METROVIEW MINI POST SP160B BALUSTRADE SYSTEM

Design Tables

Occupancy A

All areas within or serving one dwelling including stairs, landings etc. but excluding external balconies and edges of roofs, as per NZS1170.1 Table 3.3

Glass Thickness t (mm)	Maximum Height H (mm)	Horizontal Bracket Spacing (mm)	Design loads to substructure				
			M* (kNm/m)	T* (kN)	V* (kN)	SLS Wind (kPa)	ULS Wind (kPa)
12, 15.2	1050	As per elevation drawings	0.54	4.82	1.07	-	-
15, 17.2, 17.52	1200		0.60	5.36	1.07	-	-

Occupancy A(other)/C3/B/E

As per NZS1170.1 Table 3.3

Glass Thickness t (mm)	Maximum Height H (mm)	Horizontal Bracket Spacing (mm)	Design loads to substructure				
			M* (kNm/m)	T* (kN)	V* (kN)	SLS Wind (kPa)	ULS Wind (kPa)
12, 15.2	1050	As per elevation drawings	0.79	7.82	1.83	1.70	2.40
15, 17.2, 17.52	1200		0.92	9.39	1.90	1.53	2.15

Free Standing Pool Fences

(not protecting a fall of 1.0m or more)

Glass Thickness t (mm)	Maximum Height H (mm)	Horizontal Bracket Spacing (mm)	Design loads to substructure				
			M* (kNm/m)	T* (kN)	V* (kN)	SLS Wind (kPa)	ULS Wind (kPa)
12	1220	As per elevation drawings	0.71	7.03	1.44	1.14	1.60
15	1220		0.92	9.39	1.87	1.48	2.08

Glass thickness key:

Glass Thickness t (mm)	Inner layer[a] glass thickness (mm)	Interlayer thickness (mm) and type	Outer layer glass thickness (mm)	Panel size requirements	
				Minimum panel width (mm)	Maximum panel width (mm)
12	-	-	-	600	1700
15	-	-	-	600	1650
15.2	8	1.2 SAFELITE EVA	6	600	1700
17.2	8	1.2 SAFELITE EVA	8	600	1700
17.52	8	1.52 SAFELITE STF	8	600[b]/1000	1700

NOTE: a) Inner layer refers to balcony side.

b) Panels <1000mm width must have stiffener brackets or interlinking rail provided. Not required for panels ≥ 1000mm width.

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Design Tables

Maximum panel widths for Interlinking Rail/Bracket systems:

Applies where barrier is protecting a fall of 1.0m or more.

Interlinking Rail System	Maximum panel width (mm)	Position
S25 S40 Edgetec® 220	1700 1700 1700	on glass only HB50 bracket/on glass HB50 bracket/on glass
MFG SB Bracket on SAFELITE® only	1700	100mm - 200mm from top of glass

Post failure requirements:

Applies where barrier is protecting a fall of 1.0m or more

Glass Type	Requirement
TEMPAFLOAT®	Interlinking rail required in all cases
SAFELITE® EVA	Interlinking rail or SB brackets required all cases
SAFELITE® STF (Sentry®)	No interlinking rail required, minimum panel widths apply

NOTES:

1. Design tables only valid for use with MetroView Mini Post SP160B balustrade system.
2. Refer to installation and elevation drawings for Height 'H'.
3. The specifier must ensure the balustrade height above floor level requirements as per the NZ Building Code are complied with.
4. M* & V* refer to the critical ULS moments and shears applied to substructure by a single bracket. T* refers to the corresponding ULS tension force in the critical anchor.
5. Design loads are in accordance with AS/NZS 1170.1:2002 table 3.3 and NZBC B1/VM1 and DBH Guidance on Barrier Design (March 2012).
6. Capacity of all substructure is to be verified by building engineer or checked for accordance with NZS3604 (where applicable) prior to fixing.
7. All glass is to be toughened safety glass supplied by Metro Performance Glass, in either TEMPAFLOAT Monolithic, SAFELITE EVA Laminated or SAFELITE STF Laminated variants subject to requirements of the tables above. Minimum glass strength 100MPa, all edges polished.
8. Glass & interlayer thicknesses shown are nominal thickness. Table is based on glass minimum tolerance as per NZS 4223.1:2008.
9. Refer to the relevant fixing details on drawings: SP160B/C/RA-M12, SP160B/S(open)/BN, SP160B/S(hollow)/BN, SP160B/T/CS,
10. The tables for this balustrade system are based on an SLS deflection limit of 50mm. While greater than the suggested limit of height/60 as specified in NZS1170.0 for post and rail handrail systems, this is deemed acceptable based on the nature of the cantilevered glass system.
11. In all cases the MetroView Mini Post SP160B fixings must be fixed with Nylon gasket directly to the relevant supporting structure.
12. For designs outside the scope of these tables and ULS wind pressures exceeding those shown, specific design is required.
13. Maximum 10mm tolerance allowed to H heights noted in table.
14. Pool fences listed above refer to free standing structures where safety from falling is not applicable.