

### MAIN FEATURES

- A thermally efficient range of windows and doors suitable for larger formats in residential and architectural applications
- Comply with NZBC clause H1 Energy Efficiency (all climate zones) when used in conjunction with high performing Low-E double glazing
- Thermal breaks included in all products - fixed, awning and casement windows, sliding, stacking and bi-folding windows and doors, and hinged and French doors
- Maximum glass thickness of 44mm IGU allows for optional triple glazing
- Frames are based on platform widths of either 44mm or 56mm depending on the glazing selection (hinged and bi-folds are available only in 56mm system).
- Metro Series ThermalHEART® products can have a different colour on the interior and exterior faces as an optional choice
- Doors are generally suitable to heights of 2.7m in all wind zones
- For larger format products outside the Metro Series size guidelines consider using APL Architectural Series ThermalHEART®.

### WINDOWS

**Awning and Casement Windows** use the facing frame (20060) with the 44mm frame system, with facing sash (20600) as standard. The 56mm facing frame (24060) uses the facing (24600) sash as standard. Seven mullion / transoms are offered in the 44mm system. The standard mullion / transom (20300) is supplemented with four that have external stiffening elements (20310, 20320, 20330, 20340) and two that have internal stiffening elements (20360, 20370). The 56mm system offers five mullion / transom options. The standard profile (24300) is supplemented with two that have external stiffening elements (24330, 24340) and two that have internal stiffening elements (24360, 24370). Corner posts (20420) 90° and (20430) 135° are available for the 44mm frame, with (24420) 90° and (24430) 135° for the 56mm system.

**Sliding Windows** use the sliding (and stacking) door system which has slender sightlines appropriate for window applications. Interlocker stiles are flush in the closed position. Overlight / underlight transoms are available - (21500, 21660) for sliders in the 44mm system and (21510) for stackers (overlight only). In the 56mm system (25500 and 25660) are available for sliders and 25510 for stackers (overlight only). Corner sliders (90° internal and external corners) are available with no corner post.

**Bi-fold Windows** use the bi-fold door system (56mm frame only), which is bottom rolling with an in-frame track.

### GLAZING BEADS

Metro Series ThermalHEART® windows use square beads.

### FINISH / COLOUR

**Powder coated** in a wide range of colours. Two-tone colour schemes are possible with one colour chosen for the interior and another for the exterior. This dual colour approach is made possible by the composite construction of ThermalHEART® profiles. In two-tone frames the polyamide thermal break will be seen in its natural black state when windows and doors are opened. In single-colour powder coated product the thermal break may be painted the same colour as the aluminium

**Anodised** silver and bronze as standard in 12 micron thickness. Other colours and thicknesses are available. In anodised product the thermal break appears in natural black.

### GLASS

**Double glazed** units of a minimum 22mm thickness and a maximum 32mm can be used with the 44mm frame. With the 56mm frame, a minimum insulated glass unit of 22mm thickness is possible, with a maximum of 44mm, allowing triple glazing. Glass thickness and type to be used is covered by the Human Impact Safety requirements of NZS4223.

### PERFORMANCE

Complies with NZS 4211: 2008 Performance of Windows.

A guarantee for all Metro Series ThermalHEART® windows is provided under normal conditions of use against failure of materials and workmanship for five years from the date of practical completion.

### SIZES

**Fixed lights** can be designed to large dimensions depending on glass size availability.

**Awning and casement windows** have a recommended maximum size of 1200mm high x 900mm wide in Extra High wind zones. Larger sizes may be possible in lower wind zones. For casements i.e. side hung windows, sash size is also limited by friction stay carrying capacity.

**Sliding windows** have a recommended maximum size of 1800mm high x 1200mm wide in Extra High wind zones. High performance rollers allow a maximum panel weight of 200kg.

**Bi-fold windows** use the bi-fold door system and are therefore capable of tall heights with a maximum width of 900mm per panel.

### HARDWARE

Window fasteners are available in a range of styles and finishes, including the Miro, Urbo and Icon (stainless steel) and Elemental options.

For sliding windows the surface mounted Albany lock is available as well as Miro, Urbo, Icon and Elemental pull handles with separately installed lock or turn knob.

Bi-fold windows have a swivel operator (Miro, Urbo or Icon or Elemental) with locking pins at head and sill. A 'D' handle/ hinge is also available for tall windows.