



**ROOFING & PROFILES (FIJI) LTD**

**Build With Confidence**

**ROOFING & SHEET METAL MANUFACTURERS**

**TileDek®**



**“Profiles Tested for Cyclonic Conditions”**



Steel Supplied by:



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

**Build With Confidence**



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## TileDek® ROOFING:

The latest and most advanced technology has created the RPFL TileDek® Roofing System that supersedes all other conventional roofing. RPFL TileDek® features a distinctive tile profile that will enhance the appearance of both new and existing homes providing the classic look of concrete tiles with the strength of steel.

## UNIQUE FEATURES:

### MULTIPLE VARIABLE STEP

The RPFL TileDek's® multiple module sizes (distance between steps) in a single sheet allows flexibility to suit any new design or existing roof.

The ability to vary the module size can dramatically alter the appearance of the RPFL TileDek® Roof and allow any rafter lengths to be chosen while maintaining equal steps, without half tiles.

### HEAT RESISTANT

Reduces heat to save on electrical costs.

### SOUND INSULATION

RPFL TileDek® reduces rain noise compared to traditional roofing materials providing better comfort in your home.



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**PATENTED FOLDING PROCESS**

RPFL TileDek® Roofing is manufactured from an advanced roll forming process which ensures a strong tile appearance conforming to the Fiji Building Code, tested and approved to cyclonic standards that you can rely on.

**WATERTIGHT**

RPFL's TileDek® unique design incorporates a side lap with an Anti-Capillary drain at the underlapping side to give full protection from the weather.

**LENGTH**

RPFL's TileDek® can be supplied to any length subject to availability of suitable transport and handling facilities. Recommended length up to 6.0m.

**HEAT RESISTANT**

Reduces heat to save on electrical costs.

**SOUND INSULATION**

RPFL's TileDek® reduces rain noise compared to traditional roofing materials providing better comfort in your home.

**BIRD AND PEST PROOF**

Reduce attack from birds & pest disturbance with proper flashing installation.

**CHEMICAL RESISTANT**

Does not corrode or rust easily. We only use Colorbond® PrePainted Steel to produce RPFL TileDek®

**TRANSPORTATION**

Easy to load, unload and stack.

**ROOF PITCH** - minimum 3°

**MATERIAL:** RPFL TileDek® is available in a selection of Colorbond® colours

Base Material:

**Gauge:** 0.42mm (min)

**Tensile Strength:** G300

**Coating Mass:** AZ150 or AZ200

**RECOMMENDED FASTENERS**

We recommend BRA Fasteners type B8 protection to AS 3566 Class 4 with 25mm diameter Marine Grade Aluminium / EPDM universal BRA cyclone washer (Specially designed cyclone washer).  
BRA Fasteners Exclusively available at RPFL.



**Talk to your Roofing Specialist from an RPFL sales office about the best material for your next project. RPFL chooses Colorbond® PrePainted Steel from New Zealand Steel for all of our TileDek® product.**

**Colorbond XRW™**  
PROVEN COLOURS OF THE PACIFIC

**Colorbond Ultra™**  
COLOUR FOR THE EXTREME



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## INSTALLATION GUIDELINES

**RPFL TileDek®** is a new type of metal roofing sheet which requires a unique method of installation to match its unique performance characteristics. This procedure has been written to assist those not familiar with the product and to explain the simple installation process.

## ROOF BATTEN / PURLIN

Batten sizes are determined by rafter spacing and may be subject to local building practice. The accompanying table can be used as a guide for Approved Fiji Hardwood battens. Battens should be fixed to the rafters in an approved manner to meet local building regulations.

RAFTER SPACING	PURLIN DIMENSION
1200mm	140 X 45 MPG 12 TIMBER PURLINS
1000 mm	140 X 45 MPG 12 TIMBER PURLINS
900 mm	140 X 45 MPG 12 TIMBER PURLINS
750mm	140 X 45 MPG 12 TIMBER PURLINS

## BATTEN / PURLIN LAYOUT

1. Install 1st purlin towards gutter end in line with fascia. The outer edge of fascia should not be above the purlin outer edge. The 1st purlin should be of equal gauge.
2. 2nd Purlin installation - The distance between upper edge of the 1st purlin to the upper edge of 2nd purlin should be same as the step distance of **RPFL TileDek®** roofing to be installed.
3. 3rd and subsequent purlins - Same as 2nd purlin.
4. Last purlin (nearest to the ridge) to be installed where specified by designer, architect or structural engineer. Normally 90mm to 150mm from ridge/apex point.

Note: In common practice, there should not be any **RPFL TileDek®** step allocated at the last purlin as it will be covered by the ridge cap and the profile of ridge cap will provide the impression of step.



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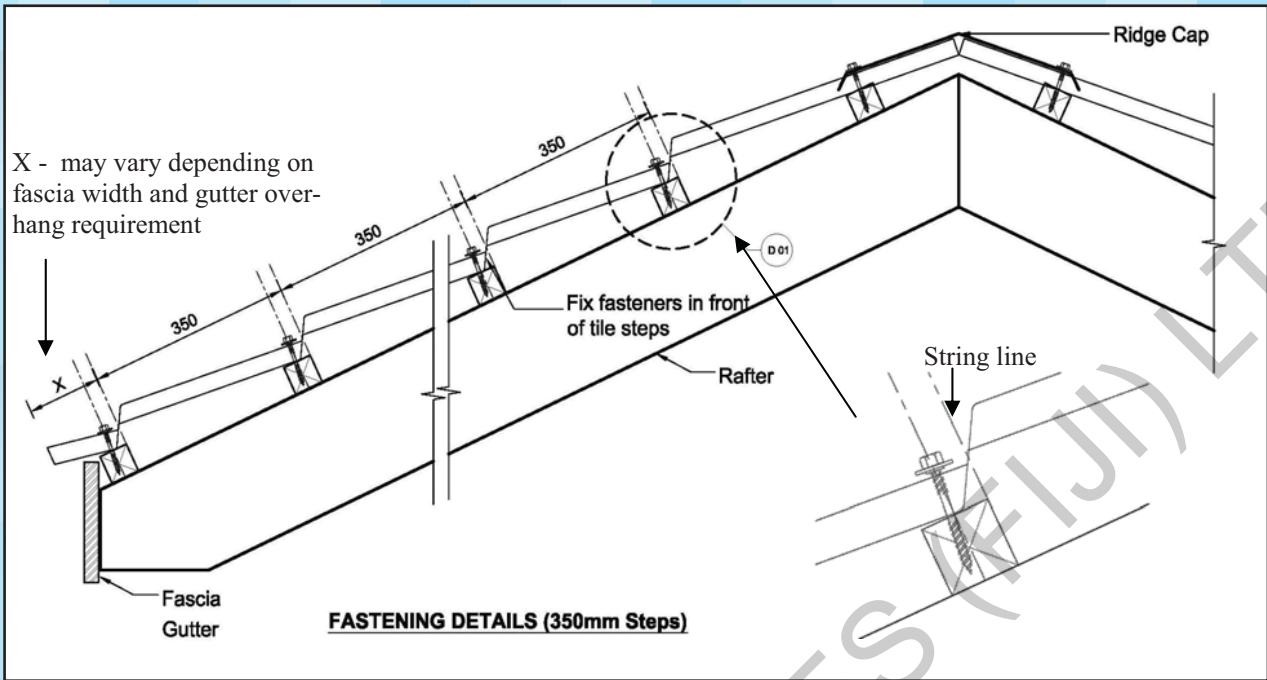


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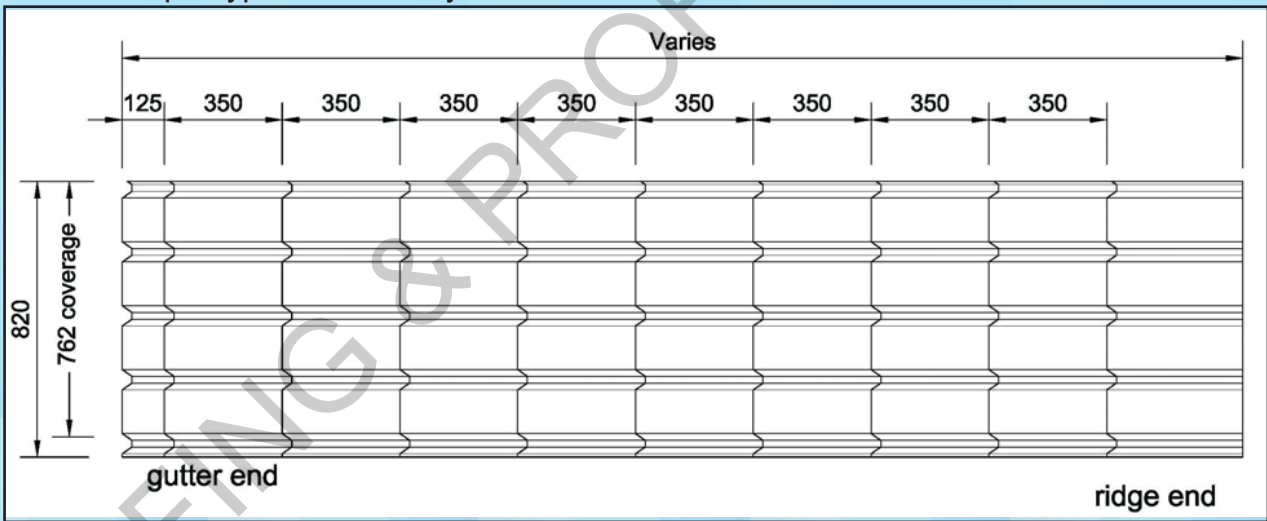


**INSTALLATION**

350mm Steps:



350mm Steps Typical Sheet Layout

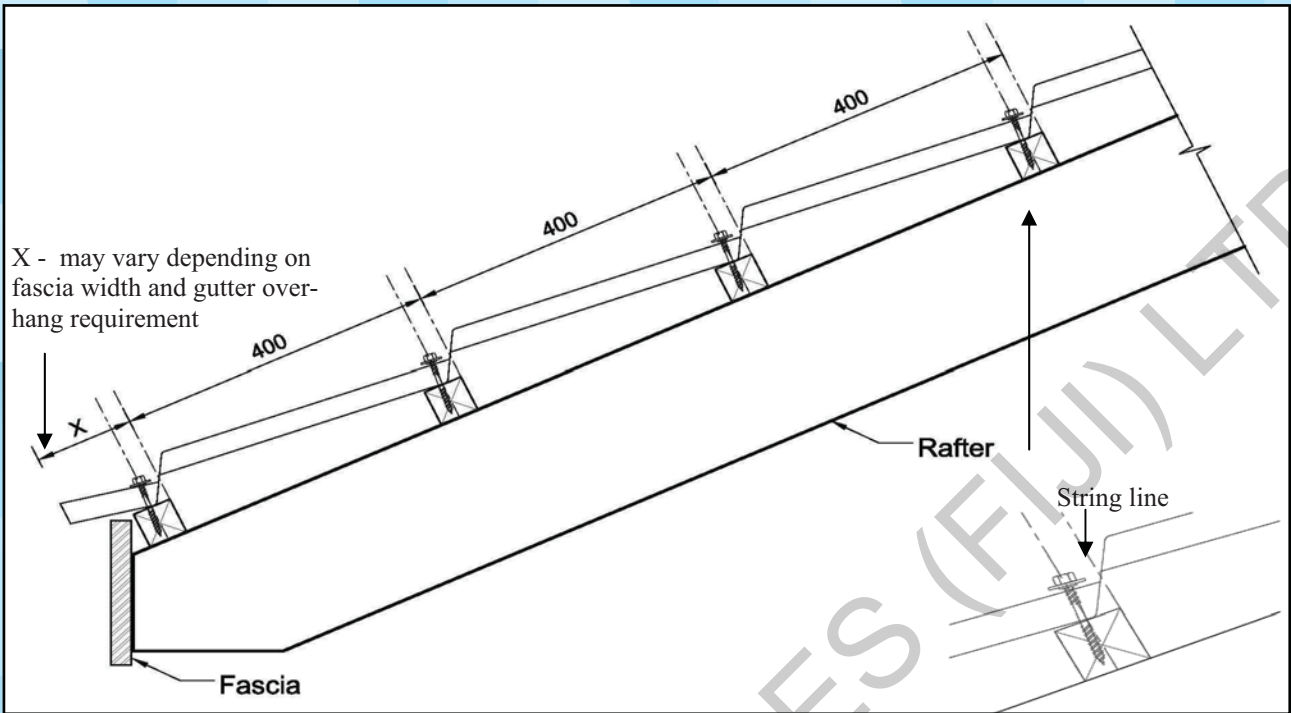


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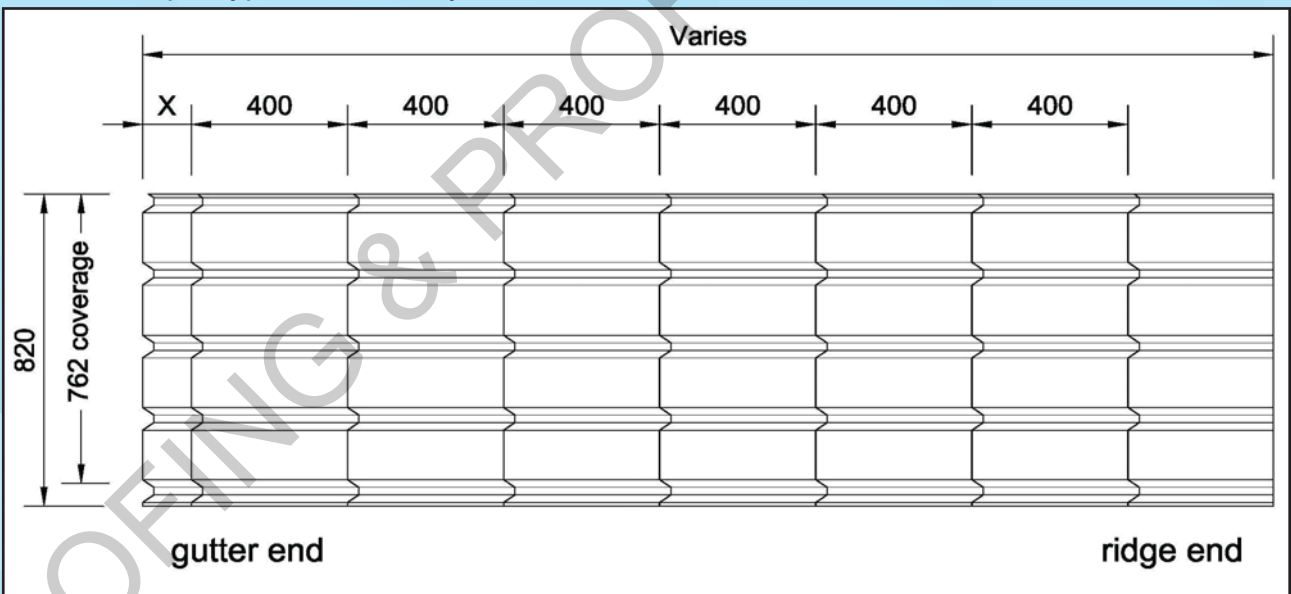
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**INSTALLATION**

400mm Steps:



400mm Steps Typical Sheet Layout

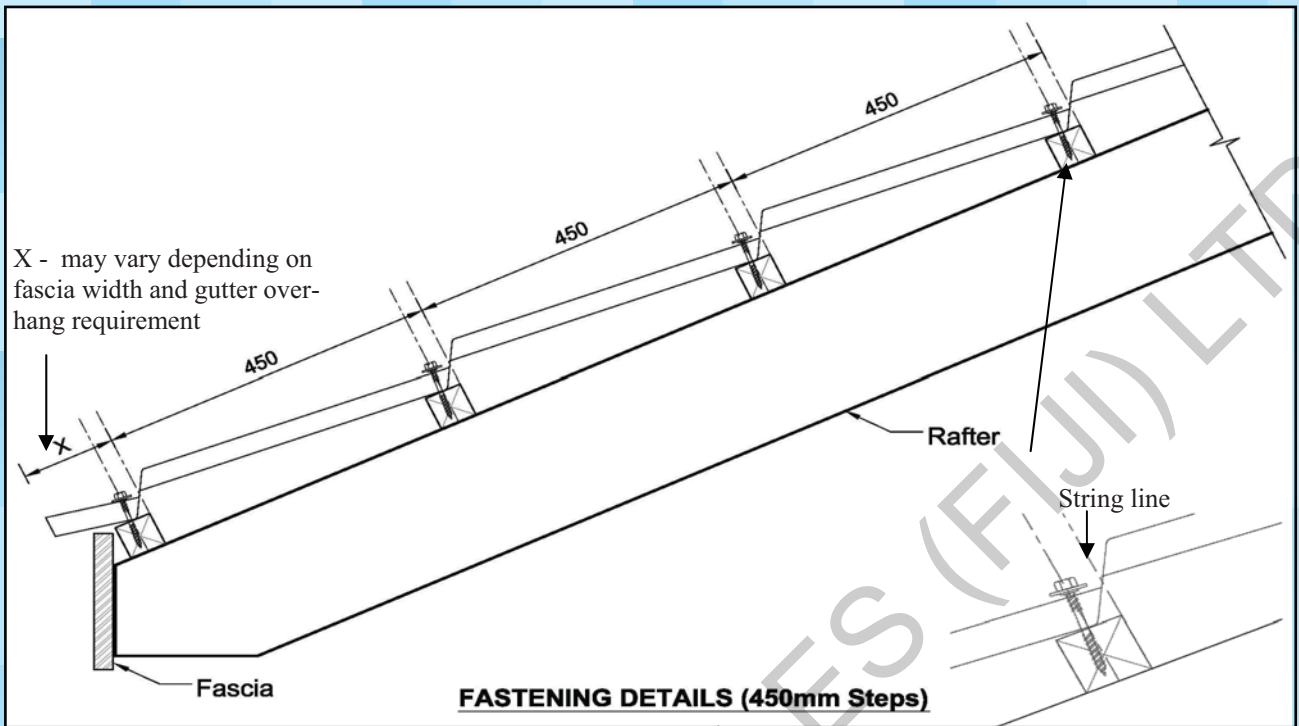


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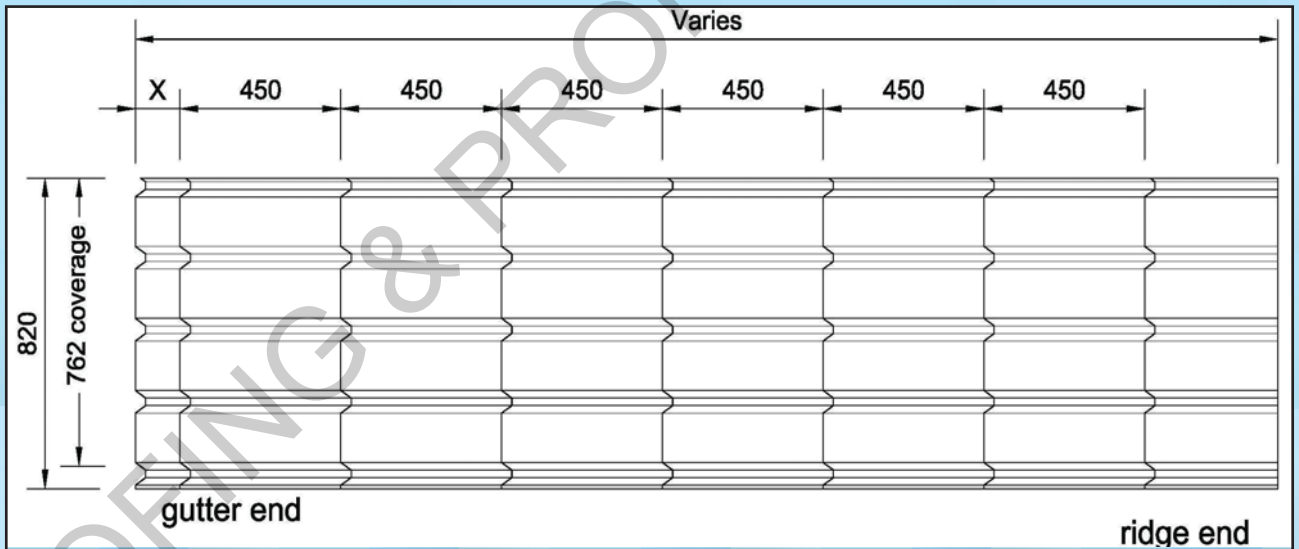
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**INSTALLATION**

450mm Steps:



450mm Steps Typical Sheet Layout



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## 1. RPFL Cyclonic Testing of 0.42bmt TileDek® G300 Steel Fixed to Timber Purlin

Testing on the **RPFL TileDek®** roofing profile has been carried out at the James Cook Cyclone Testing Station in Townsville, Queensland, Australia. The cyclic tests produced no observable damage to the sheet, screws or washers (refer to Report No. TS913).

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

#### 0.42bmt RPFL TileDek® sheeting – Triple span configuration (450/450/450)

Span Type	Span Length (mm)	Recommended Cyclone Ultimate Strength Limit State Design Wind Capacity (kpa)
Triple	450	8.46

#### Note(s):

- It is our opinion that **RPFL TileDek®** profiles of span configuration less than 450/450/450 will be able to achieve the Limit State Design Wind Capacity as long as installation details as per Report No. TS913 are maintained,
  - 0.42bmt **RPFL TileDek®** roof cladding
  - Timber purlins of grade MGP12 or equivalent (hardwood or softwood timber)
  - 14-10x65mm self drilling Type 17 screws with 25mm diameter Aluminium Bonded washer used under the head of each screw
- It is recommended that a structural qualified engineer check the suitability of the Limit State Design Wind Pressures for the intended site of use
- It is our opinion that installations with purlin/batten spacing's less than 450mm may be conservatively designed for the uplift pressures in the table above
- It is our further opinion that four span and longer assemblies at 450mm centre to centre (c/c) spacing may be designed for the uplift pressure in the table above
- After exposure of cladding to an extreme wind event, it is recommended that inspection be performed to confirm fixing and cladding integrity.

We, Fyfe Pty. Ltd., confirm that the procedures used in carrying out the cyclonic load tests on the product as listed above from for Roofing & Profiles (Fiji) Ltd., conform to the structural requirements of the National Construction Code Series 2012 (NCC) and the relevant Australian Standards:

- NCC 2012 (also known as the Building Code of Australia)
- Volume 1: Specification B1.2 – Class 2 to 9 buildings
- Volume 2: Part 3.10.1 – Class 1 and 10 buildings.
- AS 1562.1 – 1992 - Design and installation of sheet roof and wall cladding (Amdt 3-2012)
- 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.



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## 2. RPFL Windborne Debris Impact Testing of 0.42bmt TileDek® G300

### 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.: TS989, dated 15th December 2014.

### 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:** TileDek®

**Base metal thickness:** 0.42bmt

**Material grade:** G550

### **Tested Spans:**

**Triple Equal Span:** 450mm

### **Tested Fixings:**

**Screws:** 14-10x65mm fixed at each rib.

**Support(s)** 140x45/m/gp12 Timber Purlins



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We, Fyfe Pty Ltd., practicing structural engineers, confirm that the procedures used in carrying out the wind debris impact tests on the RPFL 0.42bmt G300 RPFL TileDek® 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 debris-Vertical Trajectories (Roofing)
CTS Technical Note No.4	Simulated Windborne Debris Impact Testing of Building Envelope Components (Version 3)

### FOR BEST RESULTS

**These suggestions will improve the appearance of the RPFL TileDek® 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 positions and wear soft soled shoes.
- || Fasteners are best positioned in front of the tile step for appearance and performance.
- || 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.
- || Take care when installing the first sheet- always align sheet, step in tile, parallel to the required gutter line. Always run a string line across the sheet at the second tile step, do not include the under lapping rib when positioning sheets as this is not in line with the four other ribs.
- || 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 color-available from RPFL.
- || When cutting or trimming RPFL TileDek® sheets, use large metal snips.
- || **Metal abrasive / cutting discs must 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.
- || Upon completion of work always clean and sweep roof with soft broom and gutters free from metal cuttings and swarf.



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