ALTECH SYSTEMS

Product Technical Statement

SKYRAIL A SERIES

Aluminium Post Balustrade System with Baluster

Product Description

Designed and manufactured in New Zealand, the Skyrail A Series is an aluminium post balustrade and fencing system engineered for both residential and commercial applications.

The A Series features a versatile post-and-rail design with baluster configurations, available in full-height or split-rail layouts. This system offers excellent flexibility, supporting both face-fixed and top-mounted installations, making it compatible with a wide range of structural designs, including timber, concrete, and steel substrates.

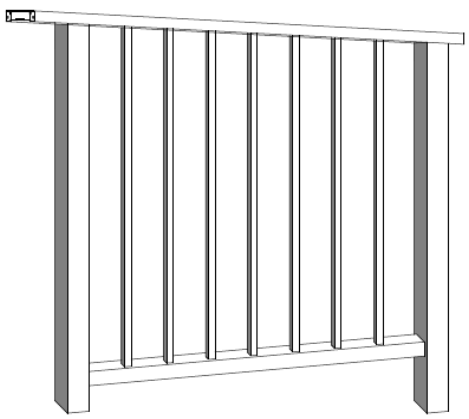
A variety of fin sizes and rail profiles are available, including the cost-effective B18-18 (18mm square section) option, enabling tailored solutions to suit diverse architectural styles. The system is fully customizable, with options for panel dimensions, colours, finishes (powder-coated or anodised), and configurations to meet specific aesthetic and functional requirements.

The Skyrail A Series is ideal for applications such as decks, balconies, ramps, stairs, and pool fencing, as well as gate systems. It is engineered for performance in all wind zones (including very high and extra high) and is suitable for coastal, geothermal, and industrial environments without compromising strength, safety, or structural integrity.

All Altech balustrades, including the Skyrail A Series, are supplied with a project-specific PS1 and comply with the New Zealand Building Code.

Key Features

- Custom-made fabrication to meet project-specific requirements.
- Available in 1000mm for residential and 1100mm for commercial minimum height requirements
- Interoperability with other Altech balustrade products.
- Post and rail system adaptable to face-fixed and top-mounted installations.
- Multiple fin size options; the B18-18 (18mm square section) offers a cost-effective solution.
- Engineered for timber, concrete, and steel substrates.
- Compatible with floating deck systems and waterproofed decks.
- Design solutions available for integration with cavity-clad building structures.
- Available in a range of powder coat colours or anodised finishes.
- Maximum recommended span between posts: 1.4 metres.



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Scope of Use

The Skyrail A Series is suitable for a wide range of residential and commercial applications, including:

- Decks, balconies, ramps, stairs, and pool fencing
- Gate systems, with a range of compatible design options

The system is designed to meet the requirements of the following occupancy types as defined in NZS 1170:

- A (Domestic and residential)
- A Other (External balconies)
- B (Offices and workspaces)
- C3 (Areas where people may congregate)
- E (Educational facilities)

Skyrail A Series has been engineered to fix to a range of substrates, including timber, concrete, and steel substrates, and is suitable for;

- Engineered for performance in all wind zones including very high and extra high as defined by NZS 3604
- Suitable for use in coastal, geothermal, and industrial environments

Limitations of Use

All Skyrail A extrusions, components, and hardware must be supplied by Altech Systems NZ Ltd or JW Projects Ltd directly.

- All Skyrail A balustrade installations must be supported by a Producer Statement (PS1 – Design), available from Altech Systems Ltd.
- Any deviation from standard fabrication or installation methods must be accompanied by a site-specific PS1 issued by a suitably qualified design professional.
- Aluminium extrusions are manufactured to 6060 T5 or T6 specifications to ensure strength and durability.
- Installation must be carried out by an Altech Systems NZ Ltd approved installer in accordance with its technical documentation.
- Maximum span up to 1.4m between posts.

Statement of Building Code Compliance

All products are designed by a Chartered Engineer and are manufactured and tested in accordance with the relevant sections of the New Zealand Building Code and New Zealand Standards listed below:

New Zealand Building Code Clauses

- B1 Structure – B1.3.1, B1.3.2, B1.3.3 (C, F, H, J, M), B1.3.4
- B2 Durability – B2.3.1 (B), B2.3.2 (A, B)
- D1 Access Routes – D1.3.3 (J, K)
- F2 Hazardous Building Materials – F2.3.1, F2.3.3 (A, B)
- F4 Safety From Falling – F4.3.1
- F9 Swimming Pools – F9.3.1, F9.3.3

Other Compliance Documents

- NZS 1170 – Loadings
- NZS 4223.1 and 4223.3 – Glazing in Buildings
- AS/NZS 1664 – Aluminium Structures
- Powder Coating Systems – Compliant with Window & Glass Association NZ Powder Coating Quality Assurance Systems (PQAS)
- Powder coated surface finishes – Formulated to meet AS 3715 and AAMA 2605
- Anodised surface finishes – Compliant with WGANZ Voluntary Specification SFA 3503-03-2005

Warranty

Altech Systems NZ Ltd offers the following warranties for the Skyrail A Series:

- Workmanship: 2-year warranty
- Materials (excluding surface finishes): 5-year warranty
- Surface Finishes: Covered by the applicator or manufacturer's warranty. The duration of this warranty may vary depending on the specified coating system.

Altech Systems Ltd recommends the use of Duratec or an equivalent high-performance surface finish specification, which may offer up to 20 years durability warranty and 20 years colour warranty, subject to environmental conditions and compliance with the coating manufacturer's maintenance requirements. For further information on warranties, please refer to the Altech Systems "Balustrade Warranty" document.

In Service History

Skyrail A Series balustrades have been in use since the early 1990s, installed on thousands of balconies, landings, stairs, and pool areas throughout New Zealand.

Some of the earliest installations are still performing to a high standard and remain in excellent condition.

Notable projects include

- Bricksworks Apartments
- Edgerly Apartments
- Galway Apartments
- Hadlow Apartments
- Hokonui Apartments
- Kensington Apartments
- Queens Residence Apartments
- Sugartree Apartments
- Sunderland Apartments
- Thompson Park Apartments
- Union and Co Apartments
- Urba Apartments
- Vulcan Apartments.