

# CERTIFICATE

## Material Fire Test Certificate

IGNL-6228-16C I01 R00

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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**

Scavenger Supplies Pty Ltd  
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 Unanderra NSW 2526

**TEST BODY**

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 Test body is the test location



**Specimen Name**

FRP Grating Mini – Micro mesh

**Specimen Description**

The test sponsor described the FRP Grating Mini – Micro mesh as fibreglass reinforced polymer grating, which is composed of resins, isophthalic polyester. The nominal mass per unit is 18 kg/m<sup>2</sup> and the nominal thickness is 26.29 mm. The colour of the specimen is grey. The end use of it is external boardwalks and decks. The openings have a height of 12.26 mm and a width of 12.57 mm. The specimen comprised an external wall that has two layers of 6 mm fibre cements with steel framing as per Clause 8.4.1 of AS 3959-2018 and an FRP Grating MINI – MICRO Mesh decking board. 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 C 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 × 1 m with a sheet steel closure. The external wall was built to have a rebate in the centre of the specimen with an eaves detail being 798 mm. The FRP Grating MINI – micro mesh deck was fabricated to fit the rebate of the external wall. The thermocouples on the eaves detail are 1070 mm above the ground.

**Observations**

The ambient temperature of the laboratory at the commencement of the test was 31.8 °C. The test duration was 60 minutes. Both corners of the deck rebate ignited, but no significant flame spread was observed.

**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 <sup>2</sup>	Not applicable	NA
Mean and maximum temperature rises greater than 140 K and 180 K	Not applicable	NA
Radiant heat flux 250 mm from the specimen, greater than 3 kW/m <sup>2</sup> between 20 min and 60 min	Not applicable	NA
Mean and maximum temperature of internal faces exceeding 250 °C and 300 °C respectively between 20 min and 60 min after commencement of test	20 mins	The back and side sides on the crib flame bottom of the upper surface crib
Extent of flaming exceeding 500 mm limits on decking boards	No failure	-
Crib class	C	Peak heat flux 40 kW/m <sup>2</sup>

  
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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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