

UNEX Frameless Glass Balustrades offer top-of-the-range solutions which ensure complete transparency

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Level of assurance needed to demonstrate NZ Building Code Compliance

Supporting documentation should include technical information by manufacturer and either a BRANZ or independent Appraisal or CodeMark



Unex confirms that this minimum level of assurance has been met or exceeded by the following:

CodeMark

1

Unex

[PS1](#)



Technical Statement

Product Description

Considered by many to be the ultimate balustrade, Frameless Glass Balustrades maximise exposure by minimising the aluminium required to keep them structurally sound. Each UNEX Frameless Glass style is pre-engineered to ensure each span of glass is safe and secure, while accommodating those views that are just too picturesque to miss.

Key features of this range include:

- Can be installed without a top rail when using a Sentryglas interlayer
- Structurally pre-engineered and cantilevered from a base channel or fittings
- Available with an interlinking rail mount on the top or inside with standard toughened glass
- Makes a design statement for high-end minimalistic architecture

Scope of use

Frameless Glass balustrade style is designed for, but is not limited to, use in projects within the following scope:

- Can be used on but not limited to, internal and external decks, mezzanines, and stairways.
- Suitability for the occupancy type for part of the building or structure but cannot be used for C5 or F/G.
- Can be used in all wind zones up to and including Extra High. In rare or extreme locations wind reverberation can be caused.
- Building height up to three stories or more.
- Frameless glass balustrade style is custom fabricated to the requirements of each project. Prior to fabrication, the following project selections must be confirmed by the specifier: Balustrade height, Profiles and configuration of top or side rail (if used) Fixing detail.
- Is only used in side fixed applications. Specifications allow fixing into concrete, masonry, timber and steel.
- Compatible with other features such as gates, handrails and custom aluminum sheets.

New Zealand Building Code (NZBC)

The product will, if employed in accordance with the supplier's installation and maintenance requirements, assist with meeting the following provisions of the building code:

- **Clause B1 Structure:** Performance B1.3.1, B1.3.2, B1.3.3, B1.3.3(f), B1.3.3(h), B1.3.3(j), B1.3.4, B1.3.4(a)

B1.3.3 - Frameless glass balustrade adheres with the minimum barrier height in respect to the location and building type (As per Table 3.1 minimum barrier heights). Stair barriers in areas likely to be frequently used by children under six years of age require no gaps larger than 100mm and 150mm in the stair tread. Balustrade geometry shall follow the dimensions illustrated barriers in figure 3.3 (Example of barrier geometries).

B1.3.4 - Panorama balustrade style loading aligns with the barrier loads set out in AS/NZS 1170.1 Clause 3.6 and Table 3.3. The magnitude of the barrier loads that need to be applied in the design depends specifically on the occupancy of that part of the building or structure

B1.3.5 - Panorama balustrade style displacement is recommended to not exceed 30mm under barrier and wind loads as described in B1/VM1. B1.3.7 - Panorama balustrade style fixings and connections are designed to be suitable for the supporting structure (material and strength), the fixing (type, edge distance and spacing) and to be adequate to resist balustrade loads.

B1.3.8 - Panorama balustrade has a durability requirement of no less than 15 years.

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B1.3.9 - Panorama balustrade style has no sharp edges or projections than can cause injury when restraining people. All extrusions have minor radii and any sharp edges are to be removed.

B1.4.3 - Panorama balustrade style uses aluminum that has been designed in accordance with AS/NZS 1170.0:2002 Appendix B. All product is powder coated or anodized to the specifiers standards to ensure the best durability of the product in the installed location.

- **Clause B2 Durability:** Performance B2.3.1, B2.3.1(a), B2.3.2, B2.3.2(a), B2.3.2(b)
B2.3 - Frameless glass balustrade element "Balustrade" must have a durability requirement of no less than 50 years.

- **Clause D1 Access routes:** Performance D1.3.3, D1.3.3(j), D1.3.3(k)
D1.1.7.1 - Frameless glass balustrade prevents falling from access routes and complies with NZBC F4

- **Clause F2 Hazardous building materials:** Performance F2.3.1, F2.3.3(b)
F2.1.1 - Glazing likely subject to human impact shall comply with NZS 4223: Part 3.

- **Clause F4 Safety from falling:** Performance F4.3.1, F4.3.2, F4.3.3, F4.3.4, F4.3.4(a), F4.3.4(b), F4.3.4(c), F4.3.4(d), F4.3.4(e), F4.3.4(f), F4.3.4(g), F4.3.4(h), F4.3.5, F4.3.5(a), F4.3.5(b)

F4.1.1 - Frameless glass balustrade adheres to the minimum barrier heights (F4/AS1 Table 1) in the respective area installed

F4.1.2.1 - Frameless glass balustrade aligns with the barrier height and geometry as set out in Table 1, Figure 2, figure 3 and figure 4. The barrier design ensures that, anywhere over the full height of the barrier, a 100 mm diameter sphere cannot pass through.

F4.1.2.3 - Frameless glass balustrade style shall adhere to the acceptable methods of the construction of rail barriers in conjunction with parapets so they are not readily available to be used as seats, as required by Clause F4.3.4(h) for buildings other than housing.

F9.2.1 - The Frameless glass balustrade can be used as a pool barrier when at the minimum height of 1200mm. Panorama has been design to best relate to Figure 1 (b) and (d) balustrade to ensure compliance.

F9.2.4 - Frameless glass balustrade adheres with appendices C, D, E & F which are acceptable methods for assessing the strength of pool barriers.

Notes

AS/NZS 1170:2002NZS 4223.3.2016NZS 3603AS/NZS 1664AS/NZS 2208

Supporting Evidence

The product has and can make available the following additional evidence to support the above statements:



CodeMark

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Product Criteria

Design requirements

Refer to UNEX fixing specification and fabricators manual for design parameters and tables of maximum spans for wind zone up to and including Very High.

Installation requirements

UNEX balustrade must be installed in accordance with the UNEX Fabricators Manual. Any deviation from standard fixing detail must be accompanied by a site specific PS1.

UNEX balustrade systems must only be installed by a network of authorised fabricators who are trained to supply and install Unex product.

Maintenance requirements

<https://unex.co.nz/fabricators/fabrication-manuals/>

Company Product Information

Relationships



New Zealand Made



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Unex Frameless Glass Balustrade

Product Technical Statement: 112277



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