



**Plantation** bamboo

Flooring | Decking | Joinery | Cladding

# BUILDING PRODUCT QUALITY PLAN (BPQP)

**For**

**Bamboo X-treme  
Cladding System**

## INTRODUCTION

Managing risks and uncertainty is a responsibility of every commercial entity, particularly in today's environment. Use of this 'Building Product Quality Plan' conforming to the requirements of ISO/IEC 17021 is a recognised, reliable, and easy to implement means for managing risks and some of the uncertainty that building product importers, distributors and applicators face.

Our company has developed this quality plan to manage these issues and in doing so, provide reassurance to specifiers, designers, tradespeople, and the public at large, that our products are fit for their intended purpose.

## COMPANY DETAILS / RESPONSIBILITIES

Plantation NZ Limited (trading as Plantation Bamboo) was formed in 2015 after purchasing "Plantation Design", a leading bamboo importer/seller in New Zealand. Plantation Bamboo has flourished, due to the demand for an alternative supply of high-quality, sustainable building materials, including bamboo flooring, panels, decking and cladding - which are competitively priced and suitable materials for the NZ building and renovation market.

In 2022 we added Bamboo X-treme Cladding to our bamboo product mix, as this cladding was in good demand as a cladding in Europe, and is made from the same bamboo material and process as our very successful Bamboo X-treme Decking. We decided that our Bamboo X-treme Cladding needed to have an appraisal from a suitably experienced testing-house, and we engaged the Building Element Assessment Laboratory (BEAL) to carry out testing and an appraisal against the NZ Building Code.

The appraisal would demonstrate to councils, clients, and our distributors that the materials / products covered by the appraisal when installed according to our technical literature, would comply with the relevant clauses of the NZ Building Code.

The person responsible for the implementation and upkeep of this BPQP is:

Steve Roughan  
Director/Owner, Plantation Bamboo

Ph: 021 577889  
steve@plantationbamboo.co.nz  
www.plantationbamboo.co.nz

## REFERENCE DOCUMENTS

Reference documents include:

- ✓ Building Act 2004 and amendments
- ✓ Building Regulations & Building Code
- ✓ Compliance documents supplied by MBIE
- ✓ BEAL's Standard for a Building Product Quality Plan
- ✓ Plantation Bamboo's Technical Literature
- ✓ BEAL Appraisal document: BTS 2230

## PRODUCT NAME

### **The Bamboo X-treme Cladding System**

The system includes profiled bamboo weatherboards, that can be installed both vertically and horizontally (along with the ability to make box corners and fascia boards, etc) - installed over cavity battens. The cladding comes with stainless steel clips (powder coated) and screws for hidden fixing.

## SCOPE OF USE & LIMITATIONS

The Bamboo X-treme Cladding System is intended to be used as weatherboard wall cladding installed with the option of 10mm cavity battens and a frame protection system, installed over treated timber framing for residential and light commercial construction in wind zones up to and including 'extra high'. Timber framing shall be constructed as per NXS 3604.

The system is designed and should be used according to NZS 3617:1979 Specification of Profiles of Weatherboards, Fascia Boards, and Flooring.

The Technical Manual and detailed drawings are available from Plantation Bamboo ([www.plantationbamboo.co.nz/bamboo-x-treme-cladding](http://www.plantationbamboo.co.nz/bamboo-x-treme-cladding))

### **Limitations**

The Bamboo X-treme Cladding System is required to be designed and installed according to the details and drawings described in the Technical and Installation Manual and by experienced building contractors.

## APPLICABLE PERFORMANCE CLAUSES

The Bamboo X-treme Cladding System complies with the following clauses of the New Zealand Building Code:

- B1 – Structure
- B2 – Durability
- E2 – External Moisture
- F2 – Hazardous Building Materials

## KEY RISKS

Key potential risks identified in the plan covering receipt of material or product, checking for damage, storage, recording, labelling, dispatch, storage on site, construction or application, include:

- ✓ Materials supplied to us not meeting the 'specification'
- ✓ Materials supplied to us not properly identified/or labelled
- ✓ Materials supplied to us damaged
- ✓ Product supplied by us to a client not properly identified or labelled
- ✓ Our Technical Manual - including the construction drawings - not up to date or not displaying the version number
- ✓ Our construction information – available from our website - not up to date and displaying the version number
- ✓ A copy of this BPQP not readily available from the website or in hard copy
- ✓ Our six-monthly Internal Audit of our BPQP not being carried out
- ✓ Not addressing any non-conformances arising from our external audit by BEAL, in a timely fashion.
- ✓ Not keeping the Complaints Register up-to-date or following up on any complaints.

## CHECKS & TESTING

As identified, the following checks need to be carried out by customers on receipt of their order::

- ✓ On receipt of the cladding and other components, immediately check for any damage
- ✓ On receipt of pallets of product, check correct material and quantity supplied, properly labelled or identified
- ✓ On supplying product to our customers, ensure adequate information about the correct construction can be obtained from our website, and is easy to understand.

**Samples of the Bamboo X-treme weatherboards, are to be sent to BEAL for bi-annual testing of fixing performance.**

Testing is an essential part of this BPQP. Samples of components deemed to have a high risk are tested periodically

The testing is to ensure the performance requirements claimed in our Appraisal document are maintained continuously. These tests are made against a written sampling and testing procedures.

These tests are carried out around the anniversary of the appraisal certificate.

<b>Component</b>	<b>Risk</b>	<b>Method of Test</b>
Clip screw fixing	Medium	Screw pull-out (of timber)

## HANDLING & STORAGE

All components are to be stored out of the weather, especially on site, up off the ground to prevent ground moisture or accidental damage affecting them.

Owing to the production of saw dust when cutting bamboo x-treme cladding, appropriate PPE including face masks, gloves and eye protection should be worn when cutting and handling the materials (as with other timber products).

## HANDLING OF COMPLAINTS

All complaints shall be recorded and filed together with details including who managed the complaint and what the resolution, if any, was (see Appendix 5).

## LABEL / IDENTIFICATION REQUIREMENTS

All products will be packaged and properly labelled to ensure only the correct materials are used.

## The following information is provided by BEAL

### USING QR CODES WITH YOUR BUILDING PRODUCT QUALITY PLAN

Since the potential for misuse of your building product resulting in litigation is always present, minimising these risks is crucial to the survival of your business, or at the very least, impact on your brand.

A very simple method for minimising risks, is ensuring those that use your product have the required literature and when on site, have the required construction 'checklists'. The required literature would include the technical manual and for those involved with installation or construction on-site, this would include the BPQP and site check-lists.

Having a QR Code makes this very easy for everyone to be on the same page. Here's how it works:

- ✓ BEAL provide every Appraisal Certificate-holder with a unique QR Code. This code points to a dedicated page on the BEAL website



- ✓ The dedicated page describes the building product, its scope and limitations, and has several links that allow for documents to be easily downloaded - either onto their mobile phone, or onto a tablet or computer.
- ✓ The documents are all in pdf format - that allow for these to be easily read, or, in the case of checklists, filled out and saved on your phone or tablet or computer.
- ✓ The saved Checklists, together with required photos of the installation/construction, can then be sent or shared with the Appraisal Certificate-holder - thereby demonstrating that the installation or construction, is in accordance with the technical manual.
- ✓ The Appraisal Certificate-holder can then provide the required warranty - in accordance with the Building Act 2004.

The most obvious advantage of using the BEAL QR Code risk management system, is not needing to have every user or builder/tradesperson, being trained by someone to use the product. Instead, they can access the required technical information and then later send the site checklists from their phone or tablet when out of the office.

## **PURCHASE REQUIREMENTS & RECORDS**

There is a person responsible for the implementation of this Building Product Quality Plan (BPQP) when ordering and purchasing products (Steve Roughan, Plantation Bamboo).

The correct implementation of this BPQP and correct record-keeping, is checked by BEAL periodically, at least once a year, by way of an 'Internal audit'. A record of such Internal Audits is kept in the Register of Internal Audits – see Appendix 6.

## **SITE CHECKS & RECORD KEEPING**

Plantation Bamboo will ensure that a copy of this BPQP is available for download from the company website for reference, if needed: <https://www.plantationbamboo.co.nz/bamboo-x-treme-cladding/>

## **INTERNAL & EXTERNAL AUDIT REQUIREMENTS**

At least once a year, BEAL conduct an Internal audit of all aspects of this BPQP to ensure continuous conformance with its requirements. The result of these Audits will be recorded in the Register of Internal Audits – see Appendix 6.

Once a year an external audit will be carried out by a BEAL Auditor. The audit will be carried out at the office and at one or more convenient located building sites. At the discretion of BEAL, and where practical, the audit may be conducted remotely.

**APPENDIX 1 – COPY OF THE ON-SITE CHECKLIST(S)**  
**ONSITE CHECKLIST A**

**PRE-CLADDING INSTALLATION CHECKLIST**  
**For LBPs, supervisors, and building inspectors**

Consent No: \_\_\_\_\_

Site Address: \_\_\_\_\_

Builder: \_\_\_\_\_ Mobile: \_\_\_\_\_

Designer: \_\_\_\_\_ Mobile: \_\_\_\_\_

**NOTE: Framing must be correctly constructed to enable the correct installation of the Bamboo X-treme Cladding System**

**Floor slab layout**

Where the design of the weatherboard is to over-hang the slab, the bottom plate shall be flush with the slab

**Framing including back-blocking**

Studs shall be straight & back-blocking installed, ready for rigid air barrier or frame protection system installation

**Wall frame protection / Rigid Air Barrier installation**

Either a “frame protection system” - incorporating an underlay and tape system, or a “rigid air barrier system” shall be installed.

In both cases, tapes shall be used to make all joins and the exterior wall airtight around the perimeter. Refer to drawing 7.

Check that only approved gaskets and/or tape are used.

**Windows**

Window openings need to be between 7 and 10mm from timber reveals to opening. Refer to drawings 9,10 & 11.

**Cavity Battens**

Ensure only the approved 10mm x 45mm cavity battens will be installed, if not already.

**Variations/ Comments (attach notes if insufficient room):**

\_\_\_\_\_  
\_\_\_\_\_

**Signed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**(Name of installer/LBP)**

Note: This Checklist must be copied to Plantation Bamboo ([info@plantationbamboo.co.nz](mailto:info@plantationbamboo.co.nz)) to be eligible for a warranty



## ONSITE CHECKLIST B

### POST-CLADDING INSTALLATION CHECKLIST

For LBPs, supervisors, and building inspectors

Consent No: \_\_\_\_\_

Site Address: \_\_\_\_\_

Builder: \_\_\_\_\_ Mobile: \_\_\_\_\_

Designer: \_\_\_\_\_ Mobile: \_\_\_\_\_

**NOTE: Framing must be correctly constructed to enable the correct installation of the Bamboo X-treme Cladding System**

- Has the specified hidden fixings been used?
- Are the hidden fixings located in accordance with the technical manual drawings?
- Are all installed weatherboards flush with each other?
- Have the specified 18mm S/S or Aluminium cavity closers been used?
- Has the specified tape been used to seal between window and door framing to either the frame protection system or rigid air barrier?
- Have all external and internal corner junctions been flashed in accordance with the technical manual and drawings?
- Have all window and door openings of the weatherboard cladding been constructed in accordance with the drawings?
- Have the specified pipe or conduit gaskets been installed around pipe or wire penetrations?
- Are all external corners flashed or boxed with internal corners straight and plumb from top to bottom?

**Variations/ Comments (attach notes if insufficient room):**

\_\_\_\_\_  
\_\_\_\_\_

**Signed:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**(Name of supervisor)**

Note: This Checklist must be copied to Plantation Bamboo ([info@plantationbamboo.co.nz](mailto:info@plantationbamboo.co.nz)) to be eligible for a warranty

## APPENDIX 2 – TECHNICAL DATA For Raw Materials/Components

### Technical characteristics and certifications of bamboo x-treme cladding:

- Density: +/- 1150 kg/m<sup>3</sup>
- Dimensional stability: length: + 0.1 %; width: + 0.9% (24 hours in water 20°C)
- Resistance to Indentation – Brinell Hardness: ≥ 9.5 kg/mm<sup>2</sup> (EN 1534)
- Reaction to fire: Class B-s1-d0 (EN 13501-1) 1)
- Flame spread index: Class A (ASTM E84)
- Thermal emittance: 0.81 (ASTM C1371) 2)
- Solar Reflectance (SR): 0.32 (ASTM C1549) 2)
- Solar Reflectance Index (SRI): Low 27, Medium 30, High 33 (ASTM E1980) 2)
- Modulus of Elasticity: 13565 N/mm<sup>2</sup> (mean value – EN 408)
- Bending strength: 54.4 N/mm<sup>2</sup> (characteristic value – EN 408)
- Biological durability: Class 1 (EN 350 / CEN/TS 15083-2), simulated graveyard test / Class 1
- (EN 350 / CEN/TS 15083-1)
- Effectiveness against Blue Stain: Class 0 (EN 152)
- Use Class: Class 4 (EN 335)
- CO<sub>2</sub> neutral: LCA report TU Delft (ISO 14040/44) ([www.moso-bamboo.com/lca](http://www.moso-bamboo.com/lca))
- Environmental Product Declaration – EPD (EN 15804) ([www.moso-bamboo.com/epd](http://www.moso-bamboo.com/epd))
- Contribution LEED BD+C – v4: MR 1, MR 2, MR 3 (FSC®), SS 7
- v2009: MR 6, MR 7 (FSC®)
- Contribution BREEAM: MAT 1, MAT 3 (FSC®), MAT 5 (HD)
- Warranty: 25 years
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*1) Tested on 18 mm thickness, without gaps between boards, with ventilation space behind boards.*

*2) Tested on 3 year-weathered Bamboo X-treme Cladding*

## APPENDIX 3 – COMPLAINTS REGISTER

To be developed

## APPENDIX 4 – REGISTER OF INTERNAL AUDIT FINDINGS

## APPENDIX 5 – COPIES OF EXTERNAL AUDIT REPORTS