ALTECH SYSTEMS

Product Technical Statement

SKYRAIL CG-F SERIES

Glass Balustrade System (base channel, face mount)

Product Description

The Skyrail CG-F Series is the ultimate and premium Face Fixed glass balustrade and fencing system, distinguished by its ability to offer unimpeded views combined with exceptional strength and safety in modern architectural applications.

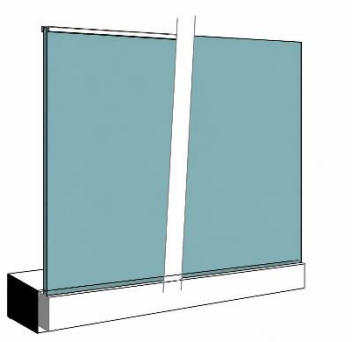
Available in glass only configuration, using sentry type laminated glass, or with an interlinking handrail using toughened safety glass.

Engineered for versatility, the Skyrail CG-F Series has a number of innovative features:

- Its double fixing design enables it to be “stood off”, so that it can be used over cavities, flashings and membranes.
- The base channel can incorporate a fin post at ends to support an interlinking handrail and therefore not need to fix to the building wall

The Skyrail CG-F has a continuous base channel profile and when powdercoated offers a sleek linear design. This adaptability ensures the system can be seamlessly integrated into a variety of applications, from balconies and staircases and pool fencing.

All Altech balustrades come with a project-specific PS1



Key Features

- Face fixed
- Continuous base channel system with an integrated internal clamp for secure glass fixing.
- Glass panels do not require pre-drilled holes for installation.
- Available in 13.52mm and 15.52mm SentryGlas® (without a top rail).
- Available in 12mm and 15mm toughened glass (requires a top rail for balustrade applications).
- Designed to meet all wind zones up to EH (Extra High) classification.
- Compliant with live load requirements for residential and equivalent commercial occupancies, in accordance with NZS1170, Table 3.3.
- Dual-fixing design allows for “stand-off” installation — meaning the system does not need to bear directly on the building face.
- Suitable for use with soft claddings, cavities, membranes, and flashings, while allowing for water run-off clearance
- Base channel enables attachment of a fin post to support a top interlinking rail, eliminating the need for wall fixing.
- Compatible with both waterproofed and floating deck systems.
- Engineered for installation on timber, concrete, and steel substrates.
- Fully interoperable with other Altech balustrade systems.
- Offered in a wide range of durable powder-coated or anodised finishes.
- Warranty: 5 years on materials (excluding surface coatings), 2 years on workmanship, and 20 years on Dulux Duratec powder coating (other coating warranties provided by the surface coating applicator

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Scope of Use

Skyrail CG-F Series is suitable for a wide range of residential and commercial applications, including:

- Decks, balconies, ramps, stairs, and pool fencing
- Screens in conjunction with balustrading
- Occupancies where people congregate

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

- A (Domestic and residential)
- A Other (External balconies)
- B, E (Offices and workspaces)
- C3 (Areas without obstacles)

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

- All wind zones including very high and extra high as defined by NZS 3604
- Coastal, geothermal, and industrial environments

Limitations of Use

All Skyrail CG-F extrusions, components, and hardware must be supplied by Altech Systems NZ Ltd or JW Projects Ltd, located at 1/368 Church Street, Penrose, Auckland.

- All Skyrail CG-F 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 CG-F 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 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

- Edgerley Apartments
- Ocean Point Apartments
- Beach Road Residences
- Queens Park Residences
- Morgan Street Apartment