



# Barrier

## Producer Statement PS1

### Pool Fencing and Fall Restraint Barriers

Engineering Specifications and Installation Details for Compliance  
with NZBC B1, F4, F9



**Property Enhancement  
& Protection**

DATE: 04/09/2025  
JOB REF: 25072061-11  
REVISION: B  
CHECKED & APPROVED BY BREVITY LTD.  
MATT BISHOP, CMENGNZ, CPENG  
#243276

**Brevity**

# Barrier specification selection guide

Clause F4 'Safety from Falling' of the New Zealand Building Code requires building areas to be constructed to reduce the likelihood of accidental falls. Specifically, barriers are required where people could fall one metre or more.

Barriers need to be designed and constructed so that they are capable of providing the strength and stiffness necessary for the proposed location and occupancy type of the property which they serve. Evidence of the suitability of the barrier system for its proposed use, needs to be provided when making a building consent application. This

producer statement provides the assurance that Fentec product specifications and installation details have been pre-approved by Chartered Professional Engineers and comply with all NZBC B1, F4, F9 requirements.

It is important that your selected barrier design is appropriate to the specific installation location and intended use. Use this guide to determine your specific barrier design and installation details.

## Generic producer statement

This is a generic Producer Statement, issued to Fentec Ltd, which provides the assurance that the proprietary products detailed in this document have been structurally engineered to comply with the New Zealand Building Code and the building code clauses as detailed, and for the application(s) as described in this document.

The fencing components detailed in this Producer Statement are proprietary products, engineered to comply with the requirements of the stated building code clause. Of equal importance is the detail of the fixing method to ensure the correct installation of the proprietary components. To this end, most common installation applications have been illustrated with appropriate details to ensure a safe and compliant fence/balustrade.

The structure (or ground conditions) to which the proprietary components are installed is the responsibility of the installer or end user, and it is recommended that an

independent engineer is engaged to confirm the compliance of the structure (or ground condition) with the New Zealand Building Code. Where relevant, and when critical to the compliance of the proprietary components, this producer statement details specific requirements of the structure (or ground conditions) as a minimum standard.

It is the installer or end user's responsibility to ensure the proprietary components are installed accurately to the detail provided. If your particular structure design or application is not covered in the details provided, then this generic producer statement cannot be applied to your installation. In this instance, please contact Fentec to discuss a custom-engineered solution that will meet your requirements.

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## How to use this document

This producer statements includes details for a variety of designs and applications, to ensure you get the right panel and fixing details for your application, please follow the instructions below:

1. Check the Design Loading that applies to your application, (see **Table A**). There are different Design Loadings and Minimum Barrier Heights, that apply to various occupancy types and scenarios. Following this is a table showing the corrosion zones in NZ and what fixing types you must use in these zones'.
2. Using **Table B**, you will be able to see what panel styles are able to be used with the loading identified in Step 1, this will also give you the maximum post centre you can install this panel at and will direct you to the panel drawing page.
3. On the applicable panel drawing, take note of how the panel is installed and what posts you can use, note the maximum wind zone this can be installed in, then follow the colours and drawing numbers to see the approved post fixing details, for the loading and panel style for your application.
4. In these pages you will find the fixing drawings that we have designed for most common applications, if the application that you are needing isn't shown here, please let us know and we can find a custom solution for you.

## Barrier loading selection

Where a barrier serves multiple occupancies, default to the highest loading requirement from all location scenarios. For more information, please refer to [www.building.govt.nz](http://www.building.govt.nz)

**Table A:** Barrier Loading Selection

Occupancy Type	Building Code Clause	Specific Use	Horizontal Design Loading	Minimum Overall Barrier Height
A - Domestic	F9	Pool fence only	0.33kN	1.2m
A - Domestic	F4	All areas serving one dwelling but excluding balconies, decks & terraces, e.g., walkways, stairs & landings, & retaining walls not adjacent to a deck or terrace	0.35kN/m	1.0m 0.9m for stairs only
A - Domestic	F4	External balcony, decks, terraces, retaining walls & walkways in a multi-dwelling application, including open public spaces	0.75kN/m	1.0m single dwelling 1.1m multi dwelling
B & E - Offices & work areas including storage	F4	Access walkways, stairs & landings	0.35kN/m	1.1m
B & E - Offices & work areas including storage	F4	Areas including balconies, decks & terraces not susceptible to overcrowding	0.75kN/m	1.1m
C - Areas without obstacles for moving people & where people might congregate	F4	Areas including walkways, stairs & landings, balconies, decks & terraces not susceptible to overcrowding, including parks and reserves	0.75kN/m	1.1m

## Fixing types

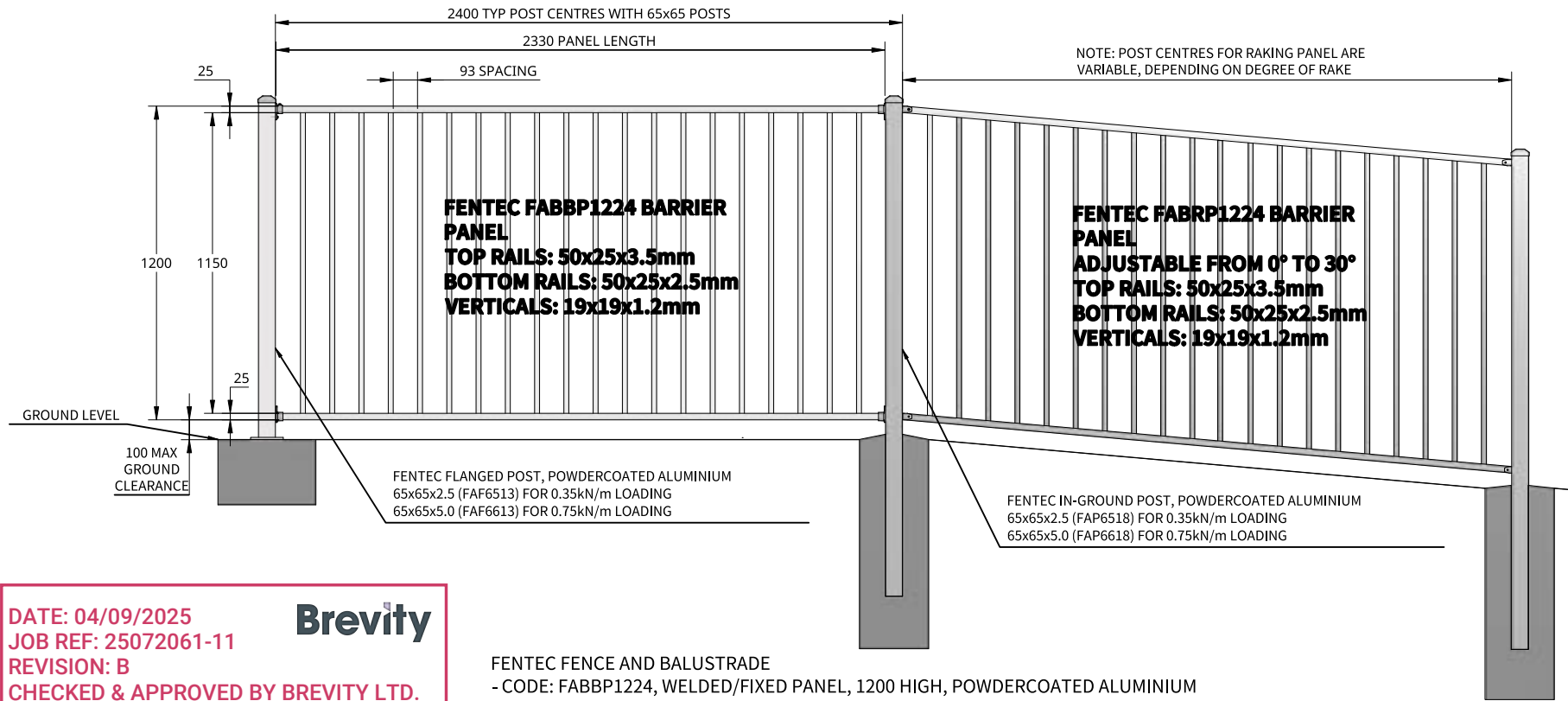
There are four corrosion zones in New Zealand that relate to the severity of exposure to wind-driven salt. To determine the corrosion zone for your installation location, please check maps in Figure 4.2 in NZS3604:201 (or online search 'BRANZ Maps'). Use the table below to determine the appropriate fixing types required for your particular location.

**Table B:** Fixing Types

Zone	Risk Level & Location	Fixing Type
Zone B	Low risk	Hot dip galvanised
Zone C	Medium risk	Hot dip galvanised
Zone D	High risk, all offshore locations within 500m of coastline, including harbours, locations within 100m of tidal estuaries & sheltered inlets	316 stainless steel
Zone E	Very high risk, locations described in Zone D, beachfronts & seaside locations	316 stainless steel

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**Fixing Notes**

- All coach screws and bolts to be pre-drilled according to NZS 3603:1997
- When fixing self-drilling screws, ensure low torque setting to avoid thread stripping. A battery drill is recommended for self-drilling screws - DO NOT use an impact driver.

**Corrosion Zones**

There are four corrosion zones in New Zealand that relate to the severity of exposure to wind-driven salt. See maps in figure 4.2 of NZS 3604:2011 (or online search 'BRANZ Maps') to determine the corrosion zone of the installation location and appropriate fixing option required.

Zone	Risk Level & Location	Fixing Type
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**FENTEC FENCE AND BALUSTRADE**  
 - CODE: FABBP1224, WELDED/FIXED PANEL, 1200 HIGH, POWDERCOATED ALUMINIUM  
 - CODE: FABRP1224, ADJUSTABLE/RAKING PANEL, 1200 HIGH, POWDERCOATED ALUMINIUM

**Existing Support Structure**

- Supporting structures as not covered by these drawings unless specific requirements are detailed.
- Supporting structures are by others and must comply with the New Zealand Building Code.
- If unsure of existing structure compliance, seek professional advice.

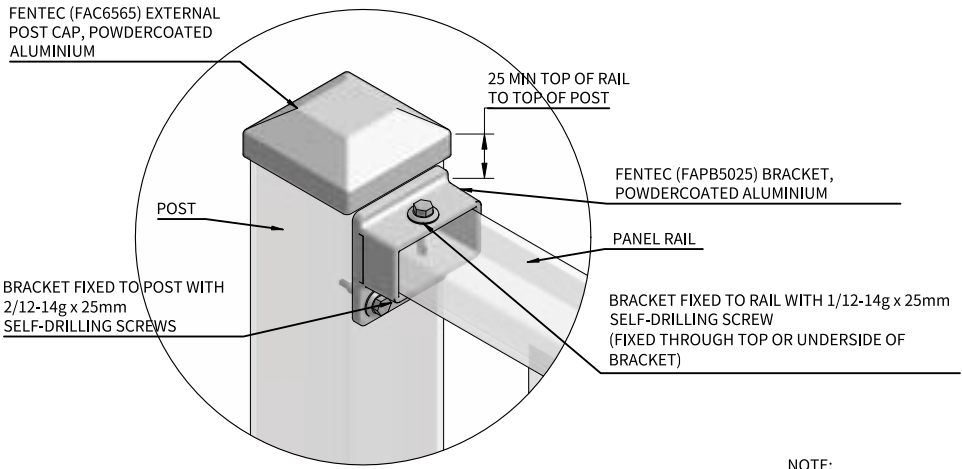


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 Website: [www.fentec.co.nz](http://www.fentec.co.nz)

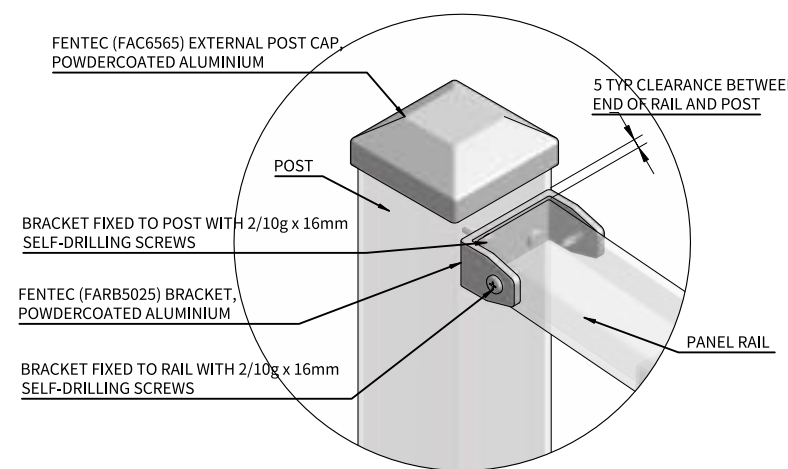
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**TITLE**  
**FENTEC BARRIER**  
**CODE: FABBP1224**  
**AND FABRP1224**  
**1200 HIGH**



**STANDARD PANEL BRACKET FIXING DETAIL**  
**SCALE: 1:3.5**

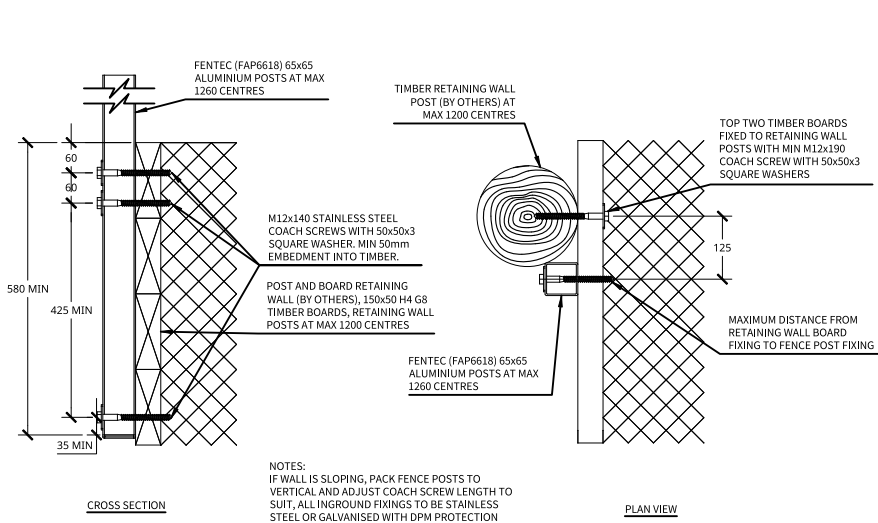


**ADJUSTABLE PANEL BRACKET FIXING DETAIL**  
**SCALE: 1:3.5**

**NOTE:**  
 WHEN FIXING SCREWS USE LOW TORQUE SETTING ON DRILL TO ENSURE THREAD IS NOT STRIPPED. USE EXTRA CAUTION WHEN FIXING INTO ALUMINIUM. DO NOT USE AN IMPACT DRIVER AS THIS WILL VOID FENTEC WARRANTY

SCALE	SIZE	DRAWING NO
1:25	A4	FAB1224
REV.	DATE ISSUED	SHEET
A	06/08/2025	3



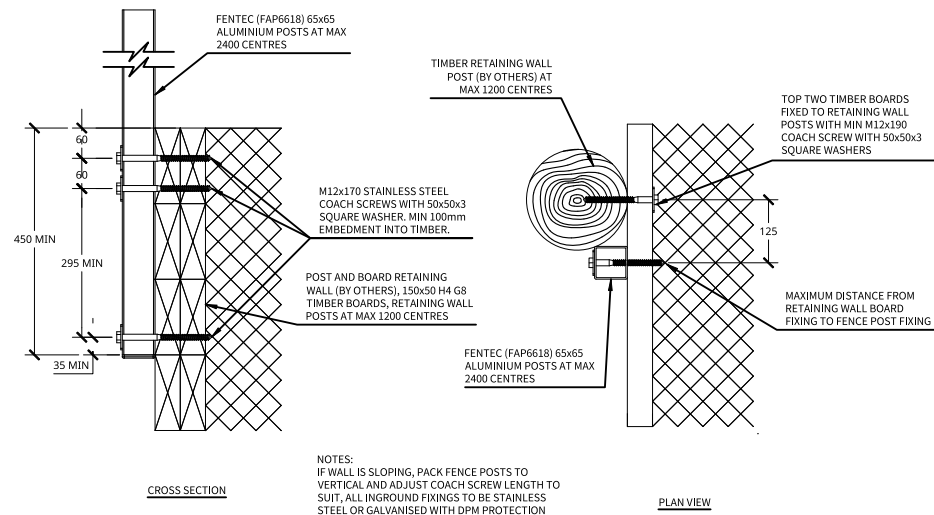


NOTES:  
IF WALL IS SLOPING, PACK FENCE POSTS TO VERTICAL AND ADJUST COACH SCREW LENGTH TO SUIT, ALL INGROUND FIXINGS TO BE STAINLESS STEEL OR GALVANISED WITH DPM PROTECTION

CROSS SECTION

PLAN VIEW

DRAWING NO: SRB657512-A  
APPLICATION: SIDE-FIX TO SINGLE BOARD TIMBER RETAINING WALL (POSTS ON OUTSIDE OF RETAINING WALL)  
LOADING: 0.75kN/m AT MAX 1260 POST CENTRES  
(NOTE: 0.75kN/m AT MAX 2400 POST CENTRE SUBJECT TO SPECIFIC ENGINEERING DESIGN)



NOTES:  
IF WALL IS SLOPING, PACK FENCE POSTS TO VERTICAL AND ADJUST COACH SCREW LENGTH TO SUIT, ALL INGROUND FIXINGS TO BE STAINLESS STEEL OR GALVANISED WITH DPM PROTECTION

CROSS SECTION

PLAN VIEW

DRAWING NO: SRB667524-B  
APPLICATION: SIDE-FIX TO DOUBLE BOARD TIMBER RETAINING WALL (POSTS ON OUTSIDE OF RETAINING WALL)  
LOADING: 0.75kN/m AT MAX 2400 POST CENTRES

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**Fixing Notes**

- All coach screws and bolts to be pre-drilled according to NZS 3603:1997
- When fixing self-drilling screws, ensure low torque setting to avoid thread stripping. A battery drill is recommended for self-drilling screws - DO NOT use an impact driver.

**Corrosion Zones**

There are four corrosion zones in New Zealand that relate to the severity of exposure to wind-driven salt. See maps in figure 4.2 of NZS 3604:2011 (or online search 'BRANZ Maps') to determine the corrosion zone of the installation location and appropriate fixing option required.

Zone	Risk Level & Location	Fixing Type
Zone B	Low risk	Hot-dip Galvanised
Zone C	Medium risk	Hot-dip Galvanised
Zone D	High risk, all offshore islands, locations within 500m of coastline including harbours, locations within 100m of tidal estuaries and sheltered inlets.	316 Stainless Steel
Zone E	Very high risk, locations described in Zone D, beachfronts and seaside locations.	316 Stainless Steel

**Existing Support Structure**

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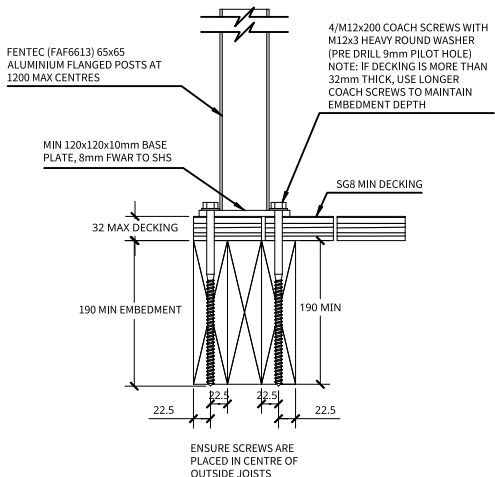
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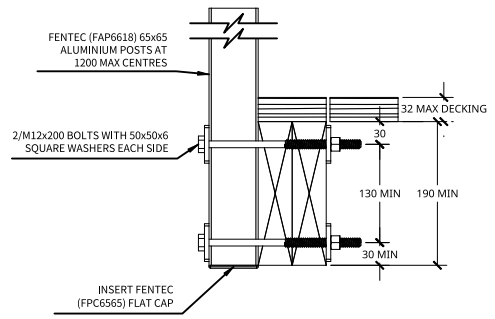
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TITLE  
FENTEC BARRIER FIXING DESIGNS  
FOR:  
- TIMBER RETAINING WALL (Single and Double Board)  
FOR 0.75kN/m HORIZONTAL  
LOADING  
(REFER TO BARRIER SPECIFICATION GUIDE FOR RELEVANT OCUPANCY TYPES)

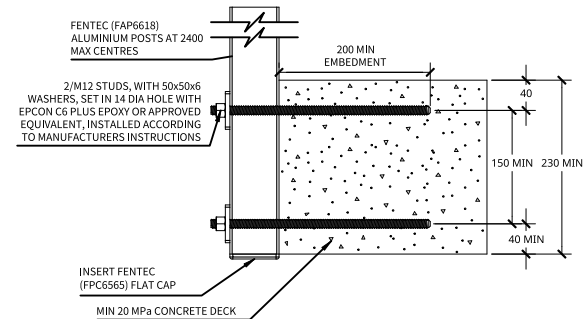
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REV.	DATE ISSUED	SHEET
A	06/08/2025	8



DRAWING NO: TTA657512  
 APPLICATION: TOP-FIX TO TIMBER DECK  
 LOADING: 0.75kN/m, AT MAX 1260 POST CENTRES  
 (NOTE: 0.75kN/m AT MAX 2400 POST CENTRE  
 SUBJECT TO SPECIFIC ENGINEERING DESIGN  
 INCLUDING SUPPORTING STRUCTURE)

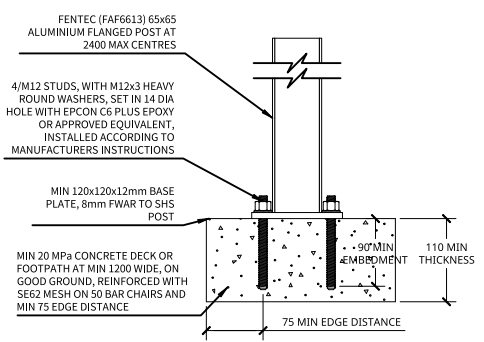


DRAWING NO: STA657512  
 APPLICATION: SIDE-FIX TO TIMBER DECK  
 LOADING: 0.75kN/m, AT MAX 1200 POST CENTRES  
 (NOTE: 0.75kN/m AT MAX 2400 POST CENTRE  
 SUBJECT TO SPECIFIC ENGINEERING DESIGN OF  
 SUPPORTING STRUCTURE)

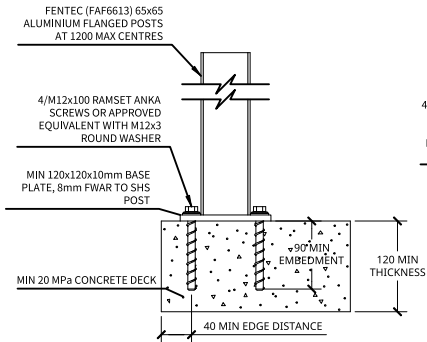


DRAWING NO: SDA667524-A  
 APPLICATION: SIDE-FIX TO CONCRETE DECK (230 MIN THICKNESS)  
 LOADING: 0.75kN/m, AT MAX 2400 POST CENTRES

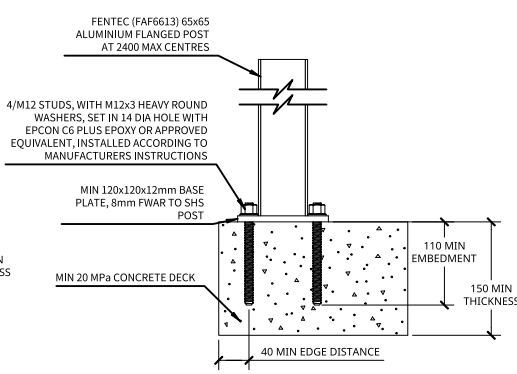
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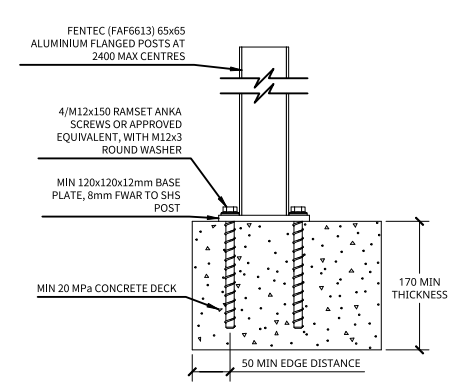
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 APPLICATION: TOP-FIX TO CONCRETE PATH OR DECK  
 (MIN 1.2m WIDE)  
 LOADING: 0.75kN/m AT MAX 2400 POST CENTRES



DRAWING NO: TDA657512  
 APPLICATION: TOP-FIX TO CONCRETE DECK  
 LOADING: 0.75kN/m AT MAX 1270 POST CENTRES



DRAWING NO: TDA667524-B  
 APPLICATION: TOP-FIX TO CONCRETE DECK  
 LOADING: 0.75kN/m AT MAX 2400 POST CENTRES



DRAWING NO: TDA667524-C  
 APPLICATION: TOP-FIX TO CONCRETE DECK  
 LOADING: 0.75kN/m AT MAX 2400 POST CENTRES

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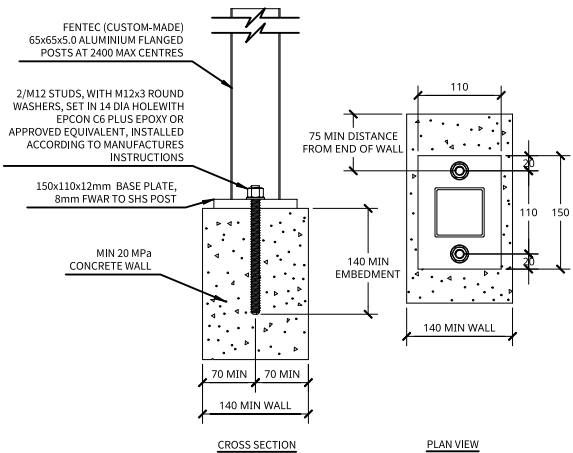
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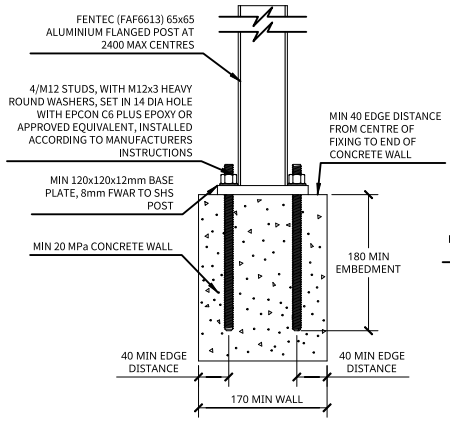
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**FENITEC BARRIER FIXING DESIGNS**  
 FOR:  
 - TIMBER DECK  
 - CONCRETE DECK

FOR 0.75kN/m HORIZONTAL  
 LOADING  
 (REFER TO BARRIER SPECIFICATION GUIDE FOR  
 RELEVANT OCCUPANCY TYPES)

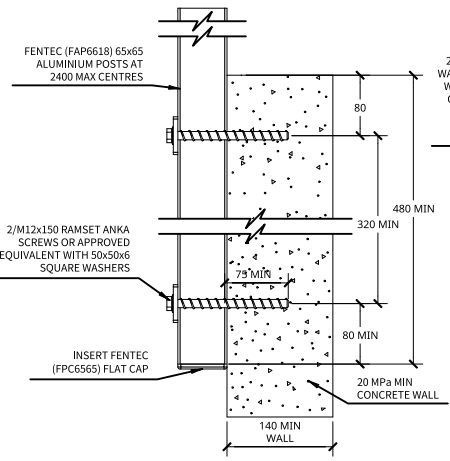
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REV. A	DATE ISSUED 06/08/2025	SHEET 9



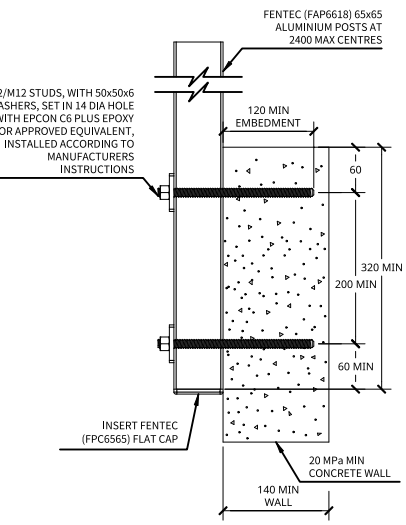
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APPLICATION: TOP-FIX TO CONCRETE WALL  
LOADING: 0.75kN/m AT MAX 1260 POST CENTRE



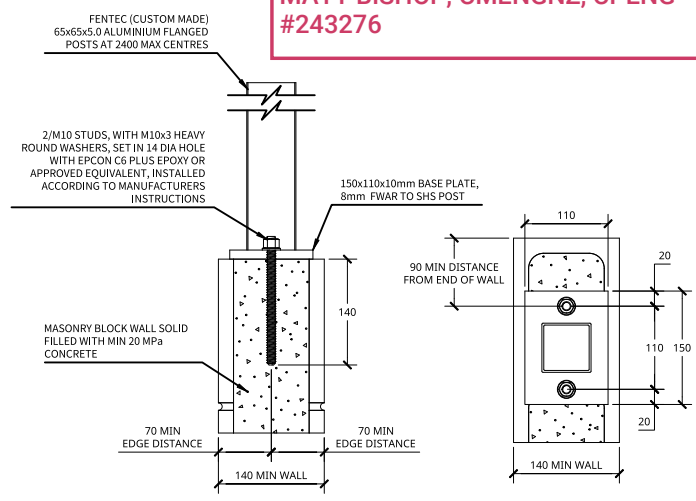
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APPLICATION: TOP-FIX TO CONCRETE WALL  
LOADING: 0.75kN/m, AT MAX 2400 POST CENTRE



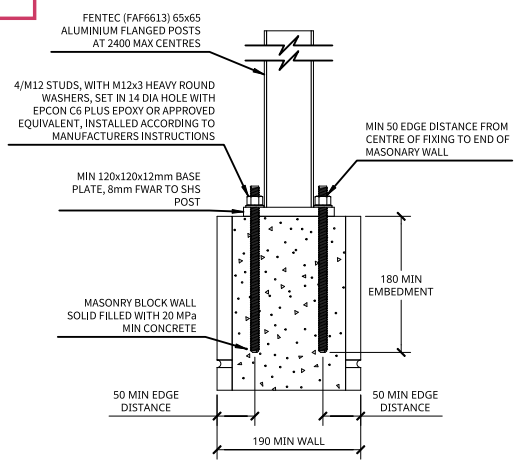
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APPLICATION: SIDE-FIX TO CONCRETE WALL  
LOADING: 0.75kN/m, AT MAX 2400 POST CENTRE



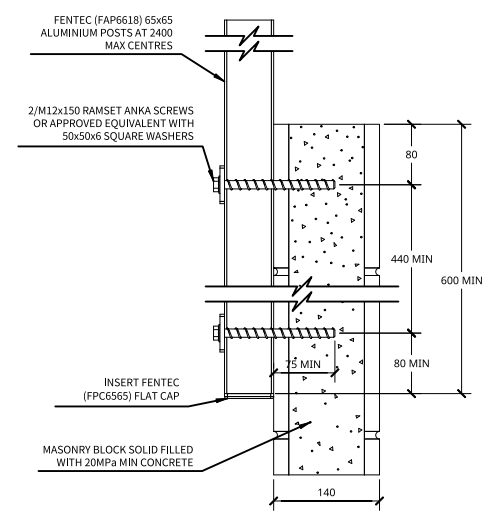
DRAWING NO: SWA667524-B  
APPLICATION: SIDE-FIX TO CONCRETE WALL  
LOADING: 0.75kN/m, AT MAX 2400 POST CENTRE



DRAWING NO: TMA657512  
APPLICATION: TOP-FIX TO MASONRY WALL  
LOADING: 0.75kN/m, AT MAX 1200 POST CENTRE (NOTE: 0.75kN/m AT MAX 2400 POST CENTRE NOT POSSIBLE TO TOP-FIX ON 15 SERIES MASONRY WALL)



DRAWING NO: TMA667524  
APPLICATION: TOP-FIX TO MASONRY WALL  
LOADING: 0.75kN/m AT MAX 2400 POST CENTRE



DRAWING NO: SMA667524  
APPLICATION: SIDE-FIX TO MASONRY WALL (15 SERIES)  
LOADING: 0.75kN/m AT MAX 2400 POST CENTRE

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TITLE:  
**FENTEC BARRIER FIXING DESIGNS FOR:**  
**- CONCRETE WALL**  
**- MASONRY WALL**  
**FOR 0.75kN/m HORIZONTAL LOADING**  
(REFER TO BARRIER SPECIFICATION GUIDE FOR RELEVANT OCCUPANCY TYPES)

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sales@fentec.co.nz





# NZBC Clause B1 Structure - Design

## Design Review of Aluminum Balustrades

---

**Project number:** 25072061-11B

**Client name:** Fentec Group Limited

**Date:** 04/09/2025

**Expiry Date:** 04/09/2026

**Location:** Various Locations

Level 9, 4 Williamson Avenue, Ponsonby  
Cider Building, Auckland 1021, New Zealand

p: +64 9 216 7104

e: [info@teambrevity.com](mailto:info@teambrevity.com)



# PRODUCER STATEMENT – PS1 DESIGN

**BUILDING CODE CLAUSE(S):** B1, F4 & F9 | **JOB NUMBER:** 25072061-11B |

**ISSUED BY:** Brevity Ltd |  
(Engineering Design Firm)

**TO:** Fentec Group Limited |  
(Owner/Developer)

**TO BE SUPPLIED TO:** - |  
(Building Consent Authority)

**IN RESPECT OF:** Brevity Report # 25072061-11B Design of Fentec DuraPanel Balustrade |  
(Description of Building Work)

**AT:** Various Location |  
(Address, Town/City)

**LEGAL DESCRIPTION:** Lot no. - | DP no. - | N/A

We have been engaged by the owner/developer referred to above to provide (Extent of Engagement): Design Consultancy for Structural and Seismic Design of Fentec DuraPanel Balustrade in respect of the requirements of the Clause(s) of the Building Code specified above for Part only, as specified in the Schedule, of the proposed building work.

The design carried out by us has been prepared in accordance with:

- Compliance documents issued by the Ministry of Business, Innovation & Employment (Verification method/acceptable solution) B1/VM1 - F4/AS1 - F9AS1 and/or;
- Alternative solution as per the attached Schedule.

The proposed building work covered by this producer statement is described on the drawings specified in the Schedule, together with the specification, and other documents set out in the Schedule.

On behalf of the Engineering Design Firm, and subject to:

- Site verification of the following design assumptions: refer to attached report.
- All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds that:

- the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the Schedule, will comply with the relevant provisions of the Building Code and that;
- the persons who have undertaken the design have the necessary competency to do so.

I recommend the CM 2 level of construction monitoring.

I, (Name of Engineering Design Professional) Matt Bishop, am:

- CPEng number 243276 and hold the following qualifications BE (Hons)

The Engineering Design Firm holds a current policy of Professional Indemnity Insurance no less than \$200,000  
The Engineering Design Firm is a member of ACE New Zealand.

**SIGNED BY (Name of Engineering Design Professional):** Matt Bishop  
(Signature below):

Issue Date 04/09/2025

Expiry Date: 04/09/2026

**ON BEHALF OF (Engineering Design Firm):** Brevity Ltd

**Note:** This statement has been prepared solely for the Building Consent Authority named above and shall not be relied upon by any other person or entity. Any liability in relation to this statement accrues to the Engineering Design Firm only. As a condition of reliance on this statement, the Building Consent Authority accepts that the total maximum amount of liability of any kind arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in tort or otherwise, is limited to the sum of \$200,000.

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

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### Document Revision History

Rev	Date	Revision details	Author	Approved
A	27/08/2025	For Consent	CE	MB
B	04/09/2025	Updated Company Name	CE	MB

## 1. Overview

Brevity has been engaged by Fentec Group Limited to provide a Chartered Engineer's PS1 – Design Review for the Aluminum Balustrades for Global Design, for various locations in New Zealand. This report summarizes the engineering design criteria and records, key decisions, and outcomes as per NZ standards.

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This report has been prepared by Brevity on the specific instructions of our client. It is solely for our client's use for the purpose for which it is intended in accordance with the agreed scope of work. Any use or reliance by any person contrary to the above, to which Brevity has not given its prior written consent, is at that person's risk.

## 2. Design Methodology and Loading

In accordance with the New Zealand Building Code Section B1 by Specific Engineering Design to B1, F4, and F9 by specific engineering design to VM1 and AS1 the engineering system was checked to the following loading standards:

- AS/NZS 1170 Series
- NZS 3404: Part 1:1997
- AS/NZS 1664.1 :1997
- AS/NZS 1720.1:2022.

Based on the previous project for this type of structure, wind is the key factor influencing the design.

## 4. Our Contact Details

Engineer's contact details for this report

Contact	Contact details
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