PLATEFIX PF150 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)	Substrate Material	Horizontal Clamp Spacing (mm)	Design loads to substructure			
				M* (kNm/m)	T* (kN)	SLS Wind (kPa)	ULS Wind (kPa)
12, 13.52, 15.2 15, 17.2, 17.52	1150	T, C, S	500	1.08	9.45	-	-

T = Timber, C = Concrete, S = Steel

T1* = tension for single fixing, applies to concrete & steel only
T2* = tension for dual fixing

Occupancy A/C3/B/E

As per NZS1170.1 Table 3.3

Glass Thickness t (mm)	Maximum Height H (mm)	Substrate Material	Horizontal Clamp Spacing (mm)	Design loads to substructure				
				M* (kNm/m)	T1* (kN)	T2* (kN)	SLS Wind (kPa)	ULS Wind (kPa)
12, 13.52, 15.2	950 1050	T, C, S T, C, S	450 400	1.13 1.24	8.94 8.70	6.61 6.44	1.44 1.31	2.13 1.94
13.52, 15.2	1100 1150	T, C, S C, S	400 400	1.29 1.35	9.08 9.45	6.72 7.00	1.26 1.21	1.86 1.79
15.2, 17.2, 17.52	950 1050 1100 1150 1250	T, C, S T, C, S T, C, S C, S C, S	450 400 400 400 400	1.13 1.24 1.29 1.35 1.46	8.94 8.70 9.08 9.45 10.20	6.61 6.44 6.72 7.00 7.57	1.44 1.31 1.26 1.21 1.12	2.13 1.94 1.86 1.79 1.66

Free Standing Pool Fences

(not protecting a fall of 1.0m or more)

Glass Thickness t (mm)	NZS3604 Wind Zone	Maximum Height H (mm)	Horizontal Clamp Spacing (mm)	Design loads to substructure		
				M* (kNm/m)	T1* (kN) (C, S)	T2* (kN) (T, C, S)
12	Up to High	1250	400	0.97	7.09	5.19
15	Very High	1250	400	1.26	9.15	6.70
15	Extra High	1250	300	1.52	8.31	6.08

Suitable substrate materials: T = Timber, C = Concrete, S = Steel

Glass thickness key:

Glass Thickness t (mm)	Inner layer[3] 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	-	-	-	1000	1700/1900 (see Opp. page)
13.52	6	1.52 SAFELITE STF	6	1700	Refer manufacturing limits
15	-	-	-	1000	1700/1900 (see Opp. page)
15.2	8	1.2 SAFELITE EVA	6	1000	1700/1900 (see Opp. page)
17.2	8	1.2 SAFELITE EVA	8	1000	1700/1900 (see Opp. page)
17.52	8	1.52 SAFELITE STF	8	1100	Refer manufacturing limits

NOTE: Inner layer refers to balcony side.

PLATEFIX PF150 SYSTEM

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 1700 S40 Edgetec® 220	1700 1700/1900 1700/1900	on glass only HB50 bracket/on glass HB50 bracket/on glass
MFG SB Bracket on SAFELITE® only	1900	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 Metro PF150 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. T1* refers to single fixing connections, and are not suitable for use with timber. T2* refers to dual fixing details.
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. M* & T1*, T2* denote bending moment (kNm/m width) and tension loads (kN/fixing for single and dual fixing) respectively to be supported by the sub structure.
7. Capacity of all substructure is to be verified by building engineer or checked for accordance with NZS3604 (where applicable) prior to fixing.
8. Fixing centres in tables above are applicable to concrete, steel and (where allowed) timber. Refer to fixing detail drawings for further details.
9. All glass is to be toughened safety glass supplied by Metro Performance Glass, in either TEMPAFLOAT® Monolithic, SAFELITE® EVA Laminated or SAFELITE® STF (Sentry®) Laminated variants subject to requirements of the tables above.
10. Glass & interlayer thicknesses shown are nominal thickness. Table is based on glass minimum tolerance as per NZS 4223.1:2008.
11. Refer to the relevant fixing details on drawings:

    PF150/C/RA-M12, PF150/C/RA-M10, PF150/S/RN(OPEN)-M12, PF150/S/RN(OPEN)-M10, PF150/S/RN(CLOSED)-M12, PF150/S/RN(CLOSED)-M10, PF150/T/RN and PF150/T/CS.
12. 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.
13. In all cases the PF150 fixings must be fixed with Nylon gasket directly to the relevant supporting structure.
14. For designs outside the scope of these tables and ULS wind pressures exceeding those shown, specific design is required.
15. Minimum glass strength 100MPa, all edges polished.
16. Maximum 10mm tolerance allowed to H heights noted in table.
17. Monolithic glass options only applicable for situations where all parts of glazing are within 5000mm of adjacent lower floor/ground below.
18. Pool fences listed above refer to free standing structures where safety from falling is not applicable, design is based on Importance Level 1.
19. For safety from falling barriers other than 'A occupancy', fixing to timber only suitable for H ≤ 1100mm.