



# REGULATORY INFORMATION REPORT

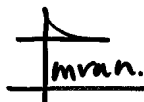

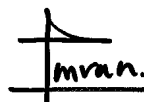
Timber-framed floor/ceiling systems incorporating various  
timber and metal web floor trusses or engineered joists  
achieving an FRL of 90/90/90

Client: Forest and Wood Products Australia

Report number: 37600400 Revision: RIR3.0 Project reference number: FAS190171

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## Amendment schedule

Previous versions of reports					
Version	Date	Description	Prepared by		Reviewed by
1	25/08/2016	Initial Issue	K. Nicholls		S. Hu
2	29/06/2017	Typographical amendment	K. Nicholls		D. Nicholson
Version	Date	Information relating to report			
RIR3.0	Issue: 18/11/2019	Reason for issue	Updated to include additional variations and extend the validity of this report for an additional five years		
			Prepared by	Reviewed by	Approved by
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Exova Warringtonfire rebranded to Warringtonfire on 1 December 2018. Apart from the change to our brand name, no other changes have occurred. The introduction of our new brand name does not affect the validity of existing documents previously issued by us.

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## 1. Introduction

This report contains the minimum information sufficient for regulatory compliance in accordance with AS 1530.4:2014 Clause 2.16.3 and refers to the assessment report 37600400 R2.0.

The referenced assessment report presents an assessment on the fire-resistance level (FRL) of timber-framed floor/ceiling systems incorporating various timber and metal web floor trusses or various engineered joists if tested in accordance with AS 1530.4:2014<sup>1</sup>.

The tested prototypes described in Section 2 of this report, when subjected to the proposed variations described in Section 3 and tested in accordance with the relevant standards described in Section 4, are assessed to achieve the performance as summarised in Section 5.

The validity of this assessment is conditional on compliance with Sections 6, 7, 8 and 9 of this report.

## 2. Tested prototypes

The referenced assessment report is based on referenced test report EWFA 36474400.2, being a test on a load bearing floor-ceiling system tested in accordance with AS 1530.4:2014. The tested floor-ceiling system consisted of various truss joists and I-joist elements protected by a ceiling system with two layers of 16mm Boral USG Firestop plasterboard. The test was sponsored by Forest and Wood Products Australia and was conducted by Warringtonfire Australia Pty Ltd (formally known as Exova Warringtonfire Aus Pty Ltd).

## 3. Variation to tested prototypes

The proposed horizontal element construction shall be as tested in EWFA 36474400.2, but optionally subject to any combination of the following variations:

1. The primary structural elements shall be varied to include one or a combination of the following elements in a floor/ceiling system:
  - Solid metal web beams - TecBeams
  - Metal Strut web beams - MiTek PosiTruss (MiTek PosiStrut) and Pryda Span Truss
  - Timber web I-joists - Wesbeam "e-Joist"
  - Floor trusses with nail plate connections - Pryda Longreach floor truss
  - Roof/floor truss configurations (on edge) with nail plate connections
  - Solid timber joists
  - Glue laminated timber and Laminated Veneer Lumber (LVL) joists - Phenolic / resorcinol adhesive
2. Depth and span of primary structural element may be increased provided it is designed in accordance with AS 1720.1:2010<sup>2</sup> by an accredited structural engineer as appropriate.
3. Width of the floor can be increased.
4. The Plasterboard shall be 2 × 16mm Boral USG Firestop or other proprietary fire-resistant plasterboard that has been tested or assessed with two 16mm layers for an FRL of 90/90/90 and Resistance to the Incipient Spread of Fire (RISF) of 60 minutes when protecting a solid timber floor system.
5. The minimum cavity depth shall be 288mm.

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<sup>1</sup> Standards Australia (2014) Methods for fire tests on building materials, components and structures Part 4: Fire resistance tests for elements of construction, AS 1530.4:2014.

<sup>2</sup> Standards Australia (2010) Timber structures Part 1: Design methods, AS 1720.1:2010.

6. Flooring shall be varied from tested 15mm thick plywood to one of the following:
  - Particleboard with minimum thickness of 18mm
  - Engineered flooring with minimum thickness of 15mm
  - Cement sheet or calcium silicate sheet with minimum thickness of 15mm
  - Plywood with minimum thickness of 15mm
  - Tongue and groove timber flooring with minimum thickness of 15mm
  - AAC panel with minimum thickness of 50mm.
  - Concrete or sand / cement screed cast over plywood or particleboard with a minimum thickness of 50mm.
7. Flooring may have one of the following additional coverings:
  - Carpet
  - Tile
  - Stone
  - Various acoustic treatments
8. The ceiling suspension systems shall be designed to support the loads expected to be applied by the ceiling and any insulation and other fixtures. The framing and support system for the ceiling battens shall include any combination of the following when installed at the maximum 600mm centres;
  - 16mm and 28mm furring channels
  - Fixing systems may include,
    - Direct fixing clips
    - Resilient mounts
      - M237R Direct Fix Furring Channel resilient mount (Studco)
      - Furring Channel resilient mount (Rondo)
      - Furring Channel resilient mount (Gyprock)
    - Upgraded resilient mounts
      - Rondo WHI Rubber Hanger Isolator (Green)
      - Rondo WHI Rubber Hanger Isolator (Red)
      - Rondo WHI Rubber Hanger Isolator (White)
      - M50R-BLK Resilient Isolation Hanger (Studco)
    - Suspended ceiling systems with cross rails
9. The floor cavity shall include the following insulation options:
  - No insulation
  - Non-combustible mineral fibre or glass wool up to maximum cavity depth
10. The floor ceiling systems shall optionally include a non-fire rated decorative false ceiling system below provided
  - The fixing method and support system via the ceiling furring channels/battens and they have been designed to support the loads at ambient conditions.
  - The false ceiling system will be supported from the fire-resistant ceiling system and shall be attached as follows
    - Direct fixing clips secured through the fire-resistant board

- Resilient mount secured through the fire-resistant board
  - Suspended ceiling systems secured through the fire-resistant board
11. The floor panels shall optionally be 75mm thick unprotected Cross Laminated Timber (CLT) or Laminated Veneer Lumber (LVL) floor panel systems with an established FRL of at least 30/30/30. The minimum cavity depth of this floor system shall be 38mm.

## 4. Referenced test standard

The referenced assessment report is prepared with reference to the requirements of AS 1530.4:2014, AS 1170.0:2002<sup>3</sup>, AS 1720.1:2010, AS 1720.4:2006<sup>4</sup> and AS 1720.5:2015<sup>5</sup>.

## 5. Formal assessment summary

On the basis of the discussion presented in the referenced assessment report, it is the opinion of this testing authority that if the tested prototype described in Section 2 had been varied as in Section 3, it will achieve the fire-resistance performance as stated below if tested in accordance with the test method referenced in Section 4 when subject to the requirements of Section 7.

**FRL** 90/90/90

**RISF** 60 minutes

## 6. Direct field of application

The results of the referenced assessment report are applicable to the floor/ceiling systems exposed to fire from below.

## 7. Requirements

The referenced assessment report details the methods of construction, test conditions and assessed results that would have been expected had the specific elements of construction described herein been tested in accordance with AS 1530.4:2014.

All services shall be supported in the manner in which they are assessed as described in Section 3. Any further variations with respect to size, constructional details, loads, stresses, edge or end conditions, other than those identified in this report, may invalidate the conclusions drawn in this report.

The data, methodologies, calculations and conclusions documented in this report specifically relate to the assessed system/s and must not be used for any other purpose.

The referenced assessment report has been prepared based on information provided by others. Warringtonfire has not verified the accuracy and/or completeness of that information and will not be responsible for any errors or omissions that may be incorporated into this report as a result.

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<sup>3</sup> Standards Australia (2002) Structural design actions Part 0: General principles, AS 1170.0:2002.

<sup>4</sup> Standards Australia (2006) Timber structures Part 4: Fire resistance for structural adequacy of timber members, AS 1720.4:2006.

<sup>5</sup> Standards Australia (2015) Timber structures Part 5: Nailplated timber roof trusses, AS 1720.5:2015.



## 8. Validity

Warringtonfire Australia does not endorse the tested or assessed product in any way. 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.

Due to the nature of fire testing and the consequent difficulty in quantifying the uncertainty of measurement, it is not possible to provide a stated degree of accuracy. The inherent variability in test procedures, materials and methods of construction, and installation may lead to variations in performance between elements of similar construction.

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 subject to constant review and improvement. It is therefore recommended that this report be reviewed on or, before, the stated expiry date.

This assessment represents our opinion about the performance likely to be demonstrated on a test in accordance with AS 1530.4:2014, based on the evidence referred to in this report.

This assessment is provided to the Forest and Wood Products Australia for its own purposes and we cannot express an opinion on whether it will be accepted by building certifiers or any other third parties for any purpose.

## 9. Authority

### 9.1 Applicant undertakings and conditions of use

By using this report as evidence of compliance or performance, the applicant(s) confirms that:

- To their knowledge the component or element of structure, which is the subject of this assessment, has not been subjected to a fire test to the standard against which this assessment is being made.
- They agree to withdraw this assessment from circulation if the component or element of structure is the subject of a fire test by a test authority in accordance with the standard against which this assessment is being made and the results are not in agreement with this assessment.
- They are not aware of any information that could adversely affect the conclusions of this assessment and – if they subsequently become aware of any such information, they agree to ask the assessing authority to withdraw the assessment.

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