
Specification for Metro 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

(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.

Fluoroset FP Powder coat

- Colour = ...

Fluoroset 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. Fluoroset FP offers a 20 year warranty on colour, film integrity and gloss retention.

Fluoroset 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.

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)

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...

FIRST - METRO SERIES

4.1 AWNING and CASEMENT WINDOWS

Windows shall be constructed using Metro Series frames, utilising a 40mm platform and an IGU thickness up to 26mm.

- Opening sashes include a non-facing sash as standard though a cover facing option is available.
- 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 or external stiffening fins or boxes depending on window span and customer preference.

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

For alternative options contact APL Technical Support

4.2 HORIZONTAL SLIDING WINDOWS

Windows shall be constructed using Metro Series sliding window frames and an IGU thickness up to 24mm.

- The perimeter frame is the Metro Series sliding door frame with smaller profiles for rails, stiles and mullions.
- Stiffening boxes on interlocker stiles and mullions align in the closed position.
- 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

4.3 BI-FOLD WINDOWS

A wide range of open-out configurations are available including the 'lay-back' option for 2-panel formats, which allows the panels to open back against an adjacent wall.

Windows shall be constructed using Metro Series bi-fold window frames and an IGU thickness up to 24mm.

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

- Standard configuration

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

- Lay-back configuration
(only two panels per side can 'lay-back')

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

For alternative options contact APL Technical Support

4.4 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

4.5 ENTRANCE DOORS

A selection of entrance door panel styles are available for use in the Metro Series hinged door frame (Section 4.6);

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

(- 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 = ...

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- 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

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

4.6 HINGED and FRENCH DOORS

Metro Series hinged and French doors are rated to 2.4m 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. A bottom rail extender is available to create a deep look in the classic French door style
Doors shall be constructed using Metro Series hinged door frames, utilising panels with an IGU thickness up to 24mm.

- 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.
- Sidelights and overlights are possible through the use of either an integral mullion/transom or by using a coupling bar with the Metro Series hinged door frame.
- 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

4.7 BI-FOLD DOORS

This robust bi-fold system is rated to 2.4m 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 including the 'lay-back' option for 2-panel formats, which allows the panels to open back against an adjacent wall.

Doors shall be constructed using Metro Series bi-fold door frames, utilising panels with an IGU thickness up to 24mm.

- Standard configuration
Open Out
Applies to Door No's... *(or refer to the window schedule drawing)*
- Lay-back configuration
(only two panels per side can 'lay-back')
Applies to Door No's... *(or refer to the window schedule drawing)*
- Sidelights and overlights are possible through the use of either an integral mullion/transom or by using a coupling bar with the Metro Series bi-fold door frame.
- 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

4.8 SLIDING DOORS

Metro Series sliding doors are rated to 2.4m high in 'very high' wind zones. They slide on an external track with a fixed sidelight. Stiffening boxes on interlocker stiles and mullions align in the closed position.

Doors shall be constructed using the Metro Series sliding door frame and an IGU thickness up to 24mm.

- Opening sashes are possible in the moving panel using the Piatto sash lock in conjunction with a vision rail.
- Sidelights and overlights are possible through the use of either an integral mullion/transom or by using a coupling bar with the Metro Series sliding door frame.

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

For alternative options contact APL Technical Support