



Report Sponsor	Issue Date	Expiry Date
LETO Bamboo, 9 Glenvale Crescent, Mulgrave, VIC 3170.	26/09/11	30/09/16

Introduction

This is an assessment of the fire hazard properties of a "standwoven engineered bamboo carbonised in colour" in accordance with AS/NZS 3837:1998 - *Method of test for heat and smoke release rates for materials and products using an oxygen consumption calorimeter* and Specification A2.4 of the Building Code of Australia.

For the verification of fire hazard properties the Building Code of Australia 2006 (BCA) Specification C1.10 requires testing to AS ISO 9705 "Fire tests – Full scale room test for surface products" or AS/NZS 3837:1998 "Method of test for heat and smoke release rates for material and products using an oxygen consumption calorimeter". ISO 9705 is commonly referred to as the "ISO room fire test", whilst AS/NZS 3837 is better known as the "Cone calorimeter test".







As an alternative to an ISO 9705 test the BCA permits testing to AS/NZS 3837:1998 "Method of test for heat and smoke release rates for material and products using an oxygen consumption calorimeter" in conjunction with the prediction method outlined in Specification A2.4 of the BCA.

The main outcome from these tests is a material's "group number". The materials group number is an indication of its 'time to flashover' in the ISO room fire test. The group number may be gained directly from testing a material in the above mentioned ISO room fire test, or alternatively be predicted using data obtained from testing of the material in the cone calorimeter.

Referenced Test Report	Reference Date	Test Standard	Test Sponsor
EWFA 2622400a.1	26/09/2011	AS/NZS 3837-1998	LETO Bamboo.

Description of Assessed Specimen

The three specimens tested in the referenced report were 100.9mm by 100.8mm by 19.6mm thick samples of an engineered bamboo product. The samples had a nominal density of 808.8 kg/m³. The test specimens were supplied fully prepared for testing by the test sponsor and EWA personnel were not involved with either the selection or preparation of these test specimens. Prior to testing, the specimens were conditioned in accordance with BSEN 13238-2001 at a temperature of 23 +/- 2 deg C and relative humidity of 50 +/- 5% for a continuous period of more than 48 hours.

TESTING AUTHORITY	Exova Warringtonfire Aus Pty Ltd		
Address	PO Box 4282 DANDENONG SOUTH VIC 3164 Unit 2, 409-411 Hammond Road DANDENONG VIC 3175		
Phone / Fax	61 (0)3 9767 1066 / 61 (0)3 9767 1001		
ABN	81 050 241 524		
Email / Home Page	www.exova.com		
Authorisation	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center; vertical-align: top;"> Prepared By:  J. D. Richardson </td> <td style="width: 50%; text-align: center; vertical-align: top;"> Reviewed By:  K. G. Nicholls </td> </tr> </table>	Prepared By:  J. D. Richardson	Reviewed By:  K. G. Nicholls
Prepared By:  J. D. Richardson	Reviewed By:  K. G. Nicholls		

Relevance of Results

Surface Characteristics

The exposed specimen surfaces were flat with uniformly distributed irregularity and it is confirmed that more than 50 % of the upper surface of the specimen was within 10mm of the plane taken across the highest points. No more than 30 % of the upper surface was comprised of cracks fissures or holes.

Asymmetric Products

It is confirmed that the specimen was Symmetric in its construction and was tested with its faced surface exposed to the irradiance.

Thin Products

Products that are very thin can burn very quickly and provide insufficient data for accurate analysis of results. Upon inspection of the results of the referenced test it is considered that enough data has been collected for accurate analysis.

Joints

The specimen did not incorporate joints.

Melting and Dripping of Specimen

Results from products prone to melting dripping and collapsing may not be suitable for detailed mathematical analysis. It is confirmed that the referenced test material was not prone to such behaviour.

Mounting Methods

As the specimen was thicker than 6mm it is appropriate to use the standard mounting method in AS/NZS3837-1998 as was done in this test.

Time Interval for Results

The time interval for results in the referenced test was 5 seconds or less.

Relevance to BCA Specification A2.4

Based on the above discussion it is confirmed that the test specimen met the requirements for test specimens of AS/NZS 3837-1998 and Specification A2.4 of the BCA. In addition the time interval for results collection met the requirements of Specification A2.4 of the BCA. Therefore it is considered that the referenced test data is suitable for calculation of the Group Number and the Average Specific Extinction Area in accordance with Specification A2.4 of Building Code of Australia.

Assessment Conclusion

Parameter	Specimen 1	Specimen 2	Specimen 3	Assessed Result
Group Number	3	3	3	3
Average Specific Extinction Area (m²/kg)	45.9m ² /kg	35.2m ² /kg	43.6m ² /kg	41.6m²/kg

Conditions / Applicability

This assessment report does not provide an endorsement by Exova Warringtonfire Aus Pty Ltd of the actual products supplied. The conclusions of this assessment may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all conditions. The assessment can therefore relate only to the actual prototype test specimens, testing conditions, and methodology described in the supporting data, and does not imply any performance abilities of constructions of subsequent manufacture.

This assessment is based on information and experience available at the time of preparation. The published procedures for the conduct of tests and the assessment of test results are the subject of constant review and improvement and it is recommended that this report be reviewed on or, before, the stated expiry date. The assessment is valid provided no modifications are made to the systems detailed in this report. This report may only be reproduced in full without modifications by the report sponsor. Copies, extracts or abridgments of this report in any form shall not be published by other organisations or individuals without the permission of Exova Warringtonfire Aus.