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Fire assessment report

Stramit Uniguard wall system in accordance with Appendix B7 of AS 1530.4:2014

Sponsor: Promat Australia Pty Ltd

Report number: FAS220247-B Revision: R1.0

Issued date: 18 November 2022 Expiry date: 30 November 2027

Quality management

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R1.0	Issue: 18 Nov 2022	Reason for issue	Initial issue		
	Expiry: 30 Nov 2027		**Prepared by**	**Reviewed by**	**Authorised by**
		Name	Kimal Wasalathilake	Omar Saad	Mahmoud Akl
		Signature			

Executive summary

This report documents the findings of the assessment undertaken to determine the expected fire performance of the Promat Stramit Uniguard external wall system in general accordance with Appendix B7 of AS 1530.4:2014.

The referenced fire test, WFRA 40981A, was conducted in general accordance with AS 1530.4:1997. This assessment establishes the relevance of the test results with respect to Appendix B7 of AS 1530.4:2014 for elements exposed to radiant heat.

The analysis in sections 5 to 6 of this report found that the proposed systems, together with the described variations shown in Table 1, would not impair the performance of the tested prototype in WFRA 40981A in general accordance with Appendix B7 of AS 1530.4:2014.

The variations and outcome of this assessment are subject to the limitations and requirements described in sections 2, 3 and 7 of this report. The results of this report are valid until 30 November 2027.

Table 1 Variations and assessment outcome

Item	Reference test	Description	Variations
Fixings	WFRA 40981A	The steel cladding was screw-fixed through the Promina 60 board into horizontal steel girts.	Incorporate 12.5 mm deep galvanised battens over Promina 60 board and under steel cladding.
Steel cladding		The tested specimen consisted of 0.42 mm thick and 762 mm ± 4 mm wide Stramit Monoclad steel sheeting panels.	Use of various steel cladding profiles.
Structural steel famed profile		The structural component of the wall was made up of Stramit C150-12 girts.	Replace Stramit C150-12 girts with various structural profiles.
Perimeter details		Stramit Monoclad steel sheeting panels were installed on the Promina 60 board via steel girls with 1 flute overlap on the exposed face.	Variations to perimeter details of the wall. • Galvanised metal flashings at the base of the wall • Metal trim profiles for the corner detail • Mineral wool inserted into gaps created in the cladding profile at the top of the wall

Contents

1. Introduction

This report documents the findings of the assessment undertaken to determine the expected fire performance of the Promat Stramit Uniguard external wall system when exposed to radiant heat in general accordance with Appendix B7 of AS 1530.4:2014[1].

This report may be used as evidence of suitability in accordance with the requirements of the relevant National Construction Code (NCC) to support the use of the material, product, form of construction or design as given within the scope of this assessment report. It also references test evidence for meeting the deemed to satisfy (DTS) provisions of the NCC that apply to the assessed systems.

This assessment was carried out at the request of Promat Australia Pty Ltd.

The sponsor details are included in Table 2.

Table 2 Sponsor details

Sponsor	Address
Promat Australia Pty Ltd	1 Scotland Road Mile End SA 5031 Australia

2. Framework for the assessment

2.1 Assessment approach

An assessment is an opinion about the expected performance of a component or element of structure subjected to a fire test.

No specific framework, methodology, standard or guidance documents exists in Australia for undertaking these assessments. We have therefore followed the 'Guide to undertaking technical assessments of the fire performance of construction products based on fire test evidence' prepared by the Passive Fire Protection Forum (PFPF) in the UK in 2021[2].

This guide provides a framework for undertaking assessments in the absence of specific fire test results. Some areas where assessments may be offered are:

- Where a modification is made to a construction which has already been tested
- The interpolation or extrapolation of results of a series of fire resistance tests, or utilisation of a series of fire test results to evaluate a range of variables in a construction design or a product
- Where, for various reasons – eg size or configuration – it is not possible to subject a construction or a product to a fire test.

Assessments can vary from relatively simple judgements on small changes to a product or construction through to detailed and often complex engineering assessments of large or sophisticated constructions.

This assessment uses established empirical methods and our experience of fire testing similar products to extend the scope of application by determining the limits for the design based on the tested constructions and performances obtained. The assessment is an evaluation of the potential fire performance of the elements in accordance with AS 1530.4:2014 Appendix B7.

This assessment has been written using appropriate test evidence generated at accredited laboratories to the relevant test standard. The supporting test evidence has been deemed appropriate to support the manufacturer's stated design.

[1] 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, Standards Australia, NSW.
[2] Passive Fire Protection Forum (PFPF), 2021, Guide to undertaking technical assessments of the fire performance of construction products based on fire test evidence, Passive Fire Protection Forum (PFPF), UK.

2.2 Compliance with the National Construction Code

This assessment report has been prepared to meet the evidence of suitability requirements of the NCC 2019, including amendments[3] under A5.2 (1) (d).

This assessment has been written in accordance with the general principles outlined in EN 15725:2010[4] for extended application reports on the fire performance of construction products and building elements.

This assessment report may also be used to demonstrate compliance with the requirements for evidence of suitability under NCC 2016, including amendments[5].

2.3 Declaration

The 'Guide to undertaking technical assessments of the fire performance of construction products based on fire test evidence' prepared by the PFPF in the UK requires a declaration from the client. By accepting our fee proposal on 4 August 2022, Promat Australia Pty Ltd confirmed that:

- To their knowledge, the variations to 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.

3. Limitations of this assessment

- The scope of this report is limited to an assessment of the variations to the tested systems described in section 4.3.
- This report details the methods of construction, test conditions and assessed results expected in accordance with AS 1530.4:2014 Appendix B7.
- This assessment is applicable to elements exposed to radiant heat in accordance with the requirements of AS 1530.4:2014 Appendix B7 and exposure conditions as outlined in table B7.4.4.
- This assessment is applicable to external wall systems when exposed to radiant heat from the tested direction.
- The results are only applicable to external wall systems provided the structural steel elements of the wall have been designed by a professional structural engineer in accordance with AS/NZS 4600:2018[6] considering all design load combinations at ambient and elevated temperatures.
- Since the maximum measured steel temperature from the test (WFRA 40981A) was 400 °C, the limiting temperature of the design structure must not exceed 400 °C.
- This report is only valid for the assessed system/s and must not be used for any other purpose. Any changes with respect to size, construction details, loads, stresses, edge or end conditions – other than those identified in this report – may invalidate the findings of this assessment. If there are changes to the system, a reassessment will need to be done by an

[3] National Construction Code Volumes One and Two - Building Code of Australia 2019 including Amendments, Australian Building Codes Board, Australia
[4] European Committee for Standardization, 2010, Extended application reports on the fire performance of construction products and building elements, EN 15725:2010, European Committee for Standardization, Brussels, Belgium.
[5] National Construction Code Volumes One and Two - Building Code of Australia 2016 including Amendments, Australian Building Codes Board, Australia
[6] Standards Australia, 2018, Cold-formed steel structures, AS/NZS 4600:2018, Standards Australia, NSW.

Accredited Testing Laboratory (ATL) that is accredited to the same nominated standards of this report.

- The documentation that forms the basis for this report is listed in Appendix A.
- This 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.
- This assessment is based on the proposed systems being constructed under comprehensive quality control practices and following appropriate industry regulations and Australian Standards on quality of materials, design of structures, guidance on workmanship and expert handling, placing and finishing of the products on site. These variables are beyond the control and consideration of this report.

4. Description of the specimen and variations

4.1 Description of assessed system

The tested wall system consists of a 15 mm thick Promina 60 board overlaid with a steel cladding on the exposed face. The panel boards were nominally 1220 mm × 2440 mm × 15 mm and butt-jointed without treatment. The steel cladding panels were nominally 0.42 mm thick and 762 mm ± 4 mm wide. They were screw-fixed through the Promina 60 board into horizontal steel girts (C150-12) and installed with 1 flute overlap on the exposed face.

The specific variations of the proposed external wall system are described in Section 4.3.

4.2 Referenced test data

The assessment of the variation to the tested system and the determination of the expected performance are based on the results of the fire test documented in the report summarised in Table 3. Further details of the tested system are included in Appendix A.

Table 3 Referenced test data

Report number	Test sponsor	Test date	Testing authority
WFRA 40981A	Promat Australia Pty Ltd	6 December 2002	Warrington Fire Research (Aust) Pty Ltd.

4.3 Variations to the tested system

The tested system and variations to those tested system/s – together with the referenced standard fire test – are described in Table 4.

Table 4 Variations to tested system

Item	Reference test	Description	Variations
Fixings	WFRA 40981A	The steel cladding was screw-fixed through the Promina 60 board into horizontal steel girts.	Incorporate 12.5 mm deep galvanised battens over Promina 60 board and under steel cladding.
Steel cladding		The tested specimen consisted of 0.42 mm thick and 762 mm ± 4 mm wide Stramit Monoclad steel sheeting panels.	Use of various steel cladding profiles.
Structural steel famed profile		The structural component of the wall was made up of Stramit C150-12 girts.	Replace Stramit C150-12 girts with various structural profiles.
Perimeter details		Stramit Monoclad steel sheeting panels were installed on the Promina 60 board via steel girls with 1 flute overlap on the exposed face.	Variations to perimeter details of the wall. • Galvanised metal flashings at the base of the wall

Item	Reference test	Description	Variations
			• Metal trim profiles for the corner detail • Mineral wool inserted into gaps created in the cladding profile at the top of the wall

4.4 Assessment standard

AS 1530.4:2014 sets out the procedure for conducting fire resistance tests on building materials, components and structures.

Appendix B7 of this standard sets out the test procedure for elements exposed to radiant heat. Typical examples of the application of Appendix B7 would be external walls to buildings close to fire source features, screened openings and the external facades of buildings exposed to bushfires where vegetation has been cleared around the perimeter of a building reducing the potential for direct flame impingement.

The NCC verification methods CV1 and CV2 recognize such an approach by specifying that openings in external walls be able to resist nominated radiant heat fluxes depending upon the proximity to a fire source feature.

Appendix B7 provides means of generating data in a consistent manner in order to assess the performance of elements of construction exposed to radiant heat, which could be used in part to assess compliance with CV1 and CV2.

5. Relevance of AS 1530.4:1997 with respect to AS 1530.4:2014

5.1 Description of variation

The reference test WFRA 40981A was performed following the general principles of AS 1530.4:1997[7] except that the specimen was exposed to a radiant panel heat source in lieu of a furnace exposure, and additional observations were taken to provide data for assessment against CV1 of the Building Code of Australia, 1996. It has been proposed to assess the performance of the tested system in general accordance with Appendix B7 of AS 1530.4:2014.

5.2 Methodology

Table 5 Method of assessment

Assessment method	
Level of complexity	Basic assessment
Type of assessment	Qualitative and comparative

5.3 Assessment

Appendix B7 of AS 1530.4:2014 defines a method for carrying out a fire resistance test on elements exposed to different levels of radiant heat using a 3 m × 3 m furnace. The test may be used to obtain data to assess the performance of external walls using verification methods such as CV1 and CV2 of the NCC.

Elements of construction exposed to remote external fires will be subjected predominately to radiant heat rather than convective heat if the flame/plume does not impinge on the element, and, therefore, it is more appropriate in some instances to subject external elements of construction to radiant heat when evaluating their resistance to fire spread rather than rely on exposure to furnace conditions.

The test protocol and subsequent testing of the prototype, as reported in test report WFRA40981A, were undertaken before the release of AS 1530.4:2014. AS 1530.4:2014 includes additional protocols in Appendix B that address alternative test procedures for elements of construction considering specific radiant heat exposure conditions as well as temperature heating regimes.

General description of the test apparatus

The test apparatus specified in Appendix B7 of AS 1530.4:2014 is to comprise the following:

- A fire resistance furnace with a sheet steel closure or equivalent forming a radiant heat source of least 3 m × 3 m. If the plate extends beyond the furnace enclosure, the external face is to be insulated by a 25 mm thick ceramic fibre blanket. The steel sheet is to be stiffened to prevent excessive distortion.
- An insulated test frame to house a representative section of wall at least 3 m × 3 m constructed in accordance with Section 3 of AS 1530.4:2014, but with a central mounting provided for a radiometer to measure the incident radiation at approximately the centre of the specimen.
- Shielding panels to prevent exposure of personnel to radiant heat.

In the reference test WFRA40981A, the radiation panel measured 3 m × 3 m and was constructed from 4 square steel sub-panels. Each sub-panel consisted of a 2 mm mild steel plate framed by 75 × 50 × 3 mm RHS on each side. The steel plate was stitch-welded to the inside of the RHS frame. The sub-panels were held together with snug-fitted 10 mm diameter steel bolts.

[7] Standards Australia, 1997, Methods for fire tests on building materials, components and structures – Part 4: Fire-resistance tests of elements of building construction, AS 1530.4:1997, Standards Australia, NSW.

The radiation panel was supported by 100 mm × 10 mm section plates along its centre and the two top ends. One end was welded to the RHS frame, and the other was hooked over the top RHS frame of the wall furnace to accommodate movement from thermal expansion.

The edges of the radiation panel were held along the plane of the furnace edges with 50 × 50 × 5 mm angles to maintain a uniform horizontal separation from the specimen. In order to accommodate movement from lateral expansion of the panel, the angles were only fixed (welded) at alternate ends.

A baffle measuring approximately 3000 mm × 200 mm was also prepared to dissipate the convective heat rising between the radiation panel and the specimen prior to reaching the extraction fan in the roof. The baffle was held about 400 mm from the furnace top. A 150 mm × 50 mm RHS wrapped in kaowool was used for this purpose.

It is therefore concluded that the test apparatus used in WFRA 40981A was similar to the one specified in Appendix B7 of AS 1530.4:2014.

Radiant heat flux

Appendix B7 of AS 1530.4:2014 specifies that the heat flux at the centre of the test assembly is to be measured by a water-cooled radiometer mounted within a cored hole. If appropriate, radiation from the non-fire-exposed face of the specimen may also be measured.

A Gardon type water-cooled heat flux transducer (radiometer) with a 180° viewing angle and a reading capacity of 200 kW/m² was used to monitor the radiation heat flux on the centre of the wall specimen in WFRA40981A. The radiometer was mounted in the centre of the specimen.

Performance criteria

The performance criteria provided in Appendix B7 of AS 1530.4:2014 state that the performance of the specimen may be assessed against the criteria specified in Section 3. Additional criteria, such as ignition of the face exposed to radiant heat, may also be applicable.

5.4 Application of test data to AS 1530.4:2014

Based on the above, it is concluded that the test results obtained from WFRA 40981A can be used to assess the expected performance of the external wall system in accordance with Appendix B7 of AS 1530.4:2014 when exposed to radiant heat.

6. Assessment of variations to the system

6.1 Description of variations

The proposed construction must be as tested in WFRA 40981A with consideration of the following variations:

- Incorporate 12.5 mm deep galvanised battens over Promina 60 board and under steel cladding.
- Use of various steel cladding profiles.
- Replace Stramit C150-12 girts with various structural profiles.
- Variations to perimeter details of the wall.
  - Galvanised metal flashings at the base of the wall
  - Metal trim profiles for the corner detail
  - Mineral wool inserted into gaps created in the cladding profile at the top of the wall

This assessment was done to determine the expected performance of the system based on the referenced data.

6.2 Methodology

The method of assessment used is summarised in Table 6.

Table 6 Method of assessment

Assessment method	
Level of complexity	Intermediate assessment
Type of assessment	Qualitative and comparative

6.3 Battens between Stramit cladding and Promina® 60 board.

The proposed variation to the system is to incorporate 12.5 mm deep galvanised batten over Promina® board and under the steel cladding (Figure 1). The connection of the battens will be via the fixings for the steel cladding.

By incorporating a gap between the sheeting and the Promina® board, heat transfer by conduction and radiation will be reduced, and some heat will be lost from the cavity via convection. The loss of heat and the less effective conduction and radiation through joints will result in lower overall temperatures on the unexposed side and reduce variation in temperature at the joints and in the vicinity of the sheet on the unexposed side.

Based on the discussion above and in the absence of any identified weak points, it is considered that incorporating battens between the Stramit cladding and the Promina® board will not impair the fire performance of the tested prototype reported in WFRA 40981A.

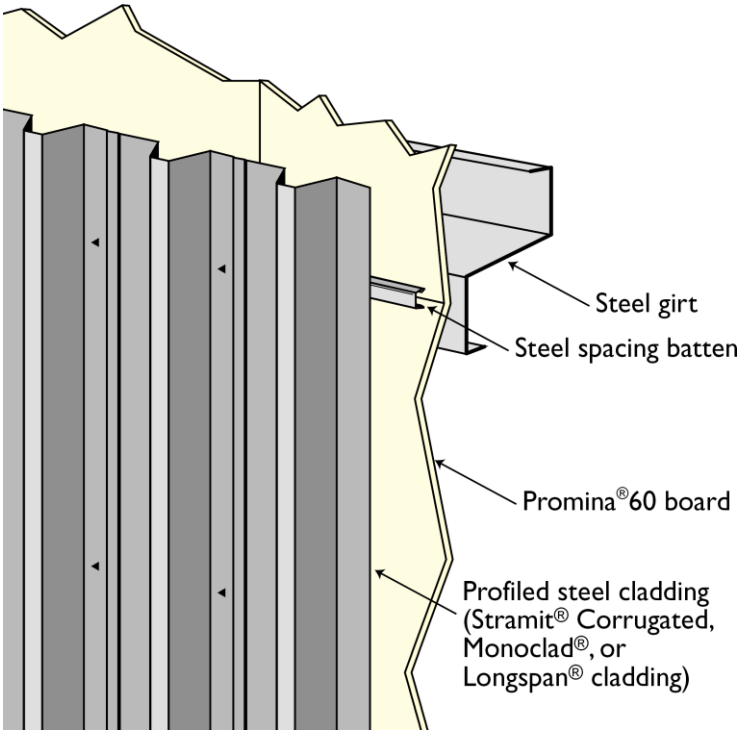


Figure 1 Section of proposed system

6.4 Variations to the steel cladding profile

It is proposed that various profiles of steel cladding be used instead of the tested nominally 0.42 mm thick Stramit Monoclad® (4.28 kg/m^2). The permitted variations are listed in Table 7 below.

Table 7 Proposed alternative cladding profiles

Cladding profile	BMT (mm)	Mass in Zincalume finish (kg/m^2)	Minimum fixings per width of cladding sheet (1200 mm)
Stramit Monoclad®	0.48	4.86	4
Stramit Corrugated	0.42	4.28	4
Stramit Corrugated	0.48	4.86	4
Stramit Corrugated	0.60	6.02	4
Stramit Longspan®	0.42	4.66	4
Stramit Longspan®	0.48	5.29	4

It is proposed that the cladding be fixed to battens by fixings that pass through battens at a maximum spacing of 300 mm centres (4 per 1200 mm width).

The proposed cladding profiles have similar or greater mass per meter squared (kg/m^2) to the tested construction. The proposed mass range can be seen above to vary between 4 and 6 kg/m^2. The proposed steel sheets are made from mild steel and are therefore considered to have a similar response to heating as the tested mild steel sheeting.

The proposed construction also incorporates a 12.5 mm deep galvanised batten between the cladding sheet and the Promina® board on the fire side. The gap created by the batten will add a significant insulation benefit to the system because it will interrupt conduction through the sheeting and force the dominant mode of heat transfer to be radiation across the cavity. This is in contrast to the tested construction, which incorporated the cladding in direct contact with the calcium silicate sheeting, meaning conduction was the main mode of heat transfer, which is more onerous.

It is therefore considered that the proposed cladding profiles will not impair the fire performance of the tested prototype reported in WFRA 40981A.

6.5 Variation to perimeter details of the wall

The proposed system incorporates details that prevent embers from entering the system at the perimeter.

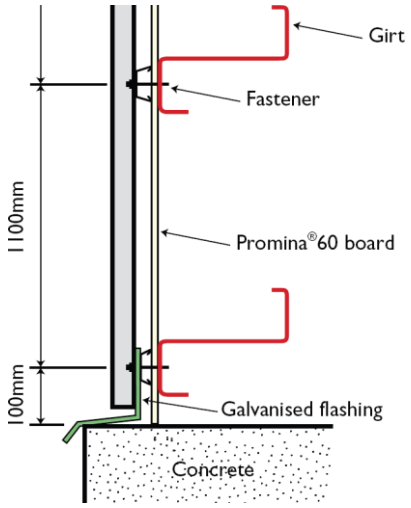


Figure 2 Base Detail: Option 1

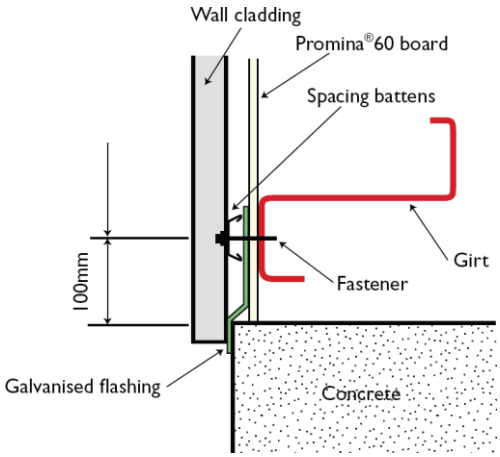


Figure 3 Base Detail: Option 2

The proposed base wall details in Figure 2 and Figure 3 make use of galvanised metal flashings that will remain in place when exposed to radiation and will stop embers from freely entering under the Promina® 60 board at the base of the wall. The primary fire safety feature here is that the wall components are interconnected in a way that prevents embers from travelling through the wall in a straight line from the exposed side to the unexposed side.

Based on the above discussion, it is considered that the proposed construction would not impair the performance of the tested prototype in WFRA 40981A.

The proposed corner detail (Figure 4) incorporates metal trim profiles that will function to prevent embers from freely entering the building at the corners the discussion provided above for Figure 2 and Figure 3. It is therefore considered that the proposed construction would not impair the performance of the tested prototype reported in WFRA 40981A.

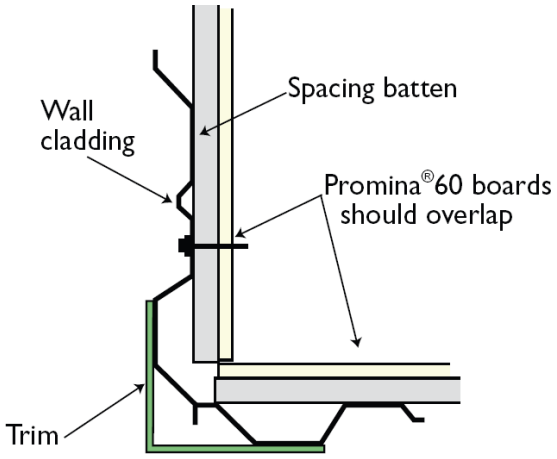
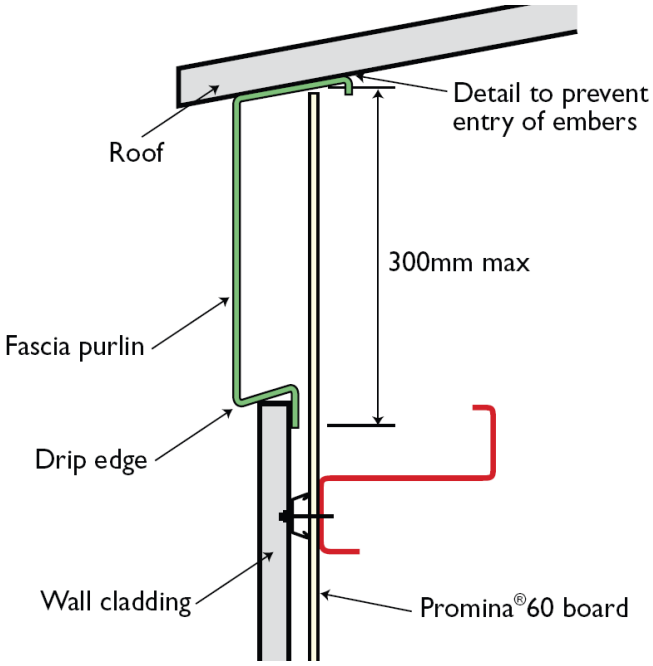


Figure 4 Corner Detail

The proposed head detail (Figure 5) incorporates mineral wool inserted into gaps created in the cladding profile to prevent embers from freely entering the building at the top of the wall.



It is required to fill gaps in cladding profile with mineral wool insulation to exclude embers from entering building

Figure 5 Head Detail

Protection from ember attack is provided by ember guards that can resist the local accumulation of embers that would otherwise form a small fire source. The ember guards eliminate gaps through which airborne embers can be drawn.

Provided the mineral wool insulation is installed in such a manner as to fully fill all gaps under the roof sheeting, it can therefore contribute to effectively eliminating the passage of air that could draw embers into the building.

Based on the above discussion, it is considered that the proposed construction at the junction of the non-fire rated roof construction and the proposed wall construction would not otherwise impair the performance of the tested prototype tested in WFRA 40981A.

6.6 Variation to the structural steel framed profile

It is proposed that various structural profiles may be used instead of the Stramit C150-12 girts tested in WFRA 40981A.

The girts are expected to laterally support the wall system during wind events, laterally stabilise them during the fire, and span horizontally between support columns. The girts do not support any vertical load from above and therefore only support vertical loads consisting of their own weight.

Based on the above discussion, it is considered that, provided that the girts do not significantly buckle and continue to laterally support the cladding without resulting in collapse, the fire resistance of the wall system will not be significantly impaired. The structural capacity of these elements is discussed below.

It is proposed that the above requirement can be met by various structural sections, as listed in Table 8.

Table 8 Steel framing details

Section	Minimum Section Depth (mm)	Steel Thickness (mm)
C Section Girts	100	1.2
Z Section Girts	100	1.2
Top-hats	64	0.75

With reference to WFRA 40981A, the critical temperatures on the sheet are summarised in Table 9.

Table 9 Critical temperature of the steel frame

Location	Temperature At 240mins (°C)	Temperature At 240mins (°C)
Vertical butt joint	239	356
Inner face central girt	315	304

When tested, the exposed calcium silicate surface and steel temperatures reached their maximum temperatures at or around 120 minutes. After which, the temperature remained relatively constant until the end of the test at 240 minutes.

The residual load-bearing capacity of members can be assessed based on the critical temperatures for steel members. For tests performed on non-load bearing specimens, a critical temperature of 400 °C can be adopted for steel elements in contact with the wall to minimise the risk of premature failure. The proposed sections are thinner and smaller, so the elements will have a lower section factor and a higher rate of heat transfer. Therefore, the proposed sections are likely to have a higher rate of temperature increase, but they will not likely exceed the limiting temperature of 400°C. With reference to AS/NZS 4600:2018, at 400 °C, the expected loss in the strength of cold-formed steel is approximately 30%. Therefore, it is considered that for the proposed steel sections, although their heating rate may increase, their structural stability will not be compromised if the steel members are designed for all design actions by a professional structural engineer in accordance with AS 4600:2018. Since the maximum measured steel temperature from the test was 400 °C, the limiting temperature of the design structure must not exceed 400 °C.

Based on the discussion above and in absence of any detrimental effects, it is considered that proposed variations to the support structure will not impair the fire resistance in WFRA 40981A.

6.7 Conclusion

On the basis of the discussion presented in this report, it is positively assessed that if the tested system had been varied as in Table 10, it is expected to achieve the performance of the prototype tested in WFRA 40981A in general accordance with AS 1530.4:2014 Appendix B7 and subject to the requirements of section 7.

Table 10 Assessment outcome

Item	Reference test	Description	Variations
Fixings	WFRA 40981A	The steel cladding was screw-fixed through the Promina 60 board into horizontal steel girts.	Incorporate 12.5 mm deep galvanised battens over Promina 60 board and under steel cladding.
Steel cladding		The tested specimen consisted of 0.42 mm thick and 762 mm ± 4 mm wide Stramit Monoclad steel sheeting panels.	Use of various steel cladding profiles.
Structural steel famed profile		The structural component of the wall was made up of Stramit C150-12 girts.	Replace Stramit C150-12 girts with various structural profiles.
Perimeter details		Stramit Monoclad steel sheeting panels were installed on the Promina 60 board via steel girls with 1 flute overlap on the exposed face.	Variations to perimeter details of the wall. • Galvanised metal flashings at the base of the wall • Metal trim profiles for the corner detail • Mineral wool inserted into gaps created in the cladding profile at the top of the wall

7. 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 test data, information and experience available at the time of preparation. If contradictory evidence becomes available to the assessing authority, the assessment will be unconditionally withdrawn and the report sponsor will be notified in writing. Similarly, the assessment should be re-evaluated, if the assessed construction is subsequently tested, since actual test data is deemed to take precedence.

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 of the proposed system/s expected to be demonstrated on a test in accordance with AS 1530.4:2014 Appendix B7, based on the evidence referred to in this report.

This assessment is provided to Promat Australia Pty Ltd for their own specific purposes. This report may be used as evidence of suitability in accordance with the requirements of the relevant National Construction Code. Building certifiers and other third parties must determine the suitability of the systems described in this report for a specific installation.

Appendix A Summary of supporting test data

A.1 Test report – WFRA 40981A

Table 11 Information about test report

Item	Information about test report
Report sponsor	Promat Australia Pty Ltd
Test laboratory	Warrington Fire Research Group, 409-411 Hammond Road, Dandenong, Victoria 3175, Australia.
Test date	The fire resistance test was done on 6 December 2002.
Test standards	The test was done in general accordance with AS 1530.4:1997.
Variation to test standards	The test was performed following the general principles of AS 1530.4:1997 except that the specimen was exposed to a radiant panel heat source in lieu of a furnace enclosure and additional observations were taken to provide data for assessment against CV1 of the Building Code of Australia, 1996.
General description of tested specimen	The tested specimen, a 3 m × 3 m proprietary Promat wall system, was subjected to a heated vertical 3 m × 3 m steel panel parallel to the wall at a separation distance of 150 mm, such that the radiating heat flux at the specimen was 80 kW/m² when measured by a radiometer located centrally within the specimen. The specimen was subjected to an incident radiation heat flux progressively increasing to 80 kW/m² during the first 30 minutes of the test and then being maintained at 80 kW/m² for the remainder of the 240 minute test.
Instrumentation	The test report states that the instrumentation was in accordance with AS 1530.4:1997.

The test specimen achieved the following results – see Table 12.

Table 12 Results summary for this test report

Performance criteria	Time to failure
Ignition of the non-fire exposed face of the element (i.e., continuous flaming for more than 15 seconds)	No failure at 240 minutes
Mean temperature on the non-fire exposed face exceeds 435°C	No failure at 240 minutes
Wall remains imperforate	No failure at 240 minutes
Mean temperature of steel structural members exceeds 400°C	No failure at 240 minutes
Maximum temperature at any point on the non-fire exposed face exceeds 380°C	70 minutes

warringtonfire
Proud to be part of element

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