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REGULATORY INFORMATION REPORT

Fire resistance of MRTFC wall floor junctions if tested in accordance with AS1530.4-2014

Client: Forest and Wood Products Australia Ltd

Job number: RIR 22567B-06 Issuing consultant: Tanmay Bhat

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Document revision status

Date Issued	Issue No	Description
10/9/2008	RIR 22567B-00	Initial Issue
28/2/2014	RIR 22567B-01	Reviewed and validity extended a further 5 years
26/06/2014	RIR 22567B-02	Change of sponsor details
22/01/2015	RIR 22567B-03	Removed the word “likely”
21/12/2015	RIR 22567B-04	Typographical amendment
01/08/2016	RIR 22567B-05	Amended referenced test sponsor details
24/12/2018	RIR 22567B-06	Revalidation in accordance with AS1530.4:2014

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1. Introduction

This report contains the minimum information sufficient for regulatory compliance in accordance with AS1530.4-2014 and refers to the Assessment Report EWFA 22567B-06.

The referenced assessment report (EWFA 22567B-06) presents an assessment of the fire resistance performance of MRTFC wall floor junctions if tested in accordance with AS1530.4-2014.

The tested systems are described in Section 2 and subject to the design variations described in Section 3 and tested in accordance with the test method described in Section 4. The conclusions of the report are summarised in Section 5.

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

2. Tested prototypes

The referenced assessment is based on a pilot - scale fire resistance test BWA 22576-01 that comprised of two timber wall specimens that incorporated a series of joist pocket details.

Reference is also made to FT149-04, which is a pilot test of Standard CD Gyprock ceiling fixed with a central screw and plasterboard adhesive.

Supplementary reference is made to IF00031, RF01038, 15312F, BGSI/5013; being tests of various floor truss ceilings.

Permission has been obtained from the sponsor of the above tests to use them in support of this assessment.

3. Variation to tested prototypes

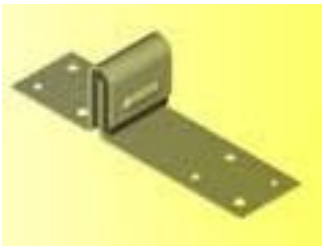
Proposed Wall Junctions for an FRL of 60/60/60

It is proposed that the wall junctions shown on Figure 1, Figure 2 and Figure 3 between non-fire rated floors and fire rated walls will not detrimentally affect the performance of the junctions as tested or, as otherwise assessed with respect to an FRL of 60/60/60. The constructions considered include floor joists and a non-fire rated ceiling lined with at least one layer of 10mm standard core plasterboard.

Table 1 – Schedule of Components

Item	Description	
1	**Name**	Solid timber floor joist
	Size	Width 35mm to 90mm (laminated)
	Installation	Joists to be installed at 600mm maximum centres and 45mmm solid blocking to be installed between joists. Joist not to be fixed to header joist. Joists shall bear on 45mm of plate.
2	**Name**	Proprietary I-Joist
	Material	Typically ply web and solid timber or engineered timber flanges
	Size	Width 35mm to 90mm.
	Installation	Joists to be installed at 600mm maximum centres and 45mmm solid blocking to be installed between joists. Joist not to be fixed to header joist.
3	**Name**	Timber Floor Truss
	Material	Typically solid timber or engineered timber flanges with timber or steel webs
	Size	Width 35mm to 90mm.

Item	Description	
	Installation	Joists to be installed at 600mm maximum centres and 45mmm solid blocking to be installed between joists. Joist not to be fixed to header joist.
4	**Name**	Ceiling Lining, minimum 1 layer standard core plasterboard.
	Size	10mm thick
	Installation	Lining may be screw, nailed and or adhesive fixed in accordance with manufacturers recommendation
5	**Name**	Header Joist
	Size	45mm thick
	Material	Solid timber
	Installation	Joist shall be continuous and shall be nailed solid timber blocking between joists as mentioned in items 1-3.
6	**Name**	Saw cut in flooring
	Installation	This can be a cut in the floor sheeting for a “platform” floor or a gap between a strip of flooring fixed over the wall and the adjacent floor sheeting.
7	**Name**	Gap between floor joist and header joist equal to the thickness of the flooring.
	Size	15mm to 23mm
8	**Name**	“Fire Cut”
	Size	The depth of the fire cut shall be as follows 300mm and deeper = 0mm 200mm to 290mm = 5mm 125mm to 190mm = 10mm 90mm to 120mm = 15mm
9	**Name**	Header Beam
	Material	Solid timber 45mm thick
	Installation	The header beam shall be designed to support the top chord of the floor trusses. It shall be nailed, screwed or bolted to the wall frame. It shall be positioned such that its lower edge in is line with fire rated wall linings.
10	**Name**	Plasterers angle
	Material	0.42mm galvanised steel angle
	Installation	Install abutting the header beam (item 9) and behind the top edge of the fire rated plasterboard sheeting.
11	**Name**	Wall Lining, as required for an FRL of 60/60/60 on timber frame
	Size	Typically 16mm thick
	Material	Fire Grade plasterboard
12	**Name**	Fire Grade Sealant
	Installation	Fill gaps at base of sheet
13	**Name**	Particleboard or plywood flooring
	Material	15mm minimum and 23mm maximum
	Installation	In accordance with manufacturers specification
14	**Name**	Nogging
	Material	Solid timber 45mm thick
	Installation	The nogging shall be positioned to support the top of the wall linings and shall overlap the header
15	**Name**	Framing Tie

Item	Description		
	Material	Galvanised steel framing tie	
	Installation	The framing ties shall be positioned at a minimum of 1200mm centres and fixed with at least two 8g x 30mm self drilling screws or two 2.8mm x 30mm clouts.	

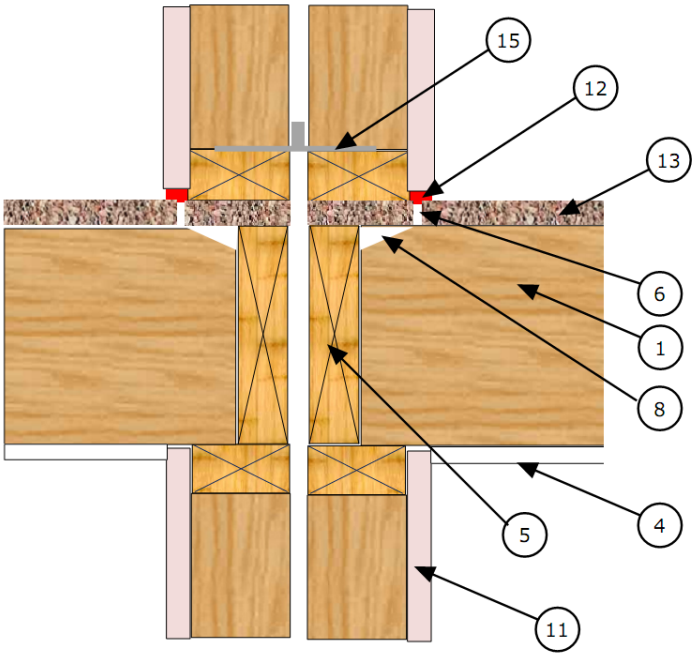


Figure 1 – Solid joist with fire cut

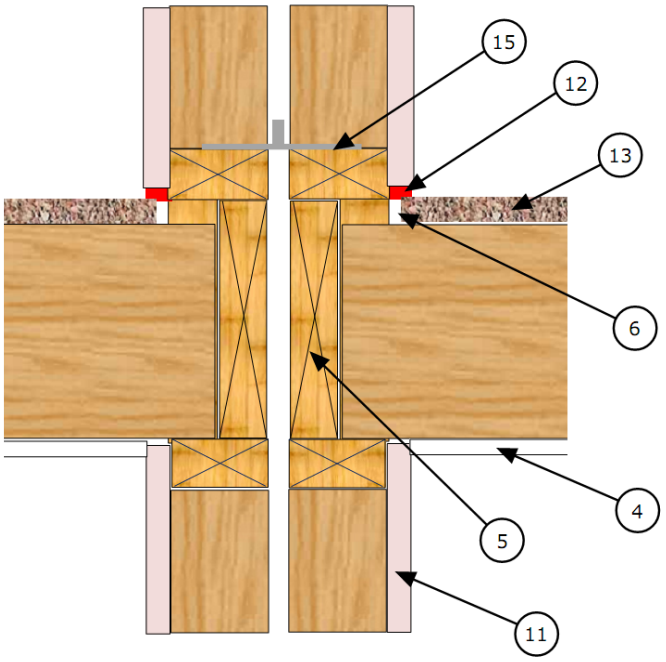


Figure 2 – Solid joists, higher perimeter joist

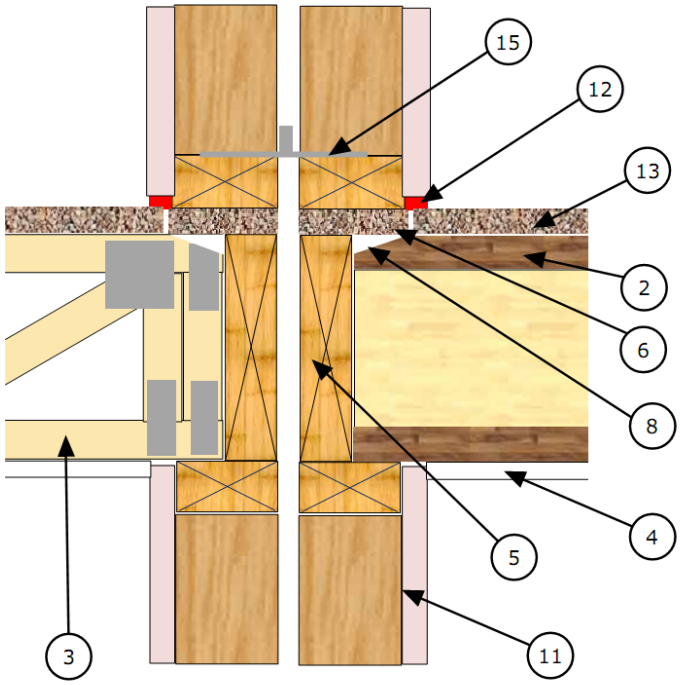


Figure 3 – I-joist and floor truss with fire cut

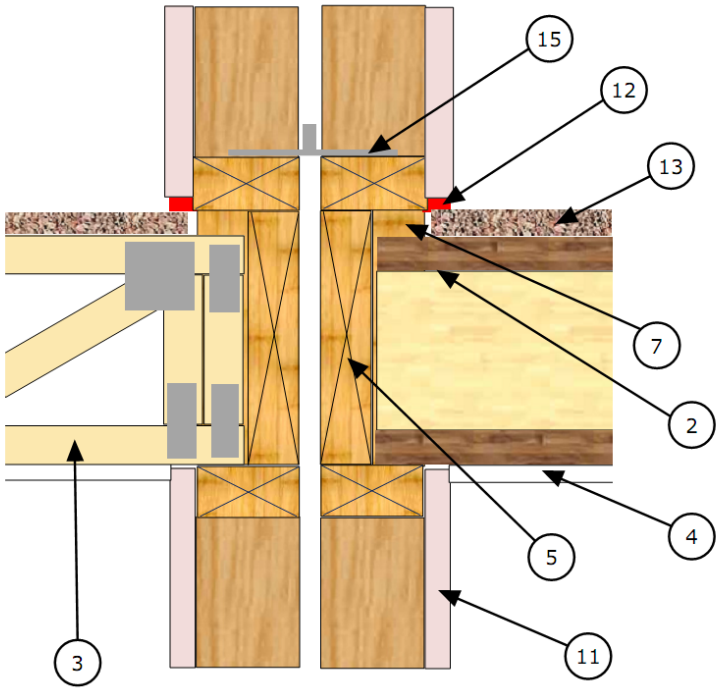


Figure 4 – I-joist and floor truss, higher perimeter joist

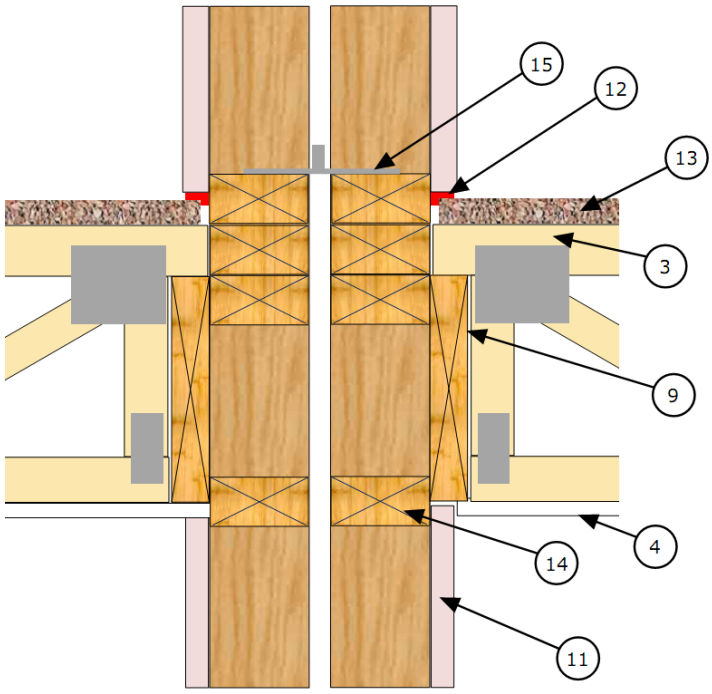


Figure 5 – Floor Truss, double plate and nogging supporting lining

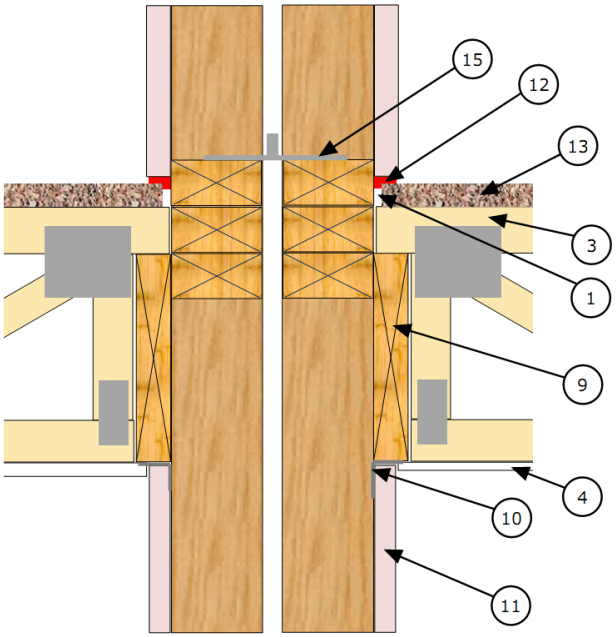


Figure 6 – Floor Truss, double plate and plasters angle supporting lining

4. Referenced test standard

The referenced assessment report is prepared with reference to the requirements of AS1530.4:2014.

5. Formal assessment summary

Based on 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 modified within the scope of Section 3, it will achieve the fire resistance level (FRL) as stated below if tested in accordance with the method referenced in Section 4 and subject to the requirements of Section 7.

FRL : 60/60/60

6. Direct field of application

The application of the results of the referenced assessment report is to load-bearing walls resisting fire from either direction. The results of the referenced assessment are applicable to structures that support independent structures above and require support from each timber frame for the duration of the FRL period.

7. Requirements

The referenced 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.

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.

8. Validity

The referenced assessment report does not provide an endorsement by Warringtonfire Aus Pty Ltd of the actual products supplied.

The conclusions of the referenced 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.

Because of 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.

The referenced assessment can therefore only relate only to the actual prototype test specimens, testing conditions, and methodology described in the supporting data, and does not imply any performance abilities of constructions of subsequent manufacture.

The referenced 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 the subject of constant review and improvement and it is recommended that this report be reviewed on or, before, the stated expiry date.

The information contained in this report shall not be used for the assessment of variations other than those stated in the conclusions above. The assessment is valid provided no modifications are made to the systems detailed in this report. All details of construction should be consistent with the requirements stated in the relevant test reports and all referenced documents.

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, and
- They agree to withdraw this assessment from circulation should the component or element of structure be 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, and
- 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, agree to ask the assessing authority to withdraw the assessment.

9.2 General conditions of use

9.3 Authorisation on behalf of Warringtonfire Aus Pty ltd

Prepared by:	Reviewed by:
	
Tanmay Bhat	Rami Al Darwish

9.4 Date of issue

24 December 2018

9.5 Expiry date

31 December 2023