



# Product Review Report



AAC Panel External Wall Systems  
Review against AS3959-2009 Amdt 3

Client: KEWARM Pty Ltd




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## AUTHORISATION

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\* For and on behalf of Warringtonfire Aus Pty Ltd.

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## CONTACT INFORMATION

### Warringtonfire Aus Pty Ltd

#### Victoria

Unit 2, 409-411 Hammond Road  
Dandenong Victoria 3175  
Australia

T: +61 (0)3 9767 1000

#### New South Wales

Suite 2002a, Level 20, 44 Market Street  
Sydney NSW 2000  
Australia

T: +61 (0)2 8270 7600

#### Queensland

Northpoint, Unit 29, Level 6  
231 North Quay  
Brisbane QLD 4000  
Australia

T: +61 (0)7 3238 1700

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## 1 SCOPE AND LIMITATIONS OF THE REVIEW

The following scope of works was undertaken on the relevant construction provisions of *AS3959-2009 amdt 3 Construction of buildings in bushfire-prone areas*, as they relate to the installation of Contech AAC Panel External Wall Systems when installed as wall applications.

The scope of the review included the following aspects:

- Review of available fire related test and assessment reports relevant to the use of systems in bushfire protection applications.
- Review publically available product details, i.e. marketing information.
- Compare reviewed information with the acceptable construction practices in the following documents:
  - AS3959-2009 (amdt 3) Construction of buildings in bushfire prone areas
- Based on comparative review, provide opinion on where the systems may be suitably used in accordance with the relevant prescribed construction practices.
- Provide recommendations of further testing or assessment of the systems that may be required in order to satisfy other prescribed provisions of AS3959-2009 (amdt 3).

This review is an opinion to the extent that the subject system may satisfy the relevant prescribed construction practices in AS3959-2009 (amdt 3) and is not to be construed as endorsement or certification of compliance against these provisions.

Any technical service that is with respect to the determination of compliance with AS3959-2009 (amdt 3) is to be undertaken by an independent third party body, consistent with providing an efficient and robust fire protection product certification services for products.

## 2 DESCRIPTION OF SYSTEMS

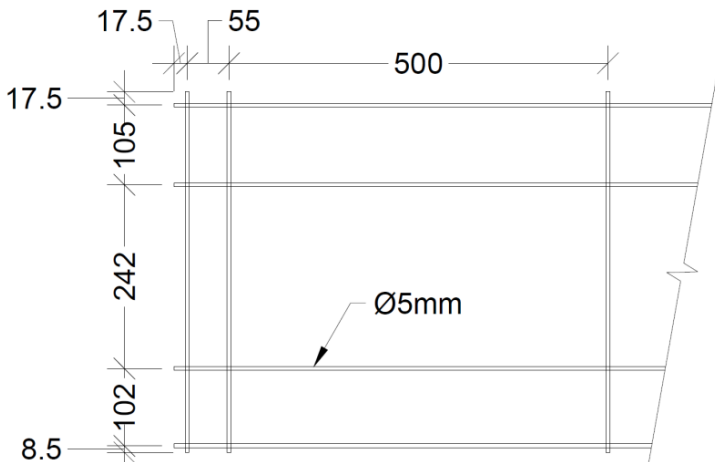
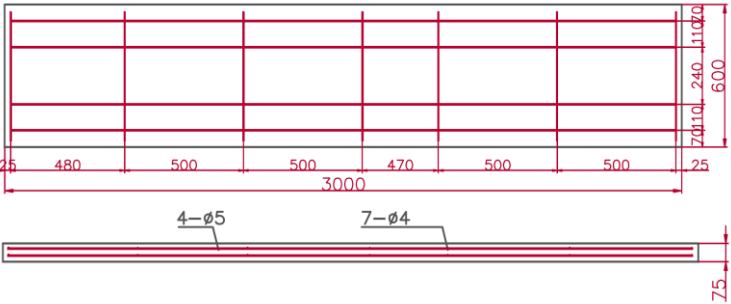
### 2.1 PRODUCT

Product Names: Contech AAC Panel External Wall Systems

Product Type: External Walls

Manufacturer: KEWARM Pty Ltd

Table 2.1 – Part/Material List:

ID	Description	
1	Name	Contech AAC Panels
	Size	3000mm long x 600mm wide x 75mm thick or 2200mm long x 600mm wide x 50mm thick
	Reinforcement bars	<p>50mm panel reinforcement (mid depth)</p>  <p>75mm panel reinforcement</p> 
	Density	758 kg/m3 (measured)
	Location	Installed vertically on the exposed side of wall with joints sealed with mortar (Item 6) and screw fixed (Item 9) to timber battens (Item 4) 100mm in from the vertical edges at each batten.
2	Name	Unexposed Side Linings
	Product	CSR Gyprock Plasterboard RE
	Size	10mm thick
	Density	660 kg/m3 (measured)
	Location	Installed horizontally on the unexposed side and incorporated a vertical joint. The sheets screw fixed (Item 10) to timber framing (Item 3) at 300mm centres.

ID	Description	
3	<b>Name</b>	<b>Wall Framing</b>
	Grade	Pine MGP10
	Size	90mm x 45mm
	Installation	Studs positioned at 600mm centres with top and bottom plates. Noggings installed at 1000mm centres. Top and bottom plates fixed to supporting construction with Dynabolts (Item 11).
4	<b>Name</b>	<b>Wall Battens</b>
	Grade	Timber MGP10
	Size	90mm x 35mm
	Installation	Battens installed horizontally at 500mm centres and screw fixed (Item 8) to the timber framing at every stud location.
5	<b>Name</b>	<b>Sarking</b>
	Product	Westall sarking
	Size	1200mm high x 3000mm wide
	Application	Installed on the exposed side of timber framing between battens and timber framing and fixed into place with staples. The sarking sheets overlapped by 150mm at joints.
6	<b>Name</b>	<b>Panel Joint Adhesive Mortar</b>
	Product	CONTECH White Adhesive Mortar
	Application	Applied to AAC Panel edges during construction.
7	<b>Name</b>	<b>Grout Mortar</b>
	Product	CONTECH White Grout Mortar
	Application	Applied to AAC Panel corners to patch damage, crevices and to cover screw heads after installation.
8	<b>Name</b>	<b>Fixings- battens to timber framing</b>
	Product	10-8 x 75mm long Phillips Head, Chipboard Screws
	Location	Used to fix horizontal battens to framing studs.
9	<b>Name</b>	<b>Fixings- Exposed cladding to battens</b>
	Product	14G x 100mm long, Hex Head Type 17 Timber Screws
	Application	Used to fix exposed panels to timber battens 100mm from the edges. The screws installed such that the screw heads sit nominally 5mm below the surface. Patched with adhesive grout (Item 7).
10	<b>Name</b>	<b>Fixings- Unexposed cladding to timber framing</b>
	Product	6g x 25mm long, Bugle head, Fine thread plasterboard screws.
	Application	Used to fix unexposed cladding to timber framing at nominal 300mm centres.
11	<b>Name</b>	<b>Fixings- timber framing to supporting construction</b>
	Product	Ø6.5 x 65mm masonry anchors
	Application	Used to fix the, top and bottom plates to the supporting construction at nominal 600mm centres.
12	<b>Name</b>	<b>Jointing Compound</b>
	Product	CSR Base Coat 45 and 50mm perforated tape
	Application	Used to fix end top and bottom plates and south fixed edge to surround blocks at nominal 600mm centres.



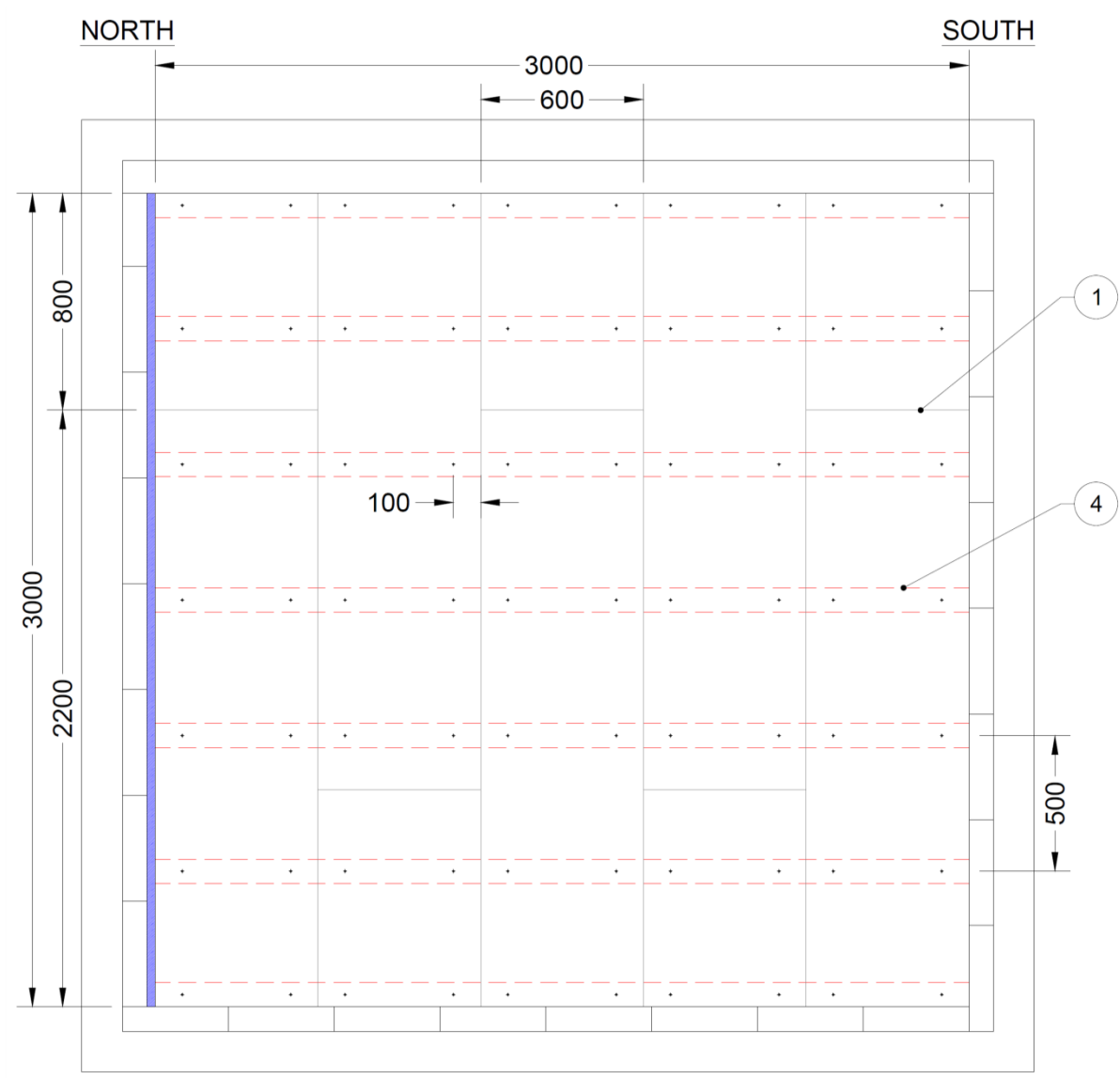
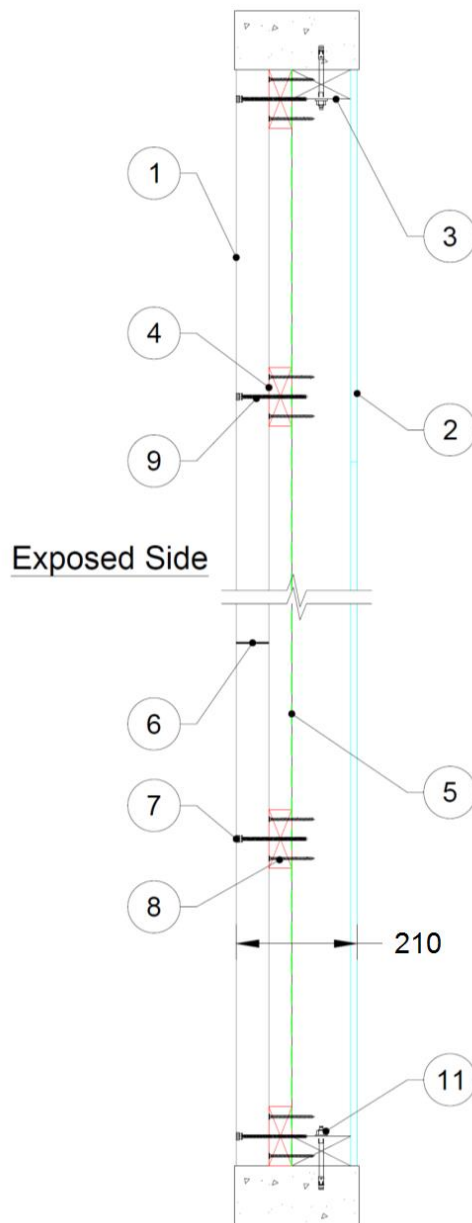
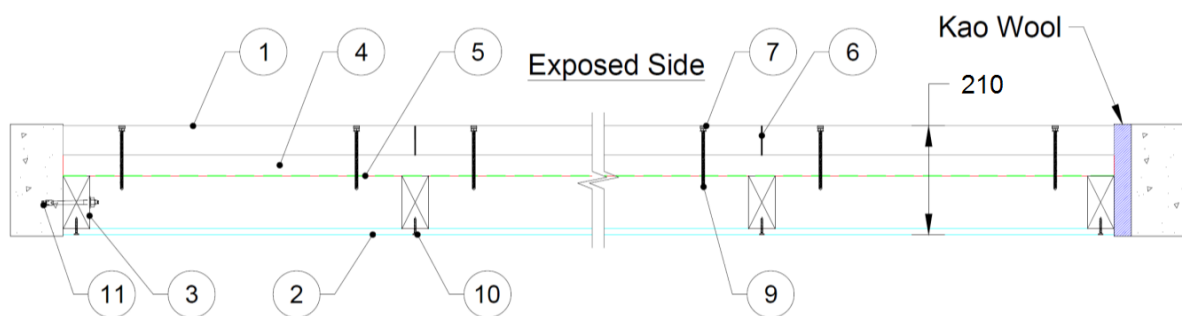


Figure 2 – Elevation of Test Specimen Exposed side



**Figure 3 – Vertical Cross-Section A-A**



**Figure 4 – Horizontal Cross-Section B-B**

## 2.2 FIELD OF APPLICATION

The nominated systems and provided information have been compared against the prescribed requirements of AS3959-2009 (amdt 3) in order to ascertain the extent the systems may be used with the current evidence of suitability (see BCA A2.2) and what further evidence of suitability may be generated to extend the range of prescribed uses.

## 2.3 REFERENCED TECHNICAL DATA PROVIDED BY KEWARM PTY LTD

The following technical information was provided by KEWARM Pty Ltd

Product	Technical Information Brochure
Contech AAC Panel External Wall Systems – 50mm Panel	EWFA 38070300
Contech AAC Panel External Wall Systems – 75mm Panel	

### 3

## KEWARM PTY LTD PRODUCT REVIEW

### 3.1

#### CONTECH AAC PANEL EXTERNAL WALL SYSTEMS – 50MM PANEL

The application of the subject system has been reviewed against the prescribed construction practices nominated in AS3959-2009 (amdt 3). In each bushfire attack level and area of application, an opinion is provided to the use of the system. Additional details are provided as below and the corresponding section of AS3959-2009 (amdt 3).

Application	BAL12.5	BAL19	BAL29	BAL40	BALFZ	BALFZ <10m
External walls (parts less than 400mm from ground or near horizontal surface (<18° to horizontal) and >110mm in width from wall)	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1&3] §9.4.1(C)	✗ [Note 2] §9.1
External walls (other)	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1&3] §9.4.1(C)	✗ [Note 2] §9.1
Joints in external walls	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1&3] §9.4.1(C) §3.4	✗ [Note 2] §9.1
Gables	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1&3] §9.4.1(C) §3.4	✗ [Note 2] §9.1
Materials to enclose subfloor spaces of verandas, decks, steps, ramps and landings	✓ [Note1] §9.4.1(C) §3.4 §5.7.2.1	✓ [Note1] §9.4.1(C) §3.4 §6.7.2.1	✓ [Note1] §9.4.1(C) §3.4 §7.7.2.1	✓ [Note1] §9.4.1(C) §3.4 §8.7.2.1	✓ [Note1&3] §9.4.1(C) §3.4 §9.7.2.1	✗ [Note 2] §9.1

#### Notes:

1. The system has been assessed based on testing in EWFA 38070300 and achieved an FRL of -/120/120 in accordance with AS1530.4-2005.
2. This application is for circumstances where a 10m setback distance to classified vegetation cannot be achieved. The elements of the building that are less than 10mm from classified vegetation shall comply with AS 1530.8.2 (refer clause 9.1 of AS3959-2009 amdt 3).
3. This application is for circumstances where a 10m setback distance to classified vegetation can be achieved.

### 3.2 CONTECH AAC PANEL EXTERNAL WALL SYSTEMS – 75MM PANEL

The application of the subject system has been reviewed against the prescribed construction practices nominated in AS3959-2009 (amdt 3). In each bushfire attack level and area of application, an opinion is provided to the use of the system. Additional details are provided as below and the corresponding section of AS3959-2009 (amdt 3).

Application	BAL12.5	BAL19	BAL29	BAL40	BALFZ >10m	BALFZ <10m
External walls (parts less than 400mm from ground or near horizontal surface (<18° to horizontal) and >110mm in width from wall)	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1&3] §9.4.1(C)	✗ [Note 2] §9.1
External walls (other)	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1&3] §9.4.1(C)	✗ [Note 2] §9.1
Joints in external walls	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1&3] §9.4.1(C) §3.4	✗ [Note 2] §9.1
Gables	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1] §9.4.1(C) §3.4	✓ [Note1&3] §9.4.1(C) §3.4	✗ [Note 2] §9.1
Materials to enclose subfloor spaces of verandas, decks, steps, ramps and landings	✓ [Note1] §9.4.1(C) §3.4 §5.7.2.1	✓ [Note1] §9.4.1(C) §3.4 §6.7.2.1	✓ [Note1] §9.4.1(C) §3.4 §7.7.2.1	✓ [Note1] §9.4.1(C) §3.4 §8.7.2.1	✓ [Note1&3] §9.4.1(C) §3.4 §9.7.2.1	✗ [Note 2] §9.1

Notes:

1. The system has been assessed based on testing in EWFA 38070300 and achieved an FRL of -/180/180 in accordance with AS1530.4-2005.
2. This application is for circumstances where a 10m setback distance to classified vegetation cannot be achieved. The elements of the building that are less than 10mm from classified vegetation shall comply with AS 1530.8.2 (refer clause 9.1 of AS3959-2009 amdt 3).
3. This application is for circumstances where a 10m setback distance to classified vegetation can be achieved.

**CONCLUSION**

The reviewed Contech AAC Panel External Wall Systems may be used in most circumstances with consideration and exceptions to the issues discussed in this report for each of the systems, in Section 3. Compliance to relevant building regulations in the use of the product within a development is subject to acceptance by the Authorities Having Jurisdiction.

Alternate arrangements of the system in conjunction with other elements may be appropriate, subject to further investigation.

## **5 VALIDITY / DISCLAIMER**

This report is prepared for KEWARM Pty Ltd as described in this report only and applies to the nominated materials and form of construction in review AS3959-2009 (amdt 3).

Any modifications, changes or amendments to the AS3959-2009 and referenced standards may invalidate the findings of this report. These items should be referred to Warringtonfire Aus Pty Ltd to allow consideration to be made of the extent that these changes may have to the outcome of this review, detailed in this report.

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