REGULATORY INFORMATION REPORT

An assessment of the fire resistance performance of 51mm, 64mm and 78mm thick vertically orientated Speedpanel wall systems if tested in accordance with AS1530.4-2005

EWFA Report No:

RIR 28928-03

Report Sponsor:

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Testing. Advising. Assuring.

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1 INTRODUCTION

This report contains the minimum information sufficient for regulatory compliance and refers to the Assessment report EWFA 28928-03.

The referenced report presents an assessment of the fire resistance performance of 51mm, 64mm and 78mm thick vertically orientated Speedpanel wall systems if tested in accordance with AS1530.4-2005.

The tested systems are described in Section 2 and are to be 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 referenced report are summarised in Section 5.

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

Summaries of the test data on which the referenced assessment is based are provided in the Appendices together with a summary of the critical issues leading to the referenced assessment conclusions including the main points of argument.

2 TESTED PROTOTYPES

The referenced assessment makes reference to BWA 2286900.5, EWFA 2848300.2 and EWFA 2736002.1 being tests of Speedpanel wall systems tested in accordance with AS1530.4-2005.

BWA 2286900.5 comprised a test of a vertically orientated 78mm thick Speedpanel wall system 3m x 3m in size. The wall was loaded to simulate a wall of increased height. The test was conducted by Exova Warringtonfire and sponsored by Speedpanel Vic Pty Ltd.

EWFA 2848300.2 comprised a test of a vertically orientated 64mm thick Speedpanel wall system 3m × 3m in size. The test was conducted by Exova Warringtonfire and sponsored by Speedpanel Vic Pty Ltd.

EWFA 2736002.1 comprised a test of a vertically orientated 51mm thick Speedpanel wall system 3m × 3m in size. The test was conducted by Exova Warringtonfire and sponsored by Speedpanel Vic Pty Ltd.

The referenced assessment makes reference to test EWFA 2798800.1, 2736000, EWFA 2741700 and FR 3754. The tests were conducted by Exova Warringtonfire Aus Pty Ltd and BRANZ and were sponsored by Speedpanel Vic Pty Ltd and Speedwall New Zealand Ltd respectively.

The referenced assessment makes reference to test EWFA 29942200.1 comprised a test of a vertical orientated 78mm thick Speedpanel wall system incorporating various services protected with various systems with Sika Firerate-PU sealant. The test was conducted by Exova Warringtonfire Aus Pty Ltd and was sponsored by Sika Australia Pty Ltd.

The referenced assessment also makes reference to test TE 93878. The test was conducted by BRE and was sponsored by Cafco Europe Group SA.

Permission has been granted by Cafco Europe Group SA for referencing the test report TE 93878.

Permission has been granted by Sika Australia Pty Ltd for referencing the test report EWFA 2994200.1.

Refer to Appendix A for a detailed summary of the reference test data.

3 VARIATION TO TESTED PROTOTYPES

The proposed construction is made 51mm, 64mm and 78mm thick vertically orientated Speedpanel as tested in BWA 2286900.5, EWFA 2848300.2 and EWFA 2736002.1 respectively with consideration given to the following variations:

- Walls shall be up to 5m high depending on design and the general arrangement is shown in figure 1.
- Head details fixed to concrete slab shall be as shown in figures 2-13.
- Head detail fixed to steel structure shall be as shown in figure 22.
- Wall Edge details shall be as shown in figures 14-19.
- Wall Base details shall be as shown in figures 20-21.
- The sealant product at side and bottom tracks can be optionally Hilti CP 606 Flexible firestop sealant or Sika Firerate – PU sealant
- Refer to Table 1 and Figure 1 through 22 for a summary of the proposed construction.

Table 1 – Schedule of Components for Continuous Speedpanel Walls

ID	Item	Description
1	Wall Panel	78mm thick Speedpanel panels as tested in BWA 2286900.5 *or* 64mm thick Speedpanel panels as tested in EWFA 2848300.2 *or* 51mm thick Speedpanel panels as tested in EWFA 2736002.1
2	Top Track	Minimum 50mm (legs) x 1.2mm or 1.15mm C track (width to suit panel) Fixed to support structure with track fixings (item 4) and fixed to the Speedpanel panel (Item 1) with 10 gauge × 30mm long self-drilling screws at 500mm centres.
3	Side and Bottom Track	Minimum 50mm (legs) x 1.2mm or 1.15mm C track (width to suit panel) Fixed to support structure with track fixings (item 4) and fixed to the Speedpanel panel (Item 1) with 10 gauge × 30mm long self-drilling screws at 500mm centres.
4	Track Fixing	Mechanical fixing of track to surround minimum 5mm steel bolt at 500mm maximum centres and shall be in accordance with project engineer's specification and at least 40mm embedment.
5	Plaster Strip	One layer of 13mm fire grade plasterboard 120mm wide fixed on one side of the top track or steel angle depending on designs. Refer to figures 6 to 11 and 13. The plasterboard strip fixed to Speedpanel by using 6g × 40mm Bugle head, Fine Thread, Self-drilling screws in two rows and staggered at 200mm centres.
6	Flashing	0.7mm BMT × 130mm wide galvanised steel flashing screw fixed into head track (or steel angle) and panel at head track at 250mm centres on one side or both sides depending on designs. Fixing details as per test EWFA 2741700.1.
7	Steel Angle	50mm × 50mm × 1.15mm BMT angle Folded to suit inclined angle of Speedpanel (Θ), fixed to Speedpanel panel (Item 1) by using 10 gauge × 30mm SDS screw at 250mm centres and fixed to the concrete slab by using M6.5 × 38mm mushroom head spike at 400mm centres.
8	Sealant	CP 606 Flexible firestop sealant or Sika Firerate – PU sealant Used to seal all gaps between side and bottom tracks and panels.

ID	Item	Description
9	Panel Fixing	10 gauge × 16mm self-drilling screw Speedpanel panels screwed together at vertical joints with fixing screws at 1000mm centres at one side of the panel
10	Sealant	Hilti CP 606 Flexible firestop sealant Used to seal all gaps between top tracks and panels, between flashing and panels, between plasterboard strip and panels and between angle and panels at wall head.
11	Head Protection	Promat CAFCO® 300 vermiculite gypsum based wet mix spray Spray over the steel structure, the flange of top track and the interface of the track and Speedpanel panels on each side with a minimum thickness of 20mm for 51mm and 64mm wall systems and 25mm for 78mm wall systems.

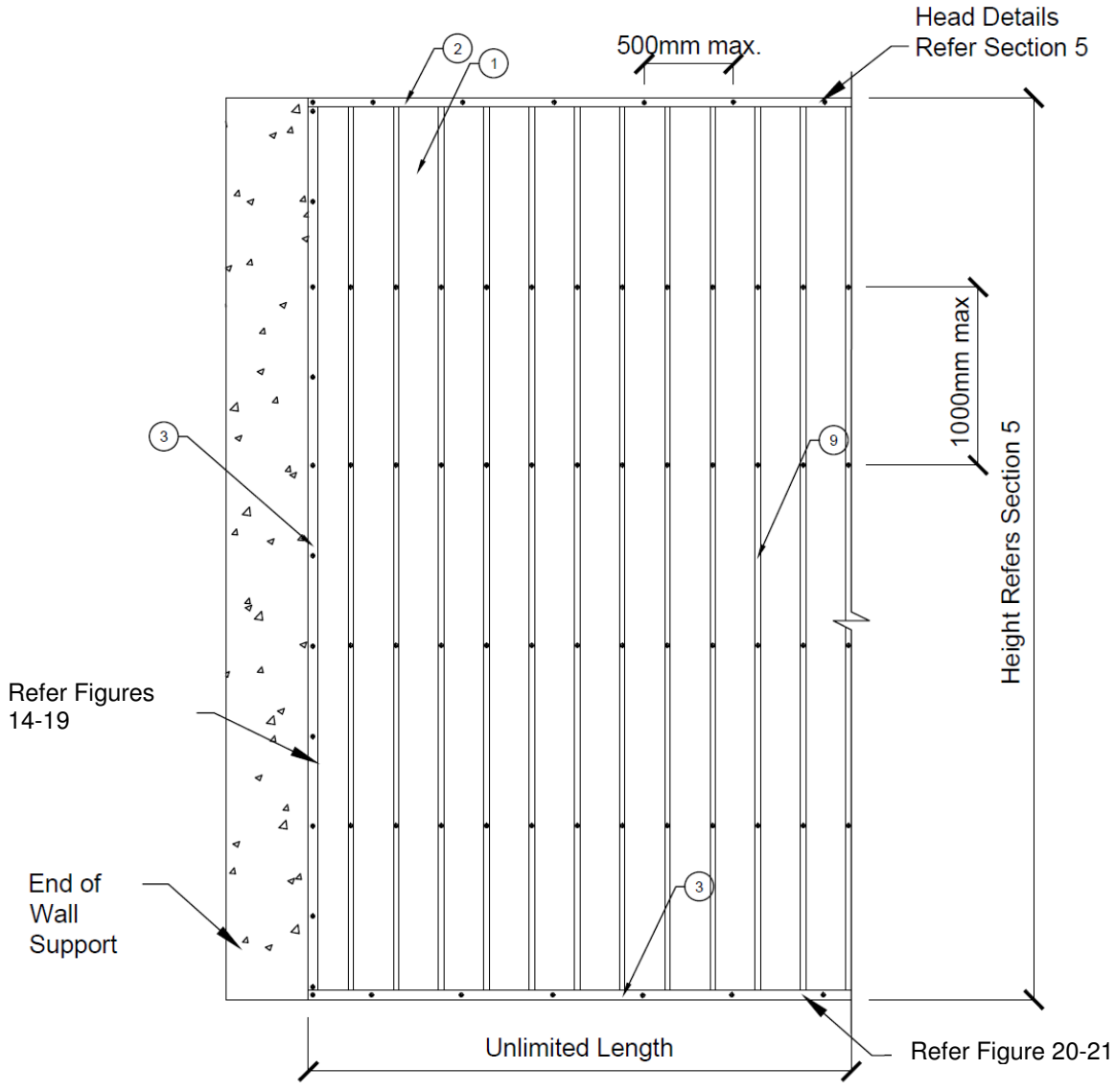

Figure 1 – Typical Elevation of Wall

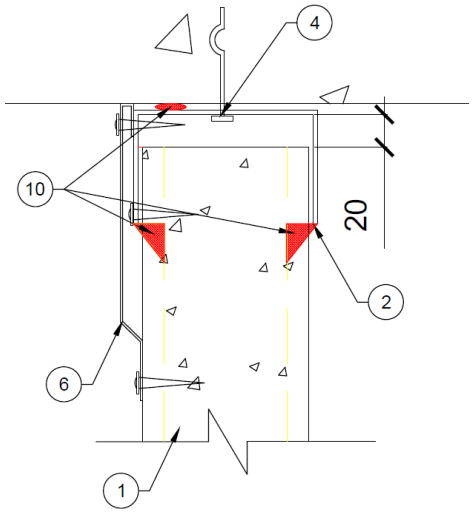

Figure 2 – Head Detail Option (Lateral Support only)

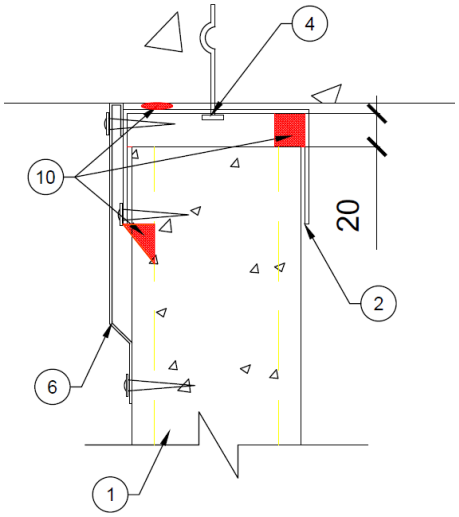

Figure 3 – Head Detail Option Lateral Support only)

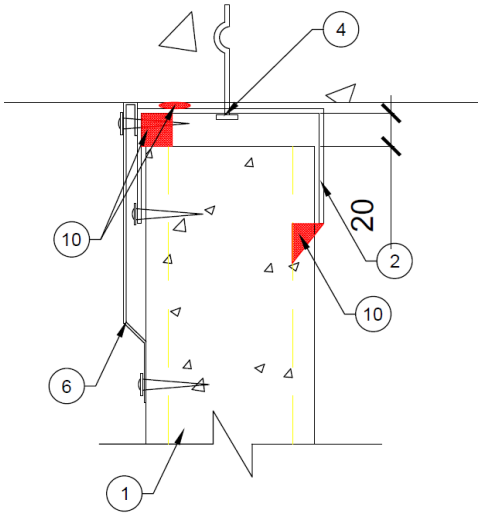

Figure 4 – Head Detail Option (Lateral Support only)

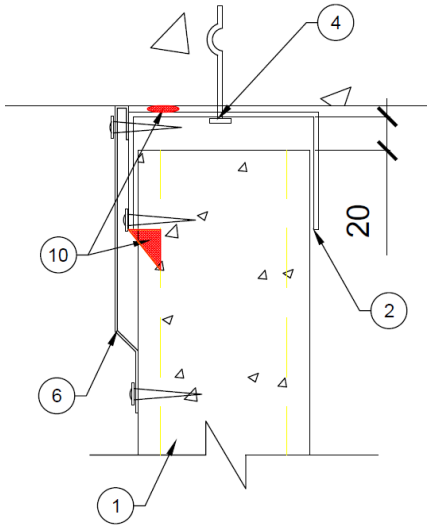

Figure 5 – Head Detail Option Lateral Support only)

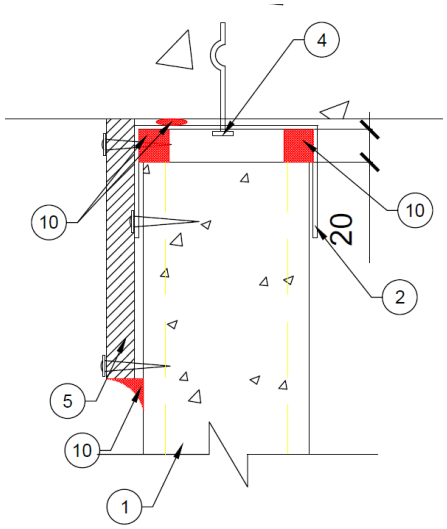

Figure 6 – Head Detail Option (Lateral Support only)

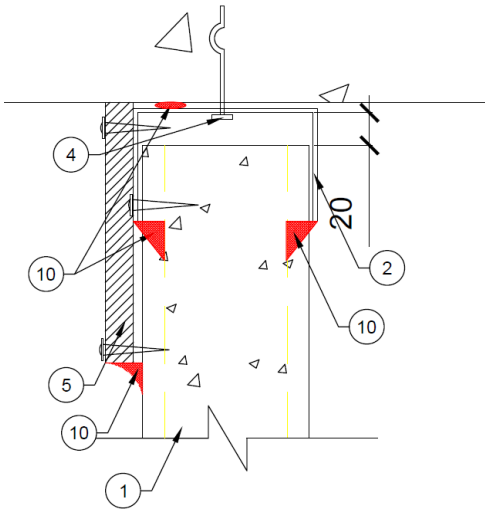

Figure 7 – Head Detail Option Lateral Support only)

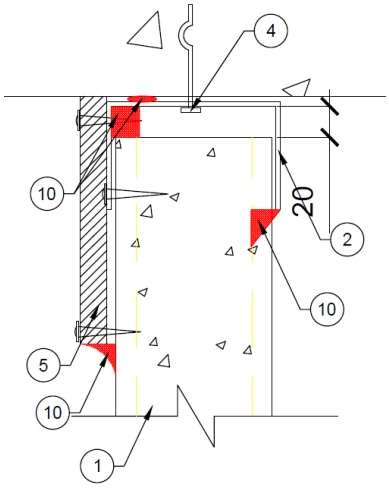

Figure 8 – Head Detail Option (Lateral Support only)

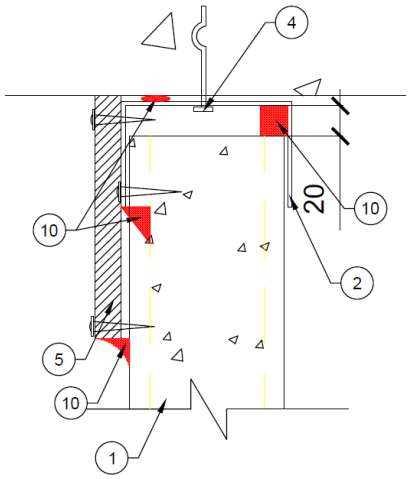

Figure 9 – Head Detail Option Lateral Support only)

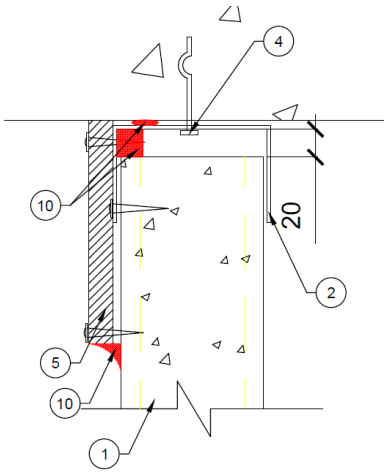

Figure 10–Head Detail Option (Lateral Support only)

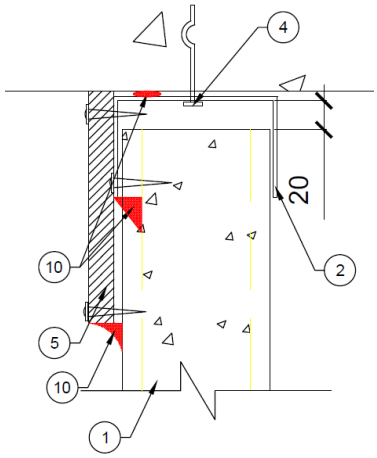

Figure 11 – Head Detail Option Lateral Support only)

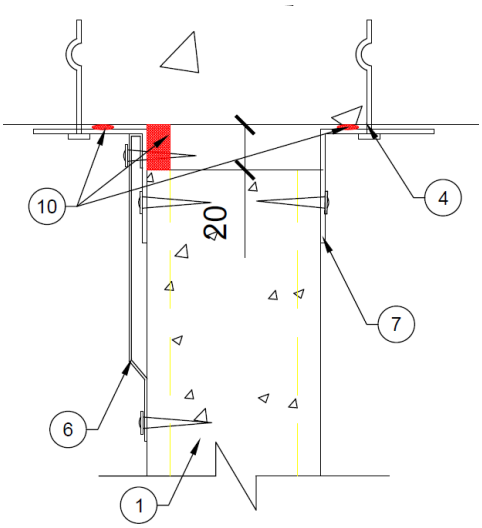

Figure 12–Head Detail Option (Lateral and Vertical Support)

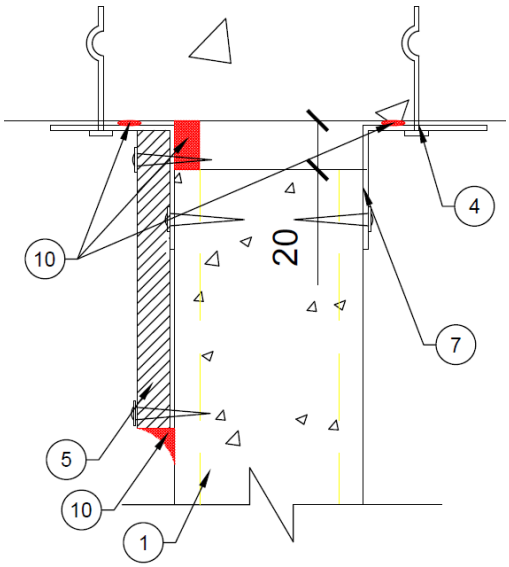

Figure 13–Head Detail Option (Lateral and Vertical Support)

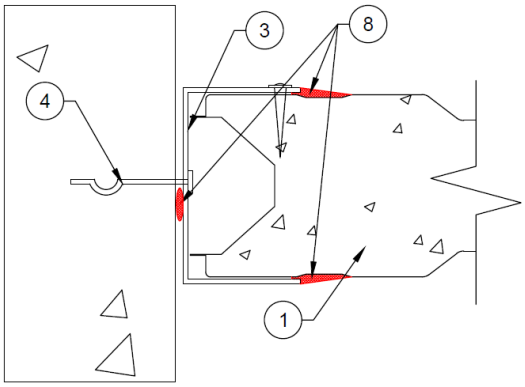

Figure 14 - Female Panel End Option

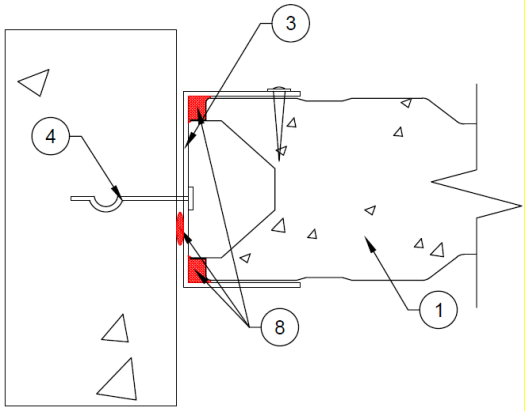

Figure 15 - Female Panel End Option

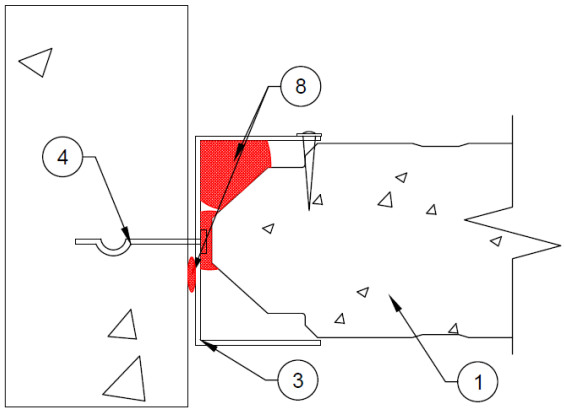

Figure 16 - Male Panel End Option

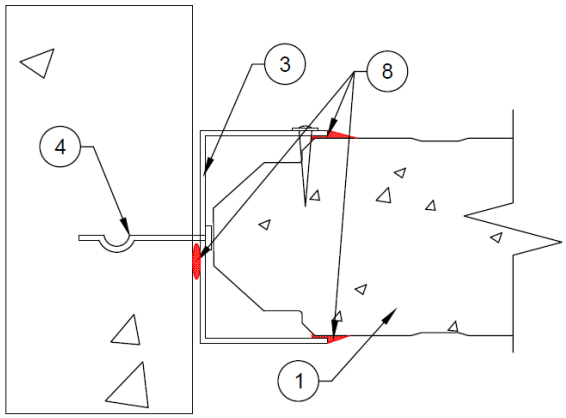

Figure 17 - Male Panel End Option

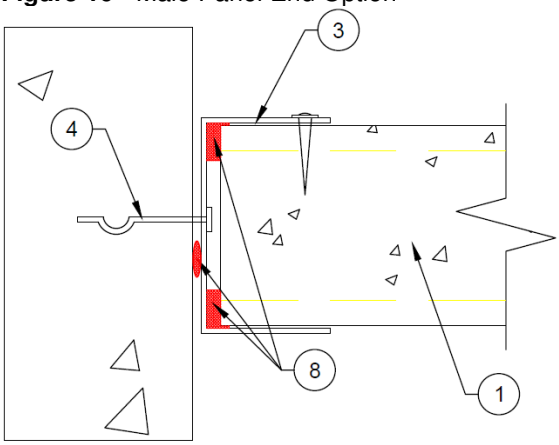

Figure 18 – Side Track Option

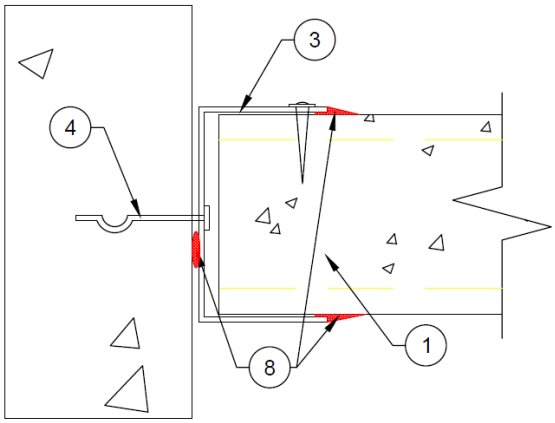

Figure 19 – Side Track Option

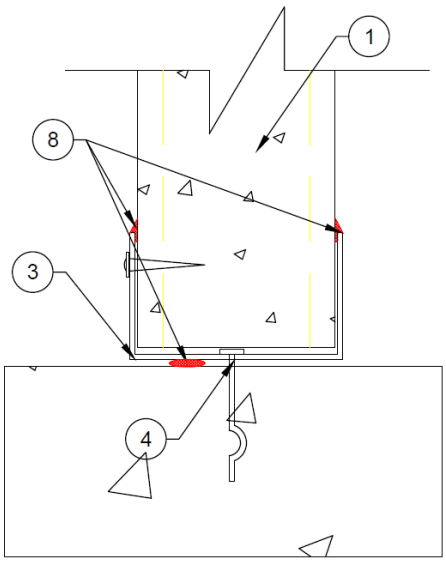

Figure 20 – Bottom Track Option

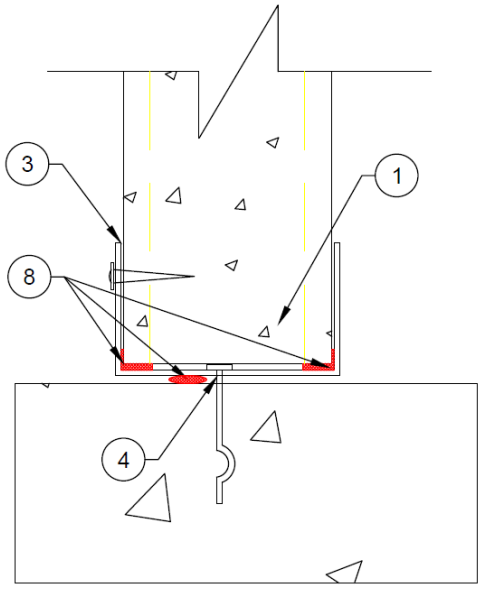

Figure 21 – Bottom Track Option

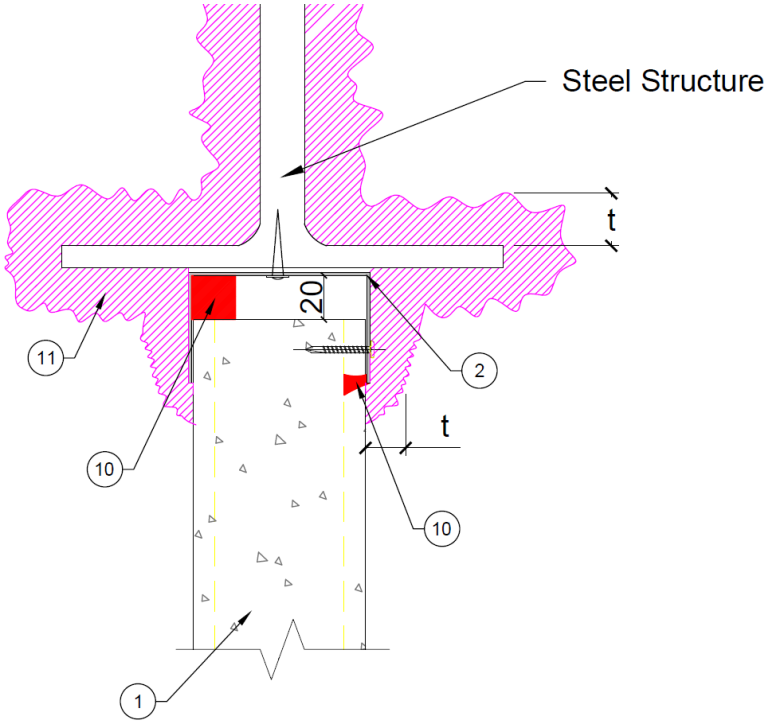

Figure 22 – Head Detail connected to Steel Structure

4 REFERENCED TEST PROCEDURES

The referenced report is prepared with reference to the requirements of AS 1530.4-2005

5 FORMAL ASSESSMENT SUMMARY

Based on the discussion presented in the referenced report, it is the opinion of this registered testing authority that if the tested prototype described in Section 2 had been modified as described in Section 3, it will achieve the FRL as stated below if tested in accordance with the method referenced in Section 4 and subject to the requirements of Section 7.

Table 2 –Speedpanel Wall Systems connected to Concrete Slab at Head

Wall Thickness (mm)	Max. Wall Height	Head Detail connected to Concrete slab	Base Detail	Side Detail	Fixing	FRL
51	5m	Refer Figure 2-13	Refer Figure 20-21	Refer Figure 14-19	Fixings are fixed to one side of the panels at 1000mm centres. Refer Figure 1	**-/60/60**
64	5m	Refer Figure 2-13				**-/90/90**
78	5m	Refer Figure 2-13				**-/120/120**

Table 3 –Speedpanel Wall Systems connected to Steel Structure at Head

Wall Thick-ness (mm)	Max. Wall Height	Head Detail connected to Steel Structure	Thickness of Spray protection	Base Detail	Side Detail	Fixing	FRL
51	5m	Refer Figure 22	20mm	Refer Figure 20-21	Refer Figure 14-19	Fixings are fixed to one side of the panels at 1000mm centres. Refer Figure 1	**-/60/60**
64	5m	Refer Figure 22	20mm				**-/90/90**
78	5m	Refer Figure 22	25mm				**-/120/120**

6 DIRECT FIELD OF APPLICATION

The application of the results of the referenced assessment is to walls of unlimited length exposed to the effects of fire from one side or either direction based on design.

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 1530.4-2005.

It is required that the lateral load capacity of the head track and base track be verified by the design engineer for the lateral load capacity under ambient loading conditions.

It is required the support construction above and below the wall be capable of providing adequate vertical and lateral support for the FRL period.

It is required the steel structure above the wall shall be protected with vermiculite spray be providing adequate support for the FRL period.

Any further variations with respect to size, constructional details, loads, stresses, edge or end conditions, other than those identified in the referenced report, may invalidate the conclusions drawn in this report.

8 VALIDITY

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

The conclusions of the referenced assessment may be used to directly assess the fire resistance performance under such conditions, but it should be recognised that a single test method will not provide a full assessment of the fire hazard under all fire conditions.

Because of the nature of fire resistance 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. 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 the subject of constant review and improvement and it is recommended that the referenced report be reviewed on or, before, the stated expiry date.

The information contained in the referenced 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 the referenced 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

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9.3 AUTHORISATION ON BEHALF OF EXOVA WARRINGTONFIRE AUS PTY LTD

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Reviewed by:

K. G. Nicholls

9.4 DATE OF ISSUE

02/02/2015

9.5 EXPIRY DATE

30/11/2018