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# Specification for APL Architectural Series Windows & Doors

1 July 2013

## GENERAL ITEMS

### Responsibility

The structural and weathertight performance of the completed joinery, including the glazing is the responsibility of the window fabricator.

### Compliance

Windows and doors are to be manufactured and, when applicable, installed in accordance with NZBC E2/AS1.

*(this clause does not apply if the project sits within specific design criteria)*

### Performance

Windows and doors are to comply with NZS4211 (Specification for the Performance of Windows) including;

- Serviceability deflection, Operating of opening sashes, Air infiltration, Water penetration, Ultimate strength, Torsional strength of sashes.

*(this clause does not apply if the ULS exceeds 2.5kPa, which is then outside the scope of the Standard)*

### Windload

- Non-Specific Design.

Site wind zone as derived from NZS3604;

- Low (wind speed upto 32m/s)
- Medium (wind speed upto 37m/s)
- High (wind speed upto 44m/s)
- Very High (wind speed upto 50m/s)
- Extra High (wind speed upto 55m/s)

*(NZS4211 modifies these wind speeds to the following wind loads; Low = 0.72kPa ULS, Medium = 0.96kPa ULS, High = 1.36kPa ULS, Very High = 1.76kPa ULS, Extra High = 2.5kPa ULS)*

- Specific Design.

Build wind pressures as derived from AS/NZS1170.2;

- SLS = .... kPa
- ULS = ....kPa

These pressures;

- Are design wind pressures
- Include local pressure factors

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*(this information can be obtained from the project engineer and should be expressed in both positive and negative pressures. i.e. SLS = +0.91/-1.01kPa, ULS = +1.41/-1.56kPa)*

## **Thermal Performance**

Thermal performance as determined from NZBC H1/AS1 or H1/VM1;

'R' value = ....

*(refer to NZS4218 or the BRANZ House Insulation Guide for assistance. The schedule method describes the minimum required 'R' value for Climate zones 1, 2, 3 as R0.26)*

## **GENERIC COMPONENTS**

### **1.3 SURFACE FINISHING**

#### **Duralloy Powder coat**

- Colour = ...

*Duralloy is the most commonly applied powder coat and offers a 10 year warranty on both film and colour integrity. Duralloy is suitable for applications more than 100m from salt water in mild to tropical environments.*

*Duralloy Powder coat is applied to a minimum 50mic thickness with a typical range of 50 – 90mic.*

*Refer to your window fabricator for colour options.*

#### **Duratec Powder coat**

- Colour = ....

*Duratec is a higher specification powder coat and should be used in coastal and low-rise commercial applications. Duratec offers a 15 year warranty on both film and colour integrity. Duratec is suitable for applications more than 10m from salt water in mild to tropical and some severe environments.*

*Duratec Powder coat is applied to a minimum 50mic thickness with a typical range of 50 – 90mic.*

*Refer to your window fabricator for colour options.*

#### **Fluoraset FP Powder coat**

- Colour = ...

*Fluoraset FP is a 100% Fluoropolymer powder coating with outstanding colour retention and film performance characteristics, designed for use on landmark commercial-type projects or in environmentally challenging locations. Fluoraset FP offers a 20 year warranty on colour, film integrity and gloss retention.*

*Fluoraset FP Powder coat is applied to a minimum 50mic thickness with a typical range of 50 – 90mic.*

*Refer to your window fabricator for colour options.*

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### Traditional Anodising

- Colour = ...

*Anodising is an electrochemical process that etches a protective layer into the surface of the aluminium and offers a durable, colour-fast surface finish. The surface shows the visible natural grain of the aluminium. The standard film thickness is 12mic but in coastal or industrial environments thicknesses of 20mic or 25mic are recommended.*

*Colour choices are Natural (silver), Champagne, Bronze (light, medium & dark), Black*

### Frost Anodising

- Colour = ...

*Prior to the anodising process the surface of the aluminium is bead blasted to provide a more uniform finish, free of visible grain. The standard film thickness is 12mic but in coastal or industrial environments thicknesses of 20mic or 25mic are recommended.*

*Colour choices are Natural (silver), Champagne, Bronze (light, medium & dark), Black*

## 1.4 GLASS OPTIONS

### Typical Glazing

#### *Double glazing*

- Clear IGU with a nominal thickness of 22mm

*Depending on the overall size of the pane a typical IGU would be made up of two panes of 4mm clear glass with a 14mm air space between them. This combination in an aluminium window frame will give an 'R' value of 0.26 to comply with NZBC H1.*

*The make up of individual units will be adjusted to comply with all parts of NZS4223.*

*Applies to Window / Door No's ... (or refer to the window schedule drawing)*

### Special Glazing

#### *Double glazing*

- Tinted IGU
  - Type = ...
  - Colour = ...

*Applies to Window / Door No's ... (or refer to the window schedule drawing)*

*(refer to the window manufacturer for tint type & colour options)*

- IGU with one obscure pane
  - Type = ...

*Applies to Window / Door No's ... (or refer to the window schedule drawing)*

*(standard obscure options = cathedral, mistlite, stippolite)*

#### *Special double glazing*

- IGU consisting of the following;
  - Outer pane = ...
  - Spacer Gas = Air
  - Inner pane = ...

*Applies to Window / Door No's ... (or refer to the window schedule drawing)*

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- (- pane options = clear float, tinted float, PVB laminate, toughened, low E*
  - refer to the window manufacturer for tint type & colour options*
  - Spacer gas = airspace or argon filled)*

#### *Single glazing*

- Type = ...
- Colour = ...

Applies to Window / Door No's ... *(or refer to the window schedule drawing)*

- (- pane options = clear float, tinted float, PVB laminate, toughened*
- standard obscure options = cathedral, mistlite, stippolite*
- refer to the window manufacturer for tint type & colour options)*

### **1.5 JAMBLINERS**

#### Standard Jambliners

- 19mm thick timber reveals with, minimum H1.2 treatment, pre-primed for paint finish and grooved for 10mm wall linings.

#### Special Jambliners

- Timber = ....
- Thickness = ....mm
- For architrave
- Aluminium infill to sill of full height units

Applies to Window / Door No's ... *(or refer to the window schedule drawing)*

### **1.6 FLASHINGS**

#### Head Flashings

- Extruded aluminium head flashings, colour matched to window frames, sized to suit cladding and construction type, all in accordance with NZBC E2/AS1, 9.1.10.4

Applies to Window / Door No's ... *(or refer to the window schedule drawing)*

- Not required

Applies to Window / Door No's ... *(or refer to the window schedule drawing)*

#### Cavity Construction

- Extruded aluminium sill support bar, with in-built drainage and ventilation, to provide continuous support to the window or door unit. The bar is supplied in mill finish aluminium.

*The bar is to be used in accordance with E2/AS1 9.1.10.5 b) and comply with BRANZ EM6 and is sized to suit the cladding thickness.*

*(the WANZ designed bars are available in 20mm, 30mm, 40mm, 55mm standard bar, 55mm full height bar, 55mm heavy duty bar)*

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## Direct Fix Construction

- Extruded aluminium sill tray flashing, designed to collect and drain to the exterior any water that might enter the trim cavity. The sill tray flashing is colour matched to the window frame.

*The sill tray flashing must be designed to comply with E2/AS1 9.1.10.5 a) and is sized to suit the cladding thickness.*

*(a range of extruded sill tray flashings are available to suit the type of frame they are installed under)*

- Extruded aluminium support angle, designed to transfer the weight of the window or door from the sill tray flashing back to the framing, when used with thicker claddings.

*The support angle is typically ripped to suit the cladding thickness from a 50 x 25 x 3mm standard aluminium angle, but this may vary depending on situation. The angle is supplied in mill finish aluminium.*

## Special Flashings

- Special flashings as described in the shop drawings / details provided.

*Flashings from materials other than aluminium must be separated from the window / door frames to ensure contact between dissimilar metals is avoided.*

- Type = ...
- Material = ...
- Finish = ...
- Pattern / Detail No = ...

*Applies to Window / Door No's ... (or refer to the window schedule drawing)*

## 1.7 HARDWARE

### Typical Hardware

- Standard
- Miro
- Urbo

Colour = ...

- Icon

*(Icon is manufactured from stainless steel and cannot be coloured)*

### Special Hardware

- Restrictor stays to comply with NZBC F4

*Applies to Window No's ... (or refer to the window schedule drawing)*

- Parliament hinges

*Applies to Door No's ... (or refer to the window schedule drawing)*

- Other ...

*Applies to Window / Door No's ... (or refer to the window schedule drawing)*

### Entrance Door Hardware

- Miro lever handle

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- Icon lever lock
  - Mayfair gripset
  - Capri gripset
  - Icon D-handle and key/turn knob
  - Levanto pull handle and key/turn knob
  - Vardar pull handle and key/turn knob
  - Euros pull handle and key/turn knob

*(Miro & Icon lever options only available with Classic and Latitude doors, Mayfair and Capri options available with Latitude, Axis & Cedar, pull handles available with Axis & Cedar only)*

- Other...

## **ALTHERM - APL ARCHITECTURAL SERIES**

### **6.1 AWNING and CASEMENT WINDOWS**

Windows shall be constructed using APL Architectural Series frames, and an IGU thickness up to 26mm.

- Two frame widths are offered – 106mm and 158mm, depending on the frame width of adjoining doors.
- Opening sashes are non-facing, fitting flush with the frame.
- All windows are externally beaded with square edge rather than sloped beads.  
*(for single glazing there is an option to use sloping beads)*
- Mullions and transoms have internal box stiffeners.

Applies to Window No's... *(or refer to the window schedule drawing)*

*For alternative options contact APL Technical Support*

### **6.2 HORIZONTAL SLIDING WINDOWS**

Windows shall be constructed using APL Architectural Series sliding window frames and an IGU thickness up to 26mm.

- Sliding windows use the APL Architectural Series sliding door profiles.
- Stiffening boxes on interlocker stiles and mullions are flush in the closed position.
- Sliding windows are internally beaded using square edge beads.

Applies to Window No's... *(or refer to the window schedule drawing)*

*For alternative options contact APL Technical Support*

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### 6.3 BI-FOLD WINDOWS

*A wide range of open-out configurations are available for the APL Architectural Series bi-fold, but these DO NOT include the 'lay-back' option.*

Windows shall be constructed using the APL Architectural Series bi-fold window frame and an IGU thickness up to 26mm.

- All profiles are from the APL Architectural Series bi-fold door system, which is bottom rolling with an in-frame track.  
( **NOTE**; check the visible glass area when specifying Architectural Series bi-fold windows for units below 1.00m in height)
- All windows are externally beaded with square edge rather than sloped beads.

Applies to Window No's... (or refer to the window schedule drawing)

*For alternative options contact APL Technical Support*

### 6.4 LOUVRES

*The Altair louvre system from Breezway, Australia, is factory fitted within most types of window or door frame. Glass, aluminium or timber louvre blades can be used in 102mm (4-inch) or 152mm (6-inch) widths. Breezway also offer a Stronghold system which offers increased security.*

- Type = Altair  
(type = Altair or Stronghold)
- Colour matched to window frames...
- Blade type ...
- Blade depth ...

Applies to Window No's... (or refer to the window schedule drawing)

*For alternative options contact APL Technical Support*

### 6.5 ENTRANCE DOORS

*A selection of entrance door panel styles are available for use in the APL Architectural Series hinged door frame (Section 6.6);*

#### **Classic Entrance Door**

*Attractive mouldings and a combination of solid or glazed panels give Classic entrance doors unequalled distinction.*

- Type = ...
- Colour = ...
- Moulding style = ...
- Glass option = ...
- Hardware as nominated in the hardware section

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*(- type = eg 7902100, 7902103  
- moulding style = bevelled or scalloped  
- glass options = eg cathedral, sandblasted, leadlight  
Refer to your window fabricator for configuration / glass options)*

#### **Axis Entrance Door**

*Axis offers the sleek linear appearance of a vertical tongue and groove door, but because it is made from aluminium they not only offer low maintenance, they don't shrink or swell but they deliver unbeatable strength.*

- Type = ...
- Colour = ...
- Glass option = ...
- Hardware as nominated in the hardware section

*(- type = eg AS1, AS8  
- colour = either standard powder coat or Eurocoat woodgrain finish  
- glass options = eg clear or tinted float, cathedral, sandblasted  
Refer to your window fabricator for configuration / glass options)*

#### **Latitude Entrance Door**

*The overall appearance of the Latitude series doors is a blend of a classic aluminium panel door with solid tongue and groove infills, incorporating glazing if desired.*

- Type = ...
- Colour = ...
- Glass option = ...
- Hardware as nominated in the hardware section

*(- type = eg 8901000, 8901002,  
- glass options = eg clear or tinted float, cathedral, sandblasted  
Refer to your window fabricator for configuration / glass options)*

#### **Plasma Entrance Door**

*The Plasma delivers a solid, flat faced appearance that can be clad in a variety of materials, typically aluminium sheet or colour coated glass. Glazing infills can be cut into the panel if desired.*

- Type = ...
- Outer skin = ...
- Colour = ...
- Inner skin = 2mm aluminium sheet
- Colour = ...
- Glass option = ...
- Hardware as nominated in the hardware section

*(- type = eg 5906000  
- Outer & inner skins – either 2mm aluminium sheet or 5mm glass  
- glass options = eg cathedral, sandblasted, leadlight  
Refer to your window fabricator for configuration / glass options)*

#### **Aquila Entrance Door**



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*An innovative door design that arrays horizontal tongue and groove with adjoining flush stiles for a sleek all-aluminium panel that has its own distinctive aesthetic. Horizontal glazed inserts can be added with flush beads. Aquila panels can be supplied thermally broken on request.*

- Type = ...
  - Colour = ...
  - Glass option = ...
  - Hardware as nominated in the hardware section
- (- type = eg 4901000, 4901002,  
- glass options = eg clear or tinted float, cathedral, sandblasted  
Refer to your window fabricator for configuration / glass options)*

*For alternative options contact APL Technical Support*

## **6.6 HINGED and FRENCH DOORS**

*APL Architectural Series hinged and French doors are rated to 2.7m high in 'very high' wind zones.*

*For French doors rebated meeting stiles give a flush appearance and provide superior weathering. Parliament hinges allow doors to open a full 180° in a brick veneer application. Doors shall be constructed using APL Architectural Series hinged door frames, utilising panels with an IGU thickness up to 26mm.*

- Standard configuration  
Open In / Open Out  
Applies to Door No's... *(or refer to the window schedule drawing)*
- Hardware as nominated in the hardware section.
- Options = ...  
*(options = parliament hinges, bottom rail extender)*  
Applies to Door No's... *(or refer to the window schedule drawing)*

*For alternative options contact APL Technical Support*

## **6.7 BI-FOLD DOORS**

*The APL Architectural Series bi-fold system is rated to 2.7m high in 'very high' wind zones and includes panels with square-cut corners and an in-frame track for direct frame support. A wide range of configurations are available.*

*Doors shall be constructed using APL Architectural Series bi-fold door frames, utilising panels with an IGU thickness up to 26mm.*

- Standard configuration  
Open Out

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Applies to Door No's... *(or refer to the window schedule drawing)*

- Options = ...  
*(options = special requirements e.g. parliament hinges)*

Applies to Door No's... *(or refer to the window schedule drawing)*

*For alternative options contact APL Technical Support*

## **6.8 SLIDING DOORS**

*APL Architectural Series sliding doors are rated to 2.7m high in 'very high' wind zones. They slide on an external track with either a fixed side panel or as a bypass configuration. Flush sill or rebated sill options are available. Stiffening boxes on interlocker stiles and mullions are flush in the closed position.*

Doors shall be constructed using the APL Architectural Series sliding door frame and an IGU thickness up to 26mm.

- Overlights are possible through the use of a coupling bar at the head of the Metro door frame.
- All doors are internally beaded using square edge beads.
- Corner sliders, bypass sliders, cavity sliders and over-wall sliders are available options, as indicated in the drawings / window schedule.

Applies to Door No's... *(or refer to the window schedule drawing)*

*For alternative options contact APL Technical Support*