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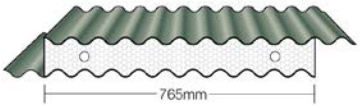

DOUBLE CORROLINK 765 WIND LOAD SPAN TABLE

In accordance with: - Wind actions: AS/NZS 1170.2 - Clauses 5.3, 5.4 and D4; AS 4055.
Imposed load on roof: AS/NZS 1170.1 – Clause 3.5: 1.1 kN (110kg) per panel, concentrated load for typical foot-traffic.

Wind Class in accordance with AS4055	Panel Size (mm)	Maximum Single Span (mm)		
		Fully Enclosed Room	One-Side Open	Two/Three Sides Open
N1 (W28N)	75	5758	5758	5758
	100	7837	7535	8170
	125	9319	8959	9744
	140	10160	9768	10624
N2 (W33N)	75	5758	5758	5758
	100	7837	7535	8170
	125	9319	8959	9744
	140	10160	8968	10624
N3 (W41N)	75	5277	5088	5459
	100	6664	6425	6892
	125	7870	7510	8195
	140	8460	8070	8890
N4 (W50N)	75	4533	4290	4691
	100	5520	5270	5800
	125	6400	6120	6720
	140	6880	6570	7230
C1 (W41C)	75	5277	4390	5459
	100	6664	5400	6892
	125	7870	6260	8195
	140	8460	6740	8890
C2 (W50C)	75	4490	3580	4691
	100	5520	4400	5800
	125	6400	5100	6720
	140	6880	5490	7230
C3 (W60C)	75	3670	2950	3860
	100	4510	3620	4740
	125	5230	4200	5500
	140	5620	4510	5910

Notes:
1. **This Table is based on Structural Insulated Roof Panels (SIRP) manufactured with insulation butt-joint located off-center as in SIRP used in structural load tests.**
2. **This table shall be studied in conjunction with all the information included in this document on: Sheets 1, 2, 3, 4, 5, 6.**

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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.
3. Uplift load capacity of fixing to supporting members shall be based on engineering advice: - 1) Screw pull-out; and 2) Screw pull-over; and 3) Depth of penetration in to supporting members.

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: - 1) Screw pull-out; and 2) Screw pull-over; and 3) Depth of penetration in to supporting members.

Panel Overhang:

1. Maximum span overhang in direction of panel length = 25% of allowable span; and Back-span shall be at least 2 x cantilever span - *prior to construction & installation, in case this statement is not clear, this statement shall be clarified with VERSICLAD.*
2. Maximum side overhang in direction of panel width = 300 mm

NOTES applicable to Span Tables:

1. All windows included in the building shall be rated N1, N2, N3, N4, C1, C2, C3, in accordance with AS 2047 (latest revision): - Windows and external glazed doors in buildings.
2. All glass included in the building shall be rated N1, N2, N3, N4, C1, C2, C3, in accordance with AS 1288 (latest revision): – Glass in buildings – Selection and Installation.
3. For buildings in cyclonic wind regions, the building envelope (windows, doors and cladding) shall be capable of resisting impact loading from windborne debris in accordance with Clause 5.3.2 – Openings and Clause 2.5.8 – Impact Loading from Windborne Debris, in AS/NZS 1170.2.
4. Performance of the installed DOUBLE CORROLINK structural insulated roof panels due to thermal expansion and contraction shall be verified by the Architect or Building Designer based on local weather and climate.

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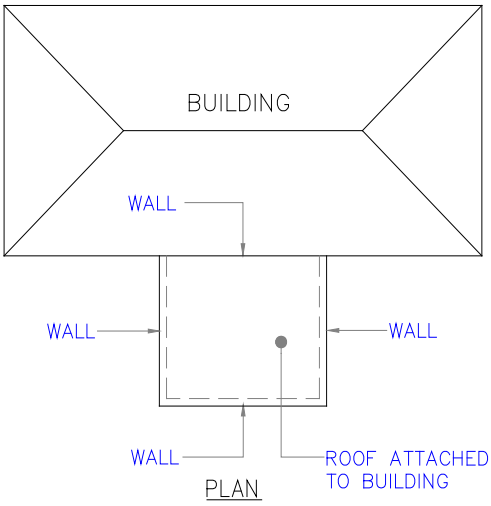
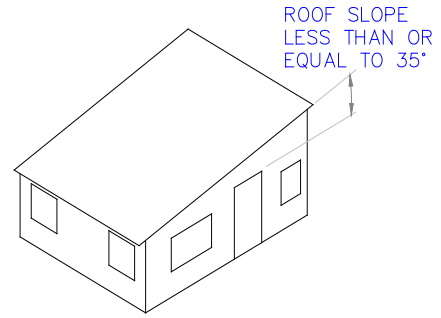
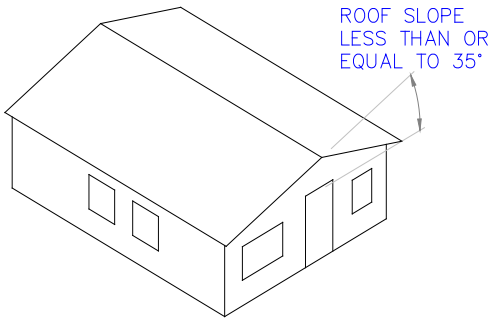
Full Enclosed Room



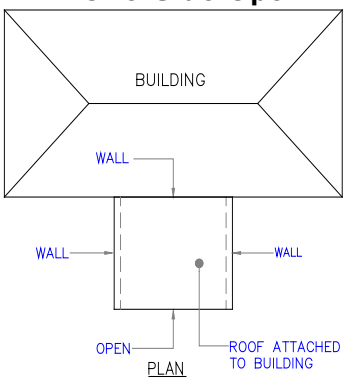


SKILLION OR LEAN TO ROOF OF ISOLATED BUILDING

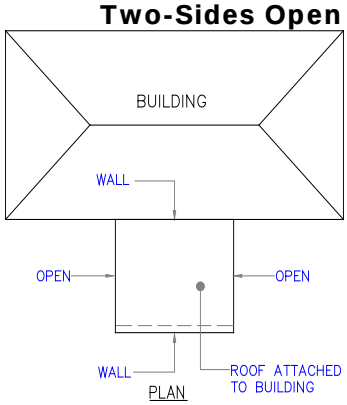


GABLE ROOF OF ISOLATED BULIDING

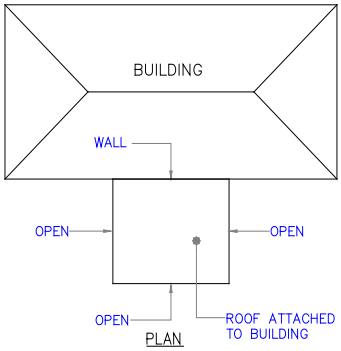
One-Side Open



Two-Sides Open



Three-Sides Open



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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 [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] National Construction Code, Volume Two, Building Code of Australia. Australian Building Codes Board.
[2] Australian/New Zealand Standard AS/NZS1170.0 Structural design actions – General principles.
[3] Australian/New Zealand Standard AS/NZS1170.0 Supp 1 (R2016) Structural design actions – General principles – Commentary (Supplement to AS/NZS 1170.0).
[4] Australian/New Zealand Standard AS/NZS1170.1 Structural design actions – Permanent, imposed and other actions.
[5] Australian/New Zealand Standard AS/NZS1170.1 Supp 1 Structural design actions – Permanent, imposed and other actions – Commentary (Supplement to AS/NZS 1170.1).
[6] Australian/New Zealand Standard AS/NZS1170.2 Structural design actions, Part 2: Wind actions.
[7] Australian/New Zealand Standard AS/NZS1170.2 Structural design actions –Wind actions – Commentary (Supplement to AS/NZS 1170.2).
[8] Australian Standard AS 4055 Wind loads for housing.
[9] Australian/New Zealand Standard AS/NZS 4600 Cold-formed steel structures
[10] Australian Standard AS 3566.1 Self-drilling screws for the building and construction industries, Part 1: General requirements and mechanical properties
[11] Australian Standard AS 3566.2 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), Australian Steel Institute, Fourth Edition,
[13] M. Mahendran, Fatigue behaviour of corrugated roofing under cyclic wind loading, Technical Report No. 35, Cyclone Testing Station.
[14] Discussions and communications with Versiclad Pty Ltd.