

IGNIS ADVISORY NOTE

Evaluation No.IGNS-5218 Issue 01 Revision 00 [2017]

1 Introduction

Ignis Solutions has been engaged by CertMark International to evaluate the fire safety compliance of the Magnesium Oxide Board known as Dragon Board and how it complies with the requirements of the Deemed-to-Satisfy Provisions and Performance Requirements set by the National Construction Code – Volume One – Building Code of Australia 2016 (BCA) for certification to the CodeMark Certification Scheme.

2 National Construction Code – Volume One – Building Code of Australia 2016

The following provides details of each test element and categorises it in a traffic light status of green being compliance, amber being missing or incomplete information and red being non-compliance or failure. This advisory note should be read in conjunction with all other evaluations, certification and test reports for the product. The supporting test is attached to this evaluation.

Non-combustible

The BCA sets the requirements of non-combustible material through its definition under Clause A1.1. The definition is then applied to various clauses within the BCA.

Clause A1.1 Definitions

NON-COMBUSTIBLE

RED R07A15 18.04.2007

BS 476.4:1970

It has not been confirmed if RED Façade Consultants is an ILAC MRA. The above test is noted to be over ten years old. It is recommended that an updated test be undertaken inline with AS 1530.1 as referenced within the BCA.

Fire Resistance Level

Under Clause 2(b) of Specification A2.3, a building element meets the requirements of this Specification if it is identical with a prototype that has been submitted to the Standard Fire Test, or an equivalent or more severe test, and the FRL achieved by the prototype without the assistance of an active fire suppression system is confirmed in a report from a Registered Testing Authority which –

- (i) Describes the method and conditions of the test and the form of construction of the tested prototype in full; and
- (ii) Certifies that the application of restraint to the prototype complied with the Standard Fire Test.

In accordance with Clause A2.2(a)(i) of the BCA a test report is to be issued by a Registered Testing Authority. The BCA defines a Registered Testing Authority as –

- (a) An organisation registered by the National Association of Testing Authorities (NATA) to tests in the relevant field; or
- (b) An organisation outside Australia registered by an authority recognized by NATA through a mutual recognition agreement; or
- (c) An organisation recognized as being a Registered Testing Authority under legislation at the time the test was undertaken.

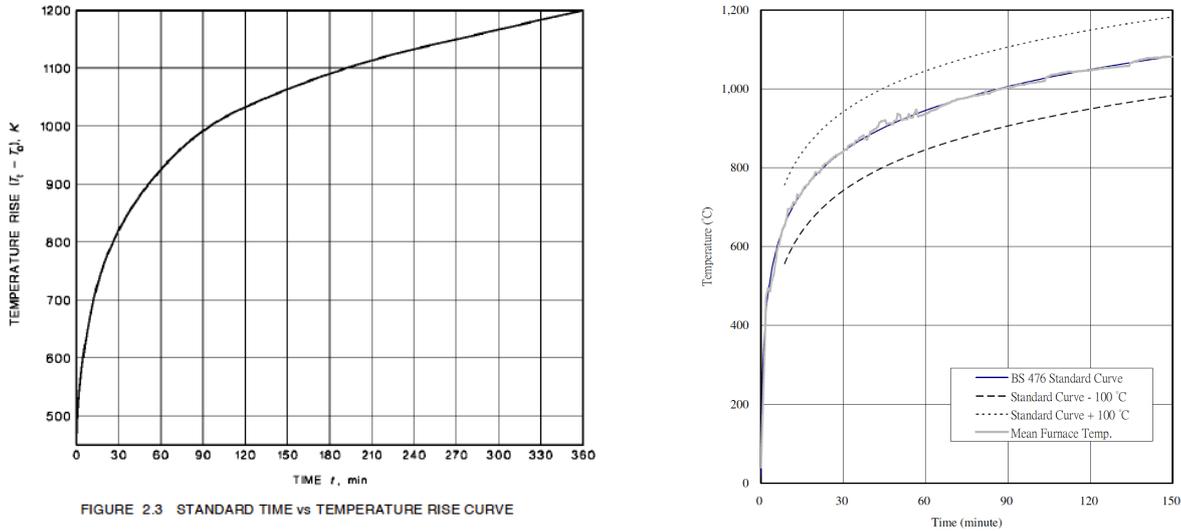
Test organisations around the world are recognised through the ILAC MRA which is a mutual recognition arrangement. The MRA provides significant technical underpinning to the calibration, testing, medical testing and inspection results of the accredited conformity assessment bodies and in turn delivers confidence in the acceptance of results. Accreditation bodies that are signatories to the ILAC MRA have been peer evaluated in accordance with the requirements of ISO/IEC 17011 to demonstrate their competence. The ILAC MRA signatories then assess and accredit conformity assessment bodies according to the relevant international standards including testing laboratories using ISO/IEC 17025.

In accordance with Clause A1.1 of the BCA, Standard Fire Test – means the Fire-resistance Tests of Elements of Building Construction as described in AS 1530.4.

The standard fire curve is detailed in figure 2.3 of AS 1530.4 and provided below. The standard time-temperature curve

is widely accepted and used by most of the standards and testing agencies. It is based on the maximum induction of the severity of a fire completely burning out an ordinary brick, wood-joisted building loaded with combustible contents. The use of this curve, together with information on the fire loading, is used to estimate the severity of a fire. The equivalent time-temperature curve for AS 1530.4 and BS 476.22 is based on the ISO 834 standard fire curve. The RED test fire curve is provided along side the AS 1530.4 test curve below.

FIGURE 1:
STANDARD FIRE CURVE AS1530.4 AND BS 476.22 TEST CURVE



Source: AS 1530.4 and RED test curve

The test was undertaken with a specimen consisting of a layer of 12mm thick dragon board on either side of a 46mm thick galvanised steel frame with 46mm thick Luyangwool mulita crystal fibre blanket with a density of 94kg/m³. The studs were spaced at approximately 450mm centres. Based on the equivalence of the test the following results are achieved.

BCA Specification A2.3 Clause 2(b)

Structural Adequacy	-
Integrity	120
Insulation	120

Exova 24158-00 14.01.10 expiry 31.01.2015 BS 476.22:1987

It is important to note that the Exova Warrington report has since expired. The basis of the above report is the RED Façade Consultants test report R07A15A dated 18 May 2007. It has not been confirmed if RED Façade Consultants is an ILAC MRA. The above test is noted to be over ten years old. It is recommended that an updated test be undertaken inline with AS 1530.4 as referenced within the BCA.

3 Conclusion

Based on the above review it is considered that the 12mm Dragon board is non-combustible and when installed in a wall system identical to the tested prototype as highlighted above, will achieve the above stated Fire Resistance Level.

Based on the age of the test reports, it is recommended that verification of the products performance be re-confirmed. It is considered suitable for this to occur in a pilot test no less than 900mm x 900mm in size.


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