

## METRO SERIES WITH THERMAL HEART™

### MAIN FEATURES

- A thermally efficient range of windows and doors for residential and architectural applications.
- Ideal for those jobs where minimising the transfer of cold and reducing condensation are priorities.
- All Thermal Heart™ profiles include an insulator or 'thermal break' made from glass fibre-reinforced nylon (polyamide) between the aluminium interior and exterior.
- Designed to be used in conjunction with double glazing in order to ensure minimal transfer of cold, and formation of condensation.
- Glass panel thickness of 32mm is possible, thus allowing for IGU's with interior pleated or Venetian blinds.
- Ideal for those projects where conformity with the energy efficiency requirements of NZ Building Code Clause H1 is a design difficulty issue.
- Jointing process for window and door profiles ensures optimum straightness and rigidity.
- Frames are based on a large 44mm platform ensuring suitability for a wide range of residential and architectural projects.
- Two-tone colour scheme available as an option - one colour for the interior and another for the exterior.
- Frames have flat faces for a clean, contemporary look.
- Sliding doors and hinged doors are generally suitable to heights of 2.4m in 'very high' wind zones while bi-fold doors will be suitable to heights of 2.2m.

### WINDOWS

**Awning / Casement / Fixed Light Windows** use the facing frame (92000). The facing sash (92030) is used as standard. Three mullion / transoms are offered (92060), (92070), (92080), with internally projecting stiffening boxes for improved aesthetics. Two-part corner posts (92110 / 92120) allow adjustable angles.

**Sliding Windows** use the sliding door system, except the stile (92470) and the four-panel jointers (92470, 92480) are scaled down in size. The interlocker stiles are flush in the closed position. An overlight / underlight transom (92420) allows overlights or underlights in association with sliding panels.

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

### GLAZING BEADS

Metro Thermal Heart™ windows use flush or square edged beads with double glazing. Two single glazed beads are available if required.

### 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 Thermal Heart™ profiles. In two-tone frames the polyamide thermal break will be seen in its natural black state when windows or 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.

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### GLASS

Double glazed units of a minimum 24mm thickness and a maximum 32mm can be used. Single glazing up to 12mm is possible. 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. Fixed lights, awnings and casement windows may be suitable in some 'Specific Design' environments - consult APL Technical Advisory Service for further information.

A guarantee for all Metro Thermal Heart<sup>TM</sup> 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. For example, a picture window 2000mm high x 2000mm wide would be suitable in a 'very high' wind zone.

**Awning and casement windows** have a recommended maximum size of 1200mm high x 900mm wide in 'very 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 'very high' wind zones. High performance rollers allow a maximum panel weight of 150kg.

**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<sup>TM</sup>, Urbo and Icon (stainless steel) wedgeless options.

For sliding windows surface mounted Albany or Miro<sup>TM</sup> and Urbo locks are available.

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