Compliance pathway for the Bamboo X-treme Cladding System

For Building Consent Authorities | Issued by Plantation Bamboo, the New Zealand supplier

To all Building Consent Authorities,

This note explains how compliance with the New Zealand Building Code (NZBC) has been approached for the Bamboo X-treme Cladding System. It is provided as background to assist your assessment of a building consent application. It does not replace the evidence for the particular building work, which your authority assesses for itself, and we are happy to supply further information on request.

Compliance route

The Bamboo X-treme Cladding System has been assessed against the NZBC as an Alternative Solution. It is not covered by the Acceptable Solution E2/AS1, and it has not been assessed against Verification Method E2/VM1. An Alternative Solution is not required to follow either document, and compliance is demonstrated with evidence that the performance requirements of the Building Code are met. The system differs from the cladding types covered by E2/AS1 in these ways:

- the weatherboards are fixed with a proprietary hidden clip system, through the cavity battens and underlay or rigid air barrier to the framing;
- the boards are 18 mm manufactured bamboo weatherboards (1850 x 137 mm, 128 mm effective cover) with a tongue and groove profile on the ends of the boards, which is a material and profile not covered by E2/AS1.

Following MBIE's guidance on alternative solutions, compliance has been evidenced through a combination of test reports, in-service history and expert opinion.

Appraisal and evidence

Plantation Bamboo engaged BEAL (Building Element Assessment Laboratory Ltd), an experienced New Zealand based testing and certification body, to assess the system. BEAL has issued the following appraisal, which is published on the BEAL Appraisal Register at www.beal.co.nz. BEAL's appraisal is an expert opinion offered as evidence for your consideration. It is not a CodeMark certificate.

Appraisal certificate:	BEAL Appraisal C2248, expiry 30 June 2027
Applicant:	Plantation NZ Ltd (T/A Plantation Bamboo), 14/5 Te Tupe Road, Paraparaumu
Technical literature:	Bamboo X-treme Cladding System Technical Literature, current version, to be read with the appraisal
Scope:	Residential and light commercial buildings. Vertical or horizontal boards over a 10 mm or 20 mm cavity batten, and a rigid or flexible air barrier.

The appraisal identifies the following evidence for each performance clause:

Performance clause	Evidence	Supplied by
B1.3.3 Structure (self-weight and wind)	Test reports and structural opinion	BEAL, King and Dawson Architects and Engineers Ltd
B2.3.1(b) Durability (15 years)	Test reports and in-service history	Manufacturer MOSO Bamboo
E2.3.2 External moisture	Weathertightness test report TR230110-1 (10 January 2023) and in-service history	BEAL
F2.3.1 Hazardous materials	Expert opinion	BEAL

How BEAL assesses a product

BEAL describes its process as a compliance verification procedure based on a risk analysis. In summary:

- a technical review of the product design, raw materials, component compatibility and durability;
- a product risk profile and a quality assurance review of manufacturing controls;
- a compliance verification table setting out what must be verified, by whom and how;
- delivery of an assessment plan, followed by the verification work, which can include drawing review, structural and weathertightness testing, buildability assessment, technical manual review and installation checklists.

The appraisal is published with an expiry date. The technical literature, quality plan and core product details are reviewed annually by BEAL.

Supporting documents

The test reports, expert opinions and technical literature referred to in the appraisal are available from Plantation Bamboo on request, so that your authority can review them as part of the assessment. If your assessment raises a question that this note and the appraisal do not answer, please contact us early and we will respond promptly.

Completed projects

Photos and a project article showing the Bamboo X-treme Cladding System on completed buildings are available on our website, and may help your authority see the system in use:

- Bamboo X-treme cladding photo gallery
- Palmer and Cook project, Wellington (article)

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