ALTECH SYSTEMS

Product Technical Statement

SKYRAIL CG-DD & CG-SD SERIES

Double & Single Disk Glass Infill Balustrade System

Product Description

The Skyrail CG-DD (Double Disc) and CG-SD (Single Disc) Series are premium glass balustrade and fencing systems, designed to provide uninterrupted views while delivering exceptional strength, safety, and durability for modern architectural applications.

The system is available in either;

- Glass-only configuration, using Sentry-type laminated glass, or
- Interlinking handrail configuration, using toughened safety glass

The Skyrail CG-DD and CG-SD Series are recommended for applications including glass pool fencing and low-rise residential internal and external installations. For high-rise and commercial applications, please contact us to discuss suitability for your project.

Engineered for versatility, the Skyrail CG-DD and CG-SD Series incorporate a range of innovative design features, including:

- Component discs manufactured in New Zealand using advanced CNC processes, enabling project-specific solutions to suit a wide range of building configurations.
- Aluminium disc options, providing excellent strength and durability, with the ability to be powder coated to any colour (stainless steel discs are also available).
- CG-SD (Single Disc) is suitable where base fixing space is limited, such as thin concrete slabs or low nib upstands.
- CG-SD disc sizes available from 75mm to 150mm, allowing the system to be tailored to specific design requirements.
- CG-DD (Double Disc) available in sizes up to 150mm diameter, commonly used where base fixing conditions are compromised

The Skyrail CG-DD and CG-SD systems feature a clean base profile with discreet fixings, allowing rainwater, leaves, and debris to pass through freely without obstruction. This practical design enables seamless integration across a wide range of applications, including balconies, staircases, and pool fencing.

All Altech balustrade systems are supplied with a project-specific PS1

Key Features

- Discrete base fixing system.
- Available in 13.52, 15.52mm and 17.52 sentry glass with no top rail
- Available in 12 and 15mm toughened glass (requires a top rail for balustrades)
- Designed for all wind zones up to EH (Extra high)
- Designed for live loads in residential and equivalent commercial occupancies (per NZS1170, Table 3.3).
- Compatible with both waterproof and floating deck systems.
- Engineered for fixing to timber, concrete, and steel substrates.
- Inter-operability with other Altech balustrade products.
- Available in a wide range of durable powder coat or anodised finish.
- Design solutions available for cavity-clad building structures.
- Warranty: 5-year on materials (excluding surface coating), 2-year on workmanship, Applicator warranty on powder-coating (eg 10-25 years for Duratec; refer to applicator for other coating warranties).

Product Technical Statement

Scope of Use

Skyrail CG-DD and CG-SD 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
- Residential occupancy

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-DD and CG-SD 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-DD and CG-SD extrusions, components, and hardware must be supplied by Altech Systems NZ Ltd or JW Projects Ltd.

All Skyrail Dr 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-DD and CG-SD 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 CG-DD and CG-SD 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

- Lovell Court, Albany
- Urba Residences
- Ueens Park Residence
- Edition Apartments

