

Ultimate peace of mind for public & crowded spaces. Available in framed baluster or glass.

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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



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

Unex

[Producer Statement \(PS1\)](#)

Technical Statement

Product Description

UNEX Extreme Barriers are specifically engineered to comply with the extremely heavy live load classes "C1/C2", "D" or "C5" of the New Zealand Building Code legally required for public and crowded areas. The Framed Baluster style has gaps between each baluster to offer a foot rest when leaning against the top rails. The Framed Glass style's thicker glass panels allow larger crowds to continue to watch the game or the view from above. Examples of the perfect use for this style of balustrade is in:

Scope of use

- Ideal in commercial applications including sporting facility grandstands, schools, shopping centres and hospitality
- Commonly used on residential applications as an extra high glazed wind-break screen

Unex has created pre-engineered balustrade solutions which take the guesswork out of the compliance process for projects at every scale. Our engineering team regularly provides unique, one-off solutions for any architect or specifier, who is looking to push the boundaries of "normal" design.

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(a)

B1.3.3 - X3000 Framed Baluster 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 - X3000 Framed Baluster 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 - X3000 Framed Baluster balustrade style displacement is recommended to not exceed 30mm under barrier and wind loads as described in B1/VM1.

B1.3.7 - X3000 Framed Baluster 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 - X3000 Framed Baluster balustrade has a durability requirement of no less than 15 years.

B1.3.9 - X3000 Framed Baluster 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 - X3000 Framed Baluster 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(a), B2.3.2, B2.3.2(a), B2.3.2(b)

B2.3 - X3000 Framed Baluster balustrade element "Balustrade" must have a durability requirement of no less than 50 years.



masterspec partner

Company Contact Details

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- **Clause D1 Access routes:** Performance D1.3.3, D1.3.3(j), D1.3.3(k)

D1.1.7.1 - X3000 Framed Baluster balustrade prevents falling from access routes and complies with NZBC F4

D1.2.3.1 - X3000 Framed Baluster balustrade lower rail height is adjusted to where the surface of an accessible route is more than 25 mm above the adjacent ground to provide protection from falling.

- **Clause F2 Hazardous building materials:** Performance F2.3.1
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- **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 - X3000 Framed Baluster balustrade adheres to the minimum barrier heights (F4/AS1 Table 1) in the respective area installed

F4.1.2.1 - X3000 Framed Baluster 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. In applications where the barrier is on a staircase or similar application, The triangular opening formed by the riser, tread, and bottom rail of the barrier on a stair shall be of such a size that a 150 mm diameter sphere cannot pass through it.

F4.1.2.2 - In areas used exclusively for emergency or maintenance purposes in buildings, and in other buildings not frequented by children, barriers may have openings with maximum dimensions of either: 300mm horizontally between vertical balustrade members or 460mm vertically between longitudinal rails

F4.1.2.3 - X3000 Framed Baluster 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.

Notes

Complies with AS/NZS 1170, NZS3603, AS/NZS1664, AS/NZS 2208 and NZS 4223.3 2016

Supporting Evidence

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

Unex

[Producer Statement \(PS1\)](#)

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 Extremely 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

Please refer to our Care and Maintenance instructions. **It is important that every building owner observes these recommendations to obtain the durability required in the NZ Building Code.**



Date last validated: **29 February 2024**



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