



ROOFING & PROFILES (FIJI) PTE LTD

Build With Confidence

Multispan[®]

Profiles Tested for Cyclonic Conditions



Colorbond[®]

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🌐 www.roofingandprofiles.com.fj

RPFL Multispan® Roofing Profile

Crafted with precision engineering from high-tensile materials, the RPFL Multispan® Roof Profile sets a new standard for performance under both point and distributed loads. Its subtly trapezoidal rib design not only enhances resistance against foot traffic damage but also enables seamless end-lapping when needed. What's more, its extended coverage provides both material and installation labor advantages.

The RPFL Multispan® Roof Cladding Profiles offer a multitude of benefits, marked by exceptional performance and substantial cost savings. By reducing the number of sheets required and diminishing purlin needs, construction teams can maximize labor efficiency while cutting down on fastener expenses.

What truly sets the RPFL Multispan® profile apart is its deeper pans and taller ribs, boasting double the width, ensuring a broader and more efficient coverage area. It's the superior choice for your roofing needs.

Specifications

Profile: RPFL Multispan® Roofing Profile

Material: G550 Steel Coated with AZ150 or AZ200 Zincalume and Aluminium Substrate.

Coating Options: Colorbond®

Thickness: 0.48BMT, 0.55BMT, 0.90BMT (Aluminium Only)

Minimum Roof Pitch: 1° (1 in 50)

Length: Customizable to suit your project requirements

Warranty

As per New Zealand Steel Specification & Installation Guide - March 2011.

Note: Warranty will only be provided on Colorbond® XRW®, Colorbond® Ultra® & Colorsteel® Altimate® products.

Features

32% greater coverage compared to traditional profiles

60% better rainwater capacity

Point Load and Distributed Load Performance

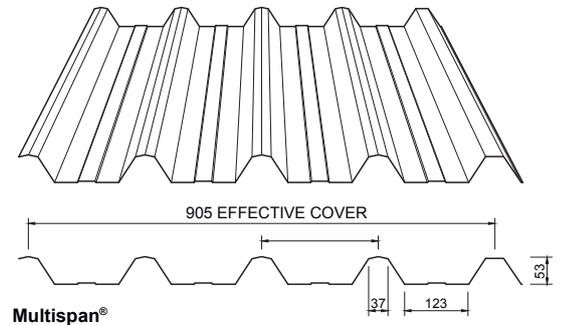
Deeper pans - added structural support and water drainage capabilities.

Taller Ribs - increased load-bearing capacity and overall strength.

Resistant to extreme weather conditions

Excellent water shedding

Excellent structural strength



Why Choose RPFL Multispan®

Proven Performance: RPFL Multispan® has been extensively tested to ensure superior performance and longevity.

Custom Solutions: We offer a range of customization options to meet your specific project requirements, including different thicknesses and lengths.

Expert Support: Our team of roofing professionals is ready to assist you throughout the entire process, from selecting the right profile to providing installation guidance.

Industry-Leading Warranty: We stand behind the quality of RPFL Multispan® profile with a comprehensive manufacturers backed warranty, demonstrating our commitment to customer satisfaction.

Experience RPFL Multispan® in Colorbond® XRW®, Colorbond® Ultra® & Colorsteel® Altimate®

Colorbond® XRW® is a world leader in roofing and wall cladding applications, **Colorbond® XRW®** with Zincalume AZ150 Substrate provides ultimate protection against the elements in moderate and inland environments.

Colorbond® Ultra® delivers superior resistance to corrosion, especially in coastal and severe environments, the Zincalume AZ200 substrate enables us to offer extended warranties to your next project.

Colorsteel® Altimate® is a marine grade aluminium substrate with the tried and tested Colorsteel® paint system. Designed for superior corrosion protection, Altimate® is the ideal roofing and cladding solution for extreme conditions.

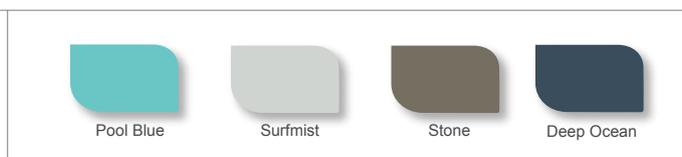
Contact us today to learn more about the availability of RPFL Multispan® in **Colorbond® XRW®**, **Colorbond® Ultra®** and **Colorsteel® Altimate®** and discover how it can enhance your next roofing project.

Colorbond Colour Chart

Colorbond XRW® 0.55 BMT



Colorbond Ultra® 0.48 BMT, 0.55 BMT



*The colours you see on screen will vary from actual product colours. We recommend ordering a colour sample to view in natural light before making your final colour selection.



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Multispan®
V1-23

Technical Specifications

Maximum Roof Lengths for Drainage - Rainfall										
Peak Rainfall Intensity	Roof Slope									
	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
125	295	365	546	680	811	932	932	932	932	932
150	251	331	372	376	459	457	488	500	521	626
175	211	260	272	339	404	465	465	465	411	465
200	191	238	284	283	345	347	377	381	411	470
225	164	203	181	225	269	309	309	309	309	309
250	153	190	223	226	278	258	328	331	361	377
275	134	166	108	134	161	185	185	185	185	185
300	128	159	186	191	230	241	276	281	292	315
325	113	140	108	134	161	185	185	185	185	185
350	105	130	108	134	161	185	185	185	185	185
375	98	122	108	134	161	185	185	185	185	185
400	95	121	139	150	173	174	179	185	220	238
425	87	107	108	134	161	185	185	175	185	185
450	82	101	108	134	161	185	185	185	185	185
475	78	96	108	134	161	185	185	185	185	185
500	79	96	112	123	141	166	170	185	185	190

Thermal Expansion And Contraction Of Steel Cladding			
Sheet Length (mm)	Expansion Or Contraction (mm)		
	10° Change	50° Change	75° Change
5000	0.6	3	4.5
10000	1.2	6	9
15000	1.8	8	13.5
20000	2.4	12	18
25000	3	15	22.5
30000	3.6	18	27

Base Materials		Tolerance	
Steel Grade	G550	Length	+0mm, -5mm
Coating	AZ150, AZ200	Width	+4mm, -4mm
Aluminium Alloy	5005H34 / 5052H36		

Base Metal Thickness		BMT Mass	
0.48mm	0.53TCT	0.48mm	5.44kg/m ²
0.55mm	0.60TCT	0.55mm	6.20kg/m ²
0.90mm	0.90TCT	0.90mm	4.90kg/m ²

*Note that TCT on above table is for Colorbond® range, TCT will vary for unpainted products. 0.90mm is available in Aluminium only.

Sheet Coverage																						
Width Of Room (m)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	30	40	50	60
Number Of Sheets	4	5	6	7	8	9	10	11	13	14	15	16	17	18	19	20	21	24	34	45	56	67

Recommended Fasteners

We recommend Cyclonic Assembly screws to AS 3566 minimum Class 4 coating. For Steel Purlins 14-10 x 90mm SDM and for Timber Purlins 14-10 x 95mm assembly screws.

Important Publications

For your installation to perform to its full potential, it is essential that it is designed, installed and maintained in accordance with good trade practice. Please refer to:

- NZ Steel Specification & Installation Guide March 2011.
- NZ Metal Roof & Wall Cladding code of practice version 3.0 / June 2021.

For Best Results

These suggestions will improve the appearance of the RPFL Multispan® Roof and make installation easier.

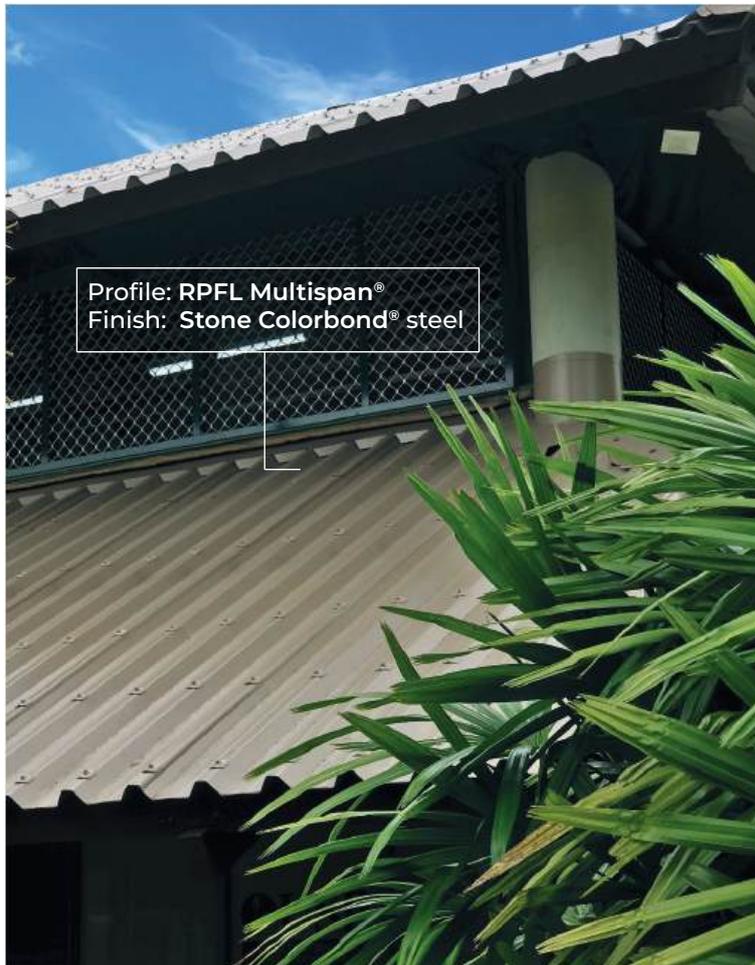
- Keep the roofing sheets dry when closely stacked OR keep the sheets well ventilated if subjected to wet condition.
- Care should be taken to avoid dragging sheets which will cause scratching and scouring to the coated surface.
- Always walk over battens / purlins positions and wear soft soled shoes.
- Lay sheets from right to left to ensure tight fitting. Note that the trailing edge of any sheet should not be fixed until the following sheet is installed beneath it.
- Ensure the sheets are not bent unintentionally at the steps during handling.
- Install sheets with fasteners at the eave and ridge only until all sheets have been installed. Fix the roof permanently in position using the required fastener frequency.
- Heads of fasteners to be matching colour-available from RPFL.
- When cutting or trimming RPFL Multispan® sheets, use large metal snips.
- Metal abrasive/ cutting discs should NOT be used at any time.
- Turn up sheet ends at ridges and hips and cover with suitable accessories.
- All accessories should be installed in accordance with good plumbing practice.
- On a daily basis always clean and sweep roof with a soft broom and ensure gutters are free from pop rivets, loose screws and swarf to avoid rust spots. Upon completion of works clean and wash roof with a soft broom.



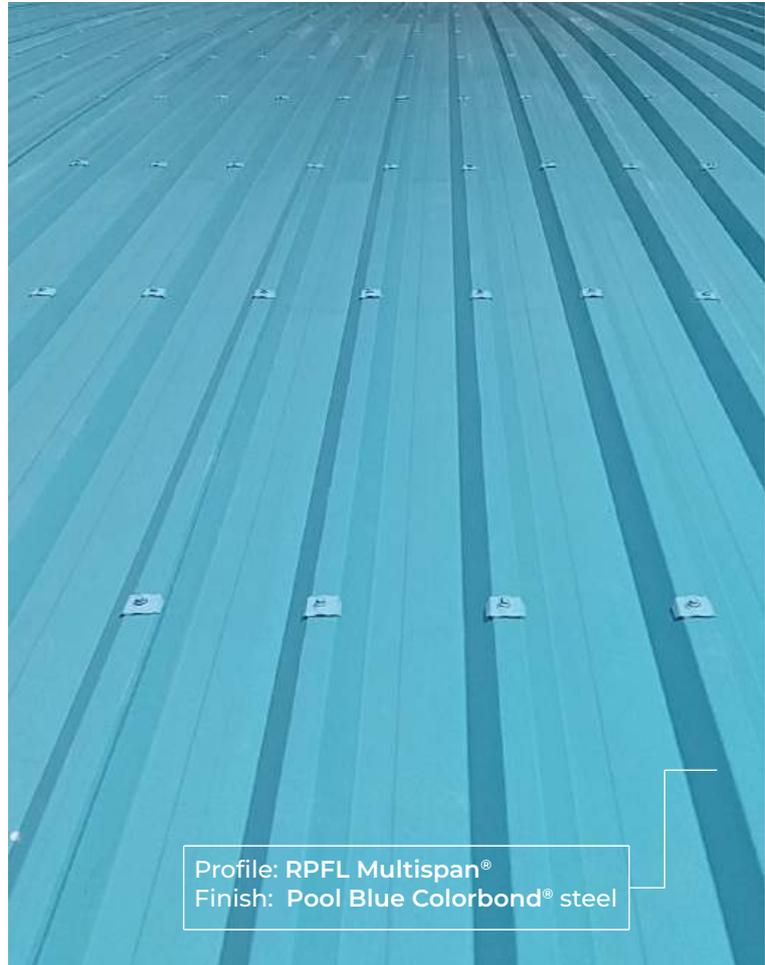
PROJECTS



Profile: RPFL Multispan®
Finish: Deep Ocean Colorbond® steel



Profile: RPFL Multispan®
Finish: Stone Colorbond® steel



Profile: RPFL Multispan®
Finish: Pool Blue Colorbond® steel



1. Cyclonic Testing of 0.48bmt RPFL Multispan® G550 Steel Grade, Fixed to Steel Purlin (Cyclic wind load to NCC 2019 LHL)

Testing on RPFL Multispan® roofing profile was carried out by the NATA accredited Cyclone Testing Station located at the James Cook University, Townsville, Queensland, Australia.

James Cook University have provided the following reports in relation to the test results for the cyclonic testing of the 0.48bmt RPFL Multispan® Roofing Profile:

- Report no. TS1267 (Part A), Cyclic Simulated Wind Load Strength Testing of Roofing & Profiles (Fiji) Pte Ltd 0.48bmt RPFL Multispan® Roofing Profile Cladding for Roofing Applications, dated 8th November 2022.
- Test Summary Sheet – TS1267, dated 8th November 2022
- Report no. TS1267, Cyclic Simulated Wind Load Strength Testing of Roofing and Profiles (Fiji) Ltd 0.48bmt RPFL Multispan® Roofing Profile Cladding for Roofing Applications, dated 8th November 2022.

Lo-Hi-Lo Cyclonic Wind Uplift Resistance Strength Limit - State Test Results Load Span Table

- 0.48bmt, G550 steel grade, cover width of 905mm.
- Minimum steel purlin thickness, 1.5mm BMT, G450 steel grade Z450.
- 14g x 10 threads per inch self-drilling metal screws, 95mm long with Cyclone washer with EDPM seal under the head of the screw Class 4 minimum, now in B8 Coating
- Fixed to supports with one fastener every rib.

Load Span Table

Span Type	Cladding Base Metal Thickness (mm)	End Span Length (mm)	Internal Span Length (mm)	Recommended Cyclonic Ultimate Limit State Design Wind Capacity Internal Span (kPa)
Unequal Triple Span	0.48	360	450	14.05 kPa
		450	600	11.98 kPa
		570	710	10.00 kPa
		750	900	8.68 kPa
		950	1,200	6.82 kPa
		1,200	1,500	4.71 kPa
		1,500	1,800	3.47 kPa
		1,725	2,070	2.89 kPa

2. Cyclonic Testing of 0.48bmt RPFL Multispan® G550 Steel Grade, Fixed to Timber Purlin (Cyclic wind load to NCC 2019 LHL)

Testing on RPFL Multispan® roofing profile was carried out by the NATA accredited Cyclone Testing Station located at the James Cook University, Townsville, Queensland, Australia.

James Cook University have provided the following reports in relation to the test results for the cyclonic testing of the 0.48bmt RPFL Multispan® Roofing Profile:

- Report no. TS1267 Part B, Cyclic Simulated Wind Load Strength Testing of Roofing & Profiles (Fiji) Pte Ltd 0.48bmt RPFL Multispan® Roofing Profile Cladding for Roofing Applications, dated 8th November 2022.
- Test Summary Sheet – TS1267 (Part B), dated 8th November 2022
- Report no. TS1267, Cyclic Simulated Wind Load Strength Testing of Roofing and Profiles (Fiji) Ltd 0.48bmt RPFL Multispan® Roofing Profile Cladding for Roofing Applications, dated 8th November 2022.

Lo-Hi-Low Cyclonic Wind Uplift Resistance- Strength Limit State Test Results Load Span Table

- 0.48bmt, G550 steel grade, cover width of 905mm.
- 140mm x 45mm MGP12 or 90mm x 450mm MGP12 Timber Purlins



- 14g x 10 threads per inch self-drilling metal screws, 95mm long with Cyclone washer with EDPM seal under the head of the screw Class 4 minimum, now in B8 Coating
- Fixed to supports with one fastener every rib.

Load Span Table

Span Type	Cladding Base Metal Thickness (mm)	End Span Length (mm)	Internal Span Length (mm)	Recommended Cyclonic Ultimate Limit State Design Wind Capacity Internal Span (kPa)
Unequal Triple Span	0.48	360	450	15.70 kPa
		450	600	13.39 kPa
		570	710	11.16 kPa
		750	900	9.01 kPa
		950	1,200	7.15 kPa
		1,200	1,500	5.54 kPa
		1,500	1,800	4.13 kPa
		1,725	2,070	2.89 kPa

3. Cyclonic Testing of 0.55bmt RPFL Multispan® G550 Steel Grade, Fixed to Steel Purlin (Cyclic wind load to NCC 2019 LHL)

Testing on RPFL Multispan® roofing profile was carried out by the NATA accredited Cyclone Testing Station located at the James Cook University, Townsville, Queensland, Australia.

James Cook University have provided the following reports in relation to the test results for the cyclonic testing of the 0.55bmt RPFL Multispan® Roofing Profile:

- Report no. TS1078, Cyclic Simulated Wind Load Strength Testing of Roofing & Profiles (Fiji) Ltd 0.55bmt RPFL Multispan® Roofing Profile Cladding for Roofing Applications, dated 13th September 2017.
- Test Summary Sheet – TS1278, dated 13th September 2017
- Report no. TS1112, Cyclic Simulated Wind Load Strength Testing of Roofing and Profiles (Fiji) Pte Ltd 0.48bmt RPFL Multispan® Roofing Profile Cladding for Roofing Applications, dated 10th May 2018.
- Test Summary Sheet – TS112, dated 10th May 2018.

Lo-Hi-Low Cyclonic Wind Uplift Resistance- Strength Limit State Test Results Load Span Table

- 0.55bmt, G550 steel grade, cover width of 905mm.
- Minimum steel purlin thickness, 1.5mm bmt, G450 steel grade Z450.
- 14g x 10 threads per inch self-drilling metal screws, 95mm long with Cyclone washer with EDPM seal under the head of the screw Class 4 minimum.
- Fixed to supports with one fastener every rib.

End Span (mm)	Recommended Cyclonic Ultimate Limit State Design Wind Capacity End Span (kPa)	Internal Span Length (mm)	Recommended Cyclonic Ultimate Limit State Design Wind Capacity – Internal Span (kPa)
360	14.04 kPa	450	14.04 kPa
570	10.60 kPa	710	10.60 kPa
790	8.26 kPa	990	8.26 kPa
1010	6.44 kPa	1350	6.44 kPa
1330	4.96 kPa	1660	4.96 kPa
1660	3.30 kPa	2090	3.30 kPa



Notes

- It is recommended that a local qualified structural engineer check the suitability of the provided Ultimate Limit State Design Wind Capacities provided in the load span table for the intended use/structure and site location.
- It is recommended that in the event of an extreme storm/extreme winds the cladding is inspected by a suitably qualified builder/engineer to confirm the adequacy of the cladding and fasteners post event.
- It is our opinion that a qualified structural engineer may extrapolate for shorter spans and higher pressures provided that the screw force is not exceeded.
- After exposure of cladding to an extreme wind event, it is recommended that inspection be performed to confirm fixing and cladding integrity.
- We, Gama Consulting Pty Ltd., confirm that the procedures used in carrying out the cyclonic load tests on product as listed above from for Roofing & Profiles (Fiji) Ltd., confirm the testing program has been carried out in accordance with the requirement of the National Code Construction Series (NCC, 2016). The results listed in the load span table above conform to the structural requirements of NCC and the following Australian Standards.
- AS 1562.1 – 1992 (Amdt 3 - 2012): Design and Installation of sheet roof and wall cladding.
- AS 4040 – 1992: Methods of testing sheet roof and wall cladding.
- Part 0: Introduction, list of methods and general requirements.
- Method 3: Methods of testing sheet roof and wall cladding – Resistance to wind pressures for cyclone regions, pressure test regime as per BCA Lo-Hi-Lo.

4. Windborne Debris Impact Testing on 0.48bmt RPFL Multispan® G550 Roofing Profile Roof application – Vertical Trajectories

The Wind Debris Impact Testing program (Vertical Trajectories) for the 0.48bmt RPFL Multispan® G550 Roofing Profile was carried out by the NATA accredited Cyclone Testing Station located at the James Cook University, Townsville, Queensland, Australia.

James Cook University have provided the following reports in relation to the test results for the Wind Debris Impact Testing program (Vertical Trajectories) of the 0.48bmt RPFL Multispan® Roofing Profile:

- Report NO. TS1268, Simulated Wind Debris Impact Testing of RPFL Multispan® Profile Cladding of Roofing & Profiles (Fiji) Pte Ltd 0.48bmt RPFL Multispan® Roofing Profile Cladding for Roofing Applications, dated 8th November 2022.
- Test Summary Sheet – TS1268 Part B, dated 8th November 2022.

Description of Cladding and Set-Up Tested

- 0.48bmt, G550 steel grade, cover width of 910mm.
- Minimum steel purlin thickness, 1.5mm bmt, G450 steel grade Z450.
- 14g x 10 threads per inch self-drilling metal screws, 95mm long with Cyclone washer with EDPM seal under the head of the screw Class 4 minimum.
- Fixed to supports with one fastener every rib.

Wind Debris Impact Test Results

Target Velocities:

Support 1.5mm BMT C15015 Grade 450 Steel Purlin.
Spherical steel ball 8mm diameter (approx. 2g mass)

Notes

We, Gama Consulting Pty Ltd., confirm that the procedures used in the testing program has been carried out in accordance with the requirement of the National Code Construction Series (NCC, 2015). The results listed above for the Wind Debris Impact Testing for vertical trajectories only conform to the structural requirements of NCC and the following Australian Standards.

- AS/ NZ5 1170.2: 2021 : Structural Design Actions, Part 2: Wind actions.



Test Result

Span Length and Type (mm)	Impact Location		Measurement Impact Velocity (m/s)	Results
	Center of one sheet adjacent to internal support	4kg Timber 100 x 50mm	12.6	Pass
Tested Sheeting	Center of one sheet adjacent to end support		12.8	Pass
Tested Spans	Adjacent lap on underlap sheet adjacent to end support		12.5	Pass
Tested Fixings	Center of one sheet mid-span		12.9	Pass
	Adjacent lap on underlap sheet at midspan		12.7	Pass
	5 Shots fired variously in the vicinity of each other	2g Steel Spheres (5 shots)	30.4 / 30.1 / 28.0/ 25.3/ 29.9	Pass

5. Windborne Debris Impact Testing on 0.55bmt RPFL Multispan® G550 Roofing Profile Roof application – Vertical Trajectories

The Wind Debris Impact Testing program (Vertical Trajectories) for the 0.55bmt RPFL Multispan® G550 Roofing Profile was carried out by the NATA accredited Cyclone Testing Station located at the James Cook University, Townsville, Queensland, Australia.

James Cook University have provided the following reports in relation to the test results for the Wind Debris Impact Testing program (Vertical Trajectories) of the 0.55bmt RPFL Multispan® Roofing Profile:

- Report NO. TS1080, Simulated Wind Debris Impact Testing of RPFL Multispan® Profile Cladding of Roofing & Profiles (Fiji Ltd) 0.55bmt Multispan® Roofing Profile Cladding for Roofing Applications, dated 29 September 2017.
- Test Summary Sheet – TS1080, dated 29 September 2017.

Description of Cladding and Set-Up Tested

- 0.55bmt, G550 steel grade, cover width of 910mm.
- Minimum steel purlin thickness, 1.5mm bmt, G450 steel grade Z450.
- 14g x 10 threads per inch self-drilling metal screws, 95mm long with Cyclone washer with EDPM seal under the head of the screw Class 4 minimum.
- Fixed to supports with one fastener every rib.

Wind Debris Impact Test Results

Target Velocities:

Timber member of 4kg mass (100x50mm)

Spherical steel ball 8mm diameter (approx. 2g mass)



Notes

· It is recommended that in the event of an extreme storm/extreme winds the cladding is inspected by a suitably qualified builder/engineer to confirm the adequacy of the cladding and fasteners post event.

We, Gama Consulting Pty Ltd., confirm that the procedures used in the testing program has been carried out in accordance with the requirement of the National Code Construction Series (NCC, 2015). The results listed above for the Wind Debris Impact Testing for vertical trajectories only conform to the structural requirements of NCC and the following Australian Standards.

· AS 1170.2 – 2011: Structural Design Actions, Part 2: Wind actions.

