BEAL Appraisal Certificate

APPRAISAL #: C2248

EXPIRY DATE: 30 June 2025

The Bamboo X-treme Cladding System

Product

1.1 The Bamboo X-treme Cladding System supplied by Plantation Bamboo is an exterior wall cladding utilizing either vertical and or horizontal weatherboards, box corners, and fascia boards, installed over 10mm or 20mm cavity battens suited for residential housing and light commercial buildings.

1.2 The Bamboo X-treme Cladding System utilises 18mm factory manufactured weatherboards, 1850mm x 137mm x 18mm with effective 128mm cover, incorporating a tongue and groove style on all four sides.

The weatherboards are attached by way of proprietary clips that fit into the grooves on either side of the boards clip system, through the cavity battens, through the underlay or rigid air barrier to the timber framing.

1.3 The Installation of the Bamboo X-treme weatherboards shall only be undertaken by experienced tradespersons or an LBP, who are familiar with this technical and installation manual together with the onsite checklist requirements.

Compliance with the NZBC

2.1 Compliance with the NZBC has been assessed as **An Alternative Solution** using a combination of in-service history, having been in use since 2008, and expert evidence - as suggested by MBIE and described in the MBIE article titled Alternative solutions for compliance with the Building Code (click here for a copy).

2.2 In the opinion of BEAL, the Bamboo X-treme Cladding System, when designed, installed and maintained in accordance with the statements and conditions of this Product Technical Statement, will meet the following provisions of the New Zealand Building Code, evidenced by:

Performance clause	Evidence	Supplied by
B1.3.3(a) & (h) self weight & wind forces	Test reports & Opinion	BEAL, King & Dawson
B2.3.1(b) 15 years durability	Test report, plus in-service history	BEAL
E2.3.2 external moisture resistance	Test report, plus in-service history	BEAL
F2.3.1 non-hazardous materials	Expert opinion	BEAL expert opinion*
H1.3.1 (b) & H1.3.3 (b) airtightness	Test report	BEAL
Above test reports or opinions available under Sources of Information on page3.		

*BEAL is a New Zealand based & recognized testing a certification body providing specialist services to numerous clients throughout New Zealand, Australia & overseas. Refer to Who is BEAL?

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Scope and Limitations

3.1 The Bamboo X-treme Cladding System has been appraised for use as a cladding installed over a cavity and either a rigid or flexible air barrier and in compliance with the NZBC;
3.2 The design and construction of the framing, including inter-storey control joints, or the like, are to be to specific design and are therefore the responsibility of the owner/building designer and are outside the scope of this Appraisal Certificate.

3.3 The Bamboo X-treme Cladding system shall be installed only by experienced tradespersons or an LBP, who are familiar with this technical and installation manual together with the onsite checklist requirements.
3.4 The owner of the building is responsible for the proper maintenance of the installed cladding as set out in the Bamboo X-treme Cladding System technical literature.

Technical Literature

4.1 The Bamboo X-treme Cladding System Technical Literature **Ver 1.3** must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained within the technical literature and scope of this Appraisal Certificate must be followed.
4.2 For a copy of this Technical Literature please contact Plantation NZ Ltd.

Technical Details

5.1 The Bamboo X-treme Cladding System utilises 18mm manufactured bamboo x-treme weatherboards (1850mm x 137mm x 18mm with effective 128mm cover), incorporating a tongue and groove style join on the ends of the boards, installed over a 10mm or 20mm fluted cavity batten system. The clip and screw fixings provided ensure an even space between boards and enables quick and efficient installation.
The weatherboards are fixed to and through the cavity battens, through the underlay or rigid air barrier to the timber framing by way of the proprietary clips that fit into the grooves on either side of the boards. Use of these clips provides a hidden fixing which enhances the aesthetics of the finished cladding.
For external corners, it is common to install a box corner or aluminium angles. For internal corners, a 60mm x 60mm folded stainless steel sheet angle is used (over cavity battens).
Reliance is made of a compliant proprietary 'frame protection system' with tapes to seal windows and doors, to provide reliable air resistance and weathertightness protection of the timber framing, that complies with performance clauses E2.3.2, H1.3.1(c) and H1.3.3 (b).
The weatherboards and hidden clip system are supplied by Plantation Bamboo or their distributor.
5.2 Refer to the Bamboo X-treme Cladding System Technical Literature for the method of installation.

Handling and Storage

5.3 All components must be stored inside, in a well ventilated area, up off concrete floors, kept dry, out of direct sunlight and away from freezing conditions.

Advice for designers

General

6.1 The Bamboo X-treme Cladding System is intended for use as either a vertical or horizontal configured cavity based cladding for residential and light commercial buildings.

6.2 Before any installation can be carried out, it is essential that a careful inspection of the framing and or frame protection system such as a rigid air barrier and or flexible air barrier is completed as set out in the Bamboo X-treme Cladding System technical literature.

Structure - Clause B1

6.3 Performance B1.3.3 (a) & (h)
The applied Bamboo X-treme Cladding System has good adhesion to a wide range of substrates and therefore meet the requirements of clause B1.3.3 (a) & (h).

Durability - Clause B2

6.4 Performance B2.3.1 (b) & (c) where applicable.
The Bamboo X-treme Cladding , System when used in accordance with this Appraisal Certificate, subject to normal conditions of environment, use, and good housekeeping maintenance, is expected to have a serviceable life of at least 15 years and 5 years for any protective coating.

External Moisture - Clause E2

6.5 Performance E2.3.2
The Bamboo X-treme Cladding System will comply with the requirements of this clause when the system is installed in accordance with the technical literature.

Hazardous Building Materials - Clause F2

6.6 Performance F2.3.1. The Bamboo X-treme Cladding System when installed according to the requirements of this appraisal meets this requirement and will not present a health hazard to people using the building.

Installation Requirements

Installation Skill Requirement

7.1 Installation of the Bamboo X-treme weatherboards shall only be undertaken by experienced tradespersons, under the supervision of an LBP, who are familiar with this technical and installation manual together with the onsite checklist requirements.

Health and Safety

7.2 The safe use and handling of the weatherboards and clips are provided in the Technical Literature. The products must be used in conjunction with the relevant materials safety data sheet for each component.

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Basis of this Appraisal

BEAL use the compliance verification procedure to demonstrate compliance with the relevant clauses of the NZBC based on a risk analysis procedure. The following is a summary of the technical investigations carried out:

Assessment of information supplied

8.1 BEAL have completed a review of test data and technical literature supplied by Plantation NZ Ltd. and found it satisfactory.

In-service History

8.2 The Bamboo X-treme cladding has performed satisfactorily in a wide range of weather conditions and for at least 10 years in New Zealand meeting the requirement of performance clause B2.3.1(b).

Testing

8.3 To demonstrate compliance with performance clause E2.3.2 of the New Zealand Building Code, BEAL utilizes its proprietary test procedure, TP112. This method leverages over two decades of practical expertise in evaluating innovative **alternative solution** cladding systems.

In addition, testing to determine cladding pull-off resistance, required under performance clause B1.3.3 (h), was carried out using a fixing pull-through methodology in place of the use of the less accurate negative wind pressure assessment methodology.

Other Investigations

8.4 Engineers King and Dawson Architects and structural Engineers have reviewed the information about the hidden fixing system and provided an opinion regarding compliance with clause B1.3.3 (a) & (h).

8.5 The installation of the Bamboo X-treme Cladding System was also evaluated from a practical building situation assessing the following;

- Ease of installation
- Potential risks of non-performance when being installed
- Any external factors that could affect the quality of the installed product

8.6 The Technical Literature has been examined by BEAL and found to be satisfactory.

Quality

8.7 The manufacture of the Bamboo X-treme Cladding System has been assessed by BEAL regarding the history and composition of the materials obtained by BEAL and found to be satisfactory.

8.8 The quality of materials, components and accessories supplied by Plantation NZ Ltd. is managed through the use of a Building Product Quality Plan.

8.9 The Plantation NZ Ltd. Building Product Quality Plan, based on a manufacturing quality plan, ensures continuous conformance with the quality requirements from purchase to installation on site.

8.10 Plantation NZ Ltd.'s Building Product Quality Plan is reviewed and audited at least annually by BEAL or appointed agent.

8.11 Building owners are responsible for the maintenance of the Bamboo X-treme Cladding System in accordance with the manufacturer's instructions and this Appraisal Certificate.

Sources of Information

- The Building Regulations 1992, reprinted 1 January 2017
- NZS 3604:2011 Timber framed Buildings
- AS/NZS2269 Plywood - Structural
- NASH Standards 1 & 2
- NZS3109 Concrete Construction
- Numerous fire test reports carried out in Europe
- BEAL Test Report TR260905-3 Measurement of the Hidden Clip Weatherboard Pull-off Resistance
- BEAL Test Report TR230110-1 for weathertightness based on BEAL's Test Procedure TP112, dated 10th January 2023
- Test Report on Natural Durability according to EN 350 - Wood Destroying Basidiomycetes CEN-TS 15083-1
- Test Report on Flexural Properties according to ASTM D 6109
- Test Report on the Determination of Connection Strength - Embedding Strength
- Test Report on the Determination of Heat Combustion according to EN ISO 1716
- Test Report on the Determination of Physical and Mechanical Properties according to EN 408
- Test Report on the Determination of Physical and Mechanical Properties according to EN 408
- Test Report on the Dimensional Stability
- Test Report on the Effectiveness against Blue Stain-Surface fungi according to EN 152
- Test Report on the Formaldehyde Emission 717-1 from the Bremer Umwelt Institut
- Test Report on the Resistance to Indentation-Brinell Hardness according to EN 1534-2000
- Test Report on the Solar Reflectance Index according to ASTM E1980 – after 3 years weathered from Intertek

Concluding statement

9.1 In the opinion of BEAL, the Bamboo X-treme Cladding System is fit for purpose and will comply with the NZBC to the extent specified provided that it is used, designed, installed and maintained in accordance with the manufacturer's instructions and this Appraisal Certificate.

The Appraisal Certificate is issued only to Plantation NZ Ltd., and is valid until further notification, subject to the conditions of this Appraisal.

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Conditions of Appraisal

10.1. This appraisal Certificate:
a) Relates only to the Bamboo X-treme Cladding System as described herein;
b) Must be read, considered and used in full, together with the current version of the Technical Literature
c) Does not address any legislation, regulations, codes or standards, not specifically named herein;
d) Is copyright of BEAL

10.2 The Appraisal Certificate holder continues to meet the quality requirements of the Plantation NZ Ltd. Building Product Quality Plan and has the plan audited and Appraisal certificate revalidated by BEAL on an annual basis.

10.3 Plantation NZ Ltd. shall notify BEAL and obtain approval of any changes of the product specification or quality assurance prior to product being marketed including any trade literature, web site info or the like.

10.4 BEAL makes no representation as to:
a) The nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
b) The presence or absence of any patent or similar rights subsisting in the product or any other product;
c) Any guarantee or warranty offered by the Appraisal Certificate holder.

10.5 BEAL's verification of the building product or system complying with one or more of the above-mentioned criteria is given on the basis that the criteria used were those that were appropriate to demonstrate compliance with the NZBC at the date of this Appraisal Certificate. In the event that the criteria is withdrawn or amended at a later date, this Appraisal may no longer remain valid.

10.6 Any reference in this Appraisal Certificate to any other publication shall be read as a reference to the version of publication specified in this Appraisal Certificate.

Authorised Signatory,

C R Prouse - Director
BEAL (Building Element Assessment Laboratory Limited)
[Updated September 2026]

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