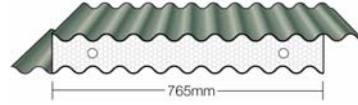




DOUBLE CORROLINK SPAN TABLES



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)	75mm	5758	5758	5758
	100mm	7837	7535	8170
	125mm	9000	8959	9000
	140mm	9000	9000	9000
N2 (W33N)	75mm	5758	5758	5758
	100mm	7837	7535	8170
	125mm	9000	8959	9000
	140mm	9000	9000	9000
N3 (W41N)	75mm	5277	5088	5459
	100mm	6664	6425	6892
	125mm	7870	7510d	8195
	140mm	8460	8070	8890
N4 (W50N)	75mm	4533	4290	4691
	100mm	5520	5270	5800
	125mm	6400	6120	6720
	140mm	6880	6570	7230
C1 (W41C)	75mm	5277	4390	5459
	100mm	6664	5400	6892
	125mm	7870	6260	8195
	140mm	8460	6740	8890
C2 (W50C)	75mm	4490	3580	4691
	100mm	5520	4400	5800
	125mm	6400	5100	6720
	140mm	6880	5490	7230
C3 (W60C)	75mm	3670	2950	3860
	100mm	4510	3620	4740
	125mm	5230	4200	5500
	140mm	5620	4510	5910

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:

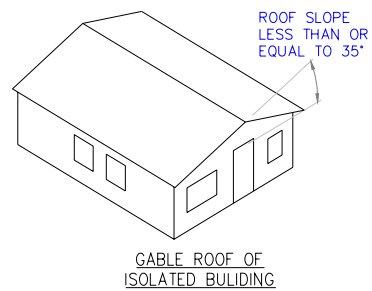
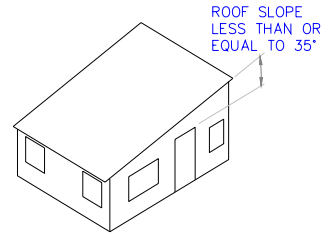
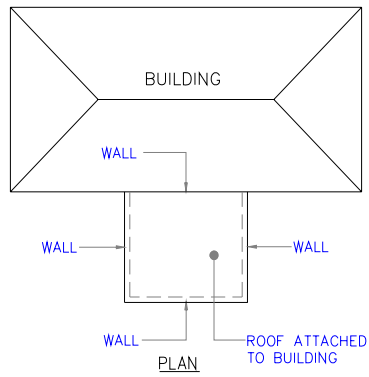
1. Fixed to support member with 14g self-drilling screws at every alternate crest with cyclone assemblies or washers suitable to the profile shape of the top sheet.
2. Typically 5 screws and cyclone assemblies or washers to each panel at each support.
3. Uplift load capacity of fixing to supporting members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

NOTES:

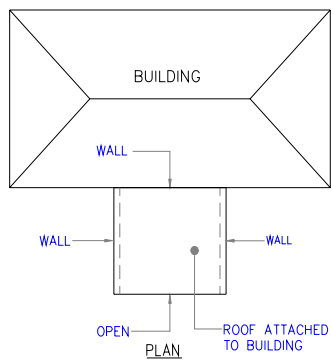
1. All windows included in the building shall be rated N1, N2, N3, N4, C1, C2, C3, in accordance with AS 2047
2. All glass included in the building shall be rated N1, N2, N3, N4, C1, C2, C3, in accordance with AS 1288.
3. For buildings in cyclonic wind regions, the building envelope (windows, doors and 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.



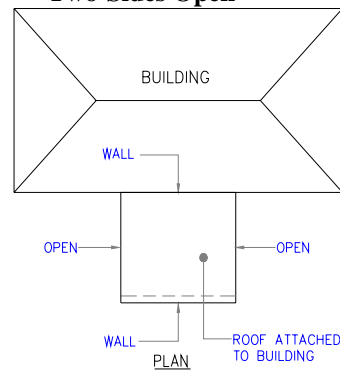
Full Enclosed Room



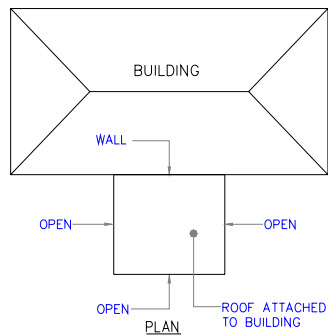
One-Side Open



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 ribbed type roofing profiles when all 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].

Kishore Honavar

MIEAust CPEng - Chartered Professional Engineer, Membership Number 733503.
Registered Professional Engineer of Queensland - RPEQ, Membership Number 7652
Principal Engineer - Innovative Construction Engineering Solutions Pty Ltd

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.