



JENSEN HUGHES



Regulatory information report

Control joints protected with CFS-NVB E120 FB
in floor and wall in accordance with
AS 1530.4:2014

Sponsor: Hilti Australia

Report number: 119915 Revision: RIR1.1

Issued date: 7 January 2025 Expiry date: 30 November 2029

Quality management

Version	Date	Information about the report	
RIR1.1	Issue: 07 Jan 2025	Reason for issue	Initial issue. Previous revision was skipped to match the revision number of the referenced assessment report.
	Expiry: 30 Nov 2029	Name	Prepared by
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¹ Warringtonfire Australia Pty Ltd was acquired by Jensen Hughes in December 2023. Jensen Hughes Fire Testing Pty Ltd is not affiliated, associated, authorised, or endorsed by Warringtonfire Australia Pty Ltd, Warringtonfire Testing and Certification Limited or its "Warringtonfire" or "Certifire" brands.

Executive summary

The analysis conducted in the referenced assessment report contains the minimum information required for regulatory compliance and refers to the referenced assessment report 119915 R1.1.

The analysis conducted in the referenced assessment report documents the findings of the assessment undertaken to determine the fire resistance level (FRL) of control joints in a floor and wall protected with CFS-NVB E120 FB in accordance with AS 1530.4:2014 and AS 4072.1:2005 (R2016).

The analysis in section 6 to 7 of the referenced report found that the proposed systems, together with the described variations, will achieve the expected FRL as shown in Table 1 – in accordance with AS 1530.4:2014 and AS 4072.1:2005 (R2016) subject to the limitations outlined.

The variations and outcome of this assessment are subject to the limitations and requirements described in sections 2, 3 and 9 of the referenced report. The results of the referenced report are valid until 30 November 2029.

Table 1 Variations and assessment outcome

Control joint type	Separating element	Control joints configuration	FRL for control joint width		
			≤ 130 mm	131 – 300 mm	301 – 400 mm
CFS-NVB E120 FB	Wall system				
	Aerated or normal concrete wall	Fitted to the control joint with fixings comprises of brackets, anchors and washers as indicated in Figure 4, Figure 5 and Figure 6 with specification listed in Table 6.	-90/90	-60/30	-30/30
	Limitation All assigned FRL is limited to a configuration listed below: <ul style="list-style-type: none"> To both side of the wall but not simultaneously. A minimum of 2 brackets or direct fixing anchors to be used per 1200 mm length of the control joint in the installation and a maximum of 940 mm centre between the brackets or direct fixing anchors. A maximum distance of 130 mm from the centre of the bracket to the edge of the control joint splice. The brackets, anchors and washers as fixing solutions are made of the material detailed in the specification listed in Table 6. A 5 mm compression is required when the cavity barrier is fitted into a control joint with ≤ 130 mm width. A 10 mm compression is required when the cavity barrier is fitted into a control joint between 131 mm and 400 mm width. 				
Floor system					
	Aerated or normal concrete floor	Fitted to the control joint with fixings comprises of brackets, anchors and washers as indicated in Figure 1, Figure 2 and Figure 3 with specification listed in Table 5.	-90/90	-60/30	-30/30

Control joint type	Separating element	Control joints configuration	FRL for control joint width		
			≤ 130 mm	131 – 300 mm	301 – 400 mm
			<p>Limitation</p> <p>All assigned FRL is limited to a configuration listed below:</p> <ul style="list-style-type: none"> • To the underside of the floor slab. • A minimum of 3 brackets or direct fixing anchors to be used per 1200 mm length of the control joint in the installation and a maximum of 470 mm centre between the brackets or direct fixing anchors. • A maximum distance of 130 mm from the centre of the bracket to the edge of the control joint splice. • The brackets, anchors and washers as fixing solutions are made of the material detailed in the specification listed in Table 5. • A 5 mm compression is required when the cavity barrier is fitted into a control joint with ≤ 130 mm width. • A 10 mm compression is required when the cavity barrier is fitted into a control joint between 131 mm and 400 mm width. 		
<p>Note: Control joint CFS-NVB E120 FB comes in 1200 mm × 1000 mm × 100 mm board form and must be cut into the appropriate size</p>					

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1. Introduction

The analysis conducted in the referenced assessment report contains the minimum information sufficient for regulatory compliance and refers to the assessment report 119915 R1.1.

The analysis conducted in the referenced assessment report documents the findings of the assessment undertaken to determine the fire resistance level (FRL) of control joints in a floor and wall protected with CFS-NVB E120 FB in accordance with AS 1530.4:2014² and AS 4072.1:2005 (R2016)³.

The analysis conducted in the referenced assessment 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 the referenced assessment report. It also references test evidence for meeting deemed-to-satisfy (DTS) provisions of the NCC that apply to the assessed systems.

The referenced assessment was carried out at the request of Hilti Australia. The sponsor details are included in Table 2.

Table 2 Sponsor details

Sponsor	Address
Hilti Australia	7/600 Lorimer St Port Melbourne VIC 3207 Australia

2. 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 2021⁴.

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.

The referenced 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

² 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.

³ Standards Australia, 2005, Components for the protection of openings in fire-resistant separating elements: Service penetrations and control joints, AS 4072.1:2005 (R2016), Standards Australia, NSW.

⁴ 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.



evaluation of the potential fire resistance performance of the elements in accordance with AS 1530.4:2014.

The referenced assessment has been written in accordance with the general principles outlined in EN 15725:2023⁵ for extended application on the fire performance of construction products and building elements: Principle of EXAP standards and EXAP reports.

The referenced 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

The referenced assessment report has been prepared to meet the evidence of suitability requirements of the NCC 2022⁶ 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 the referenced assessment 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).

The referenced 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 16 October 2024, Hilti Australia confirmed that:

- To their knowledge, the variations to the component or element of structure, which is the subject of the referenced assessment, have not been subjected to a fire test to the standard against which the referenced assessment is being made.
- They agree to withdraw the referenced 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 the referenced assessment is being made and the results are not in agreement with the referenced assessment.
- They are not aware of any information that could adversely affect the conclusions of the referenced assessment and – if they subsequently become aware of any such information – they agree to ask the assessing authority to withdraw the assessment.

3. Requirements and limitations of the referenced assessment

- The scope of the referenced assessment report is limited to an assessment of the variations to the tested systems described in section 4.3.
- The referenced assessment report details the methods of construction, test conditions and assessed results in accordance with AS 1530.4:2014 and 4072.1:2005 (R2016).
- The referenced assessment applies to floor/ceiling systems exposed to fire from below in accordance with the requirements of AS 1530.4:2014 where horizontal elements must be exposed to heat from the underside only.

⁵ 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

⁶ National Construction Code Volumes One and Two - Building Code of Australia 2022, Australian Building Codes Board, Australia



- The referenced 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 referenced 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 the referenced assessment report.
- Jensen Hughes Testing has provided the referenced assessment 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 the referenced assessment report are intended to assist in verifying the suitability of the product or system for practical use in specific applications.
- The referenced assessment 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 the referenced assessment report – may invalidate the findings of the referenced 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 the referenced assessment report.
- The referenced assessment report has been prepared using information provided by others. Jensen Hughes Testing 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 the referenced assessment report as a result.
- The documentation that forms the basis for the referenced assessment report is listed in Appendix A of the referenced report.
- The referenced 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 the referenced assessment report.

4. Description of the specimen and variations

4.1 Description of assessed systems

The assessment report references fire test reports No. 23304A, No. 23315B, and No. 23305A, which evaluate the fire resistance characteristics, specifically integrity and insulation, of control joints in 150 mm thick aerated concrete floor and 500 mm thick aerated concrete wall. These joints are protected using CFS-NVB E120 FB cavity barriers which are held in place by fixings comprises of brackets, anchors and washers installed along the length of the joints.

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 3. Further details of the tested systems are included in Appendix A of the referenced report.

Table 3 Referenced test data

Report number	Test sponsor	Test date	Testing authority
23304A	Hilti AG	29 January 2024	Ghent laboratory
23305A	Feldkircherstraße 100	30 January 2024	WFRGent nv
23315B	FL-9494 SCHAAN Liechtenstein	29 February 2024	Ottergemsesteenweg-Zuid 711 9000 GENT Belgium

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 4.

Table 4 Variations to tested systems

Item	Reference test	Description	Variations
Floor system			
Hilti control joints CFS-NVB E120 FB	No. 23304A	<p>The test No. 23304A comprises of 5 control joints namely position 28, 29, 30, 31 and 32 that were tested in an aerated concrete floor construction in accordance with EN 1366-4:2021. The floor had overall dimensions of 6000 mm long by 3000 mm wide by 150 mm thick.</p> <p>The aperture of this joints is similar in length and depth but have varying degree of width for the purpose of the test. The width of these apertures are 130 mm, 300 mm and 400 mm. Each aperture is assigned a position no. for identification purposes. These positions no. is position 28, 29, 30, 31 and 32. These apertures are sealed with cavity barriers CFS-NVB E120FB for position 28, 29, 30 and 32 while CFS-NVB E120 400 is used at position 31. Both type of cavity barriers serves as a linear joint seal and recessed to a depth of 50 mm from the separating element on the unexposed side.</p> <p>Position 30 and 32 varies only in type of materials used as brackets penetrating the linear joint seal along the width. Galvanised steel and stainless steel are used for position 30 and 32 separately. Each full-length of the cavity barrier is held by three identical brackets and fixings with dimensions corresponding to the width of the aperture. One bracket is installed 130 mm from the cavity barrier splice on each end and one at the centre of the full-length cavity barrier.</p> <p>The test was discontinued after 132 minutes.</p>	<p>It is proposed that CFS-NVB E120 FB in a floor system is configured such that:</p> <ul style="list-style-type: none"> Control joint are proposed to be fastened to the separating element by means of brackets made of either galvanised steel or stainless steel. Brackets used to hold the control joints are proposed to be attached to the separating element by means of anchors made of either zinc-coated steel or stainless steel. Width of the control joints are proposed to be varied to a maximum of 400 mm in line with the width of the aperture in the separating element. The control joints are to be exposed from the underside of the floor slab. The number of brackets used per unit length of the control joint to secure it in place is as specified in the front view (unexposed side) illustrations provided within Test Report No. 23304A. The distance from the centre of the bracket to the edge of the control joint splice is proposed to be varied to a maximum of 130 mm.
	No. 23315B	<p>The test No. 23315B comprises of 2 control joints namely position 38 and 39 that were tested in an aerated concrete floor construction in accordance with EN 1366-4:2021. The floor had overall dimensions of 6000 mm long by 3000 mm wide by 150 mm thick.</p> <p>The aperture of this joints is similar in length and depth but have varying degree of width for the purpose of the test. The width of these apertures are 300 mm and 400 mm. Each aperture is assigned a position no. for identification purposes. These positions no. is position 38 and 39. These apertures are sealed with cavity barriers CFS-NVB E120FB. The cavity</p>	

Item	Reference test	Description	Variations
		<p>barriers serve as a linear joint seal to a depth of 50 mm from the separating element on the unexposed side.</p> <p>Position 38 and 39 varies only in length of the bracket penetrating the linear joint seal along the width. Galvanised steel is used for both position 38 and 39. Each full-length of the cavity barrier is held by two identical brackets and fixings with dimensions corresponding to the width of the aperture. One bracket is installed 130 mm from the cavity barrier splice on each end.</p> <p>The test was discontinued after 132 minutes.</p>	
Wall system			
Hilti control joints CFS-NVB E120 FB	No. 23305A	<p>The test No. 23305A comprises of 5 control joints namely position 33, 34, 35, 36 and 37 that were tested in an aerated concrete wall construction in accordance with EN 1366-4:2021. The wall had overall dimensions of 3000 mm long by 3000 mm wide by 500 mm thick.</p> <p>The aperture of this joints is similar in length and depth but have varying degree of width for the purpose of the test. The width of these apertures are 130 mm, 300 mm and 400 mm. Each aperture is assigned a position no. for identification purposes. These positions no. is position 33, 34, 35, 36 and 37. These apertures are sealed with CFS-NVB E120FB for position 33, 34, 35 and 37 while CFS-NVB E120 400 is used at position 36. Both type of cavity barriers serves as a linear joint seal to a depth of 50 mm from the separating element on the unexposed side.</p> <p>Position 35 and 37 varies only in type of materials used as brackets penetrating the linear joint seal along the width. Galvanised steel and stainless steel are used for position 35 and 37 separately. Each full-length of the cavity barrier is held by two identical brackets and fixings with dimensions corresponding to the width of the aperture. One bracket is installed 130 mm from the cavity barrier splice on each end.</p> <p>The test was discontinued after 132 minutes.</p>	<p>It is proposed that CFS-NVB E120 FB in a wall system is configured such that:</p> <ul style="list-style-type: none"> Control joint are proposed to be fastened to the separating element by means of brackets made of either galvanised steel or stainless steel. Brackets used to hold the control joints are proposed to be attached to the separating element by means of anchors made of either zinc-coated steel or stainless steel. Width of the control joints are proposed to be varied to a maximum of 400 mm in line with the width of the aperture in the separating element. The control joints are to be exposed from both side of the wall but distinctly. The number of brackets used per unit length of the control joint to secure it in place is as specified in the front view (unexposed side) illustrations provided within Test Report No. 23305A. The distance from the centre of the bracket to the edge of the control joint splice is proposed to be varied to a maximum of 130 mm.

4.4 Assessment standard

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 Schedule of components

Table 5 outlines the schedule of components for the assessed systems. We have based this schedule of component from the reference test report shown in Table 3.

Table 5 Schedule of components of assessed floor systems

Item	Description	
Separating element		
1.	Product name	150 mm thick rigid autoclaved aerated concrete floor slab
	Product specification	Constructed in accordance with European standard EN 1366-4:2021
	Dimensions	6000 mm length × 3000 mm width × 150 mm thick
Fire-stopping protections		
Sealant		
2.	Item name	Cavity barrier
	Brand	Hilti
	Product name	CFS-NVB E120FB
	Initial dimensions	1200 mm × 1000 mm × 100 mm
	Density	74.1 kg/m ³
Brackets		
3.	Item name	Medium bracket
	Brand	Hilti
	Product name	CFS-VB/NVB M
	Material	Galvanised steel
	Dimensions	Thickness: 0.7 mm Section dimension: 30 mm × 5 mm Length: 185 mm Height: 130 mm
4.	Item name	Large bracket
	Brand	Hilti
	Product name	CFS-VB/NVB L
	Material	Galvanised steel
	Dimensions	Thickness: 0.7 mm Section dimension: 30 mm × 5 mm Length: 295 mm Height: 130 mm
5.	Item name	Large bracket
	Brand	Hilti
	Product name	CFS-VB/NVB L
	Material	Stainless steel
	Dimensions	Thickness: 0.7 mm Section dimension: 30 mm × 5 mm Length: 295 mm

Item	Description	
		Height: 130 mm
6.	Item name	Short anchor
	Brand	Hilti
	Product name	HUS4-HR 6×70 40/35/15
	Material	Stainless steel
	Dimensions	Diameter: 6 mm Length: 70 mm
7.	Item name	Long anchor
	Brand	Hilti
	Product name	HUS 6×180 40/35/15
	Material	Zinc-coated steel
	Dimensions	Diameter: 6 mm Length: 180 mm
8.	Item name	Washer
	Brand	Hilti
	Product name	A2K 8.4 × 28 × 2
	Material	Galvanised steel
	Dimensions	Inner diameter: 8.4 mm Outer diameter: 28 mm
Floor configuration		
9.	Installation in test No. 23304A	<p>The test comprises of 5 control joints namely position 28, 29, 30, 31 and 32 that were tested in an aerated concrete floor construction in accordance with EN 1366-4:2021. The floor had overall dimensions of 6000 mm long by 3000 mm wide by 150 mm thick (Item 1).</p> <p>The aperture of this joints is similar in length and depth but have varying degree of width for the purpose of the test. These apertures are sealed with CFS-NVB E120FB for position 28, 29, 30 and 32 while CFS-NVB E120 400 is used at position 31. Both type of cavity barriers acts as a linear joint seal and recessed to a depth of 50 mm from the separating element (Item 1) on the unexposed side.</p> <p>Position 30 and 32 varies only in type of materials used as brackets. Galvanised steel (Item 4) and stainless steel (Item 5) were used, respectively.</p>
	Installation in test No. 23315B	<p>The test 23315B comprises of 2 control joints namely position 38 and 39 that were tested in an aerated concrete floor construction in accordance with EN 1366-4:2021. The floor had overall dimensions of 6000 mm long by 3000 mm wide by 150 mm thick (Item 1).</p> <p>The aperture of this joints is similar in length and depth but have varying degree of width for the purpose of the test. These apertures are sealed with CFS-NVB E120FB. The cavity barriers act as a linear joint seal to a depth of 50 mm from the separating element on the unexposed side.</p> <p>Position 38 and 39 varies only in the width of the aperture and length of the bracket penetrating the linear joint seal along the length. Brackets with a length of 185 mm and 295 mm were used, respectively.</p>

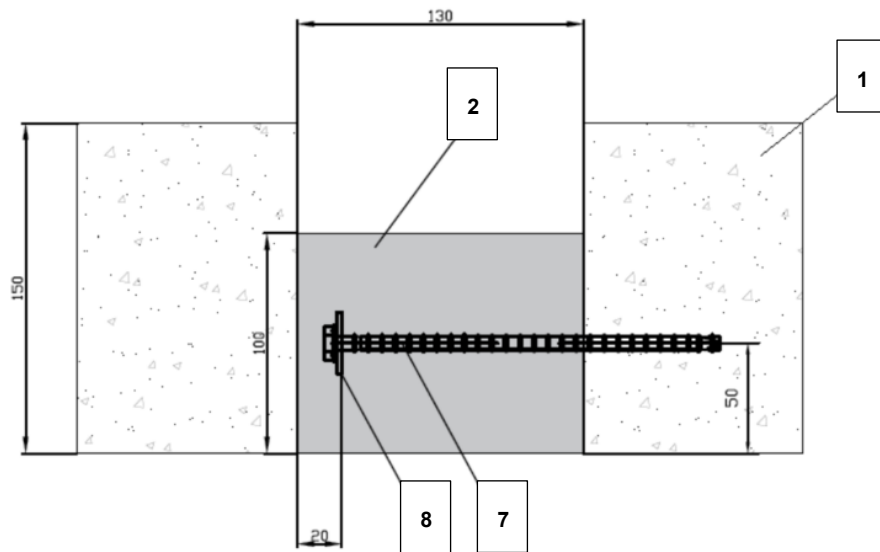


Figure 1 Control joint width of ≤ 130 mm

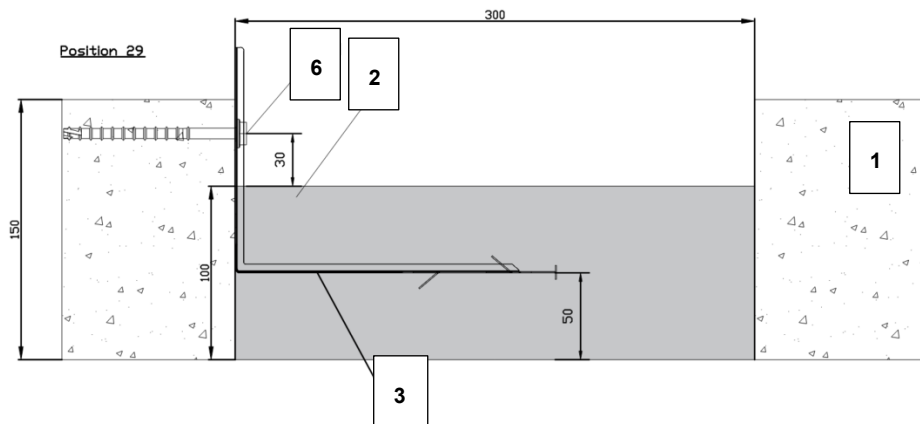


Figure 2 Control joint width of 131 - 300 mm

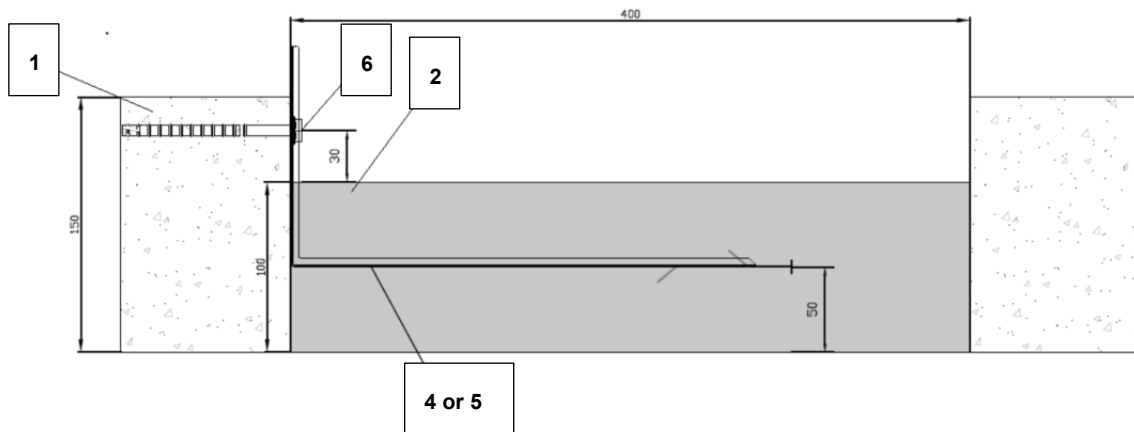


Figure 3 Control joint width of 301 - 400 mm

Table 6 Schedule of components of assessed wall systems

Item	Description	
Separating element		
10.	Product name	150 mm thick rigid autoclaved aerated concrete floor slab
	Product specification	Constructed in accordance with European standard EN 1366-4:2021
	Dimensions	6000 mm length × 3000 mm width × 150 mm thick
Fire-stopping protections		
Sealant		
11.	Item name	Cavity barrier
	Brand	Hilti
	Product name	CFS-NVB E120FB
	Initial dimensions	1200 mm × 1000 mm × 100 mm
	Density	74.1 kg/m ³
Brackets		
12.	Item name	Medium bracket
	Brand	Hilti
	Product name	CFS-VB/NVB M
	Material	Galvanised steel
	Dimensions	Thickness: 0.7 mm Section dimension: 30 mm × 5 mm Length: 185 mm Height: 130 mm
13.	Item name	Large bracket
	Brand	Hilti
	Product name	CFS-VB/NVB L
	Material	Galvanised steel
	Dimensions	Thickness: 0.7 mm Section dimension: 30 mm × 5 mm

Item	Description	
		Length: 295 mm Height: 130 mm
14.	Item name	Large bracket
	Brand	Hilti
	Product name	CFS-VB/NVB L
	Material	Stainless steel
	Dimensions	Thickness: 0.7 mm Section dimension: 30 mm × 5 mm Length: 295 mm Height: 130 mm
15.	Item name	Short anchor
	Brand	Hilti
	Product name	HUS4-HR 6×70 40/35/15
	Material	Stainless steel
	Dimensions	Diameter: 6 mm Length: 70 mm
16.	Item name	Long anchor
	Brand	Hilti
	Product name	HUS 6×180 40/35/15
	Material	Zinc-coated steel
	Dimensions	Diameter: 6 mm Length: 180 mm
17.	Item name	Washer
	Brand	Hilti
	Product name	A2K 8.4 × 28 × 2
	Material	Galvanised steel
	Dimensions	Inner diameter: 8.4 mm Outer diameter: 28 mm
Wall configuration		
18.	Installation in test No. 23305A	<p>The test 23305A comprises of 5 control joints namely position 33, 34, 35, 36 and 37 that were tested in an aerated concrete wall construction in accordance with EN 1366-4:2021. The floor had overall dimensions of 3000 mm long by 3000 mm wide by 500 mm thick (Item 1).</p> <p>The aperture of this joints is similar in length and depth but have varying degree of width for the purpose of the test. These apertures are sealed with CFS-NVB E120FB for position 33, 34, 35 and 37 while CFS-NVB E120 400 is used at position 36. Both type of cavity barriers acts as a linear joint seal to a depth of 50 mm from the separating element on the unexposed side.</p> <p>Position 35 and 37 varies only in type of materials used as brackets. Galvanised steel (Item 4) and stainless steel (Item 5) were used, respectively.</p>

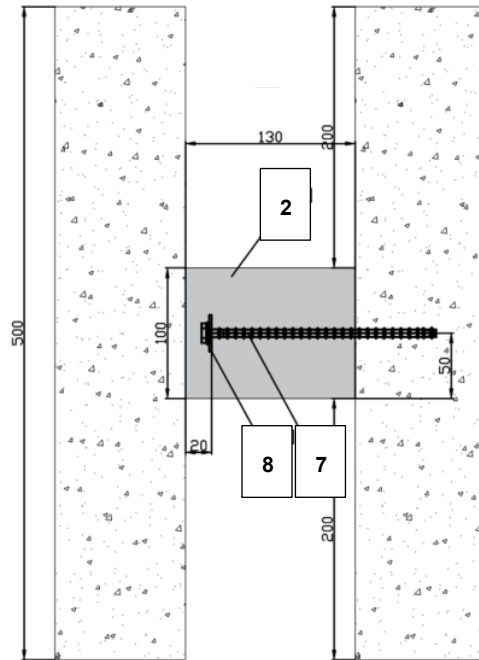


Figure 4 Control joint width of ≤ 130 mm

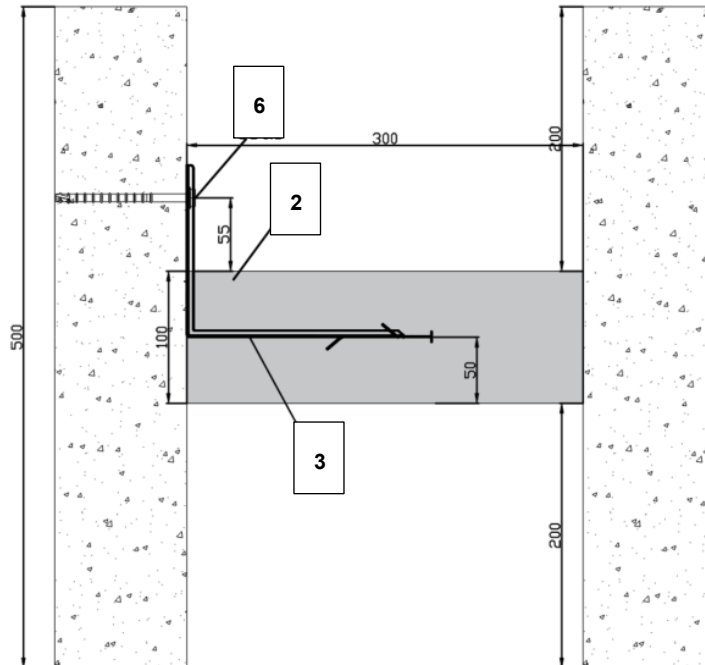


Figure 5 Control joint width of 131 - 300 mm

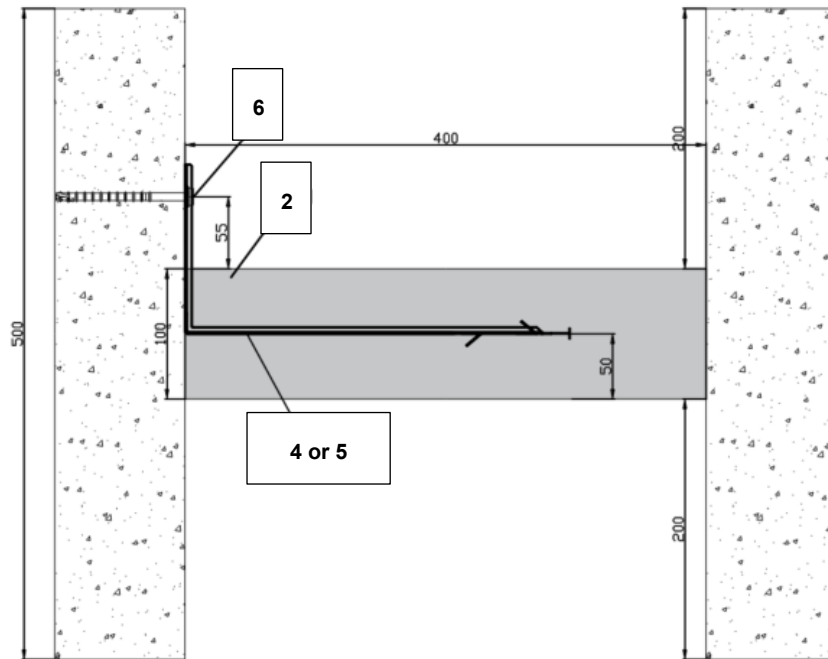


Figure 6 Control joint width of 301 - 400 mm

5. Conclusion

Details of the assessment and discussion are only available in the referenced main assessment report. A summary of the assessment outcome is outlined in Table 1.

The referenced assessment demonstrates that control joints described in section 6 and 7, protected with cavity barrier CFS-NVB E120 FB with brackets, anchors and washers in an aerated or normal; concrete floor and wall system is expected to achieve the FRL shown in Table 7 in accordance with AS 1530.4:2014 subject to the limitations outline within Table 7.

Table 7 Conclusion

Control joint type	Separating element	Control joints configuration	FRL for control joint width		
			≤ 130 mm	131 – 300 mm	301 – 400 mm
CFS-NVB E120 FB	Wall system				
	Aerated or normal concrete wall	Fitted to the control joint with fixings comprises of brackets, anchors and washer as indicated in Figure 4, Figure 5 and Figure 6 with specification listed in Table 6.	-/90/90	-/60/30	-/30/30
	Limitation All assigned FRL is limited to a configuration listed below: <ul style="list-style-type: none"> To both side of the wall but not simultaneously. A minimum of 2 brackets or direct fixing anchors to be used per 1200 mm length of the control joint in the installation and a maximum of 940 mm centre between the brackets or direct fixing anchors. A maximum distance of 130 mm from the centre of the bracket to the edge of the control joint splice. The brackets, anchors and washers as fixing solutions are made of the material detailed in the specification listed in Table 6. A 5 mm compression is required when the cavity barrier is fitted into a control joint with ≤ 130 mm width. A 10 mm compression is required when the cavity barrier is fitted into a control joint between 131 mm and 400 mm width. 				
	Floor system				
Aerated or normal concrete floor	Fitted to the control joint with fixings comprises of brackets, anchors and washers as indicated in Figure 1 and Figure 3 with specification listed in Table 5.	-/90/90	-/60/30	-/30/30	
Limitation All assigned FRL is limited to a configuration listed below: <ul style="list-style-type: none"> To the underside of the floor slab. A minimum of 3 brackets or direct fixing anchors to be used per 1200 mm length of the control joint in the installation and a maximum of 470 mm centre between the brackets or direct fixing anchors. A maximum distance of 130 mm from the centre of the bracket to the edge of the control joint splice. The brackets, anchors and washers as fixing solutions are made of the material detailed in the specification listed in Table 5. A 5 mm compression is required when the cavity barrier is fitted into a control joint with ≤ 130 mm width. 					

Control joint type	Separating element	Control joints configuration	FRL for control joint width		
			≤ 130 mm	131 – 300 mm	301 – 400 mm
	<ul style="list-style-type: none"> A 10 mm compression is required when the cavity barrier is fitted into a control joint between 131 mm and 400 mm width. 				
<p>Note: Control joint CFS-NVB E120 FB comes in 1200 mm × 1000 mm × 100 mm board form and must be cut into the appropriate size</p>					

6. Validity

Jensen Hughes does not endorse the tested or assessed products and systems in any way. The conclusions of the referenced 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.

The referenced 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 the referenced assessment report be reviewed on, or before, the stated expiry date.

The referenced 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 the referenced assessment report.

The referenced assessment is provided to Hilti Australia for their own specific purposes. The referenced assessment 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 the referenced assessment report for a specific installation.