

DESIGN FEATURES SUMMARY

SKYRAIL (A, D, F and CG Series)

Balustrades and Fences



GLASS
STRENGTH
BESPOKE DESIGN

SAFETY
ALUMINIUM
SIMPLICITY

SEMI-FRAMELESS
DURABILITY
STAINLESS STEEL

Skyrail (A, D, F and CG Series)

Balustrades and Fences

SUMMARY

SKYRAIL is ideal choice for an exterior balustrading and fences because of its superior strength and durability, combined with a modern clean design.

SKYRAIL is designed to meet the requirements of the New Zealand Building Code, with specific reference to clauses B1(Structure), B2(Durability), F2 (Hazardous Materials), and F4 (Safety from falling). Skyrail has been designed by a Chartered Structural Engineer, and has been peer reviewed numerous times.

SKYRAIL is fabricated from extruded aluminium, extruded in New Zealand by Altus Aluminium.

SKYRAIL uses Grade A Safety glass and is fully compliant with the NZ Building Code.

SKYRAIL uses fixings which comply with Clause B2 (durability) and NZS3604. Typically this means major fasteners are stainless steel (316 where required), with occasional minor fixings using aluminium rivets.

SKYRAIL as been used extensively throughout the NZ, from large commercial buildings to residential construction. Recent larger jobs are Soho Apartments, (Wellington), Stadium Apartments and Celestion Apartments (both Auckland)

1. Material Composition

Aluminium: Grade 6060, tempers T5 or T6

Glass: is either laminated or toughened Grade A Safety complying with NZS4223

Fixings: are stainless steel, grades 304 or 316 where required.

2. Surface Treatment

Surface treatment is either powdercoating or anodizing. Powdercoating is by approved powdercoaters, using either Dulux or Interpon systems. A wide range of colours is available.

3. Documentation

Producer Statements

PS1 - Design is available on request

Specifications - available on request

Installation Instructions: we recommend that **Skyrail** is installed by one of our trained installers.

However for approved purchasers, please contact us for these instructions

Warranties - available on request

1. GENERAL

This specification deals with the supply and installation of **SKYRAIL** balustrades or fences to exterior locations. **SKYRAIL** is manufactured and installed by **Aluminium Technology** of Glenfield, Auckland, and features, in various configurations: extruded aluminium profiles, Grade A safety glass, stainless steel fixings and other miscellaneous products.

2. Documents

The following documents are relevant to this trade:

NZBC Compliance

- B1 (Structure)
- B2 (Durability)
- D1/AS1 (Access) (where required)
- E2 (external moisture)
- F2/AS1 (hazardous materials)
- F4/AS1 (safety from falling)

NZ Standards

- NZS1170; (Structural Design Actions)
- AS/NZS 1664; (Aluminium Structures)
- NZS4223; (Glass)
- NZS4121 (Access) (where required)

Other

- Fencing of Swimming Pool Act, (where required)
- Ramset Anchoring Resource Book (where required)
- Aluminium Technology Fabrication and Installation Manual

3. Requirements

3.1 Samples

Submit samples as requested for review

3.2 Qualifications

Metalworkers to be experienced in working with aluminium and the techniques specified.

3.3 Shop Drawings

Provide shop drawings for review if required.

4. Warranty

Warrant this work under normal environmental conditions against failure of materials and execution.

Warranty period: tba

5. Performance

- | | |
|---------------------------|---------------------------------------|
| 5.1 Live Loads | As determined by NZS1170, Table 3.3, |
| 5.2 Wind Loads | (as determined by procedure, NZS1170) |
| 5.3 Serviceability | refer NZS1170, C3.6 |
| 5.4 Durability | 15 years (but not surface treatment). |

6. Materials

6.1 Aluminium

-extruded shapes: AS/NZS1866,

Aluminium Grade; 6060

Temper: T5 or T6 (posts typically T6)

-sheet and plate: NZS/AS1734

-welding: AS1665

6.2 Glass

Type: Grade A Toughened Safety Glass to NZS4223, Part 3:2016 and AS/NZS2208:1996

Or: Grade A Toughened Laminated Safety Glass to NZS4223, Part 3:2016 and

AS/NZS2208:1996

Thickness: refer NZS4223, and project design

Edgework: refer NZS4223, Part 1, Table 3

(Rough Arris) (Flat Polish) (Other, eg tip edges)

(Note: uno all exposed edges are flat polished)

Silicon Sealant: Silaflex MS or equal

Setting Blocks; Santoprene/Neoprene 80 – 90 Shore Hardness

6.3 Fasteners

Screws and Bolts; stainless steel (Grade 316 in coastal applications) Rivets; Type AS or MS

6.4 Powdercoating

standard polyester to AS3715, and WANZ Specification for Powdercoating. Use a recognized applicator who is approved by the powdercoat material manufacturer

6.5 Hardware

for pool fences and gates, used approved hardware (ie hinges and latches) which complies with the Fencing of Swimming Pools Act 1987, such as:

SKYRAIL A Series; Magna latches and hinges. (Note use top pull latch on baluster style gates, at 1500mm high; on glass style, side pull mounted on pool side is acceptable)

SKYRAIL CG; frameless stainless steel hinges, latches and clamps

7 Execution

7.1 Fabrication

Welding to comply with AS1665.

7.2. Delivery

Keep Aluminium clean and wrapped and store on dunnage off the ground or floor. Keep glass clean and dry during delivery and bring to site when ready to use. Comply also where appropriate with the storage requirements set out in BRANZ Bulletin 337 "Protecting Window Glass from Damage"

7.3 Preparation

Ensure location and substrate are ready to receive the elements and will allow work to the required standard.

7.4 Installation

Install work to the requirements of this specification and other project documents, and in accordance with the requirements of the Aluminium Technology Fabrication and Installation Manual. Fix plumb, level and true to line.

7.5 Cleaning

Carry out a Trade Clean prior to leaving site.

8. Selections

8.1 SKYRAIL Type, ie A Series, D Series, F Series, CG Series

8.2 Powdercoat colour

8.3 Glass: Type: toughened/laminated Thickness 6/8/10/12/15/Other mm Clear/tint

8.4 Other: N/A

9. Maintenance

Note unless expressly stated otherwise, maintenance is not the responsibility of Aluminium Technology. Failure to carry out proper maintenance may negate any warranties.

Note that **SKYRAIL** consists mainly of powdercoated or anodized aluminium, glass and stainless steel fixings. All these components exhibit high levels of durability, and should require only routine cleaning in order to achieve a durability which meets or exceeds the requirements of the NZ Building Code.

9.1 Aluminium

9.1.1 Powdercoated: every six months wash in warm soapy water. In coastal environments, this is recommended every three months. If chips in the coating are observed, these can be repaired with touch up dab or spray kits, which are available from Aluminium Technology or most powdercoaters. Note that higher levels of fading of colour must be expected from certain colours, mainly dark reds.

9.1.2 Anodised: every six months wash in warm soapy water, or three months for coastal environments

9.2 Glass

Clean glass every six months with a standard domestic glass cleaner, or warm soapy water as part of the cleaning process in 9.1 above. Check that the drain holes in the bottom channel are not blocked- these can be viewed at the underside and end of each rail. Check that wedge rubbers are still in good condition and have not perished or been displaced. Check glass for chips, particularly around the edges, and replace or call Aluminium Technology if any are found.

9.3 Fixings

Every six months, check the fixings of post to deck if these are in view, and if not check by leaning against the post to see if there is any movement of the post relative to the deck. This is particularly important with timber decks, where shrinkage or movement of timber can be expected. If necessary, tighten the fixings or call Aluminium Technology.

9.4 Other

Any unusual corrosion or other phenomenon will normally be evidenced by chalking of the aluminium. If this is observed, clean the affected area and treat with a CRC type spray or similar. If the chalking is bad or continues, call Aluminium Technology.