

CORROLINK SPAN TABLES

In accordance with: - Wind actions: AS/NZS 1170.2:2002 - Clauses 5.3, 5.4 and D4
Imposed load on roof: AS/NZS 1170.1:2002 - Clause 3.5

Wind Class in accordance with AS4055-2006	Panel Core Thickness	Maximum Single Span (mm)			
		Fully Enclosed Room	One-Side Open	Two/Three Sides Open	
N1 (W28N)	65 mm	4770	4515	5035	
	85 mm	5540	5240	5840	
	115 mm	6530	6175	6875	
	150 mm	7550	7150	7950	
N2 (W33N)	65 mm	3975	3805	4195	
	85 mm	4610	4415	4860	
	115 mm	5425	5195	5725	
	150 mm	6250	6000	6600	
N3 (W41N)	65 mm	3135	2990	3285	
	85 mm	3645	3470	3815	
	115 mm	4285	4080	4495	
	150 mm	4900	4700	5150	
N4 (W50N)	65 mm	2550	2435	2675	
	85 mm	2955	2825	3105	
	115 mm	3480	3335	3655	
	150 mm	4000	3800	4200	
C1 (W41C)	65 mm	3000	2385	3145	
	85 mm	3485	2770	3650	
	115 mm	4100	3265	4300	
	150 mm	4740	3750	4980	
C2 (W50C)	65 mm	2440	1945	2560	
	85 mm	2825	2255	2970	
	115 mm	3330	2660	3495	
	150 mm	3850	3050	4050	
C3 (W60C)	65 mm	2000	1600	2100	
	85 mm	2320	1850	2430	
	115 mm	2725	2180	2870	
	150 mm	3150	2500	3300	

Fixing Detail:

1. Fixed to support member with 14g self-drilling screws at every alternate crest
2. Typically 5 screws to each panel, at each support.

Cyclonic Fixing:

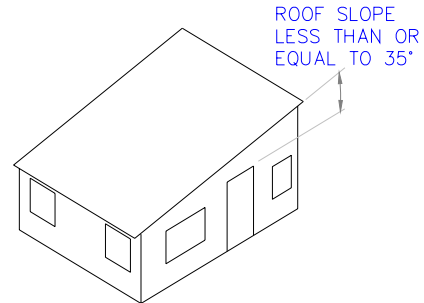
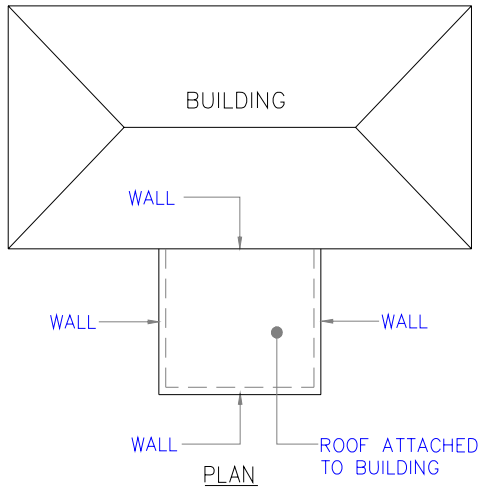
1. Fixed to support member with 14g self-drilling screws at every alternate crest with cyclone assemblies or washers suitable to the profile shape of the top sheet.
2. Typically 5 screws and cyclone assemblies or washers to each panel at each support.
3. Uplift load capacity of fixing to supporting members shall be based on engineering advice.
4. Max overhang is 25% of the allowable span.

NOTES:

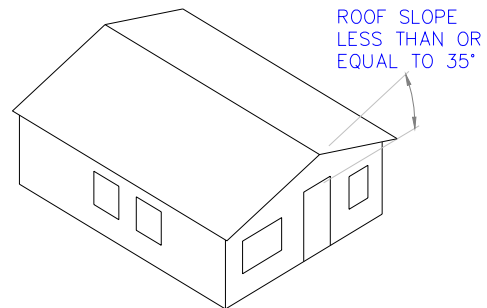
1. All windows included in the building shall be rated N1, N2, N3, N4, C1, C2, C3, in accordance with AS 2047
2. All glass included in the building shall be rated N1, N2, N3, N4, C1, C2, C3, in accordance with AS 1288.
3. For buildings in cyclonic wind regions, the building envelope (windows, doors and cladding) shall be capable of resisting impact loading equivalent to a 4 kg piece of timber of 100 mm x 50 mm cross-section, projected at 15 m/s at any angle in accordance with Clause 5.3.2, AS/NZS 1170.2:2002.



Full Enclosed Room

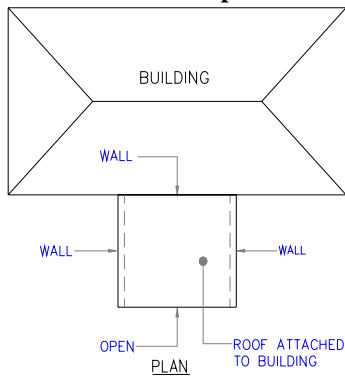


SKILLION OR LEAN TO ROOF OF ISOLATED BUILDING

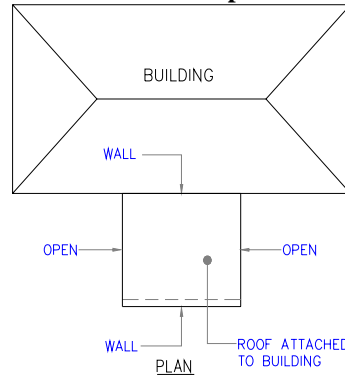


GABLE ROOF OF ISOLATED BUILDING

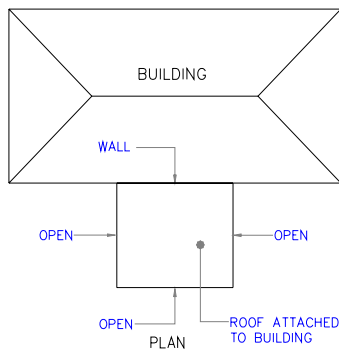
One-Side Open



Two-Sides Open



Three-Sides Open





This span table and structural engineering certification is based on:

1. Referenced Building Code of Australia [1] and Australian Standards [2] to [11];
2. Referenced design manual [12] and research report [13];
3. Structural load testing; and
4. Structural analysis and design calculations held on file.

The adequacy of the structural insulated roof panels for cyclonic wind loading is based on:

- 1) Documented adequacy of the performance of corrugated roofing when alternate crests are fastened with cyclone assemblies or washers when the region around the fastener (self-drilling screws) is free of large stress concentrations [13].
- 2) Fatigue behaviour is very much dependent on the local plastic buckling deformation load on the fastener [13]. The imposed load on a fastener for the recommended spans is restricted to below the local plastic buckling deformation load including a factor of safety.
- 3) Interpretation of recommendations in AS/NZS 4600:2005 [9] for fatigue including screw connections subject to cyclic loading
- 4) Evidence from field or site in cyclonic wind regions in the last 20 years that structural insulated roof panels installed to supporting members in accordance with recommendations in this document have performed adequately [14].

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References:

- [1] Building code of Australia (BCA), Volume Two, Australian Building Codes Board, ACT 2601.
- [2] Australian/New Zealand Standard AS/NZS1170.0:2002 Structural design actions – General principles.
- [3] Australian/New Zealand Standard AS/NZS1170.0 Supp 1:2002 Structural design actions – General principles – Commentary (Supplement to AS/NZS 1170.0:2002).
- [4] Australian/New Zealand Standard AS/NZS1170.1:2002 Structural design actions – Permanent, imposed and other actions.
- [5] Australian/New Zealand Standard AS/NZS1170.1 Supp 1:2002 Structural design actions – Permanent, imposed and other actions – Commentary (Supplement to AS/NZS 1170.1:2002).
- [6] Australian/New Zealand Standard AS/NZS1170.2:2002 Structural design actions, Part 2: Wind actions.
- [7] Australian/New Zealand Standard AS/NZS1170.2:2002 Structural design actions – Wind actions – Commentary (Supplement to AS/NZS 1170.2:2002).
- [8] Australian Standard AS 4055-2006 Wind loads for housing.
- [9] Australian/New Zealand Standard AS/NZS 4600:2005 Cold-formed steel structures
- [10] Australian Standard AS 3566.1 – 2002 Self-drilling screws for the building and construction industries, Part 1: General requirements and mechanical properties
- [11] Australian Standard AS 3566.2 – 2002 Self-drilling screws for the building and construction industries, Part 2: Corrosion resistance requirements
- [12] Gregory J. Hancock, Design of Cold-Formed Steel Structures (To Australian/New Zealand Standard AS/NZS 4600:2005), Australian Steel Institute, Fourth Edition, 2007
- [13] M. Mahendran, Fatigue behaviour of corrugated roofing under cyclic wind loading, Technical Report No. 35, May 1989, Cyclone Testing Station.
- [14] Discussions and communications with APS Versiclad.