

CERTIFICATE

Material Fire Test Certificate

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AS 1530.8.1 Methods for fire tests on building materials, components and structures

Part 8.1: Tests on elements of construction for buildings exposed to simulated bushfire attack – Radiant heat and small flaming sources

SPONSOR

3RT Technologies Pty Ltd
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TEST BODY

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Test body is the test location



Specimen Name

3RT Blackbutt

Specimen Description

The sponsor described the specimens as 3RT engineered hardwood. It is composed of engineered hardwood being light brown in colour. Its end use is as cladding and panelling.

The received specimens were hardwood panels. They had a measured nominal thickness of approximately 20 mm and a measured nominal density of 1.02 g/cm³.

Ignis Labs was not responsible for the sampling stage. All specimens were sampled by the test sponsor. The test results apply to the specimens as received.

Pre-test Conditioning

Prior to construction, the components of the specimens were subjected to normal temperatures and humidity. The crib was conditioned in an oven with temperature of between 40 °C and 50 °C for 24 hrs.

Test Method

The test was performed in accordance with the requirements of AS 1530.8.1-2007 with the purpose of determining the performance of external construction elements when exposed to radiant heat, burning embers and burning debris. Class AA test cribs were prepared and used in this test in accordance with Clause 14.2 of AS 1530.8.1-2007. The furnace temperature and radiant panel was controlled so that the average heat flux, measured at the centre of the panel was maintained within the prescribed radiant heat flux limits in accordance with Table 14.2 of AS 1530.8.1-2007.

The radiant heat source was the furnace for pilot fire-resistance tests of AS 1530.4 which has a nominal size of 1 m x 1 m with a sheet steel closure. The testing external wall was built in accordance with Clause 11 and 15 of AS 1530.8.1-2007.

Observations

The ambient temperature of the laboratory at the commencement of the test was 30.89 °C. The test duration was 60 minutes. Specimen ignited at 45 seconds into the test. Heavy smoke was observed prior to the ignition. Charring was observed on the unexposed face above window. No opening or sustained flaming was observed on the non-fire side of the test specimen.

Test Results

Performance Criteria	Time to failure (min)	Position of failure
Formation of through-gaps greater than 3 mm	No failure	-
Sustained flaming for 10 s on the non-fire side	No failure	-
Flaming on the fire-exposed side at the end of the 60 min test period	No failure	-
Radiant heat flux 365 mm from the non-fire side exceeding 15 kW/m ²	No failure	-
Mean and maximum temperature rises greater than 140 K and 180 K	No failure	-
Radiant heat flux 250 mm from the specimen, greater than 3 kW/m ² between 20 min and 60 min	No failure	-
Mean and maximum temperature of internal faces exceeding 250 °C and 300 °C respectively between 20 min and 60 min after commencement of test	No failure	-
Extent of flaming exceeding 500 mm limits on decking boards	No failure	-
Crib class	AA	Peak heat flux
		29 kW/m ²

Conclusion

The test specimen achieves a **BAL of AA29**.

Test Supervisor

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Technical Lead

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Disclaimer This report details methods of construction, the test conditions and the results obtained when the specific element of construction described herein was tested in accordance with test method of AS 1530.8.1. Any significant variation with respect to size, constructional details, loads, stresses, edge or end conditions, other than those allowed under the field of direct application in the relevant test method, is not covered by this report. The results of this fire test 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 fire conditions. The results only relate to the behaviour of the specimen of the element of the construction under the particular conditions of the test, they are not intended to be the sole criteria for assessing the potential fire performance of the element in use nor do they necessarily reflect the actual behaviour in fires. Because of the nature of fire hazard property testing and the consequent difficulty in quantifying the uncertainty of measurement of fire hazard properties, it is not possible to provide a stated degree of accuracy of the result.

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