



VISTA TOP-FIX FRAMELESS CHANNEL

PRODUCT TECHNICAL STATEMENT - Version BPIR 1, November 2023 (rev2, Jul 24)



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Frameless Glass Balustrade

Product Line: Provista Frameless Glass Balustrade solutions

Product Name/Identifier: Vista Top-fix

Manufacturer/Location: Provista Balustrade Systems Ltd/New Zealand, NZBN 9429033696102

Address for Service: 1568 Kumara Junction Highway, Hokitika RD2, Westland 7882

Manufacturer Contact Details: nbarrett@provista.co.nz, 0272 580 876, www.provista.co.nz

Warnings and Bans: No

Description:

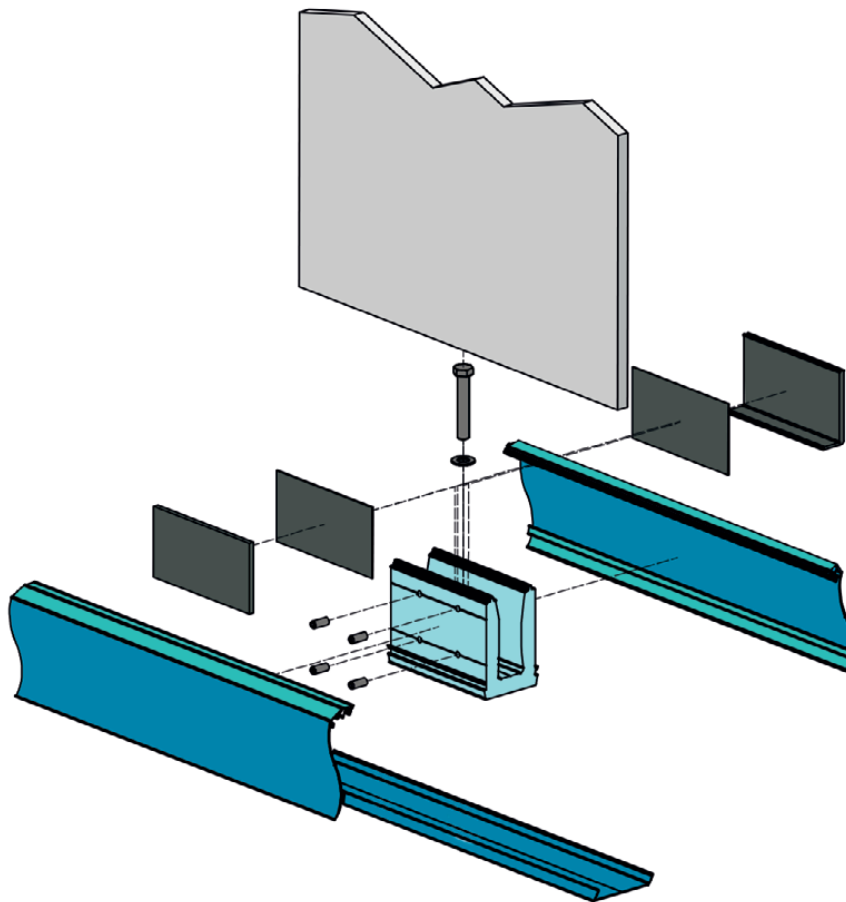
Provista Balustrade Systems Vista Top-fix Frameless Glass balustrade system features a modern aluminum channel design suiting both classic and contemporary building design. The channel is a top-fixed design providing an ultraclean look with completely hidden fixings. The channel can accept 12mm and 15mm toughened safety glass as well as 13.52mm laminated safety glass. An interlinking rail is available for balustrade applications using 12mm glass which is available in a stainless steel or powder-coated finish.

Key Features:

- Designed for residential and commercial applications including apartment balconies and decks
- Suitable for both interior or exterior applications, including pool fencing and gates
- Hidden-fixings for an ultra-clean look
- Choice of 12mm or 15mm toughened or 13.52mm toughened laminated safety glass
- Designed for all building structures including timber, concrete and steel
- T6 Temper Grade alloy used for all profiles, providing approx. 20% increased strength over typical grades
- Multiple finish options – can be powder-coated or anodised in all available NZ colours, including Dulux Duratec powder coating for high-corrosion zones
- National design service to assist with project specific design and detailing
- National network of fabricators and installers
- Complies with AS/NZS 1170, NZS3603, AS/NZS 1664, AS/NZS 2208 and NZS 4223.3 2016
- 5 year warranty on balustrade (see warranty statement)

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Frameless Glass Balustrade - Top-fixed



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Scope of Use:

The Vista Channel solution is designed to comply with A, B, E and C3 loadings for residential and commercial occupancy types and is suitable for decks, balconies, stairways, pool fences and gates.

Suitable building structures can be timber, concrete, steel and typical combinations of each. A stainless steel interlinking rail is available for 12mm glass applications, affixed directly to the top edge of the glass. The rail can also be supplied in a powder-coated finish which could be the same as that of the channel covers or in a contrast colour.

Address or Site-specific design and Producer Statements can be arranged as required.

Conditions of Use:

- The Vista Channel solution should only be used in accordance with this Provista Technical Statement which confirms installation requirements and fixing methods available
- Not suitable for Commercial Occupancy Type C5
- 1st Grade Toughened Safety Glass must be minimum 100Mpa
- Specified for use in Extra High Wind Zones. (Note: Clamps at 400mm centres for EHWZ)
- Site Specific PS1's and Calculations can be provided should the project require it.
- For high corrosion zones use Dulux Duratec powder-coating

NZS 3604 MAXIMUM SUITABILITY



Extra High Wind Zone

In-service History:

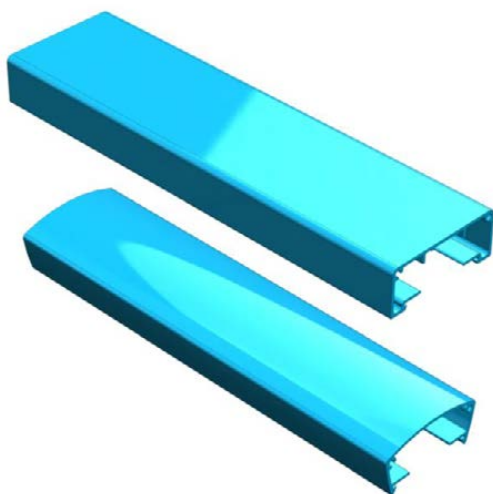
Provista has over 20 years of balustrade and pool fence design, development and installation experience across New Zealand. Provista products are designed and manufactured for NZ conditions. Many kilometres of Provista balustrade and pool fence solutions have been installed across the length and breadth of NZ

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Statement of Building Code Compliance:

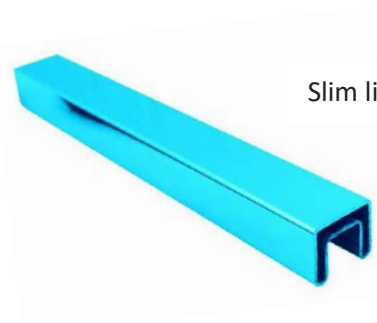
- Provista Balustrade Systems solutions have been designed and tested by independent engineers to comply with:
 - o AS/NZS 1170 Structural Design Actions
 - o NZS3603 Timber Structures Standard
 - o AS/NZS 1664 Aluminium Structures – allowable stress design
 - o AS/NZS 2208 Safety Glazing Materials in Buildings
 - o NZS 4223.3 2016 Glazing in Buildings – Human Impact Safety Requirements
- The Vista Side-fix Frameless Channel is designed for Occupancy types A, B, E and C3
- Designs are engineered to comply with B1, B2, F2 and F4 of the NZ Building Code
 - o B1 Structure — B1.3.1, B1.3.2, B1.3.3 (c, f, h, j, m), B1.3.4
 - o B2 Durability — B2.3.1 (a), B2.3.2 (a, b)
 - o F2 Hazardous building materials — F2.3.1, F2.3.3
 - o F4 Safety from falling — F4.3.1
 - o F9 Means of restricting access to residential pools — F9.3.1, F9.3.3
- For applications outside of the Provista Product Technical Statement specifications, a Site Specific PS1 can be prepared upon request

Choice of Continuous Interlinking Stainless or Aluminum handrail profile options



Retro Rail

Euro Rail



Slim line Stainless Rail

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Building Code Performance Clauses

All relevant building code performance clauses listed in this document:

B1 Structure

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:

- (c) temperature
- (f) earthquake
- (h) wind
- (j) impact
- (m) differential movement

B1.3.4

Due allowances shall be made for:

- a. the consequences of failure,
- b. the intended use of the building,
- c. effects of uncertainties resulting from construction activities, or the sequence in which construction activities occur,
- d. variation in the properties of materials and the characteristics of the site, and
- e. accuracy limitations inherent in the methods used to predict the stability of buildings

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:
 - i. those building elements (including floors, walls, and fixings) provide structural stability to the building, or
 - ii. those building elements are difficult to access or replace, or
 - iii. failure of those building elements to comply with the building code would go undetected during both normal use and maintenance of the building

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
- (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

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Building Code Performance Clauses, continued

All relevant building code performance clauses listed in this document:

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.

F2.3.3

Glass or other brittle materials with which people are likely to come into contact shall:

- 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.

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.

F9 Means of restricting access to residential pools

F9.3.1

Residential pools must have or be provided with physical barriers that restrict access to the pool or the immediate pool area by unsupervised young children (ie, under 5 years of age).

F9.3.3

A barrier surrounding a pool must have no permanent objects or projections on the outside that could assist children in negotiating the barrier. Any gates must

- a. open away from the pool; and
- b. not be able to be readily opened by children; and
- c. automatically return to the closed position after use

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Warranty Statement

5 year peace of mind limited warranty covering faulty materials and installation supplied by Provista Balustrade Systems and installed by an authorised Provista Balustrade Systems agent. Warranty and provisions expressly covered in accordance with Building Code requirements within the Producer Technical Statement and assigned Building Code of Compliance Certificate.

The Client must notify Provista within 7 days of installation of any appearance or finishing defects present at installation and must give Provista reasonable opportunity to inspect. Provista will repair the defect or replace the materials or installation where the defect is the responsibility of Provista.

Excluded from any warranty claims:

A. Any or all sub structures that are supplied by third parties and covered under separate supplier warranties.

B. Provista does not give any warranty as to the life or appearance of the powder coating colour due to varying factors outside of Provista's control, including but not limited to sun exposure and weather conditions, that can affect powder coating.

C. Provista Balustrade Systems warranty excludes damage caused by extreme weather events and wind speeds greater than speeds the system was granted a code of compliance. Abnormal use, neglect, intentional damage or altered, modified after initial installation. And can be proven that the damage was caused by defective materials and or installation of Provista Balustrade Systems products only.

D. Damage or losses to business, personal property and third parties are also not covered under the warranty.

Provista Balustrade Systems Ltd will put right any defective materials or part thereof, found to be faulty in accordance with building code specified durability and performance guidelines, by their specified agent at no cost to the initial buyer/owner of the balustrade system at the discretion of Provista Balustrade Systems.

Balustrade Care and Maintenance

Whilst powder coated Aluminium and glass balustrades are low maintenance, they still require regular maintenance checks and cleaning to ensure optimum good looks and safety is achieved for many years.

MAINTENANCE:

Make a 2 monthly schedule to conduct a visual check for any defects, loose fittings and/or glazing rubbers. Report any issues to your local Provista agent immediately.

CLEANING:

Residential non sea zone industrial environments: 3-6month schedule. Hose down air born deposits and residues. Wash down all balustrade and glass with warm water and a small amount of detergent. Rinse with cold tap water. Use a dry towel or chamois to remove excess water. Use a squeegee on glass for the best finish.

Sea zone, industrial areas: 1-2 month schedule, wash down aluminium and glass with warm water and detergent, rinse thoroughly with cold tap water. Use a dry towel or chamois to remove excess water from aluminium and glass. While the use of glass cleaner can be used, a small amount of detergent in water performs just as well with a clean streak free finish. Use a squeegee on glass for the best finish.

AVOID:

1. Washing balustrade and glass in direct sun light or when surfaces are hot.
2. Avoid sunscreens, solvents, alcohol from coming in contact with powder coated surfaces. Wash off immediately with warm water and detergent, should a spill occur.
3. Never use abrasive compounds or materials to clean powder coated or glass surfaces.

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General Notes

GENERAL NOTE:

- (1) THE BALUSTRADE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTS AND ENGINEERS DRAWINGS.
- (2) ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE AGAINST THE ARCHITECTS AND ENGINEERS DRAWINGS PRIOR TO COMMENCING WORK - ANY VARIATIONS OR DISCREPANCIES ARE TO BE REFERRED TO THE CONSULTANT FOR RESOLUTION.
- (3) ALL WORK IS TO COMPLY WITH THE NZ BUILDING CODE.
- (4) REMOVE ALL EXCESS MATERIALS AND RUBBISH FROM SITE AND REINSTATE ANY DAMAGE ON COMPLETION OF WORK.
- (5) THE MAXIMUM BALUSTRADE HEIGHT 1300MM.
- (6) FOR BALUSTRADE HEIGHT ABOVE FINISHED FLOOR LEVEL UP TO 1200MM, THE CLAMPS ARE TO BE SPACED AT MAX. 500MM CRS. TOUGHENED GLASS TO BE DESIGNED BY OTHERS. THE MAXIMUM DISTANCE FROM SIDE EDGE OF GLASS TO FIXINGS IS 250MM.
- (7) FOR BALUSTRADE HEIGHT ABOVE FINISHED FLOOR LEVEL UP TO 1300MM, THE CLAMPS ARE TO BE SPACED AT MAX. 400MM CRS. TOUGHENED GLASS TO BE DESIGNED BY OTHERS. THE MAXIMUM DISTANCE FROM SIDE EDGE OF GLASS TO FIXINGS IS 200MM.
- (8) THE MAXIMUM DISTANCE FROM THE FINISHED FLOOR LEVEL TO THE DECK FASTENER IS 100MM.

EXISTING SUPPORT STRUCTURE:

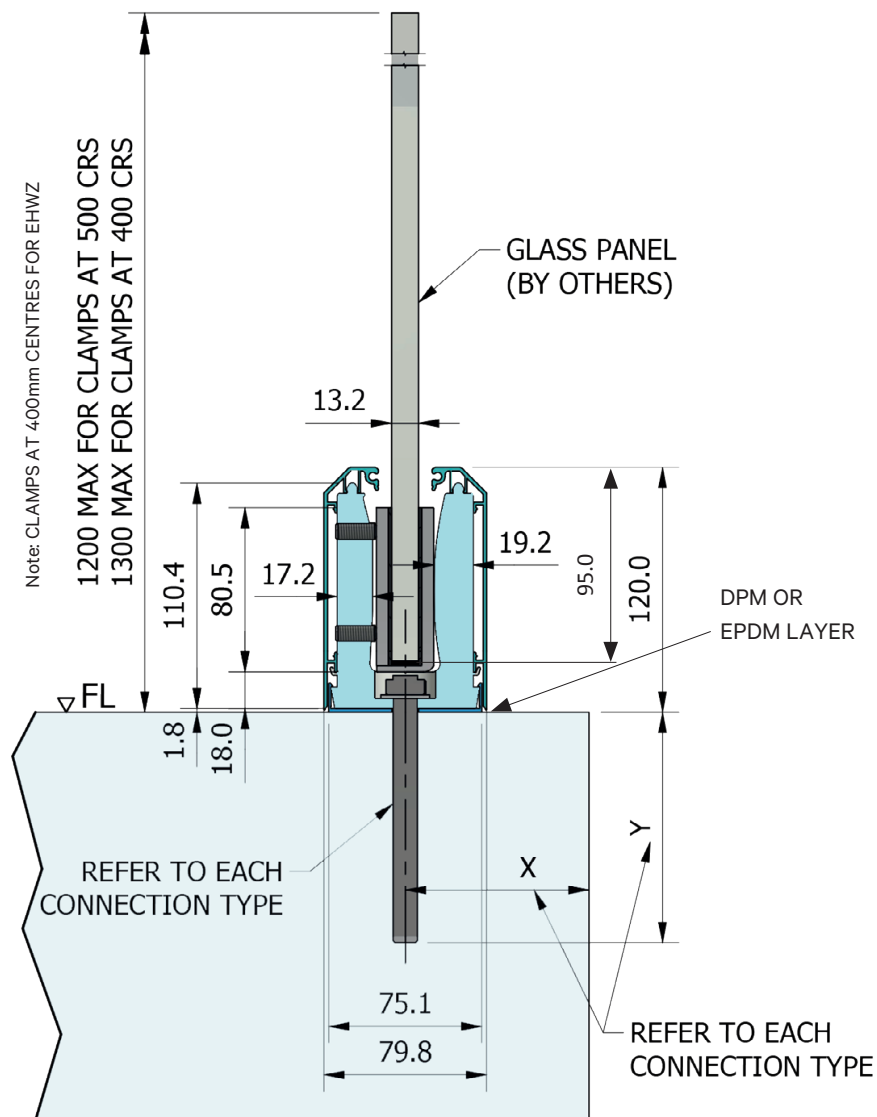
- (1) THE EXISTING DECK, BALCONY OR PAVING STRUCTURE MUST HAVE BEEN CONSTRUCTED TO COMPLY WITH THE LOCAL TERRITORIAL AUTHORITY REGULATIONS AND REQUIREMENTS, THE NZ BUILDING CODE AND NZS 3604
- (2) ALL STEELWORK IS TO BE PROTECTED AS REQUIRED BY THE NZ BUILDING CODE.
- (3) THE DESIGN OF CONCRETE, STEEL OR TIMBER SUPPORT FOR THE BALUSTRADE IS THE RESPONSIBILITY OF OTHERS.

NEW CONSTRUCTION NOTES:

- (1) THE EXISTING SUPPORTING STRUCTURE DETAILS ARE NOT COVERED BY THESE DRAWINGS.
- (2) THESE DRAWINGS ONLY COVER INSTALLATION DETAILS OF THE NEW ALUMINIUM BALUSTRADE AND GLASS FENCE/HANDRAIL.
- (3) ALL BOLTS AND COACH SCREWS CLASS 80 AND BRACKETS ARE TO BE 316 STAINLESS STEEL.
- (4) ALL CHEMSET CONCRETE ANCHORS TO BE CLASS 80 STAINLESS STEEL AND FIXED TO MANUFACTURER'S SPECIFICATION.
- (5) PREVENT CONTACT BETWEEN ALL DISSIMILAR MATERIALS IE: GALVANISED STEEL AND ALUMINIUM BY SEPARATING WITH NEOPRENE WASHERS.
- (6) ALL GLASS PANELS ARE TO BE TOUGHENED GLASS TO COMPLY WITH THE NZ BUILDING CODE AND CLAUSE 224.3 OF NZS 4223.3:2016.
- (7) TYPICAL GLASS SIZES ARE 12MM OR 15MM TOUGHENED GLASS REFER GLASS MANUFACTURERS SPECIFICATIONS FOR GLASS SIZING.
- (8) ALL STRUCTURAL GLASS BARRIERS SAFEGUARDING A FALL OF 1000MM OR MORE REQUIRE INTERLINKING HANDRAIL AS PER CLAUSE 22.4.3 OF NZS 4223.3:2016 UNLESS SPECIFICALLY DESIGNED TO COMPLY WITH 22.4.3(C).
- (9) ALL GLASS PANELS ARE TO BE SEATED ON NYLON WASHERS OR BUSHES AT ALL SUPPORT BRACKETS AND BOLTS.
- (10) ALL SEALANTS ARE TO COMPLY WITH THE REQUIREMENTS FOR THE SPECIFIC USE INTENDED DURING CONSTRUCTION.
- (11) A RUBBER, EPDM OR FOAM TAPE LAYER MUST BE INSTALLED BETWEEN THE CLAMP AND DECK.

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Clamp Section



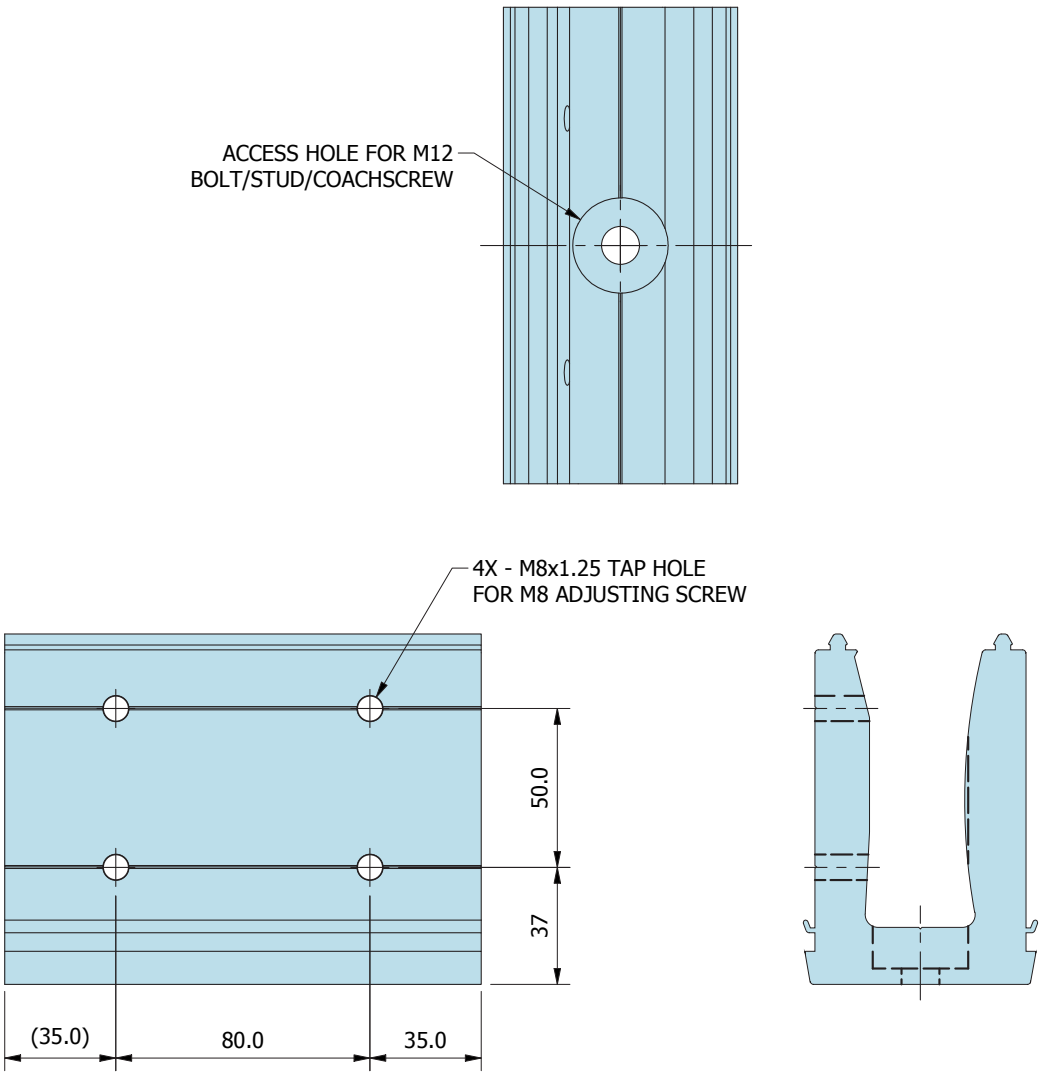
Note: Minimum height to be 1200mm when used as Pool Fencing

CLAMP SPACINGS FOR SPECIFIC WIND ZONES AND GLASS TYPES

Glass Type	Balustrade Height		>VHWZ 50m/s		EHWZ 55m/s	
	Concrete/Steel	Timber	Conc/Steel	Timber	Conc/Steel	Timber
12mm	>1200mm		500mm		400mm	
12mm	>1300mm		400mm		350mm	
13.52mm SentryGlas	>1200mm	>1100mm	400mm	350mm	400mm	300mm
13.52mm SentryGlas	>1300mm	N/A	400mm	N/A	350mm	N/A

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Clamp Elevation



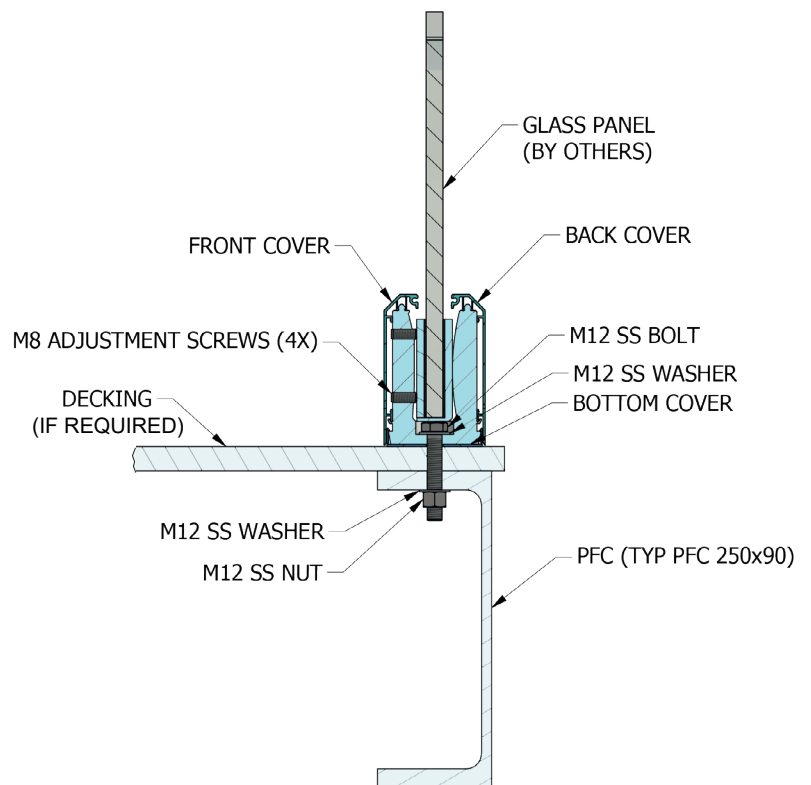
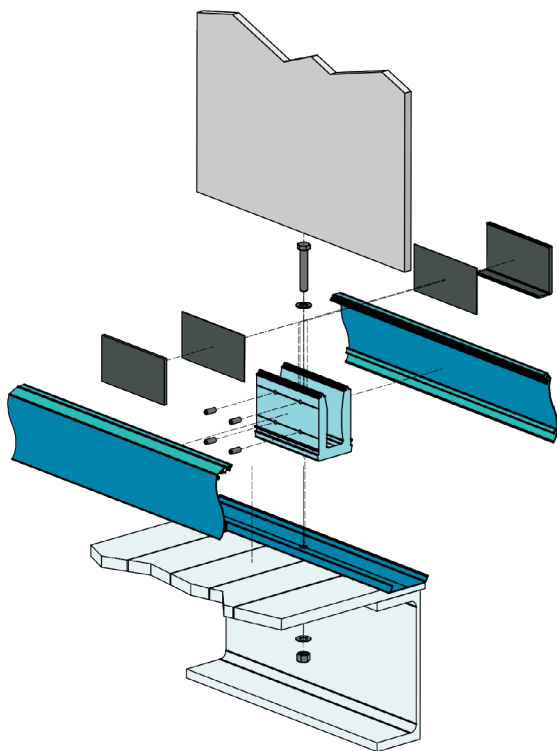
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COMMERCIAL & RESIDENTIAL BALUSTRADE DESIGN



PROVISTA 
BALUSTRADE SYSTEMS

Connection Type 1 - Steel Deck

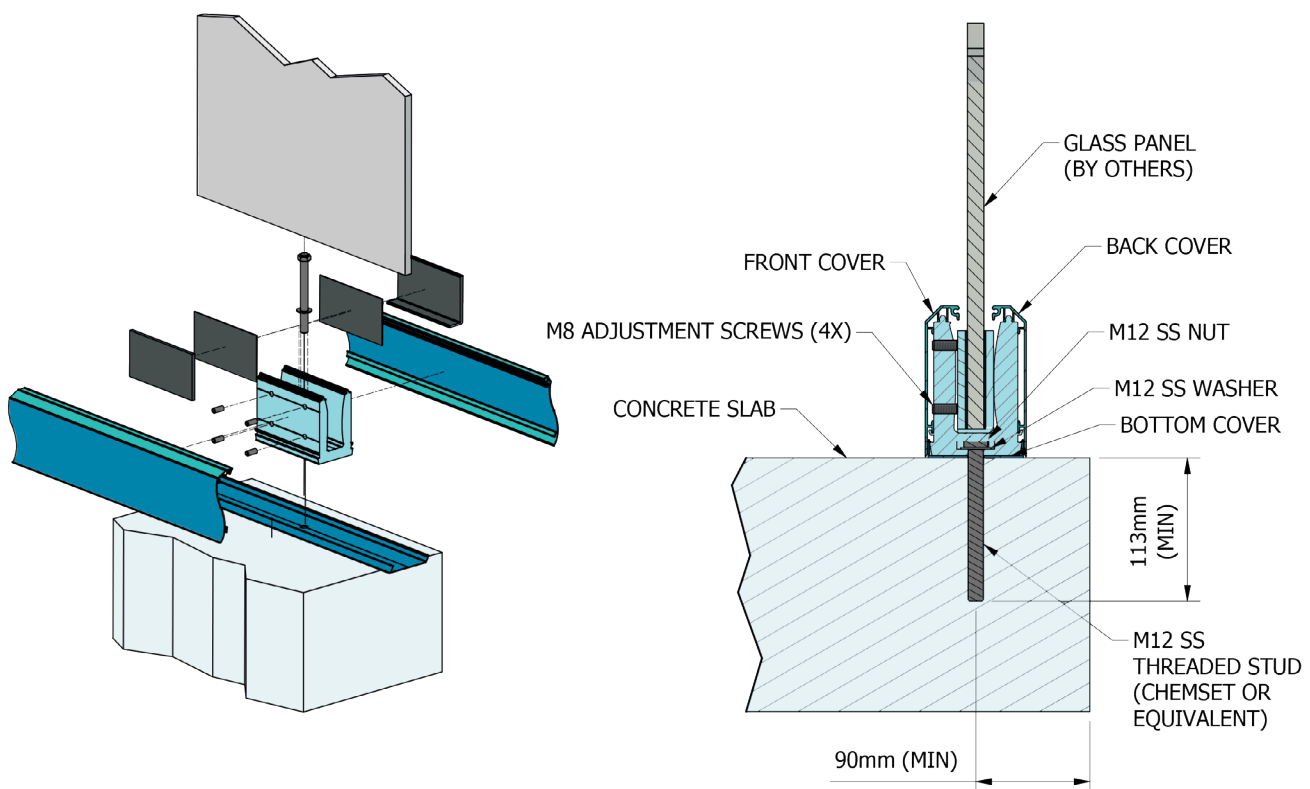


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COMMERCIAL & RESIDENTIAL BALUSTRADE DESIGN

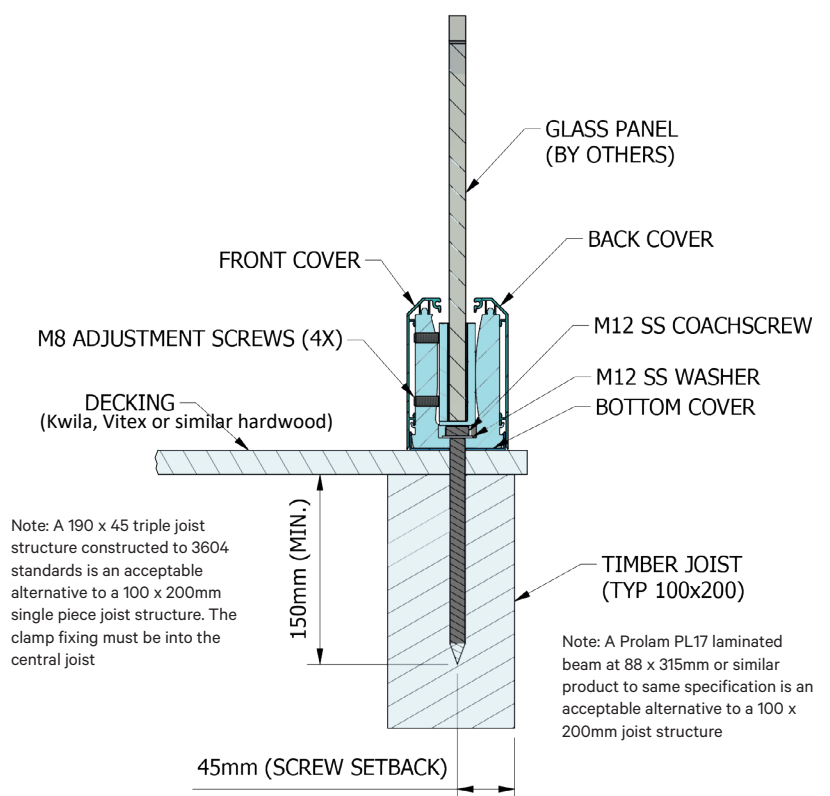
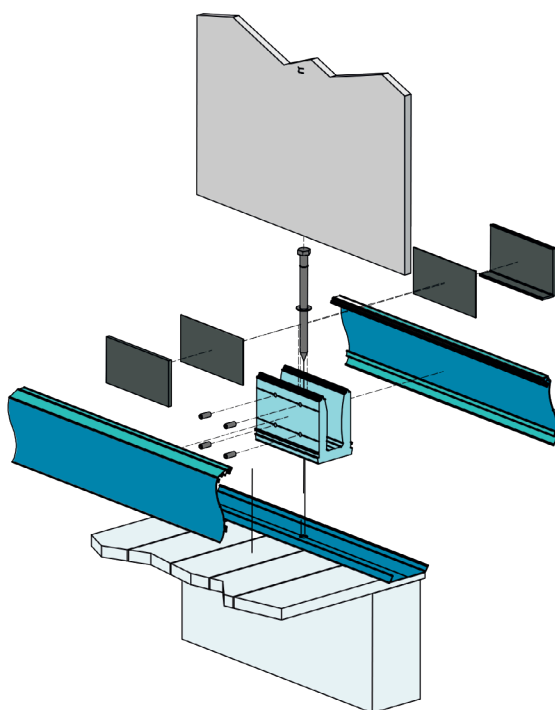


Connection Type 2 - Concrete Deck



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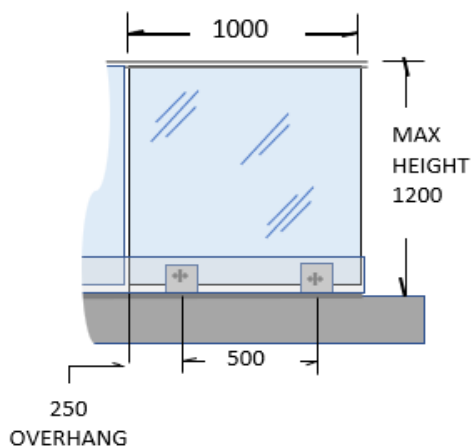
Connection Type 3 - Timber Deck With Coach Screws



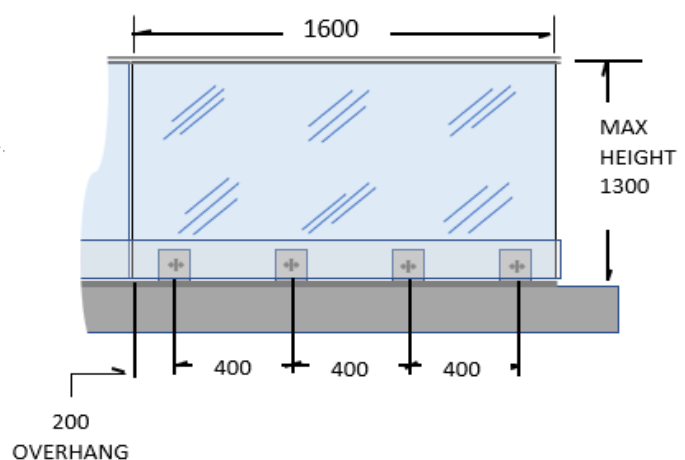
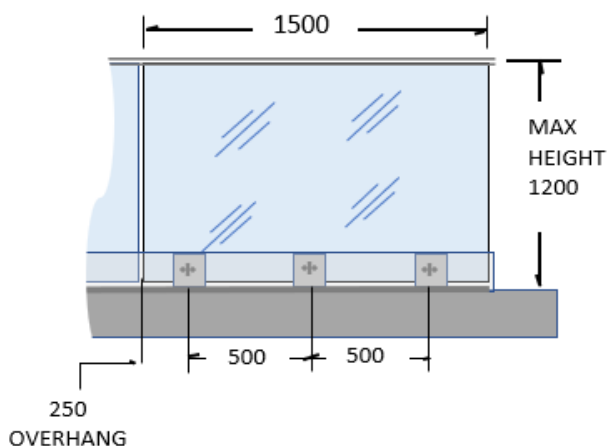
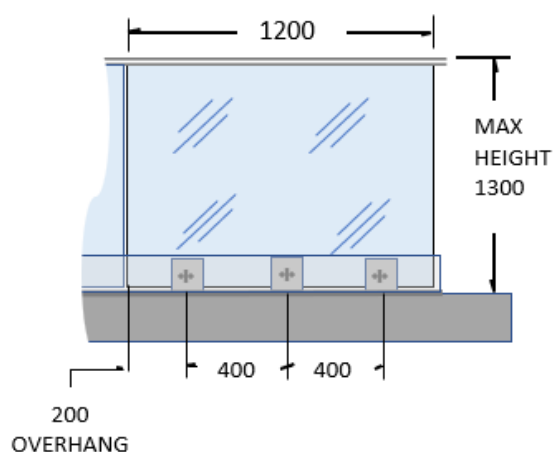
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Vista Top-fix Channel, Typical Glass Clamp Layouts

OCCUPANCY – RESIDENTIAL A, C3 & POOL
FENCING



OCCUPANCY – COMMERCIAL B, E, & C3



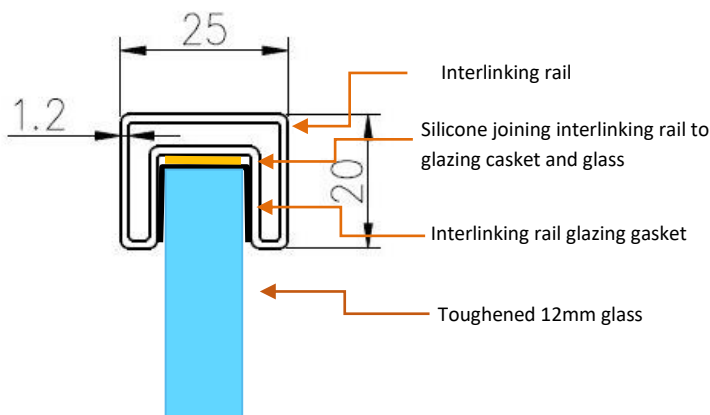
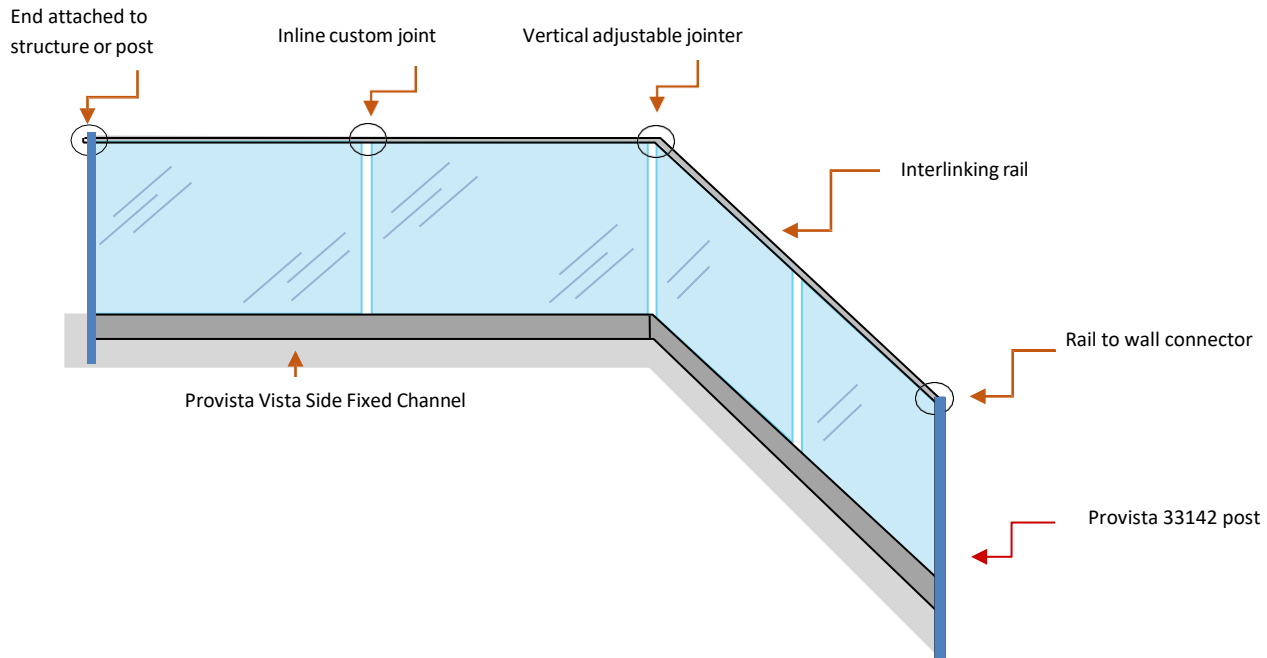
NOTES:

- ALL DIMENSIONS IN MILLIMETRES
- MAXIMUM PANEL WIDTH FOR 12mm GLASS WITH 25mm INTERLINKING RAIL IS 1700mm
- FOR 13.52mm SA SAFELITE STF LAMINATED GLASS REFER TO PROVISTA BALUSTRADE SYSTEMS
- USE 15mm GLASS FOR HEIGHTS(from top of clamps) ABOVE 1030mm FOR BALUSTRADES IN B, E, AND C3 OCCUPANCIES

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Provista Vista Top Fixed Balustrade Channel System

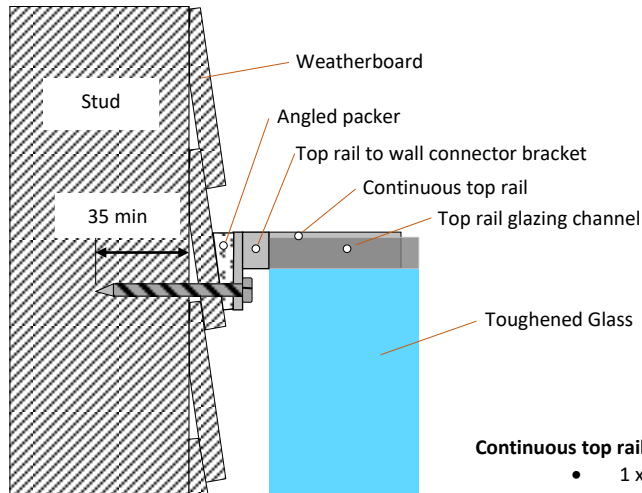
Interlinking rail Top Rail conforms to NZS 4223.3.2016 and Building Code Clause B1.3.4



General Notes

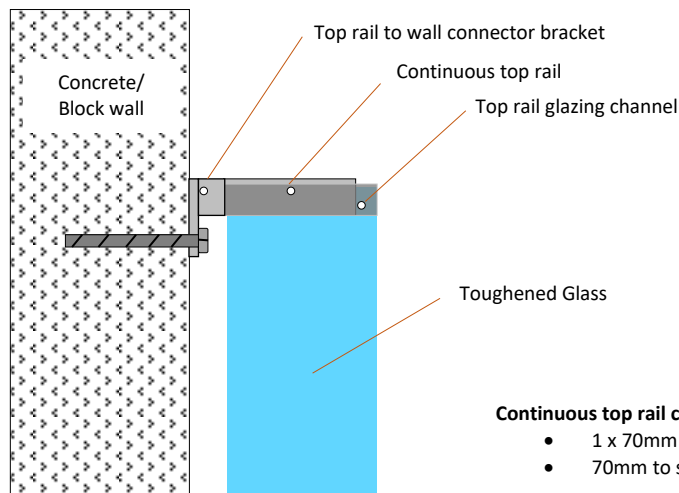
- Continuous interlinking rail must be connected to structure at both ends of rail unless in the instance of stairs whereby the end pane of toughened glass installed in the Vista frameless channel becomes the structural support for the rail.
- Attached glazing casket to 12mm glass and apply bead of silicone to outer top of gasket and firmly attach interlinking rail in place.
- On joints, use EP41S epoxy stainless adhesive or similar to fix appropriate fixings to the interlinking rail.

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Continuous top rail connection to timber

- 1 x M8 stainless coach screw, minimum embedment 35mm



Continuous top rail connection to concrete block and solid concrete

- 1 x 70mm M8 stainless Hilti HUS-HR screw anchor
- 70mm to side edge and 100mm from top edge

Notes:

Timber:

- Timber stud wall to be designed by structural engineer for balustrade loads in accordance with NZ3603 or NZ3604
- Stainless steel fixings
- Minimum stud size 90mm x 45mm, grade Sg8
- ULS Point load $N = .9\text{kN}$ inwards, outwards or down and in tension

Concrete:

- Continuous interlinking rail Occupancy A,B,E and C3
- Block wall to be filled/reinforced in accordance with NZ4230 or NZ4229 for applicable balustrade load
- Minimum block wall thickness 140mm
- Minimum core concrete strength 17.5MPa
- ULS point Load $N = 0.9\text{kN}$ inwards, outwards or down and in tension

Interlinking rail components

MANUFACTURER/LOCATION:
SHENZHEN LAUNCH CO. LTD Building 3, Yilida Building, Nanshan Blvd,
Nanshan District, Shenzhen, China. Contact email: sales01@launch-china.cn

20 x 25mm INTERLINKING HANDRAIL
5.8m per length



GLAZING GASKET
2.9m per length



180 degree joiner



90 degree joiner



Vertical adjustable joiner



Horizontal adjustable joiner



Wall to handrail joiner



End cap



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