



# SD Aluminium GapLine Balustrade System

**Designated Building Product - Class 2**  
**BPIR Declaration** - V1. 08.2025

## Declaration

SD Aluminium Limited has prepared this declaration to meet the requirements of Schedule 1(d) of the Building (Building Product Information Requirements) Regulations 2022.

This declaration applies to the [GapLine Balustrade System](#) as a designated building product, Class 2.

It confirms that the information provided is based on our technical documentation, manufacturing processes, and supporting evidence, and is, to the best of our knowledge, accurate and complete at the time of publication.

## Product / System

- Name* - **SD Aluminium GapLine Balustrade System**  
*Identifier* - GM-SDBL-13, GM-SDBL-04, GM-SDBL-29, GM-SDBL-30, GM-SDBL-31, GM-SDBL-32, GM-SDBL-33, GM-SDBL-34, GM-SDBL-35  
*Line* -

## Description

The GapLine System is a post-and-rail balustrade distinguished by two horizontal rails positioned beneath the handrail. Vertical infills are fixed between these rails, producing a framed and uniform appearance with enhanced panel rigidity. With multiple rail sizes and compatible infill types available, the GapLine System is adaptable to a range of site conditions including decks, balconies, retaining walls, and stairs.



\* The image above illustrates one example from the **GapLine System**. Other profiles and configurations are available within this system.



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### Scope Of Use

The GapLine System is an aluminium balustrade design featuring a continuous handrail with a secondary horizontal rail set below it, creating a distinctive open gap above the vertical infills. It is suitable for both top-fixed and side-fixed installation on secure, level, or inclined surfaces, and complies with New Zealand Building Code requirements for Occupancy A, A Other, and C3 Residential.

The system offers a wide selection of rail and infill profile combinations to suit various design and performance requirements:

- 40 x 25 mm rail — compatible with 25 x 25 mm square infills
- 50 x 25 mm rail — compatible with 50 x 18 mm infills, installable with either the 18 mm or 50 mm face forward
- 50 x 25 mm rail — compatible with Ø19 mm round tube or 19 x 19 mm square tube infills
- 38 x 25 mm rail — compatible with Ø19 mm round tube or 19 x 19 mm square tube infills
- 40 x 40 mm rail — compatible with the same infills as above

Adjustable brackets allow rails to be set at varying angles, enabling installation on stairs or uneven surfaces.

Standard panel sizes range from 1.0 to 1.2 metres in height and 1.0 to 1.5 metres in width. Custom sizing is available to meet specific project requirements.

A secure and stable mounting surface is essential to ensure the structural integrity and safety of the system. Further installation information is available upon request.

### Conditions Of Use

- The SD Aluminium Balustrade System must be fabricated and installed exclusively by authorised fabricators approved by SD Aluminium.
- Only extrusions, components, and hardware supplied or expressly specified by SD Aluminium are permitted for use within the SD Aluminium Balustrade System.
- Unless otherwise stated, all aluminium extrusions, components, and hardware conform to 6063 T5 alloy specifications.
- All stainless steel components, hardware, and fixings used must be of 316 stainless steel to ensure durability and corrosion resistance.
- Installation of the SD Aluminium Balustrade System shall be carried out in strict accordance with the recommended installation specifications and technical standards provided by SD Aluminium.
- Any modifications or deviations from the recommended specifications must be accompanied by site-specific PS1 documentation, including relevant engineering calculations and detailed drawings outlining the non-standard requirements.
- Upon successful completion of installation, the approved fabricator must issue a PS3 (Construction Compliance Certificate) to the property owner.
- All materials shall be stored, handled, and installed in a manner that prevents damage, contamination, or deterioration.
- It is the responsibility of the installer to verify that all site conditions comply with the requirements set forth in the recommended installation guidance prior to commencement of work.
- Regular maintenance and inspection schedules must be followed to ensure ongoing performance and compliance with safety standards.

### Relevant Building Code Clauses

<b>B1</b>	Structure	<i>B1.3.1, B1.3.2, B1.3.3(c, f, h, j, m), B1.3.4</i>
<b>B2</b>	Durability	<i>B2.3.1(a), B2.3.2(a, b)</i>
<b>D1</b>	Access Route	<i>D1.3.3(j, k)</i>
<b>F2</b>	Hazardous Building Material	<i>F2.3.1, F2.3.3</i>
<b>F4</b>	Safety From Falling	<i>F4.3.1</i>

### Contributions To Compliance

The GapLine balustrade system has been designed and verified to meet the structural and safety performance requirements of the New Zealand Building Code. Engineering is carried out in accordance with AS/NZS 1170:2002 for occupancy categories A, A Other and C3, and NZS 3604 wind zones from Low to Extra High. The system complies with B1 (Structure), B2 (Durability), F2 (Hazardous building materials) and F4 (Safety from falling).

A Producer Statement (PS1) is provided for this system to confirm compliance, applying Verification Methods B1/VM1, B2/AS1 and F4/AS1 as relevant.

### Installation Requirements

The GapLine System must be installed on a secure, stable mounting surface capable of withstanding the loads specified in the New Zealand Building Code for Occupancy A, A Other, and C3 Residential. Both top-fixed and side-fixed installations are supported, with adjustable brackets allowing for alignment on stairs, slopes, or uneven substrates.

Rails and infills should be assembled according to the system specifications, ensuring all fixings are fully tightened and components are free from damage. When installing angled panels, confirm that bracket adjustments maintain structural integrity and compliance with height and gap requirements.

Care must be taken to ensure horizontal rails are installed parallel and level, with infills correctly aligned to achieve consistent spacing. All cutting, drilling, or modification should be carried out using suitable tools to prevent damage to the powder-coated surface. Further detailed installation instructions are available upon request.



# SD Aluminium *GapLine Balustrade System*

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### **Limitations & Design Requirements**

- The GapLine System is intended for use in residential and light commercial applications where compliance with Occupancy A, A Other, and C3 categories is required. It is not designed for crowd-loading situations or for areas subject to heavy industrial use.
- Designers and installers must ensure that post spacing, rail configuration, and infill selection align with the maximum allowable spans and load capacities for the chosen configuration. Any deviation from the standard design—such as non-standard infill materials, additional decorative elements, or structural alterations—must be verified for compliance with relevant building codes.
- This system requires a flat and stable substrate for optimal performance; installations on surfaces prone to movement or significant deflection should be avoided unless appropriately engineered. The maximum permissible height and width for panels should not be exceeded without prior approval.

### **Maintenance Requirements**

- To maintain the performance, safety, and visual appeal of the aluminium balustrade system, regular cleaning and inspection are essential. These steps not only help preserve the product's appearance but also ensure it continues to comply with the New Zealand Building Code over its service life.
- All exposed aluminium surfaces should be washed with a mild detergent and rinsed thoroughly with fresh water at least every six months in typical urban environments. In coastal, geothermal, or industrial locations where exposure to salt, moisture, or airborne contaminants is higher, cleaning should be carried out every three months — or more frequently if visible deposits appear. Regular cleaning will reduce the risk of surface staining, corrosion, and coating degradation.
- During each cleaning cycle, carry out a full inspection of the system. Check all fixings, joints, and bracket connections for signs of loosening, corrosion, or wear. Tighten any loose fasteners and replace damaged components immediately. Pay special attention to points where dissimilar metals come into contact, as these areas are more prone to galvanic corrosion and may require protective isolation or maintenance coatings.
- Powder-coated surfaces must be cleaned using a soft sponge or cloth — avoid abrasive pads, steel wool, or strong solvents that may damage the finish. Any scratches, chips, or coating damage should be touched up promptly with a suitable colour-matched repair coating to prevent corrosion from developing underneath.
- For glass balustrade systems (such as ClearView), clean glass panels regularly using a non-abrasive glass cleaner or mild soapy water. Rinse well and dry with a soft lint-free cloth to prevent streaks or mineral deposits. Avoid directing high-pressure water jets at the panel edges or seals, as this may damage the glass.



# SD Aluminium GapLine Balustrade System

**BPIR Declaration**

## Company Information

Legal name of the manufacturer: SD Aluminium Ltd  
Manufacture location: New Zealand  
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Manufacturer NZBN: 9429047563094  
Manufacture website: [www.sdalu.co.nz/](http://www.sdalu.co.nz/)



## Branch Locations & Contact Details

### Auckland Rosedale Branch

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### Auckland Manukau Branch

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### Building code performance clauses

#### Clause B1 – Structure (Performance criteria)

- **B1.3.1:** Buildings, building elements and sitework shall have a low probability of rupturing, becoming unstable, losing equilibrium, or collapsing during construction or alteration and throughout their lives.
- **B1.3.2:** Buildings, building elements and sitework shall have a low probability of causing loss of amenity through undue deformation, vibratory response, degradation, or other physical characteristics throughout their lives, or during construction or alteration when the building is in use.
- **B1.3.3:** Account shall be taken of all physical conditions likely to affect the stability of buildings, building elements and sitework, including: self-weight; imposed gravity loads arising from use; temperature; earth pressure; water and other liquids; earthquake; snow; wind; fire; impact; explosion; reversing or fluctuating effects; differential movement; vegetation; adverse effects due to insufficient separation from other buildings; influence of equipment, services, non-structural elements and contents; time-dependent effects including creep and shrinkage.
- **B1.3.4:** Due allowance shall be made for: the consequences of failure; the intended use of the building; effects of uncertainties resulting from construction activities or the sequence in which construction activities occur; variation in the properties of materials and the characteristics of the site; accuracy limitations inherent in the methods used to predict the stability of buildings.

#### Clause B2 – Durability

- **B2.3.1:** Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or:
  - a. the life of the building, being not less than 50 years, if those building elements provide structural stability; are difficult to access or replace; or failure would go undetected during normal use and maintenance;
  - b. 15 years if moderately difficult to access or replace, and failure would be easily detected during normal maintenance;
  - c. 5 years if easy to access and replace, and failure would be easily detected during normal use.
- **B2.3.2:** Individual building elements which are components of a building system and are difficult to access or replace must either:
  - a. all have the same durability; or
  - b. be installed in a manner that permits the replacement of building elements of lesser durability without removing building elements that have greater durability and are not specifically designed for removal and replacement.

#### Clause D1 – Access Routes (Relevant Parts for Handrails)

- **D1.3.3 (j):** Handrails that are smooth, reachable, and graspable to assist with movement along a stair or barrier.
- **D1.3.3 (k):** Handrails must be of adequate strength and rigidity as required by Clause B1 (Structure).

#### Clause F2 – Hazardous Building Materials

- **F2.3.1:** The quantities of gas, liquid, radiation or solid particles emitted by materials used in the construction of buildings, shall not give rise to harmful concentrations at the surface of the material where the material is exposed, or in the atmosphere of any space.
- **F2.3.2:** Transparent panels capable of being mistaken for an unimpeded path of travel shall be marked to make them visible. Performance F2.3.2 does not apply to housing.
- **F2.3.3:** Glass or other brittle materials with which people are likely to come into contact shall either: (a) if broken on impact, break in a way which is unlikely to cause injury; or (b) resist a reasonably foreseeable impact without breaking; or (c) be protected from impact.

#### Clause F4 – Safety From Falling

- **F4.3.1:** Where people could fall 1 metre or more from an opening in the external envelope or floor of a building, or from a sudden change of level within or associated with a building, a barrier shall be provided.