ALTECH SYSTEMS

Product Technical Statement

SKYRAIL A (Solid) SERIES

Aluminium Post Balustrade System with Solid Sheet

Product Description

Designed and manufactured in NZ, the Skyrail A (Solid) system is an aluminium balustrade and fencing solution engineered with solid aluminium sheet panels, suitable for both residential and commercial applications. The system offers extensive design flexibility through various panel options, including perforated and profiled sheet finishes for customized texture and airflow, and the integration of solid panels with traditional baluster elements.

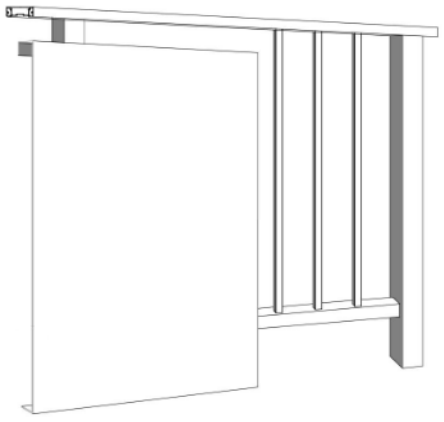
Multiple top rail profiles are available to complement diverse architectural styles. The system supports full customization of panel dimensions, finishes, colours, and configurations to meet specific project functional and aesthetic requirements.

This system is designed for applications such as apartment balconies, rooftop terraces, boundary fencing, and commercial developments, providing a cohesive design without compromising structural integrity or safety.

All Altech balustrades come with a project specific PS1

Key Features

- Panel Options: Solid sheet options including perforated, embossed, raised, profiled, and custom CNC designs.
- Structural Integrity: Employs a monocoque sheet panel design to enable large spans without compromising structural integrity.
- Interoperability: Develop bespoke designs that are interchangeable with other Altech balustrade products.
- Installation Versatility: Suitable for direct fixing to structural framing, integration with cavity cladding systems, and compatible with waterproofed and floating deck installations.
- Surface Finishes: Available in durable powder coat (diverse colour selection) or anodised finishes.
- Dimensional Customisation: Panel lengths are fully customisable to project-specific requirements; a maximum panel length of 1.8m is recommended.



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Scope of Use

The Skyrail A (Solid) 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 (Soild) 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 (Soild) extrusions, components, and hardware must be supplied by Altech Systems NZ Ltd or JW Projects Ltd.

- All Skyrail A (Solid) 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.

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 Af 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 (Solid) 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

- Galway Apartments
- Queens Residences Apartments
- Queens Square
- Union & Co Apartments
- Vulcan Lane Apartments