CERTIFICTAE OF COMPLIANCE – STRUCTURAL DESIGN

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RAPID Engineering NT.
Structural Engineering Design Certification

9th December 2025

RE: Engineering Certification of Arctic Flushline & Solace Insulated Panels

To whom it may concern,

We hereby confirm that the structural elements included in the Arctic Solace & Flushline Insulated Panel Span Tables for Wind Region A, B & C – Cyclonic & Non-Cyclonic (Roof & Wall Applications) dated 09/12/25 (Rev D) conforms with the following Australian Standards

- AS 1170.0: 2002 Structural Design Actions Part 0: General Principals
- AS 1170.1: 2002 Structural Design Actions Part 1: Permanent, Imposed and Other Actions
- AS 1170.2: 2011 Structural Design Actions Part 2: Wind Actions
- AS 4055: 2012 Wind Loads for Housing

The capacities tabulated have been derived from the following testing undertaken by James Cook University

- Report No. TS1294 - Simulated Windborne Debris Impact Testing of Arctic Solace Insulated Panels – Dated 20th June 2023 – by Simon Ingram – James Cook University – Cyclone Testing Station.
- Report No. TS1295 - Simulated Windborne Debris Impact Testing of Arctic Flushline Insulated Panels – Dated 21st June 2023 – by Simon Ingram – James Cook University – Cyclone Testing Station.
- Report No. TS1296a & TS1296b – Serviceability & Cyclic Simulated Wind Load Strength of Arctic Solace Insulated Panels – Dated 31st October 2023 – by Simon Ingram – James Cook University – Cyclone Testing Station.
- Report No. TS1297a & TS1297b - Serviceability & Cyclic Simulated Wind Load Testing of Arctic Flushline Insulated Panels – Dated 31st October 2023 – by Simon Ingram – James Cook University – Cyclone Testing Station.
- Report No. TS1387 - Cyclic Simulated Wind Load Testing of Arctic Solace Insulated Panels – Dated 8th July 2025 – by Simon Ingram – James Cook University – Cyclone Testing Station.
- Report No. TS1388 - Cyclic Simulated Wind Load Testing of Arctic Solace Insulated Panels – Dated 8th July 2025 – by Simon Ingram – James Cook University – Cyclone Testing Station.

The intent of the span tables is to provide building design technical support for the use of Structural Engineers.

Regards,

Chris Gillard

Structural Engineer

Rapid Engineering NT

NT 245638ES

Director/Structural Engineer

ARCTIC SOLACE & FLUSHLINE INSULATED PANEL SPAN TABLES FOR WIND REGION A, B & C – CYCLONIC (ROOF & WALL APPLICATIONS)

Rev D – 09/12/2025

RAPID Engineering NT. Structural Engineering Design Certification

ARCTIC INSTALLATIONS Supplier & Manufacturer of Insulated Panel Systems

Report Reference	Panel Thickness (mm)	Support BMT (mm)	Span Config.	Application	Span (mm)																													
					1500	1800	2000	2250	2400	2500	2750	2800	3000	3200	3250	3300	3500	3600	3750	4000	4200	4250	4500	4750	5000	5100	5250	5500	5750	6000	6250	6500	6750	7000
					ARCTIC SOLACE INSULATED PANEL SPAN TABLES FOR WIND REGION A, B & C – CYCLONIC (ROOF & WALL APPLICATIONS) – Ultimate Strength Limit State Design Wind Capacity (kPa)																															
Interpretation	50	1.2	Single	Wall	4.8	4	3.7	3.6	3	2.9	2.7	2.6	2.2	2	1.9	1.8	1.6	1.5	1.4	1.2	1.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
				Roof	4.9	4.1	3.8	3.7	3.1	3.0	2.8	2.7	2.3	2.1	2.0	1.9	1.7	1.6	1.5	1.3	1.2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			Double	Wall	3.8	3.2	2.9	2.6	2.4	2.3	2.1	2	1.9	1.8	1.8	1.7	1.6	1.5	1.4	1.3	1.2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
				Roof	3.9	3.3	3	2.7	2.5	2.4	2.2	2.1	2	1.9	1.9	1.8	1.7	1.6	1.5	1.4	1.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
TS1296 Part a	75	1.5	Single	Wall	–	–	6.2	5.5	5.0	4.7	4.0	–	3.3	–	3.0	2.9	2.6	2.5	2.2	1.9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
				Roof	–	–	6.2	5.5	5.1	4.8	4.1	–	3.4	–	3.0	3.0	2.7	2.5	2.3	2.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			Double	Wall	–	–	3.9	3.5	3.2	3.1	2.7	2.3	2.2	–	2.2	2.2	2.1	2.1	2.0	2.0	1.9	1.9	1.8	1.7	1.6	–	–	–	–	–	–	–	–	–	–	–
				Roof	–	–	4.0	3.6	3.3	3.1	2.7	2.4	2.3	–	2.3	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.8	1.7	1.7	–	–	–	–	–	–	–	–	–	–	–	–
Interpretation	100		Single		–	–	8.7	6.9	6.1	5.6	4.6	0.0	3.9	–	3.5	3.5	3.2	3.1	2.9	2.5	2.7	2.8	2.5	2.2	1.9	1.8	1.6	1.6	1.5	1.4	1.3	1.3	1.2	1.1
			Double		–	–	4.8	4.4	4.1	3.9	3.4	–	2.9	–	2.7	2.7	2.6	2.5	2.5	2.3	2.3	2.2	2.1	2.0	1.9	1.8	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.3
	125		Single		–	–	9.5	7.4	6.6	6.0	4.9	–	4.1	–	3.8	3.7	3.5	3.3	3.1	2.8	2.8	2.8	2.5	2.2	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.3	1.2	1.2
			Double		–	–	5.3	4.8	4.5	4.3	3.8	–	3.3	–	2.9	2.9	2.8	2.7	2.6	2.5	2.4	2.4	2.2	2.1	2.0	2.0	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3
TS1296 Part b	150		Single		–	–	10.2	8.0	7.0	6.4	5.2	–	4.4	–	4.0	4.0	3.7	3.6	3.4	3.1	2.9	2.8	2.5	2.2	1.9	1.8	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.2
		2.4	Double		–	–	5.7	5.2	4.8	4.6	4.1	4.0	3.6	3.1	3.1	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.4	2.2	2.1	2.1	2.2	2.1	1.9	1.8	1.6	1.5	1.4	1.3
TS1387	200	2.4	Single	Wall & Roof	–	7.5	7.0	6.2	5.8	5.5	4.8	–	4.1	–	3.4	3.3	2.7	2.4	2.4	2.3	2.2	2.2	2.2	2.1	2.0	2.0	–	–	–	–	–	–	–	–	–
			Double		7.7	6.93	6.4	5.8	5.4	5.2	4.5	–	3.9	–	3.7	3.6	3.4	3.3	3.2	3.0	2.7	2.7	2.4	2.1	1.8	–	–	–	–	–	–	–	–	–	–
					ARCTIC FLUSHLINE INSULATED PANEL SPAN TABLES FOR WIND REGION A, B & C – CYCLONIC (WALL APPLICATION) – Ultimate Strength Limit State Design Wind Capacity (kPa)																															
Interpretation	50	1.2	Single	Wall	–	–	3.0	2.9	2.9	2.9	2.8	–	2.2	–	2.1	2.0	1.9	1.8	1.6	1.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			Double		–	–	2.8	2.6	2.5	2.4	2.3	–	2.2	–	1.8	1.7	1.5	1.6	1.2	1.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
TS1297 Part b	75	1.5	Single		–	–	5.0	4.9	4.8	4.8	4.6	–	3.4	–	3.3	3.3	3.2	3.1	3.1	2.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
TS1297 Part a			Double		–	–	3.8	3.5	3.3	3.2	2.9	–	2.6	–	2.3	2.2	2.0	1.9	1.8	1.6	1.5	1.5	1.3	1.1	1.0	–	–	–	–	–	–	–	–	–	–
Interpretation	100	1.5	Single		–	–	5.7	5.1	4.7	4.6	4.3	–	3.6	–	3.3	3.3	3.1	3.0	2.8	2.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			Double		–	–	5.0	4.5	4.2	4.0	3.5	–	3.0	–	2.8	2.7	2.6	2.6	2.5	2.4	2.2	2.1	1.9	1.6	1.3	–	–	–	–	–	–	–	–	–	–
TS1388 Part b	150	2.4	Single		–	9.0	8.0	6.7	5.9	5.7	5.2	0.0	4.7	0.0	4.2	4.1	3.7	3.6	3.3	2.9	2.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			Double		9.0	8.0	7.4	6.6	6.1	5.7	4.9	–	4.1	–	4.0	4.0	4.0	3.9	3.9	3.8	3.4	3.4	2.9	2.5	2.0	–	–	–	–	–	–	–	–	–	–
Interpretation	200	2.4	Single		–	6.8	6.0	5.0	4.4	4.3	3.9	–	3.5	–	3.2	3.1	2.8	2.7	2.5	2.1	1.9	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			Double		9.9	8.8	8.1	7.2	6.7	6.3	5.4	–	4.5	–	4.4	4.4	4.3	4.3	4.3	4.2	3.8	3.7	3.2	2.7	2.2	–	–	–	–	–	–	–	–	–	–

1. Pressures specified are for wind gusts only per AS1170.
2. Self weight of the panel has been allowed for, plus an allowance of up to 25kg/m for light duty fittings (lights, etc.). No other dead loads permitted.
3. Distributed live load of 0.25kPa has been allowed for (as per AS/NZS 1170.1:2002).
4. Deflection limit of span/150 applies, and in accordance with Serviceability Limit State criteria per AS1170.0 – TABLE C1.
5. Fixing with 14g, 10 thread per inch Type 17 screws at 300mm centres.
6. Min. roof slope of 2 degree applies.
7. As a rule of thumb, the allowable overhang is 1/4 of the back span, unless stated otherwise. Allowable side overhang is 300mm.
8. This span table developed in accordance with Cyclic Wind Load to AS 4040.3:2018 Clause 7.4
9. Refer to your certifying engineer for panel selection.
10. Span tables have been developed by Rapid Engineering NT by interpretation of physical testing
11. Values highlighted in red in the table above are actual test results from the high low testing.
12. EPS – Core external sheet 0.42mm BMT G550 & internal sheet 0.6mm BMT G550.
13. Test regime in accordance with cyclic wind load to AS 4040.3:20148 clause 6.3 & 7.4
14. The design wind pressures mentioned in the table above are also applicable for Wind Classifications N1 to N6 & C1 to C4 in accordance with AS 4055 – Wind loads for housing.
15. Weatherproofing of the building envelope as a system must comply with the requirements of AS1562.1 – Design & Installation of metal & roof wall cladding.