4520FO FLETCHER ALUMINIUM OAKLEY® WINDOWS & 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 Oakley®:

- 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:

SLS	Serviceability limit state
ULS	Ultimate limit state
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
AS/NZS 1170.2	Structural design actions - Wind loads
NZS 1170.5	Structural design actions - Earthquake actions - New Zealand
NZS 3604:1999	Timber Framed Buildings
AS 3715	Metal finishing - Thermoset powder coatings for architectural applications
NZS 4211:1985	Performance of windows
NZS 4223.3	Glazing in buildings - Human impact safety requirements
AS/NZS 4284	Testing of building facades
WANZ	Powder Coating Quality Assurance System

This section uses NZS 4211:1985 as it is referenced in NZBC E2, and NZS 4211:2008 is not. used as it is not referenced at time of writing.

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 design 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
If design scope falls outside WANZ or NZBC E2 then specific design is required.

Fletcher Aluminium High Performance Architectural Solutions for Windows and Doors - Oakley high performance systems

Copies of the above literature is available at
Web: www.oakley.co.nz
Telephone: 0800 Oakley
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 minimum

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:
- Wind load requirements
- Fully dimensioned elevations of all elements (minimum scale 1:20)
- 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 SHOP DRAWINGS 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 SPECIFIC DESIGN
The windows, doors, their installation and all fixings to comply with NZS 4211:1985.
Refer to SELECTIONS for ULS and SLS
Refer to SELECTIONS for Air leakage level.
Where new or unusual window designs are involved consider adding testing requirements to AS/NZS 4284.
State design wind pressures by using floor levels, typical face and corner design wind pressures if available. Specifying in this way will remove the need to be specific about a whole range of items.
NZS 4211:2008 section 8 uses the term Air Infiltration and has a different method of calculation.
NZS 4211:2008 section 9 also has requirements for Water Penetration.

Delete this clause if complying with WIND PERFORMANCE clause.

1.13 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 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 GLAZING will need to be specific about responsibility and guarantees.

Where appropriate consider requiring a maintenance programme in written and graphic form upon completion of the aluminium window and door installation.

2. PRODUCTS

2.1 WINDOWS
Refer to SELECTIONS for type and finish.

2.2 DOORS
Refer to SELECTIONS for type and finish.

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

2.4 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.

2.5 GLASS
Refer to GLAZING for type and thickness.

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 WANZ SUPPORT ANGLE
Support angle for use with the sill pan for deeper claddings to transfer the weight of the window back to the frame.
If design scope falls outside WANZ or NZBC E2 then specific design is required.

Components - for cavity systems

2.8 WANZ 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 WANZ 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 WANZ 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.

3.7 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.

Conditions - fixings and fastenings

3.8 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.

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

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 Windows Association of New Zealand website (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 window 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

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

Performance

4.1 WIND ZONE - DESIGN TO NZS 3604

Building wind zone: ~ (as determined from table 5.1of 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.

4.2 SPECIFIC DESIGN TO NZS 1170.2

ULS: 1550 kPa

SLS: ~

Delete this SELECTION if using WIND ZONE-design to NZS 3604.

NZS 4211:2008 section 8 uses the term Air Infiltration and has a different method of calculation.
NZS 4211:2008 section 9 also has requirements for Water Penetration.

4.3 STANDARD OF PERFORMANCE

Air leakage level: Level 2 (as determined by section 11 of NZS 4211:1985)

Information required where window manufacturer is designing windows
Level 8 is recommended for general use
Level 2 is recommended for air conditioned buildings and in other demanding situations
Level 17 is suitable only for undemanding situations
Note levels refer to maximum air leakage in litres/second.m²
NZS 4211:2008 section 8 uses the term Air Infiltration and has a different method of calculation.
NZS 4211:2008 section 9 also has requirements for Water Penetration.

4.4 SEISMIC SUB-FRAMES

The following units to have seismic sub-frames.

Windows No:	Seismic movement to be provided for ~mm

List window numbers. Obtain from the structural engineer the extent of seismic movement to be provided for and state this in mm.

Window and door system

4.5 ACCEPTABLE SUPPLIERS AND INSTALLERS

Fabrication, supply and installation of the specified **Oakley**® aluminium joinery by one of the following.

Fabricator/installer	Contact details
~	~

Contact Fletcher Aluminium (0800 Oakley) for a list of fabricators able to supply and install in the area.

4.6 UNIVERSAL WINDOW AND DOOR SYSTEM

Brand: Fletcher Aluminium **Oakley**®
Suite: 39mm
Finish: Anodised
Glass: Refer to GLAZING for type and thickness
Finish option: Powder coat
Seismic frame - Specify
Sill track infills - Specify
Sill trays - Specify

4.7 UNIVERSAL HINGED DOORS

Brand: Fletcher Aluminium **Oakley**®
Suite: 39mm
Finish: Anodised
Stiles: 63mm wide
Top rail: 100mm wide
Bottom rail: 100mm wide
Glazing bead: ~
Glass: Refer to GLAZING for type and thickness
Finish option: Powder coat
Stiles width option: None
Top rail option: 63mm wide
Bottom rail option: 63mm wide
Glazing bead options: Sloping beads, Square beads
Flat bead only option for double glazed units. Glazing beads used on top & bottom rail only - stile is pocketed
Single glaze up to 10mm
Double glaze up to 25mm

4.8 UNIVERSAL INSIDE SLIDING DOOR

Brand: Fletcher Aluminium **Oakley**®
Suite: 39mm
Finish: Anodised
Stiles: 63mm
Top rail: 100mm
Bottom rail: 100mm
Glazing bead: ~
Glass: Refer to GLAZING for type and thickness
External sliders are free draining and therefore have a greater performance and rating.
Sashes available in this unit
Stile option: None
Top rail option: None
Bottom rail option: None
Glazing beads used on top & bottom rail only, stile is pocketed
Glazing bead options: Sloping bead, Square bead
Flat bead only option for double glazed units
Finish option: Anodised, Powder coat
Single glaze up to 8mm
Double glaze up to 25mm

4.9 UNIVERSAL OUTSIDE SLIDING DOOR

Brand: Fletcher Aluminium **Oakley**®
Suite: 39mm
Finish: Anodised
Stiles: 63mm
Top rail: 100mm
Bottom rail: 100mm
Glazing bead: ~
Glass: Refer to GLAZING for type and thickness
Finish options: Powder coat
Stile option: None
Top rail option: None
Bottom rail option: None
Glazing bead options: Sloping bead, Square bead
Glazing beads used on top & bottom rail only, stile is pocketed. Flat bead only option for double glazed units.
Single glaze up to 8mm
Double glaze up to 25mm

4.10 UNIVERSAL OUTSIDE SLIDING STACKING DOOR

Brand: Fletcher Aluminium **Oakley**®
Suite: 39mm
Finish: Anodised
Stiles: 63mm
Top rail: 100mm
Bottom rail: 100mm
Glazing bead: ~
Glass: Refer to GLAZING for type and thickness
Finish options: Powder coat
Stile option: None
Top rail option: None
Bottom rail option: None
Glazing bead options: Sloping bead, Square bead
Glazing beads used on top & bottom rail only, stile is pocketed. Flat bead only option for double glazed units.
Single glaze up to 8mm
Double glaze up to 25mm

4.11 UNIVERSAL INSIDE SLIDING STACKING DOOR

Brand: Fletcher Aluminium **Oakley**®
Suite: 39mm
Finish: Anodised
Stiles: 63mm
Top rail: 100mm
Bottom rail: 100mm

Glazing bead: ~
Glass: Refer to GLAZING for type and thickness
Finish option: Powder coat
Stile option: None
Top rail option: None
Bottom rail option: None
Glazing bead options: Sloping bead, Square bead
Glazing beads used on top & bottom rail only, stile is pocketed. Flat bead only option for double glazed units.
Sashes available in this unit.
Single glaze up to 8mm
Double glaze up to 25mm

4.12 UNIVERSAL DUO SLIDING DOOR
Brand: Fletcher Aluminium **Oakley**®
Suite: 39mm
Finish: Anodised
Stiles: 63mm
Top rail: 100mm
Bottom rail: 100mm
Glazing bead: ~
Glass: Refer to GLAZING for type and thickness
Finish option: Powder coat
Stile option: None
Top rail option: None
Bottom rail option: None
Glazing bead options: Sloping bead, Square bead
Glazing beads used on top & bottom rail only, stile is pocketed. Flat bead only option for double glazed units
Two panels only - both slide
Single glaze up to 8mm
Double glaze up to 25mm

4.13 SENTRY BI-FOLD DOORS
Brand: Fletcher Aluminium **Oakley**®
Suite: 55mm
Finish: Anodised
Stiles: 71mm
Top rail: 96mm
Bottom rail: 116mm
Opening direction: Out
Glazing bead: ~
Glass: Refer to GLAZING for type and thickness
Finish option: Powder coat
Stile option: None
Top rail option: None
Bottom rail option: None
Opening direction option: In
Glazing bead options: Sloping bead, Square bead
Single glaze up to 12mm
Double glazing option available

4.14 SENTRY SLIDING DOOR
Brand: Fletcher Aluminium **Oakley**®
Suite: 55mm
Finish: Anodised
Stiles: 71mm
Top rail: 96mm
Bottom rail: 116mm
Glazing bead: ~
Glass: Refer to GLAZING for type and thickness
Finish option: Powder coat
Stile option: None
Top rail option: None
Bottom rail option: None
Glazing bead options: Sloping bead, Square bead

Single glaze up to 12mm
Double glazing option available

4.15 UNIVERSAL AWNING WINDOW OPEN OUT SASH
Brand: Fletcher Aluminium **Oakley**®
Suite: 39mm
Finish: Anodised
Mullions & Transoms: ~
Glazing bead: ~
Glass: Refer to GLAZING for type and thickness
Finish option: Powder coat
Mullion & transom options: Standard, Finned, Heavy duty box
Glazing bead options: Sloping bead, Square bead
Flat bead only option for double glazed units. May be internally glazed for security or reglazing access.
Single glaze up to 8mm
Double glaze up to 25mm

4.16 UNIVERSAL AWNING WINDOW OPEN IN SASH - HOPPER
Brand: Fletcher Aluminium **Oakley**®
Suite: 39mm
Finish: Anodised
Mullions & Transoms: ~
Glazing bead: ~
Glass: Refer to GLAZING for type and thickness
Finish option: Powder coat
Mullion & transom options: Standard, Finned, Heavy duty box
Glazing bead options: Sloping bead, Square bead
Flat bead only option for double glazed units. May be internally glazed for security or reglazing access.
Single glaze up to 8mm
Double glaze up to 25mm

4.17 UNIVERSAL CASEMENT WINDOW
Brand: Fletcher Aluminium **Oakley**®
Suite: 39mm
Finish: Anodised
Opening direction: Out
Mullions & Transoms: ~
Glazing bead: ~
Glass: Refer to GLAZING for type and thickness
Finish option: Powder coat
Opening direction option: In
Mullion & transom options: Standard, Finned, Heavy duty box
Glazing bead options: Sloping bead, Square bead
Flat bead only option for double glazed units. May be internally glazed for security or reglazing access
Single glaze up to 8mm
Double glaze up to 25mm

4.18 UNIVERSAL SLIDING WINDOW
Brand: Fletcher Aluminium **Oakley**®
Suite: 39mm
Finish: Anodised
Glazing: Pocket glazed
Glass: Refer to GLAZING for type and thickness
Finish option: Powder coat
Glazing options: None
Flat bead only option for double glazed units. May be internally glazed for security or reglazing access
Panel options - Single slider, Duo sliding, Bi-parting
Single glaze up to 8mm
Double glaze up to 18mm

4.19 OAKLEY PIVOT WINDOW
Brand: Fletcher Aluminium **Oakley**®

Suite: Pivot window
Finish: Anodised
Frame: 52mm
Sash: Box
Glazing bead: ~
Finish option: Powder coat
Frame option: None
Sash option: None
Glazing bead options: Sloping bead, Square bead
Flat bead only option for double glazed units. May be internally glazed for security or reglazing access.
Pivot lock included.
Single glaze up to 8mm
Double glaze up to 25mm

4.20 SENTRY BI-FOLD WINDOWS
Brand: Fletcher Aluminium **Oakley**®
Suite: 55mm
Finish: Anodised
Opening direction: Out
Stiles: 71mm
Top rail: 96mm
Bottom rail: 116mm
Glazing bead: ~
Glass: Refer to GLAZING for type and thickness
Finish option: Powder coat
Opening direction option: In
Stile option: None
Top rail option: None
Bottom rail option: None
Glazing bead options: Sloping bead, Square bead
Single glaze up to 12mm
No double glazing

Shop front systems

4.21 SENTRY SHOP FRONT SYSTEM
Brand: Fletcher Aluminium **Oakley**®
Size: ~
Finish: Anodised
Door stile depth: 55mm
Finish option: Powder coat
Shop front systems are designed for ground floor buildings e.g. shops within malls and blocks of shops in protected areas. 100mm system limited to 3.6 metres high units & 2.4 metre high units for 75mm system
Size options: 75mm, 100mm
Door stile depth: 55mm (no options)
Compatible with - 100mm flush glaze, Curtain wall system, Universal window and door range, Aneeta sashless vertical sliding window, Any combination of hinged, pivoting, sliding, bi-folding or automatic doors
Single glazing 6mm to 12mm (No double glazing available)
Seismic frame available
Sill tray available

4.22 OAKLEY SHOP FRONT SYSTEM
Brand: Fletcher Aluminium **Oakley**®
Size: ~
Finish: Anodised
Door stile depth: 46mm
Finish option: Powder coat
Shop front systems are designed for ground floor buildings e.g. shops within malls and blocks of shops in protected areas. 100mm system limited to 3.6 metres high units & 2.4 metre high units for 75mm system
Size options: 75mm, 100mm
Door stile depth: 46mm (no options)

Compatible with - 100mm flush glaze, Curtain wall system, Universal window and door range, Aneeta sashless vertical sliding window, Any combination of hinged, pivoting, sliding, bi-folding or automatic doors
Single glazing 6mm to 12mm (No double glazing available)
Seismic frame available
Sill tray available

Flush glaze systems

4.23 WINDOWS AND DOORS, FLUSH GLAZE COMMERCIAL
Brand: Fletcher Aluminium **Oakley®**
Size: ~
Finish: Anodised
Structural sealant movement: ~
Glass: Refer to GLAZING for type and thickness
Size: options: 100mm or 150mm
Finish: option: Powder coat
Structural sealant movement: Silkaflex 20AT
As long as the joint ratio is 2 (wide) to 1(deep) movement will be plus or minus 20% of the joint width e.g. Joint 12mm wide 6mm deep Movement would be 2.4mm (flush glaze only)
Compatible with - Sentry shop front, Oakley shop front, Oakley flush glaze, Oakley structural glaze
Glazing options from 6mm single glaze to 24mm double glaze

4.24 WINDOWS AND DOORS, STRUCTURAL GLAZE SYSTEM
Brand: Fletcher Aluminium **Oakley®**
Finish: Anodised
Size: ~
Structural sealant movement: ~
Glass: Refer to GLAZING for type and thickness
Finish option: Powder coat
Size option: 100mm, 150mm
Structural sealant movement: Dow Corning 795
As long as the joint ratio is 2 (wide) to 1 (deep) movement will be plus or minus 50% of joint width e.g. Joint 12mm wide 6mm deep Movement would be 6mm (STRUCTURAL GLAZE ONLY)
Compatibility: Sentry shop front, Oakley flush & structural Glaze systems
Glazing options from 6mm single to 24mm double glaze

Components

4.25 PANELS
Brand/type: ~
Finish: ~
Panel, typical options include Fibre cement board, Aluminium faced plywood, Aluminium composite panels.

Reveals

4.26 WINDOW AND DOOR REVEALS - TIMBER
Timber species: ~
Grade/treatment: ~
Thickness: ~mm
Reveals: ~
Finish: ~
Radiata pine clears grade, or finger jointed to AS/NZS 1491, would be an appropriate specification for a paint finish. Unless specified otherwise, timber reveals are generally supplied pre-primed for an opaque finish. Thickness range includes 19mm, 25mm and 30mm.
Reveals: Grooved for wall linings or flush finish for architraves.

Flashings

4.27 FLASHINGS
Material/type: 1.6mm minimum aluminium to match joinery finish
Pattern: Formed to suit details provided

Finishes

4.28 FINISH, ANODISED

Thickness grade: 12 microns
Colour: ~
Temporary protection: ~
Thickness grade recommendations *Residential: 12 to 15 microns*
Light commercial: 15 to 20 microns
High rise, industrial or coastal environments: 20 to 25 microns
Colour options: *Natural silver, Champagne, Light bronze, Medium bronze, Bronze, Black*
Temporary protection - Available on request. It may be necessary to specify a form of removable, temporary protection pending completion of the building (e.g. lacquers, strippable coatings)

4.29 FINISH, POWDER COATING

System: Duralloy
Film integrity: 10 years
Colour integrity: 10 years
Colour: ~
Thickness: Average of 80 microns with a minimum of 50 microns
System option: *Duratec, Film integrity 15 years, Colour integrity 15 years (required for above 3 stories and within sea spray zone).*
Colour options: *Standard stocked colours, Premium non-stocked colours*
Thickness depends on the particular circumstances with a minimum of 50 microns.

Hardware

4.30 WINDOW HARDWARE

Casement stay: ~
Awning stay: ~
Window fastener: ~
There are heavy duty stays available for heavy sashes
Specify non-friction stays for remote control gear
Very shallow windows (350mm high awning or 350mm wide casement) should have low friction stay for smoother operation
Casement stay options: Stainless steel, Aluminium
Standard stay opens approx 50 degrees. There is a stay that opens 90 degrees, this is ideal for cleaning windows high off the ground, as when open the gap at hinge side allows a hand to pass through
Awning stay options: Stainless steel, Aluminium
Double action stays available - open approx 50 degrees, then unclip and open to 90 degrees for cleaning, ideal for apartments
Window fastener options:
Quality: *Roma, Cavalier and Cubico - Solid brass plated - Florentine bronze, Polished brass, Satin chrome, Powder coated (all colours)*
Standard: *Avon, double tongue, wedgeless (cast in zinc)*
Aria Wedgeless or Opposing Tongue. Ascot Wedgeless or Double Tongue (cast in zinc) Available in satin chrome, plated or powdercoated.

4.31 COMMERCIAL HINGED DOOR HARDWARE

Commercial hinged door lever lock: Legge Pacific 995 MF series
Backset size: ~mm
Outside: Key locks & unlocks handle
Inside: Inside handle always operative
Finish: Satin chrome
Keying: ~
This lock is multifunctional, meets egress and vestibule requirements, comes complete with handle set (Dalco 29 Alpha, Forged brass, plated satin chrome)
Backset size options: *23mm, 30mm, 38mm*
Keying options: *Master, Grand master keying*
Warranty - *10 years*

4.32 DOOR CLOSER, EXTERNAL DOORS

Brand: Ingersoll-Rand LCN 1461 adjustable 1- 6 strength
Finish: Metal
Ingersoll-Rand have an extensive range of handles
Fire rated *Tested to AS/NZS 1905 part 1*

Warranty *10 years*

4.33 COMMERCIAL PUSH PAD EXIT DEVICES, SINGLE DOORS

Brand: Ingersoll-Rand Von Duprin 22 series
Type/size: 914mm VD22EO Rim device exit only
914mm VD2227EO Vertical rod device exit only
Outside entry: ~
Accessories: ~
Finish: Aluminium
Outside entry option: Lockable trim - (A key unlocks a lever handle, which in turn operates the exit device from the outside)
Accessories - Exit devices can be fitted with alarm panels, can be electrified, can be tied into most building access controls
Fire rated

4.34 COMMERCIAL PUSH PAD EXIT DEVICES, DOUBLE DOORS

Brand: Ingersoll-Rand
Size/model: 914mm VDDR22 (Rebated door only)
914mm VDDD2227 (Non-rebated door only)
Finish: Aluminium
Accessories: ~
Outside entry: ~
Accessories - Exit devices can be fitted with alarm panels, can be electrified, can be tied into most building access controls
Outside entry option: Lockable trim (A key unlocks a lever handle, which in turn operates the exit device from the outside)
Fire rated
Warranty - 5 years

4.35 COMMERCIAL SLIDING DOOR HARDWARE

Lock: Lockwood 591 - Short backset mortice lock
Cylinder: ~
Keying: ~
Furniture: ~
Cylinder options: Keyed both sides, Key/turn knob, Inside only knob
Keying options: Construction keyed, Security keyed, Master keyed
Furniture options: Flush pull, 'D' handle pull

4.36 HARDWARE FINISH

Finish: Plated
Colour: Satin chrome
Finish option - None
Colour option - None