



# Certificate of Test

No. 3360

This is to certify that the element of construction described below was tested by CSIRO Infrastructure Technologies in accordance with Australian Standard 1530, Methods for fire tests on building materials, components and structures, Part 4 Fire-resistance tests of elements of construction, 2014 (Section 3: Walls – Vertical Separating Elements), on behalf of:

James Hardie Australia Pty Ltd  
 10 Colquhoun Street  
 Rosehill NSW

A full description of the test specimen and the complete test results are detailed in the Division's report numbered FSV 2075.

Product Name: Load-bearing, concrete core filled Ritek 150X-Plus wall system

Description: The specimen comprised a reinforced concrete filled wall system measuring 2980-mm high x 2980 mm wide x 150 mm thick. The specimen wall comprised three Ritek 150X-Plus pre-fabricated permanent formwork panels, screw fixed together and filled with concrete after panel assembly. The 1200-mm wide Ritek 150X-Plus pre-fabricated permanent formwork panels comprised two 6 mm thick fibre cement sheets bonded using industrial strength adhesive to anodised aluminium extrusions separated with aluminium joiners at nominally 350-mm vertical centres, to form a stud assembly. The studs were equally spaced over the width of the panel at nominally 164-mm centres. The aluminium joiners incorporated galvanised steel inserts (rebar chairs) for provision of horizontal reinforcing bars, as shown in drawing numbered 19005.P01.D02, sheet 1, dated 20 January 2020, by James Hardie Research Pty Limited. The pre-fabricated wall panels were installed vertically and fastened together using 8g x 25-mm long CSK screws at nominally 600-mm vertical centres. The screws were fixed into a 1.2-m thick x 40-mm wide aluminium strip located on the inside of the panel fibre cement sheeting. A maximum vertical joint width of 2-mm was maintained between wall panel facings. The wall assembly was reinforced using N12 reinforcing bars at 350-mm centres, both horizontally and vertically prior to being filled with 32 MPa concrete. The concrete was pumped in through the top openings in 1500-mm high layers and trowelled off level when completely filled. The concrete mix comprised 10-mm coarse aggregate with a 180-mm slump measured at the time of core filling. The wall specimen was of symmetrical construction. A total load of 800 kN was applied to the specimen for the duration of the test. The load determined by the client, was applied uniformly by a steel platen acting along the top of the wall.

Performance observed in respect of the following AS 1530.4-2014 criteria:

Structural Adequacy	-	no failure at 241 minutes
Integrity	-	no failure at 241 minutes
Insulation	-	no failure at 241 minutes

and therefore for the purpose of Building Regulations in Australia, achieved a fire-resistance level (FRL) of 240/240/240.

The fire-resistance level of the wall system is applicable when the system is exposed to fire from either direction. For the purposes of AS 1530.4-2014 the results of these fire tests may be used to directly assess fire hazard, but it should be noted that a single test method will not provide a full assessment of fire hazard under all fire conditions. This certificate is provided for general information only and does not comply with regulatory requirements for evidence of compliance.

Testing Officer: Chris Wojcik

Date of Test: 20 January 2020

Issued on the 7<sup>th</sup> day of February 2020 without alterations or additions.

Brett Roddy  
 Manager, Fire Testing and Assessments

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