves are required. Jamb liners can be grooved in this case the section between the groove and edge forms its own architrave*

- 4.18 **PANELS**  
 Brand/type: Entrance door panels  
 Finish: Powder coat  
*Specify type, typical options include fibre cement board. Aluminium faced plywood, Aluminium composite panels. Available in 2 panel glazed, 4 panel and 8 panel with or without side lights.*

### Finishes

- 4.19 **FINISH, ANODISED**  
 Thickness grade: 12 microns  
 Colour: ~  
*State thickness grade (e.g. 25, 20, 15, or 12 microns). 20 microns is usually specified for quality installation though 12 microns is suitable for domestic joinery. Selection of micron can depend on the environment e.g. exposed to salt air. State colour - natural silver is usually specified. For this finish the aluminium has been etched to provide a satin finish. Other options include bronze and black Natural Silver, Light bronze, Dark bronze, Medium bronze. It may be necessary to specify a form of removable, temporary protection pending completion of the building (e.g. lacquers, strippable coatings).*

- 4.20 FINISH, POWDER COATING  
 System: Duralloy  
 Film integrity: 10 years  
 Colour integrity: 7 years  
 Colour: ~  
 Thickness: Average of 80 microns with a minimum of 50 microns  
 System option: *Duratec, Film integrity 10 years, Colour integrity 10 years (Generally required for above 3 stories and within sea spray zone).*  
*Colour - Standard, stocked colours to premium non-stocked colours*  
*Thickness - Depends on the particular circumstances with a minimum of 50 microns.*

### Hardware

- 4.21 WINDOW HARDWARE  
 Casement stay: Schlegel friction  
 Awning stay: Schlegel friction  
 Window fastener: ~  
*Casement stay options: Stainless steel or Aluminium*  
*Standard stay opens approx 50 degrees. There is a stay that opens 90 degrees, this is ideal for cleaning windows from the inside, when open the gap at hinge side allows a hand to pass through*  
*For casement stays to work properly, windows need a ratio of 2 to 1, e.g. 1200mm high x 600mm wide. For very narrow windows e.g. 300mm wide, select low friction stays*  
*Awning stay options: Stainless steel or Aluminium*  
*Double action stays available - open approx 28 degrees, then unclip and open to 90 degrees to allow cleaning from inside. Very shallow windows e.g. 300mm high awning, Select low friction stay for smoother operation. Select non-friction stays where remote control is required*  
*Quality window fastener options: Roma or Cavalier (solid brass)*  
*Plated options: Florentine bronze, polished brass, satin chrome*  
*Powder coated colour option: Standard stocked or special non-stocked colours*  
*Standard window fasteners: Double tongue, wedgeless (cast in zinc)*  
*Plated option: None*  
*Powder coated colour options: Standard stocked or special non-stocked colours*

<u>Item</u>	<u>Location</u>
Passive ventilators:	Inframe passive ventilation system
Safety stays:	Schlegel stainless steel non releasable
	Schlegel key releasable
Sash locks:	Interlock
Louvres:	Refer to louvre section

- 4.22 HINGED DOOR HARDWARE  
 Lever lock: ~  
 Lock furniture: ~  
 Cylinder: ~  
*Hinged door lever lock option: 30mm or 35mm backset Cisa lockbody*  
*30mm or 35mm backset Iseo lockbody*  
*Quality lock furniture: Roma, Cavalier or Cubico lever handle sets - solid brass*  
*Plated options: Florentine bronze, Polished brass, Satin chrome*  
*Powder coat options: Standard stocked or special non-stocked colours*  
*Standard furniture option: Medio 1000 or Aria lever handle set - cast in zinc*  
*Plated option: Satin chrome only*  
*Powder coat options: Standard stocked or special non-stocked colours*  
*Cylinder options: Keyed both sides (deadlock)*  
*Key and turn knob*  
*Half cylinder (where there is no requirement for outside lock)*  
*All cylinders can be keyed alike e.g. hinged doors, sliding doors, bi-folding doors, patio bolts, sash locks. (One key home)*  
 Overheight doors: *Cisa 3 point lock - locks centre bolt and throws a bolt top and bottom*  
*Millton 4 point lock - locks centre latch & bolt and throws bolt top & bottom*  
 Fixed door of French doors: *Twinbolt throws bolt top & bottom from central action handle*  
 Bi-fold doors: *Twinbolt - throws bolt top and bottom from central action low profile handle*  
 Twinbolt handle option: *Select Uno - hollow zinc, Roma or Cavalier - solid brass*  
 Uno finish options: *Plated - satin chrome only, any powder coated colour*  
 Roma or Cavalier finish options: *Plated - Florentine bronze, polished brass, satin chrome*

*Powder coated colours*

*FRENCH DOOR -  
Quality furniture: Roma, Cavalier or Cubico handle set  
FOR SWING DOOR ON END OF BI-FOLDS  
Standard lock option: Iseo 35mm backset lockbody  
Plated options: Florentine bronze, Polished brass, Satin chrome*

4.23

**SLIDING DOOR HARDWARE**

Sliding door lock: ~  
Lock furniture: ~  
*Sliding door lock option: Albany mortice lock (in stile)  
Furniture option: Select 'D' pull or flush pull (powder coated & plated)  
Sliding door lock option: Albany surface mounted lock  
Furniture: Integrated (powder coated & satin chrome only)  
Budget lock: Austral surface mounted (powder coated only)  
Locking options: Non-locking, locking, deadlocking*

<u>Item</u>	<u>Location</u>
Parliament hinges:	Available in stainless steel and aluminium
Hold back devices: finishes	Door holdbacks available in plated & powder coated
Patio bolts:	~
Door restrictors:	~
<i>Patio bolt options:</i>	<i>Select plated, powder coated, keyed, non-keyed (can be keyed to the rest of the house)</i>
<i>Door restrictors:</i>	<i>Casement restrictor stays - non-releasable sliding restrictors for casement windows and doors</i>
<i>Two sizes 404mm &amp; 254mm Fit in the cavity and not seen when door or window is closed. Ideal for the swinging panel at the end of a bi-folds and hinged panels in doors or casement windows</i>	

4.24

**HARDWARE FINISH**

Finish: Plated  
Colour: ~  
*Plated options: Florentine bronze, polished brass, satin chrome  
Finish options: Powder coated colours  
Powder coat options: Standard stocked colours  
Premium non-stocked colours*

*Not all hardware is available coloured or plated. Budget hardware is black powder coat only. Only top of the range hardware is plated. It is not possible to plate all hardware due to design tool tolerances. Check with your joinery supplier*