



**ROOFING & PROFILES (FIJI) PTE LTD**

**Build With Confidence**

# CorruDek®

Profiles Tested for Cyclonic Conditions



**Colorbond®**

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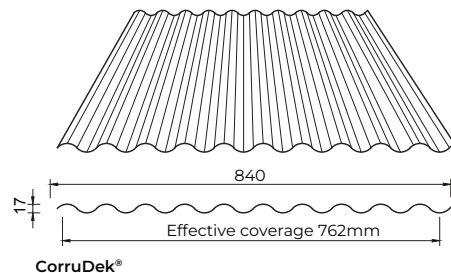
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**RPFL CorruDek® Corrugated Roofing Profile**

RPFL CorruDek® is the renowned Australian corrugated profile that has earned a reputation for its exceptional quality and versatility. Whether you're working on a traditional or contemporary design, RPFL CorruDek® is the perfect choice to enhance the visual appeal of your project. With its wide availability and ease of installation, RPFL CorruDek® is a popular option among architects, contractors, and homeowners alike.

**Specifications**

- Profile:** RPFL CorruDek® Corrugated Roofing Profile
- Material:** G300 & G550 Steel Coated with AZ150 or AZ200 Zinalume, Z450 Hot Dipped Galvanized and Aluminium Substrate.
- Coating Options:** Colorbond®, Zinalume®, Galvanised
- Thickness:** 0.42bmt, 0.48bmt, 0.55bmt, 0.90bmt (Aluminium Only)
- Minimum Roof Pitch:** 8° (1 in 12)
- 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® & Colorbond® Altimate® products.

**Features**

- Resistant to extreme weather conditions
- Excellent water shedding
- Easy installation
- Excellent structural strength



**Why Choose RPFL CorruDek®**

- Proven Performance:** RPFL CorruDek® 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, coverage widths, 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 CorruDek® profile with a comprehensive factory backed warranty, demonstrating our commitment to customer satisfaction.

**Experience CorruDek® in Colorbond® XRW®, Colorbond® Ultra® & Colorbond® Altimate®**

**Colorbond® XRW®** is a world leader in roofing and wall cladding applications, **Colorbond® XRW®** with Zinalume 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 Zinalume AZ200 substrate enables us to offer extended warranties to your next project.  
**Colorbond® Altimate®** is a marine grade aluminium substrate with the tried and tested Colorbond 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 CorruDek® in **Colorbond® XRW®, Colorbond® Ultra®** and **Colorbond® Altimate®** and discover how it can enhance your next roofing project.

**Colorbond Colour Chart**

**Colorbond XRW® 0.42BMT / 0.48BMT / 0.55 BMT**

**Colorbond Ultra® 0.48BMT / 0.55 BMT**

Cottage Green	Deep Ocean	Dune	Headland	Iron Bark	Deep Ocean	Dune	Iron Bark	Pale Eucalyptus
Jasper	Manor Red	Pool Blue	Pale Eucalyptus	Stone	Stone	Shale Grey	Surfmist	Windspray
Shale Grey	Surfmist	Torres Blue	Woodland Grey	Wheat	Black Pearl	Woodland Grey	Jasper	

\*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.

## Technical Specifications

Maximum Roof Lengths for Drainage - Rainfall						
Peak Rainfall Intensity	Roof Slope					
	1°	2°	3°	5°	7.5°	10°
100				27	32	36
150				18	21	23
200				13	15	17
250				10	12	13
300				8	9	11
400				5	6	8
500				4	5	6

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 & G300	Length	+10mm, -10mm
Coating	AZ150, AZ200 & Z450	Width	+4mm, -4mm
Aluminium Alloy	5005H34 / 5052H36		

Base Metal Thickness		BMT Mass	
0.42mm	0.50TCT	0.42mm	3.47kg/m <sup>2</sup>
0.48mm	0.53TCT	0.48mm	3.76kg/m <sup>2</sup>
0.55mm	0.60TCT	0.55mm	4.27kg/m <sup>2</sup>
0.90mm	0.90TCT	0.90mm	2.45kg/m <sup>2</sup>

\*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	6	7	8	10	11	12	14	15	16	17	18	19	20	21	23	24	25	27	40	53	66

## Recommended Fasteners

We recommend BRA Fasteners type with new superi- or B8 coating protection to AS 3566 minimum Class 4 with 25mm diameter Marine Grade Aluminium/ EPDM universal BRA Cyclone washer (Specially designed cyclone washer). BRA Fasteners exclusively available at RPFL.

## 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 CorruDek® 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 CorruDek® 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 soft broom and gutters free from pop rivets, loose screws and swarf to avoid rust spots. Upon completion of works clean and wash roof with soft broom.



# PROJECTS



Profile: **RPFL CorruDek®**  
Finish: **Colorbond®** steel



Profile: **RPFL CorruDek®**  
Finish: **Colorbond®** steel

## Residential Projects With CorruDek® Corrugated Roofing Profile

Whether you're building a new house or renovating an existing one, CorruDek® corrugated roofing profile offers exceptional durability, versatility, and timeless style to elevate the aesthetic appeal and safeguard your investment.

### Why Choose CorruDek® For Your Residential Project?

**Enhanced Curb Appeal:** CorruDek® corrugated design adds character and visual appeal to your home, making it stand out in the neighborhood.

**Superior Protection:** Invest in a roofing solution that provides unmatched durability and safeguards your home from the elements, giving you peace of mind.

**Expert Guidance:** Our team of roofing professionals can provide guidance throughout the project, from material selection to installation techniques, ensuring a smooth and successful experience.

**Industry-Leading Warranty:** We stand behind the quality of our CorruDek® profile with a comprehensive warranty, showcasing our commitment to customer satisfaction.



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**CorruDek®**

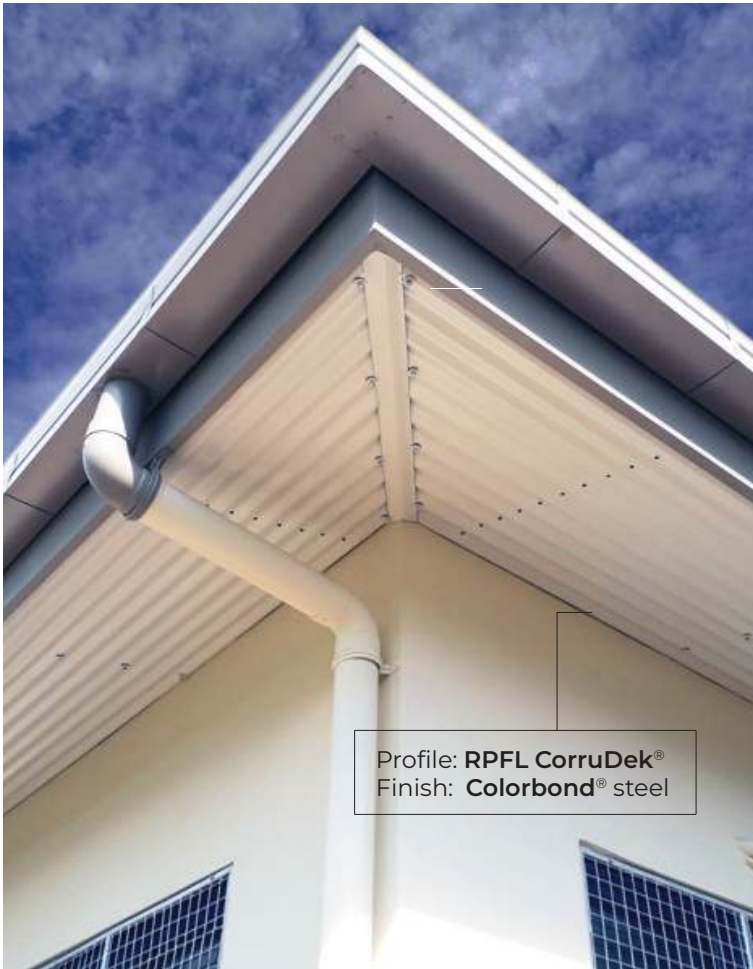
V1-23



# PROJECTS



Profile: **RPFL CorruDek®**  
Finish: **Colorbond®** steel



Profile: **RPFL CorruDek®**  
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Profile: **RPFL CorruDek®**  
Finish: **Colorbond®** steel



## 1. Cyclonic Testing Of 0.42bmt RPFL CorruDek® G550 Steel Grade Fixed Into Timber Purlin

Testing on the RPFL CorruDek® roofing profile has been carried out at The University of Adelaide, EngTest, South Australia. The cyclic tests have produced the following results refer to Report No's:

- C130901-15-Rev A, dated 27th February 2014
- C130901-16-Rev A, dated 24th February 2014
- C130901-21-Rev A, dated 26th February 2014
- C130901-22-Rev A, dated 27th February 2014

The cyclic test results have been used as a basis for development of the load span table below.

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

0.42bmt RPFL CorruDek® sheeting, G550.

1 Timber purlin batten, minimum width 45mm and minimum depth 45mm, MGPI2 Pine, joint group JD4.

Bremick Type 17 x 75mm long screw with 25mm diameter, 1.0mm thick Aluminium. Bonded washer used under the head of each screw and fastened at alternate crests.

#### Load Span Table

Span (mm)	Strength (kPa) End Span (Trend Line)	Span (mm)	Strength (kPa) Internal Span (Trend Line)	Screw Force (kN)
480	9.72	600	9.72	0.73
600	7.81	750	7.81	0.81
750	6.24	950	6.24	0.88
950	4.96	1200	4.96	0.94

## 2. Cyclonic Testing Of 0.42bmt CorruDek® G550 Steel Grade Fixed Into Steel Purlin

Testing on the RPFL CorruDek® roofing profile has been carried out at The University of Adelaide, EngTest, South Australia. The cyclic tests have produced the following results refer to Report No's:

- C130901-15-Rev A, dated 27th February 2014
- C130901-16-Rev A, dated 24th February 2014
- C130901-21-Rev A, dated 26th February 2014
- C130901-22-Rev A, dated 27th February 2014

The cyclic test results have been used as a basis for development of the load span table below.

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

0.42bmt RPFL CorruDek® sheeting, G550.

1 Timber purlin batten, minimum width 45mm and minimum depth 45mm, MGPI2 Pine, joint group JD4.

Bremick Type 17 x 65mm long screw with 25mm diameter, 1.0mm thick Aluminium. Bonded washer used under the head of each screw and fastened at alternate crests.

#### Load Span Table

Span (mm)	Strength (kPa) End Span (Trend Line)	Span (mm)	Strength (kPa) Internal Span (Trend Line)	Screw Force (kN)
480	9.52	600	9.52	0.57
600	7.58	750	7.58	0.63
750	6.05	950	6.05	0.68
950	5.24	1200	5.24	0.79



### **3. Re: Letter Of Opinion Cyclonic Testing Of 0.48bmt RPFL CorruDek® G550 Steel Grade Fixed Into Timber & Steel Purlins**

Dear Sir,

We have acted as a consultant technical advisor on your behalf and arranged cyclic load testing for Roofing & Profiles (Fiji) Pte Ltd, in respect to their 0.48bmt RPFL CorruDek® roofing profile.

Fyfe Pty Ltd organised and reviewed cyclic testing, carried out by EngTest, The University of Adelaide testing facilities in accordance with the requirements of the then current National Construction Code 2013 (Building Code of Australia (BCA)) for cyclone area wind force resistance of the 0.48bmt RPFL CorruDek® roof sheeting configurations below:

#### **Common Data**

- RPFL CorruDek® sheet dimensions: 762mm cover, 17mm high profile, G550 steel grade.

#### **Configuration 1**

- 0.48bmt RPFL CorruDek® sheeting, G550.
- Minimum steel purlin thickness, 1.55mm G450 grade.
- Bremick 14-10x65mm screw with 25mm diameter Aluminium Bonded washer used under the head of each screw and fastened at alternate crests.

#### **Configuration 2**

- 0.48bmt RPFL CorruDek® sheeting, G550.
- 1 Timber purlin batten, minimum width 45mm and minimum depth 45mm, MGP12 Pine, joint group JD4.
- Bremick Type 17 x 65mm long screw with 25mm diameter, 1.0mm thick Aluminium Bonded washer used under the head of each screw and fastened at alternate crests.

### **4. Cyclonic Testing Of 0.55bmt RPFL CorruDek® G300 Steel Grade Fixed Into Steel Purlin**

Testing on the RPFL CorruDek® roofing profile has been carried out at the Cyclone Testing Station, James Cook University, Townsville, Queensland. The cyclic tests have produced the following results refer to Report No:

- TS1002, dated 27 March 2015.

The cyclic test results have been used as a basis for development of the load span table below.

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

0.55bmt RPFL CorruDek® sheeting, G300.

Minimum steel purlin thickness, 1.5mm G450 grade.

Bremick 14-10 x 65mm screw with 25mm diameter, 1.0mm thick, Aluminium Bonded washer used under the head of each screw and fastened at alternate crests.

#### **Load Span Table**

Cladding Base Metal Thickness (mm)	End Span Length (mm)	Internal Span Length (mm)	Recommended Cyclonic Ultimate Limit State Design Wind Capacity (kPa)
480	9.52	600	9.52
600	7.58	750	7.58
750	6.05	950	6.05
950	5.24	1200	5.24



## 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, 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.

## **5. Windborne Debris Impact Testing Of 0.42bmt RPFL CorruDek® G550 Roof Application Vertical Trajectories**

Tests were carried out by the James Cook University, Cyclone Testing Station (CTS), Townsville, Queensland, Australia. Refer to their report no.: TS988a, dated 27th March 2015.

### Test Description

Where windborne debris loading is specified, the debris impact shall be equivalent to -

- timber member of 4kg mass with a nominal cross-section of 100 mm x 50 mm impacting end on at 0.1 VR for vertical trajectories; and
- spherical steel ball 8mm diameter (approximately 2 grams mass) impacting at 0.3 VR for vertical trajectories where VR is the regional wind speed given in Clause 3.2

### Target Velocity-Vertical Trajectories

Timber member: 10.9m/s  
Spherical steel ball: 32.7m/s

### Equivalent Regional Wind Speed (V500)

Vr= 88m/s (Region D)

### Tested Sheeting

Type: RPFL CorruDek®  
Base Metal Thickness: 0.42bmt  
Material Grade: G550

### Tested Spans

Triple Equal Span: 1200mm

### Tested Fixings

Screws: 14-10 x 65mm fixed at each rib.  
Base Metal: Minimum Steel Purlin  
Thickness: 1.5mm thick, G450

## **6. Re: Letter Of Opinion: Windborne Debris Impact Testing Of 0.48bmt RPFL CorruDek® G550 Roof Application – Vertical Trajectories**

Dear Sir,

Fyfe Pty Ltd acted as a consultant technical advisor on your behalf for the Windborne Debris Impact Testing of the 0.48bmt RPFL CorruDek® G550 sheeting profile. The testing was carried out by The James Cook University in accordance with the requirements of the National Construction Code 2014 (NCC 2014) and AS/NZS 1170.2:2011 Structural Design Actions, Part 2: Wind actions, Section 2.5 Wind actions, Part 2.5.8 Impact loading from windborne debris-Vertical trajectories (roofing).

The following details for the 0.42bmt RPFL CorruDek® were tested with all results acceptable:





## Windborne Debris Impact Testing - Vertical Trajectories

Where windborne debris loading is specified, the debris impact shall be equivalent to -

- (a) timber member of 4kg mass with a nominal cross-section of 100 mm x 50 mm impacting end on at 0.1 VR for vertical trajectories; and
- (b) spherical steel ball 8mm diameter (approximately 2 grams mass) impacting at 0.3 VR for vertical trajectories where VR is the regional wind speed given in Clause 3.2

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### Target Velocity-Vertical Trajectories

Timber member: 10.9m/s  
Spherical steel ball: 32.7m/s

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### Equivalent Regional Wind Speed (V500)

Vr= 88m/s (Region D)

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### Tested Sheeting

Type: RPFL CorruDek®  
Base Metal Thickness: 0.42bmt  
Material Grade: G550

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### Tested Spans

Triple Equal Span: 1200mm

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### Tested Fixings

Screws: 14-10 x 65mm fixed at each rib.  
Base Metal: Minimum Steel Purlin  
Thickness: 1.5mm thick, G450

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It is our opinion that the 0.48bmt RPFL CorruDek® G550, sheeting profile with three equal 1200mm spans can achieve the wind debris impact testing results equivalent to the 0.42bmt RPFL CorruDek® G550, sheeting profile listed above if the following criteria are met:

- 0.48bmt RPFL CorruDek® sheeting is to be manufactured from the identical steel grade, G550, manufactured using the same roll former, have identical profile and dimensions to that of the 0.42bmt RPFL CorruDek® sheeting.
- 0.48bmt RPFL CorruDek® sheeting is to be installed to the identical purlin material and fixed using the same screw and washer assembly. The screws are to be manufactured from the same screw material, have undergone the same heat treatment, have the same thread form and dimensions remain unaltered.

## 7. Windborne Debris Impact Testing Of 0.55bmt RPFL CorruDek® G550 Roof Application Vertical Trajectories

Tests were carried out by the James Cook University, Cyclone Testing Station (CTS), Townsville, Queensland, Australia. Refer to their report no.: TS988b, dated 27th March 2015.

### Test Description

Where windborne debris loading is specified, the debris impact shall be equivalent to -

- (a) timber member of 4kg mass with a nominal cross-section of 100 mm x 50 mm impacting end on at 0.1 VR for vertical trajectories; and
- (b) spherical steel ball 8mm diameter (approximately 2 grams mass) impacting at 0.3 VR for vertical trajectories where VR is the regional wind speed given in Clause 3.2



**Target Velocity-Vertical Trajectories**

Timber member: 10.9m/s  
Spherical steel ball: 32.7m/s

**Equivalent Regional Wind Speed (V500)**

Vr= 88m/s (Region D)

**Tested Sheeting**

Type: RPFL CorruDek®  
Base Metal Thickness: 0.55bmt  
Material Grade: G550

**Tested Spans**

Triple Equal Span: 1200mm

**Tested Fixings**

Screws: 14-10 x 65mm fixed at each rib.  
Base Metal: Minimum Steel Purlin  
Thickness: 1.5mm thick, G450

The wind debris impact tests on the RPFL 0.42bmt G550 and 0.55bmt G300 CorruDek® roof sheeting conform to the structural requirements of the following Australian Standard & CTS Technical note:-

AS/NZS 1170.2 :2011

Structural Design Actions, Part 2: Wind actions, Section 2.5 Wind actions, Part 2.5.8 Impact loading from windborne

CTS Technical Note No.4

Simulated Windborne Debris Impact Testing of Building Envelope Components (Version 3)

**Notes**

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

We, Fyfe 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, 2013). 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.

