H.B. FULLER AUSTRALIA PTY LTD

FIRE ASSESSMENT REPORT

Control joints protected with Fulafoam FR and Fulacaulk Fire HP in accordance with AS 1530.4:2014 and AS 4072.1:2005 (R2016)

Report number: 253312
Revision: R1.0
Issued date: 27 February 2026 Expiry date: 28 February 2031

JENSEN HUGHES

Quality management

Revision	Date	Revision Description		
R1.0	Issue: 27 February 2031	Initial issue		
	Expiry: 28 February 2031	**Prepared**	**Reviewed**	**Authorised**
		Kimal Wasalathilake	Alim Rasel	Alim Rasel

Jensen Hughes Fire Testing Pty Ltd
ABN 81 050 241 524

Executive summary

This report documents the findings of the assessment undertaken to determine the fire resistance level (FRL) of control joints protected with Fulafoam FR and Fulacaulk Fire HP in accordance with AS 1530.4:2014 and AS 4072.1:2005 (R2016).

Fulafoam FR is a fire-rated polyurethane foam sealant. Fulacaulk Fire HP is an intumescent acrylic graphite-based sealant. The assessed systems include control joints – protected with Fulafoam FR and Fulacaulk Fire HP – installed in 100 mm and 200 mm thick concrete, autoclaved aerated concrete (AAC), brickwork, or masonry wall constructions.

The analysis in section 5.0 of this report found that the proposed systems, together with the described variations, will achieve FRLs as shown in Table 1 and Table 2 – in accordance with AS 1530.4:2014 and AS 4072.1:2005 (R2016).

The variations and outcome of this assessment are subject to the limitations and requirements described in sections 2.0, 3.0 and 6.0 of this report. The results of this report are valid until 28 February 2031.

Table 1 Control joints sealed with Fulafoam FR

Orientation	Minimum seal depth (mm)	Joint width range (mm)	FRL	Field of application
Vertical	100	Up to 10	-/240/90	Applicable for rigid walls (AAC, concrete, blockwork and masonry) with minimum thickness of 100 mm and minimum density of 550 kg/m^3
	100	11 - 40	-/120/30	
	200	Up to 20	-/240/240	Applicable for rigid walls (AAC, concrete, blockwork and masonry) with minimum thickness of 200 mm and minimum density of 450 kg/m^3
	200	21 - 30	-/180/120	
	200	31 - 40	-/180/90	
Horizontal	100	Up to 15	-/90/60	Applicable for rigid walls (AAC, concrete, blockwork and masonry) with minimum thickness of 100 mm and minimum density of 550 kg/m^3
	100	16 - 30	-/60/30	
	200	Up to 30	-/240/180	Applicable for rigid walls (AAC, concrete, blockwork and masonry) with minimum thickness of 200 mm and minimum density of 450 kg/m^3

+ Joints must be filled with Fulafoam FR and covered both sides with 0.6 mm thick steel sheets with minimum Ø3.5 × 40 mm screws.
+ Results are applicable to continuous joints of unlimited length, provided the joint geometry and local protection are maintained.
+ The separating element is to be designed and constructed in accordance with the relevant Australian Standard (e.g., AS 3600 for reinforced concrete and AS 3700 where applicable for masonry/AAC) and detailed/verified to achieve the required FRL in accordance with NCC requirements.

Table 2 Control joints sealed with Fulacaulk Fire HP and Fulafoam FR

Orientation	Minimum seal depth (mm)	Joint width range (mm)	FRL	Field of application
Vertical	200	Up to 20	-/240/240	+ Joint formed by Fulacaulk Fire HP beads on both faces (min 20-30 mm deep each side) and Fulafoam FR infill to give a minimum 200 mm total seal depth. + Applicable for rigid walls (AAC, concrete, blockwork and masonry) with minimum thickness of 200 mm and minimum density of 450 kg/m^3
Vertical	200	Up to 5	-/120/60	+ Joint formed by a 10 mm deep Fulacaulk Fire HP bead on the exposed face with 10 mm deep PE backer rod on the unexposed side (no full-depth infill). + Applicable for rigid walls (AAC, concrete, blockwork and masonry) with minimum thickness of 200 mm and minimum density of 450 kg/m^3
+ Results are applicable to continuous joints of unlimited length, provided the joint geometry and local protection are maintained. + The separating element is to be designed and constructed in accordance with the relevant Australian Standard (e.g., AS 3600 for reinforced concrete and AS 3700 where applicable for masonry/AAC) and detailed/verified to achieve the required FRL in accordance with NCC requirements				

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1.0 Introduction

This report documents the findings of the assessment undertaken to determine the fire resistance level (FRL) of control joints protected with Fulafoam FR and Fulacaulk Fire HP in accordance with AS 1530.4:2014[1] and AS 4072.1:2005 (R2016)[2].

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 deemed-to-satisfy (DTS) provisions of the NCC that apply to the assessed systems.

This assessment was carried out at the request of H.B. Fuller Australia Pty Ltd. The sponsor details are included in Table 3.

Table 3 Sponsor details

Sponsor	Address
H.B. Fuller Australia Pty Ltd	16-24 Red Gum Drive Dandenong South Victoria 3175 Australia

2.0 Framework for the assessment

2.1 Assessment approach

An assessment is a professional 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[3].

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.

[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] Standards Australia, 2005, Components for the protection of openings in fire-resistant separating elements: Service penetrations and control joints, AS 4072.1:2005, Standards Australia, NSW.
[3] 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.

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 and performance based on the tested constructions and performances obtained. The assessment is an evaluation of the potential fire resistance performance of the elements in accordance with AS 1530.4:2014.

This assessment has been written in accordance with the general principles outlined in EN 15725:2023[4] for extended application on the fire performance of construction products and building elements: Principle of EXAP standards and EXAP reports.

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.

2.2 Compliance with the National Construction Code

This assessment report has been prepared to meet the evidence of suitability requirements of the NCC 2022[5] under A5G3(1)(d). It references test evidence for meeting deemed-to-satisfy (DTS) provisions of the NCC under A5G5 for fire resistance level that apply to the assessed systems based on Specifications 1 and 2 for fire resistance for building elements.

The proposed details and systems (building elements) in this report are confirmed to be assessed, without the aid of an active fire suppression system, based on prototype tests that are equivalent to or more severe than a standard fire test as specified in section 4.4, in accordance with NCC 2022 S1C2(b). It is also confirmed that the differences between the proposed systems and details compared to the tested prototypes are considered minor in accordance with NCC 2022 S1C2(c).

This assessment report may also be used to demonstrate compliance with the requirements for evidence of suitability under the relevant sections of previous versions of the NCC.

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 14 November 2025, H.B. Fuller Australia Pty Ltd confirmed that:

- To their knowledge, the variations to the component or element of structure, which is the subject of this assessment, have 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.

[4] European Committee for Standardization, 2023, Extended application on the fire performance of construction products and building elements: Principle of EXAP standards and EXAP reports, EN 15725:2023, European Committee for Standardization, Brussels, Belgium.

[5] National Construction Code Volumes One and Two - Building Code of Australia 2022, Australian Building Codes Board, Australia.

3.0 Requirements and 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 in accordance with AS 1530.4:2014.
- This assessment applies to wall systems exposed to fire from one side in accordance with the requirements of AS 1530.4:2014, where vertical elements must be exposed to heat from the direction required to resist fire exposure.
- The separating element is to be designed and constructed in accordance with the relevant Australian Standard (e.g., AS 3600 for reinforced concrete and AS 3700 where applicable for masonry/AAC) and detailed/verified to achieve the required FRL in accordance with NCC requirements.
- This report relies on test evidence and applies only to the specific specimens tested. It does not verify ongoing compliance or the performance of future production batches.
- This assessment report has been prepared based on the fire resistance performance and condition of the systems at the time they were tested. Any deterioration of fire resistance performance due to external factors including but not limited to passage of time and exposure to elements – is not considered in this report.
- Jensen Hughes has provided this report on the fire performance of building elements in a controlled laboratory setting, strictly within the parameters allowed by the test standards and building regulations. The outcomes of this report are intended to assist in verifying the suitability of the product or system for practical use in specific applications.
- This report is only valid for the assessed systems 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 Accredited Testing Laboratory (ATL) that is accredited to the same nominated standards of this report.
- This report has been prepared using information provided by others. Jensen Hughes has not verified the accuracy and/or completeness of that information and will not be responsible for any errors or omissions that may have been 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.

4.0 Description of the specimen and variations

4.1 Description of assessed systems

The proposed systems include linear joints – protected with Fulafoam FR and Fulacaulk Fire HP – installed in 100 mm and 200 mm thick concrete, autoclaved aerated concrete (AAC), brickwork, or masonry wall constructions.

4.2 Referenced test data

The assessment of the variation to the tested systems and the determination of the performance are based on the results of the fire tests documented in the reports summarised in Table 4. Further details of the tested systems are included in Appendix A.

Table 4 Referenced test data

Report number	Test sponsor	Test date	Testing authority
24-32305096	Test sponsor known to Jensen Hughes	12 December 2024	LGAI Technological Center, S.A. (APPLUS)
24-32305095-M1		5 December 2024	
25-32300696		24 April 2025	
23-32302411 M1		24 April 2024	

4.3 Variations to the tested systems

The tested systems and variations to those tested systems – together with the referenced standard fire tests – are described in Table 5.

Table 5 Variations to tested systems

Variation	Test standard	Reference test	Evidence of suitability	Governing requirements
The proposed variation is to assess the fire performance of linear joints in accordance with AS 1530.4:2014.	The reference tests were conducted in accordance with BS EN 1366-4:2021[6].	24-32305096, 24-32305095-M1, 25-32300696, 23-32302411 M1	A5G3(1)(d)	S1C2(b) and S1C2(c)

[6] European Committee for Standardization, 2021, Fire resistance tests for service installations – Part 4: Linear joint seals, BS EN 1366-4:2021, European Committee for Standardization, Brussels, Belgium.

4.4 Test and assessment standard

BS EN 1366-4:2021 specifies a method for determining the fire resistance of linear joint seals based on their intended end use.

AS 1530.4:2014 sets out procedures and methods for fire tests on building materials, components, structures, and fire-resistance tests for elements of construction. Section 10 discusses the procedures and methods for service penetrations and control joints.

4.5 Reference standard

AS 4072.1:2005 (R2016) sets out the minimum requirements for the construction, installation and application of fire resistance tests to sealing systems around penetrations through separating building elements that are required to have an FRL.

4.6 Schedule of components

Table 6 outlines the schedule of components for the assessed systems. We have based this schedule of component from the reference test reports shown in Table 4.

Table 6 Schedule of components of assessed systems

Item	Description	
1.	Item name	Foam sealant
	Product name	H.B. Fuller Fulafoam FR
	Description	Fire-rated sealant made of Polyurethane foam
2.	Item name	Intumescent sealant
	Product name	H.B. Fuller Fulacaulk Fire HP
	Description	Intumescent acrylic graphite-based sealant
3.	Item name	Steel facing
	Description	Joints must be filled with Fulafoam FR and covered both sides with 0.6 mm thick steel sheets with minimum Ø3.5 × 40 mm screws
4.	Item name	Backer rod
	Description	Closed-cell polyethylene foam round backer rod

5.0 Assessment – Applicability of test results in accordance with AS 1530.4:2014 and AS 4072.1:2005

5.1 Description of variation

The referenced tests were conducted in accordance with BS EN 1366-4:2021 and BS EN 1363-1:2020. It is proposed to assess the fire resistance performance of these linear seals in accordance with AS 1530.4:2014 and AS 4072.1:2005 (R2016). The applicability of the EN test results when compared with the requirements of AS 1530.4:2014 has been addressed in this assessment.

5.2 Methodology

The method of assessment used is summarised in Table 7.

Table 7 Method of assessment

Assessment method	
Level of complexity	Intermediate assessment
NCC procedure for determining fire performance	Differs in only a minor degree from a tested prototype S1C2(b) and S1C2(c)
Type of assessment	Qualitative and comparative

5.3 Assessment

5.3.1 General

The fire test reports referenced in Table 4 were conducted in accordance with EN 1366-4:2021 with instrumentation and heating and furnace conditions provided in accordance with EN 1363-1:2020 as prescribed by EN 1366-4:2021.

The requirements of these standards differ slightly from AS 1530.4:2014 as outlined in the sections below. The effects that these differences have on the fire resistance performance of the tested linear seals are discussed in sections 5.3.2 to 5.3.7.

5.3.2 Furnace temperature measurement

The furnace thermocouples specified in AS 1530.4:2014 are type K, mineral insulated metal sheathed (MIMS) with a stainless-steel sheath having a wire diameter of less than 1.0 mm and an overall diameter of 3.0 mm. The measuring junction protrudes at least 25 mm from the supporting heat-resistant tube.

The furnace thermocouples specified in EN 1363-1:2020 are made from a folded steel plate that faces the furnace chamber. A thermocouple is fixed to the side of the plate facing the specimen, with the thermocouple's hot junction protected by a pad of insulating material. The plate part is to be constructed from 150 ± 1 mm long by 100 ± 1 mm wide by 0.7 ± 0.1 mm thick nickel alloy sheet strips. The measuring junction is made of nickel chromium/nickel aluminium (Type K) wire as defined in IEC 60584-1, contained within mineral insulation in a heat-resisting steel alloy sheath that has a nominal diameter of 1 mm, the hot junctions being electrically insulated from the sheath.

The furnace control thermocouples required by EN 1363-1:2020 are less responsive than those specified by AS 1530.4:2014. This variation in sensitivity can produce a potentially more onerous heating condition for

specimens tested to EN 1363-1:2020, particularly during the early stages of the test when furnace temperatures are changing rapidly.

As required by AS 1530.4:2014, furnace thermocouples must be arranged so that they are initially 100 ± 10 mm from the exposed face of the specimen and maintained, where practicable, at a distance of 50 mm to 150 mm during the test. The furnace thermocouples are not to be installed closer than 100 mm to the furnace wall or the burner flames. For EN 1363-1:2020, it is required that furnace thermocouples are placed 100 ± 50 mm from the nearest point of the exposed face of the test construction, and they must be maintained at this distance during the test. In addition, thermocouples are not to be installed closer than 450 mm from any wall, floor or roof of the furnace.

With regards to the positioning of the furnace thermocouples, the differences between the standards are in the required distance from the exposed face of the specimen at the commencement of the test and the location of the thermocouples relative to the walls of the furnace. These differences are expected to delay the time taken for the plate thermocouples of EN 1363-1:2020 to heat and accurately measure the furnace temperature when compared to the thermocouples in AS 1530.4:2014 and therefore will likely present a more onerous condition.

The distance to be maintained from the specimen during the test is relatively the same and is not expected to affect the results obtained following the two standards.

5.3.3 Furnace pressure regime

It is a requirement of AS 1530.4:2014 that, for vertical elements with a height of more than 1 m, a furnace pressure of 20 ± 3 Pa must be established at the top of the separating element, and all the penetration services must have a pressure greater than 10 Pa.

Similarly, EN 1366-4:2021 requires that a vertical furnace be operated so that a minimum pressure of 15 Pa exists in the centre of the test specimen mounted in the lowest position. Therefore, linear seals in walls subjected to furnace pressure of 15 Pa as per EN 1366-4:2021 will be compliant with the requirements of AS 1530.4:2014.

Furthermore, the parameters outlining the accuracy of control of the furnace pressure in AS 1530.4:2014 and EN 1363-1:2021 are also not appreciably different.

5.3.4 Specimen size

EN 1366-4:2021 states that a linear joint seal shall be of uniform design cross sectional area and for non-movement joints, a length of not less than 900 mm can be used. AS 1530.4:2014 states that the length of the control joint exposed to the furnace chamber must not be less than 1 m.

Although EN 1366-4 specifies a 900 mm joint length and AS 1530.4 requires 1000 mm, this difference does not affect the thermal severity applied to the seal. The EN test already satisfies the AS 1530.4 requirement for thermocouples on the seal surface (three, including one at the centre), providing equivalent thermal monitoring along the joint.

Furthermore, the EN thermocouple arrangement is more onerous, with unexposed-face thermocouples positioned 15 mm from the opening edge, compared with 25 mm in AS 1530.4. This closer proximity increases sensitivity to local heating, meaning the EN configuration captures higher thermal gradients over a shorter monitored length.

Given that the EN thermocouple arrangement imposes a stricter thermal assessment than AS 1530.4, the shorter EN specimen length (900 mm vs 1000 mm) does not reduce the validity or representativeness of the temperature measurements. The EN specimen length is therefore considered acceptable for assessment purposes, and the results remain applicable to longer, continuous joint lengths.

5.3.5 Integrity performance criterion

Both EN 1366-4:2021 and AS 1530.4:2014 state that gap gauges are not to be used to evaluate integrity for linear seals, and therefore, integrity criteria in EN 1363-1:2020 can generally be applied in a comparable manner.

In accordance with AS 1530.4:2014, while a specimen maintains its insulation performance, the specimen shall be deemed to have failed the integrity criterion if it collapses or sustains flaming or other conditions on the unexposed face that ignite the cotton pad when applied for up to 30 seconds.

Specimens shall be deemed to have failed the integrity criterion in accordance with AS 1530.4:2014 when any of the following occurs:

- A gap forms that allows the passage of hot gases to the unexposed face and ignites a 100 mm × 100 mm × 20 mm cotton pad when applied for up to 30 seconds.
- Sustained flaming for 10 seconds.

EN 1366-4:2021 states that the integrity of the specimen must be assessed as described in EN 1363-1. According to EN 1363-1:2020, integrity performance is breached when any of the following occurs (excluding gaps that allow gap gauges to be used as applicable to this assessment):

- A gap forms that allows the passage of hot gases to the unexposed face and ignites a 100 mm × 100 mm × 20 mm cotton pad when applied for up to 30 seconds. During measurements, a clearance of at least 30 mm must be maintained between the cotton pad and the surface of the specimen that is parallel to it. There must also be at least a 10 mm clearance between the periphery of the pad and the specimen.
- Sustained flaming.

Other than the sustained flaming criterion, the requirements for integrity failure in AS 1530.4:2014 and EN 1363-1:2020 are not appreciably different. As such, EN 1363-1:2020 can be considered more onerous than AS 1530.4:2014 with regards to the criterion of sustained flaming, as sustained flaming of less than 10 seconds may also be captured as a failure in a test in accordance with EN 1363-1.

5.3.6 Insulation performance criterion and specimen temperature measurement

Both EN 1366-4:2021 and AS 1530.4:2014 denote that insulation failure is deemed to occur when a maximum temperature rise of 180 ºC is recorded by the thermocouples placed on the unexposed surface of the specimen or by a roving thermocouple.

For linear seals, AS 1530.4:2014 clause 10.5.1 (f) specifies the following requirements when placing thermocouples on the unexposed face:

- At least three on the surface of the seal, with one thermocouple for each 0.3 m^2 of surface area, up to a maximum of five, uniformly distributed over the area (one thermocouple being located at the centre of the seal).
- On the surface of the seal, 25 mm from the edge of the opening, with one thermocouple for every 500 mm of the perimeter.
- On the surface of the separating element, 25 mm from the edge of the opening, with one thermocouple for each 500 mm of the perimeter.

Furthermore, clause 10.5.3 of AS 1530.4:2014 specifies that thermocouples used for the evaluation of the insulation performance of linear seals shall be positioned on the unexposed face of the sealing system and the separating element, except where the unexposed face of the seal is recessed within the separating element. Where this occurs, thermocouples shall only be fitted to the seal when the joint width is greater than or equal to 12 mm, and the size of the pad may be reduced to facilitate the fitting of the thermocouple.

Similar to AS 1530.4:2014, EN 1366-4:2021 specifies that thermocouples must be placed at the centre line of the linear joint seals. It is noted that in test reports referenced in Table 4, three thermocouples were placed on the surface of the seal, with one located at the centre of the seal. Therefore, the requirements of AS 1530.4:2014, which stipulate that at least three thermocouples should be placed on the surface of the seal, are fulfilled in the tests.

However, as noted in section 5.3.4, one key difference between the two standards is the thermocouple placement on the separating element. EN 1366-4:2021 requires thermocouples to be installed 15 mm from the linear joint, whereas AS 1530.4:2014 requires them to be placed 25 mm from the edge of the seal.

As the thermocouple locations specified in EN 1366-4:2021 are more onerous, the insulation performance would be expected to be similar to, or better than, the test results referenced in Table 4 if the thermocouples were positioned in accordance with AS 1530.4:2014.

Apart from the discussed variation in the thermocouple location, the general insulation criteria of AS 1530.4:2014 and EN 1366-4:2021 are not appreciably different.

5.3.7 Application of test data to AS 1530.4:2014

The variations in furnace heating regimes, furnace thermocouples and the responses of the different thermocouple types to the furnace conditions are not expected to have a significant effect on the outcome of the referenced fire resistance tests.

Accordingly, based on the above discussion and the discussions presented in sections 5.3.2 to 5.3.6, it is considered that the results relating to the integrity and insulation performance of the referenced tests can be used as a basis to assess the FRL of the specimens in accordance with AS 1530.4:2014 and AS 4072.1:2005 (R2016).

In Test 23-32302411 M1, specimen 13675-1-E consisted of a 5 mm wide × 1000 mm high × 200 mm deep vertical linear joint in a 200 mm thick AAC wall. The joint was protected on the exposed face with a 10 mm deep bead of intumescent acrylic graphite sealant (identical to Fulacaulk Fire HP) and a 10 mm deep PE backer rod on the unexposed side (i.e., no full-depth infill).

During the test, integrity failure was recorded at 123 minutes, evidenced by cotton pad ignition at mid-height. Insulation failure occurred after 11 minutes at the thermocouple located directly on the joint surface. No other insulation failure was recorded up to 85 minutes. It was noted that, for safety reasons, the thermocouples were disconnected beyond that point.

Under the EN standard used for the test, temperatures on narrow joints may be measured by twisting/crimping thermocouple wires together to form a junction at the joint location. Under AS 1530.4, however, a thermocouple would typically not be placed directly on a 5 mm joint due to practical constraints. Instead, insulation assessment would generally rely on thermocouples installed on the separating element adjacent to the joint.

Accordingly, based on the available test information, the joint system protected with Fulacaulk Fire HP and a PE backer rod has been assessed to –/120/60 in accordance with AS 1530.4:2014 and AS 4072.1:2005 (R2016).

5.4 Conclusion

This assessment demonstrates that the control joints sealed with Fulafoam FR and Fulacaulk Fire HP will achieve FRLs as shown in Table 8 and Table 9 – in accordance with AS 1530.4:2014 and AS 4072.1:2005 (R2016).

Table 8 Control joints sealed with Fulafoam FR

Orientation	Minimum seal depth (mm)	Joint width range (mm)	FRL	Field of application
Vertical	100	Up to 10	-/240/90	Applicable for rigid walls (AAC, concrete, blockwork and masonry) with minimum thickness of 100 mm and minimum density of 550 kg/m^3
	100	11 - 40	-/120/30	
	200	Up to 20	-/240/240	Applicable for rigid walls (AAC, concrete, blockwork and masonry) with minimum thickness of 200 mm and minimum density of 450 kg/m^3
	200	21 - 30	-/180/120	
	200	31 - 40	-/180/90	
Horizontal	100	Up to 15	-/90/60	Applicable for rigid walls (AAC, concrete, blockwork and masonry) with minimum thickness of 100 mm and minimum density of 550 kg/m^3
	100	16 - 30	-/60/30	
	200	Up to 30	-/240/180	Applicable for rigid walls (AAC, concrete, blockwork and masonry) with minimum thickness of 200 mm and minimum density of 450 kg/m^3
+ Joints must be filled with Fulafoam FR and covered both sides with 0.6 mm thick steel sheets with minimum Ø3.5 × 40 mm screws. + Results are applicable to continuous joints of unlimited length, provided the joint geometry and local protection are maintained. + The separating element is to be designed and constructed in accordance with the relevant Australian Standard (e.g., AS 3600 for reinforced concrete and AS 3700 where applicable for masonry/AAC) and detailed/verified to achieve the required FRL in accordance with NCC requirements.				

Table 9 Control joints sealed with Fulacaulk Fire HP and Fulafoam FR

Orientation	Minimum seal depth (mm)	Joint width range (mm)	FRL	Field of application
Vertical	200	Up to 20	-/240/240	+ Joint formed by Fulacaulk Fire HP beads on both faces (min 20-30 mm deep each side) and Fulafoam FR infill to give a minimum 200 mm total seal depth. + Applicable for rigid walls (AAC, concrete, blockwork and masonry) with minimum thickness of 200 mm and minimum density of 450 kg/m^3
Vertical	200	Up to 5	-/120/60	+ Joint formed by a 10 mm deep Fulacaulk Fire HP bead on the exposed face with 10 mm deep PE backer rod on the unexposed side (no full-depth infill). + Applicable for rigid walls (AAC, concrete, blockwork and masonry) with minimum thickness of 200 mm and minimum density of 450 kg/m^3

Orientation	Minimum seal depth (mm)	Joint width range (mm)	FRL	Field of application
+ Results are applicable to continuous joints of unlimited length, provided the joint geometry and local protection are maintained. + The separating element is to be designed and constructed in accordance with the relevant Australian Standard (e.g., AS 3600 for reinforced concrete and AS 3700 where applicable for masonry/AAC) and detailed/verified to achieve the required FRL in accordance with NCC requirements.				

6.0 Validity

Jensen Hughes does not endorse the tested or assessed products and systems in any way. The conclusions of this assessment may be used to directly assess fire resistance, but it should be recognised that a single test method will not provide a full assessment of fire resistance 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 sponsor is responsible for formally notifying Jensen Hughes of any additional testing performed on their product/system. This obligation applies regardless of where the test was conducted, the results of the test, or whether it was initially considered part of Jensen Hughes' ongoing assessment. The primary goal of this notification is to allow Jensen Hughes to review the changes and determine whether they require re-evaluation or re-testing to determine whether the changes have affected the product's performance. It is important that the client promptly notify Jensen Hughes if any such changes are implemented.

The procedures for the conduct of tests and the assessment of test results are subject to constant review and improvement. The sponsor 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 systems that is expected to be demonstrated when subjected to test conditions in accordance with AS 1530.4:2014, based on the evidence referred to in this report.

This assessment is provided to H.B. Fuller 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 – 24/32305096

Table 10 Information about test report

Item	Information about test report
Report sponsor	Report sponsor known to Jensen Hughes
Test laboratory	Applus Laboratories, Ronda de la Font del-came, s/n – Campus UAB, 08193, Barcelona, Spain
Test date	The fire resistance test was done on 12 December 2024.
Test standards	The test was done in accordance with EN 1366-4:2021 and EN 1363-1:2020.
Variation to test standards	None
General description of tested specimen	Linear joint seals that are orientated in either vertical or horizontal configurations, incorporating joints of varying widths in 100 mm thick aerated concrete vertical separating element. These joints were protected with a fire rated foam sealant identical to Fulafoam FR and 0.6 mm thick galvanized steel sheets. For the purposes of this assessment, only specimens V6, V7 and V8 were considered.
Instrumentation	The test report states that the instrumentation was in accordance with EN 1366-4:2021 and EN 1363-1:2020.

The test specimen achieved the following results – see Table 11.

Table 11 Results summary for this test report

Sponsor reference	Laboratory reference	Integrity (min)	Insulation (min)
V6	24717-1-F	125	51
V7	24717-1-G	125	38
V8	24717-1-H	125	30

A.2 Test report – 24/32305095-M1

Table 12 Information about test report

Item	Information about test report
Report sponsor	Report sponsor known to Jensen Hughes
Test laboratory	Applus Laboratories, Ronda de la Font del-came, s/n – Campus UAB, 08193, Barcelona, Spain
Test date	The fire resistance test was done on 5 December 2024.
Test standards	The test was done in accordance with EN 1366-4:2021 and EN 1363-1:2020.
Variation to test standards	None
General description of tested specimen	Linear joint seals that are orientated in either vertical or horizontal configurations, incorporating joints of varying widths in 200 mm thick aerated concrete vertical separating element. These joints were protected with a fire rated foam sealant identical to Fulafoam FR and 0.6 mm thick galvanized steel sheets. For the purposes of this assessment, only specimens V19 and V20 were considered.
Instrumentation	The test report states that the instrumentation was in accordance with EN 1366-4:2021 and EN 1363-1:2020.

The test specimen achieved the following results – see Table 13.

Table 13 Results summary about test report

Sponsor reference	Laboratory reference	Integrity (min)	Insulation (min)
V19	24716-1-G	200	128
V20	24716-1-H	200	103

A.3 Test report – 25/32300696

Table 14 Information about test report

Item	Information about test report
Report sponsor	Report sponsor known to Jensen Hughes
Test laboratory	Applus Laboratories, Ronda de la Font del-came, s/n – Campus UAB, 08193, Barcelona, Spain
Test date	The fire resistance test was done on 24 April 2024.
Test standards	The test was done in accordance with EN 1366-4:2021 and EN 1363-1:2020.
Variation to test standards	None
General description of tested specimen	Linear joint seals that are orientated in either vertical or horizontal configurations, incorporating joints of varying widths in 100 mm and 200 mm thick aerated concrete vertical separating elements. These joints were protected with a fire rated foam sealant identical to Fulafoam FR and 0.6 mm thick galvanized steel sheets. For the purposes of this assessment, only specimens H2, H5, H8, H9, V1, V5 and V6 were considered.
Instrumentation	The test report states that the instrumentation was in accordance with EN 1366-4:2021 and EN 1363-1:2020.

The test specimen achieved the following results – see Table 15.

Table 15 Results summary about test report

Sponsor reference	Laboratory reference	Integrity (min)	Insulation (min)
30199-1-A	H2	116	61
30199-1-D	H5	65	52
30199-1-H	H8	255	187
30199-1-I	H9	255	185
30199-1-K	V1	255	109
30199-1-O	V5	255	255
30199-1-P	V6	255	255

A.4 Test report – 23-32302411 M1

Table 16 Information about test report

Item	Information about test report
Report sponsor	Report sponsor known to Jensen Hughes
Test laboratory	Applus Laboratories, Ronda de la Font del-came, s/n – Campus UAB, 08193, Barcelona, Spain
Test date	The fire resistance test was done on 19 September 2023.
Test standards	The test was done in accordance with EN 1366-4:2021 and EN 1363-1:2020.
Variation to test standards	None
General description of tested specimen	Linear joint seals that are orientated in either vertical or horizontal configurations, incorporating joints of varying widths in 100 mm thick aerated concrete vertical separating element. These joints were protected with a fire rated foam sealant identical to Fulafoam FR and/or an intumescent acrylic graphite-based sealant identical to Fulacaulk Fire HP. For the purposes of this assessment, only specimens 33, 36 and 38 were considered.
Instrumentation	The test report states that the instrumentation was in accordance with EN 1366-4:2021 and EN 1363-1:2020.

The test specimen achieved the following results – see Table 17.

Table 17 Results summary about test report

Sponsor reference	Laboratory reference	Integrity (min)	Insulation (min)
33	13675-1-A	240	240
36	13675-1-C	240	240
38	13675-1-E	123	11