

Product Technical Statement



Company;	Protector Aluminium and Glass Pty Ltd				
Product Name;	Aluminium Balustrade				
Type and/ or use of Product;	Certified for use as Aluminium Balustrade				
Description of Product;	Aluminium Balustrade Panel				
Provision Requirements;	NCC Volume Two- Part H5P2 Fall prevention barriers and Part 11.3 of the ABCB Housing Provisions Balustrade Loads as per AS/NZS 1170.0:2002 Structural Design Actions Balustrade Loads as per AS/NZS 1170.1:2002 Structural design actions AS 4055:2012 Wind Actions Aluminium sections as per AS/NZS 1664.1:1997 Timber substrate connections as per AS/NZS 1720.1:2022			General Principles (Clause 4.2 and Appendix B – Table B1) Permanent, imposed and other actions (Clause 3.6, Table 3.3) Wind Class N3	
NCC (2022);	No.	Date	Title	Volume One	Volume Two
	AS/NZS 1170 Part 0	2002	Structural design actions — General principles (incorporating amendments 1, 3 and 4)	B1V1 B1D2 S4C1	H1V1 H1D1 H1D2
	AS/NZS 1170 Part 1	2002	Structural design actions — Permanent, imposed and other actions (incorporating amendments 1 and 2)	S4C1	H5P2
	AS/NZS 1170 Part 2	2018	Structural design actions Wind actions		
	AS 5216	2021	Design post installed and cast-in fastenings in concrete		
	AS/NZS 1720.1	2022	Design methods for Timber Structures		

Limitations and Conditions

With regards to strength and/or rigidity of Balustrade, this Supplier Statement limits compliance to the following extent:

1	Table 3.3 of AS/NZS 1170.1-2002 for the following classifications;
	<ul style="list-style-type: none"> For a Category 'A', 'B' and 'E' Domestic and residential activities- Other Residential (see C3). For a Category 'C3" Areas without obstacles for moving people and not susceptible to overcrowding- Stairs, landings, external balconies, edges of roofs etc.
Note	All classifications with equal or lower load specifications may be applied to this sample. For more information as to their specific use please see Table 3.3 of AS/NZS 1170.1-2002

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2	Limitations- Not suitable for use as a pool barrier as per AS1926.1-2012 - Not suitable for use above 4 meters in height
3	This Product Technical Statement is issued based on the evidence of compliance as detailed herein. Any deviation from the specifications contained in this Product Technical Statement is outside of this documents scope and the installation of the certified product/ system will not be covered by this PCME Supplier Statement. This may result in product being classified as a non-conforming building product/ system
4	This Product Technical Statement is issued based on the evidence of compliance as detailed herein. Any deviation from the specifications contained in this Product Technical Statement is outside of this documents scope and the installation of the certified product/ system will not be covered by this PCME Supplier Statement. This may result in product being classified as a non-conforming building product/ system.

Product Technical Data

Building Classification/s;	NCC 2022 Volume Two- Part H5P2 Fall prevention barriers																														
Type and intended use of a product;	<p>As per Page 1 (Protector Aluminium Balustrade System Product Technical Statement)</p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 15%;">Clause</th> <th></th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>A barrier must be provided where people could fall—</td> </tr> <tr> <td>(a)</td> <td>1 m or more—</td> </tr> <tr> <td>(i)</td> <td>from a floor or roof or through an opening (other than through an openable window) in the external wall; or</td> </tr> <tr> <td>(ii)</td> <td>due to a sudden change of level within or associated with a building; or</td> </tr> <tr> <td>(b)</td> <td>2 m or more from a floor through an openable window in a bedroom; or</td> </tr> <tr> <td>(c)</td> <td>4 m or more from a floor through an openable window not covered by (b).</td> </tr> <tr> <td>(2)</td> <td>A barrier required by (1) must be—</td> </tr> <tr> <td>(a)</td> <td>continuous and extend for the full extent of the hazard; and</td> </tr> <tr> <td>(b)</td> <td>of a height to protect people from accidentally falling from the floor or roof or through the opening or openable window; and</td> </tr> <tr> <td>(c)</td> <td>constructed to prevent people from falling through the barrier; and</td> </tr> <tr> <td>(d)</td> <td>capable of restricting the passage of children; and</td> </tr> <tr> <td>(e)</td> <td>of strength and rigidity to withstand—</td> </tr> <tr> <td>(i)</td> <td>the foreseeable impact of people; and</td> </tr> <tr> <td>(ii)</td> <td>where appropriate, the static pressure of people pressing against it.</td> </tr> </tbody> </table> <p>Table 3. Requirements of NCC 2022 Volume Two - Part H5P2 Fall prevention barriers</p>	Clause		(1)	A barrier must be provided where people could fall—	(a)	1 m or more—	(i)	from a floor or roof or through an opening (other than through an openable window) in the external wall ; or	(ii)	due to a sudden change of level within or associated with a building; or	(b)	2 m or more from a floor through an openable window in a bedroom; or	(c)	4 m or more from a floor through an openable window not covered by (b).	(2)	A barrier required by (1) must be—	(a)	continuous and extend for the full extent of the hazard; and	(b)	of a height to protect people from accidentally falling from the floor or roof or through the opening or openable window; and	(c)	constructed to prevent people from falling through the barrier; and	(d)	capable of restricting the passage of children; and	(e)	of strength and rigidity to withstand—	(i)	the foreseeable impact of people; and	(ii)	where appropriate, the static pressure of people pressing against it.
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	(a)	a stairway, ramp or the like; and
	(b)	a floor, corridor, hallway, balcony, deck, verandah, mezzanine, access bridge or the like; and
	(c)	a roof top space or the like to which general access is provided; and
	(d)	any delineated path of access to a building,
		where it is possible to fall 1 m or more measured from the level of the trafficable surface to the surface beneath (see Figure 11.3.3a).
	(2)	The requirements of (1) do not apply to—
	(a)	a retaining wall unless the retaining wall forms part of, or is directly associated with, a delineated path of access to a building from the road, or a delineated path of access between buildings (see Figure 11.3.3b); or
	(b)	a barrier provided to an openable window covered by 11.3.7 and 11.3.8.
	11.3.4	Construction of barriers to prevent falls
	(1)	A barrier required by 11.3.3 must comply with (2) to (11).
	(2)	The height of a barrier must be in accordance with the following:
	(a)	The height must not be less than 865 mm above the nosings of the stair treads, the floor of a ramp or the like (see Figure 11.3.4a).
	(b)	The height must not be less than—
	(i)	1 m above the floor of any landing, corridor, hallway, balcony, deck, verandah, access path, mezzanine, access bridge, roof top space or the like to which general access is provided (see Figure 11.3.3b and Figure 11.3.4a); or
	(ii)	865 mm above the floor of a landing to a stairway or ramp where the barrier is provided along the inside edge of the landing and does not exceed a length of 500 mm.
	(3)	A transition zone may be incorporated where the barrier height changes from 865 mm on the stairway flight or ramp to 1 m at the landing (see Figure 11.3.4b).
	(4)	Openings in barriers (including decorative balustrades) must be constructed so that they do not permit a 125 mm sphere to pass through it and for stairways, the opening is measured above the nosing line of the stair treads (see Figure 11.3.4a).
	(5)	Where a required barrier is fixed to the vertical face forming an edge of a landing,

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	<p>balcony, deck, stairway or the like, the opening formed between the barrier and the face must not exceed 40 mm.</p> <p>(6) For the purposes of (5), the opening is measured horizontally from the edge of the trafficable surface to the nearest internal face of the barrier.</p> <p>(7) A barrier to a stairway serving a non-habitable room, such as an attic, storeroom or the like that is not used on a regular or daily basis, need not comply with (4) if—</p> <p>(a) openings are constructed so that they do not permit a 300 mm sphere to pass through; or</p> <p>(b) where rails are used, the barrier consists of a top rail and an intermediate rail, with the openings between rails not more than 460 mm.</p> <p>(8) Restriction on horizontal elements:</p> <p>(a) Where it is possible to fall more than 4 m, any horizontal elements within the barrier between 150 mm and 760 mm above the floor must not facilitate climbing.</p> <p>(b) For the purpose of (a), the 4 m is measured from the floor level of the trafficable surface to the surface beneath.</p> <p>(9) A barrier constructed of wire is deemed to meet the requirements of (4) if it is constructed in accordance with 11.3.6.</p> <p>(10) A glass barrier or window serving as a barrier must comply with H1D8 and the relevant provisions of this Part.</p> <p>(11) A barrier, except a window serving as a barrier, must be designed to take loading forces in accordance with AS/NZS 1170.1.</p> <p style="text-align: center;"><i>Table 4. Requirements of Part 11.3 of the ABCB Housing Provisions</i></p>
Description of product;	<p>Aluminium Balustrade</p> <ul style="list-style-type: none"> - Flat Top Balustrade with Round Picket - Flat Top Balustrade with Square Picket - Balustrade with Rectangular Picket (batten style) - Balustrade with Rectangular Picket (Radiator style)
Product specification;	<p>As per AS/NZS 1170.1 Table 3.3;</p> <ul style="list-style-type: none"> - Type A - Type B & E - Type C3

Flat Top Balustrade Panel with Round Picket

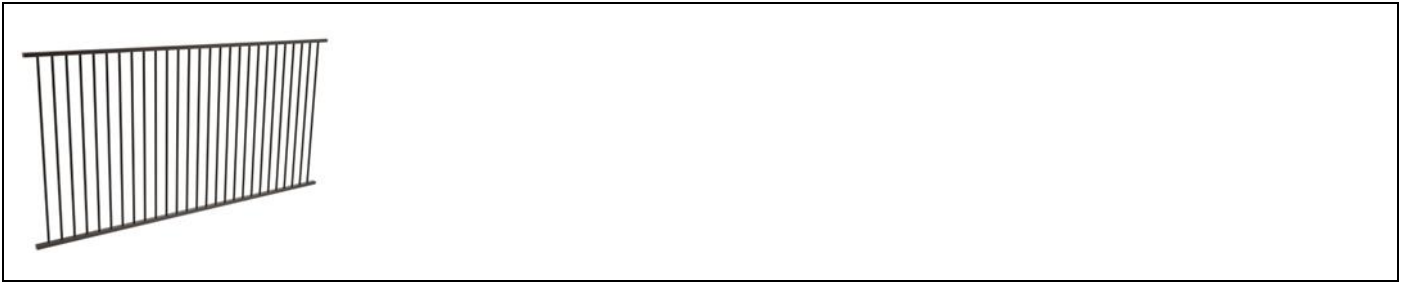
Spacings for Balustrade Panels:

- 15 pickets per panel
- Pickets – 19mm x 1.6mm tube
- 98.6mm space between picket centres
- Top Rail – 50mm x 25mm
- Bottom Rail – 50mm x 25mm
- Post – 50mm x 50mm
- Base Plate – 100mm x 100mm x 8mm

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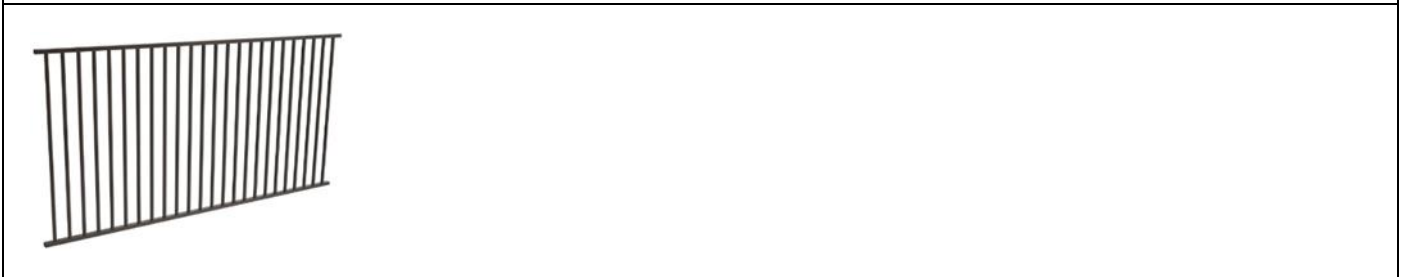
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Flat Top Balustrade with Square Picket

Spacings for Balustrade Panels:

- 15 pickets per panel
- Pickets – 20mmx20mm x 1.6mm tube
- 98.6mm space between picket centres
- Top Rail – 50mm x 25mm
- Bottom Rail – 20mm x 20mm
- Post – 50mm x 50mm
- Base Plate – 100mm x 100mm x 8mm



Balustrade with Rectangular Picket (batten style)

- 15 pickets per panel
- Pickets – 19mm x 1.6mm tube
- 98.6mm space between picket centres
- Top Rail – 50mm x 25mm
- Bottom Rail – 50mm x 25mm
- Post – 50mm x 50mm
- Base Plate – 100mm x 100mm x 8mm



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Balustrade with Rectangular Picket (Radiator style)

- 15 pickets per panel
- Pickets – 19mm x 1.6mm tube
- 98.6mm space between picket centres
- Top Rail – 50mm x 25mm
- Bottom Rail – 50mm x 25mm
- Post – 50mm x 50mm
- Base Plate – 100mm x 100mm x 8mm



Accessories for Balustrades

Posts;

50 x 50 x 1010mm End Post (Flanged)

50 x 50 x 1010mm Corner Post (Flanged)

Panel Brackets;

50 x 25mm Handrail

38 x 25mm Bottom Rail



End Post Flanged

Corner Post Flanged

Installation requirements;

Installations of these products are outside the scope of this Product Technical Statement. Each State in Australia has its own regulations regarding balustrade and must be installed in accordance to the relevant Structural/ Civil Engineers specifications, Building Codes, Australian/ New Zealand Standards, Regulations and Legislations. It is recommended that this product be installed by a suitably qualified tradesperson or competent DIY Persons. The finished balustrade must be inspected and approved by a certified Building Inspector/ Surveyor or Building Authority.

Protector Aluminium Balustrade Installation Guide

<https://www.protectoraluminium.com.au/pdf/howtoinstallbalustrades105x297mmAUS-2020v1Web.pdf>

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Fixings for UltiM8 Balustrades refer BVT Engineering “Design of Balustrade Systems”

Substrate Material	Fixing/per base plate	Minimum Geometric Distance
Steel	4x Stainless Steel 316 M8 Bolt	15 mm (edge distance)
Timber (suitable for joint group J1-J4)	4x Stainless Steel 316 M8 Bolt*	40 mm (from edge of member) 80 mm (from end of member) *Requires minimum 50x50x3mm Washer
	4x Stainless Steel 316 M8 Coach Bolt	40 mm (from edge of member) 80 mm (from end of member) 90 mm (embedment depth)
Concrete	4x M8 Hilti HUS-4/Powers Blue Tip II Concrete Anchor or equivalent	60 mm (embedment depth) 100 mm (concrete thickness) 40 mm (edge distance) Specific design required for overall size

Table 2. Fixing Details for foot plate

Evaluation Statements

Evaluation methods;

PCME Certifications has followed the following procedures for compiling of Protector Balustrade Product Technical Statement;

- Assessment of the Protector Aluminium products
- Assessing a product quality plan for the Protector Group (Protector Aluminium Pty Ltd) that conforms to ISO10005; and
- Reviewing testing of samples supplied to ascertain whether the product meets the performance requirements specified on this Technical Statement; and
- Conducting site audits of the Protector Group Head Office to verify compliance of the Protector UltiM8 Balustrade system

Note; The Product Technical Statement Holder has chosen not to make the above evidence of compliance publicly available, due to the documents being considered commercial confidence. For validation of the mentioned test reports Building Authority must contact the Technical Statement Holder directly.

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Reports;

- a) Brevity Engineering Professional Services
Design of Balustrade Systems

Project Name: Aluminium Balustrade System
Azuma Design
Test Report: 22083364-02-2

Test samples as per loads specified in 'Clause 3.6, Table 3.3 of AS 1170.1-2002 and combination factors as specified in Clause 4.2 of AS/NZS 1170.0:2002

Systems Tested:

Flat Top Round Picket
Flat Top Square Picket
Batton Style Rectangular Picket
Radiator Style Rectangular Picket

Certificate of Compliance

Date: 20th March 2023
Result: PASS

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Scope of Supplier Technical Statement:

The PCME (Product Compliance Made Easy) Product Technical Statement is to confirm that the relevant requirements of the Building Code of Australia (BCA) as claimed have been met. The responsibility for the product performance and its fitness for the intended use remain with the Supplier Technical Statement Holder. PCME Certification ensures all requirements to be classed as "Product Technical Statement", as per the National Construction Code for demonstrating compliance are fulfilled.

Disclaimer:

The scheme Owner, Scheme Administrator do not make any representations, warranties or guarantees, and accepts no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any material contained within this certificate; the Scheme Owner, Scheme Administrator disclaim to the extent permitted by law, all liability (including negligence) for any claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this Supplier Technical Statement.

Note: This Product Technical Statement is only valid when reproduced in its entirety.

Stefan Ossenberg

A handwritten signature in blue ink, appearing to read 'Stefan Ossenberg', is written over a light blue, textured background.

PCME Certifications Representative Name

Signature

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