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Regulatory information report

Fire resistance of 51 mm, 64 mm and 78 mm thick vertically orientated Speedpanel wall system to AS 1530.4:2014

Sponsor: Speedpanel Holdings Pty Ltd

Report number: 28928 Revision: RIR4.5 Reference number: FAS180409

Issued date: 28 June 2023 Expiry date: 31 March 2026

Quality management

Version	Date	Information about the report			
RIR4.1	Issue: 6/04/2021	Reason for issue	Report updated to address the comments from Speedpanel Holdings Pty.		
			Prepared by	**Reviewed by**	**Authorised by**
		Name	Kevin Feng	Imran Ahamed	Omar Saad
RIR4.4	Issue: 28/04/2022	Reason for issue	Report updated to increase the maximum wall height for 78 mm Speedpanel wall, and include additional angled, multi-angled corner, head details options, inclined and curved in plan wall installations.		
			Prepared by	**Reviewed by**	**Authorised by**
		Name	Kevin Feng	Imran Ahamed	Imran Ahamed
RIR4.5	Issue: 28/06/2023	Reason for issue	Update to include reference to NCC 2022.		
			Prepared by	**Reviewed by**	**Authorised by**
	Expire: 31/03/2026	**Name**	Chad McLean	Omar Saad	Omar Saad
		Signature			

Executive summary

This report contains the minimum information required for regulatory compliance and refers to the referenced assessment report 28928 R4.5.

The analysis conducted in the referenced assessment report documents the findings of the assessment undertaken to determine the fire resistance level (FRL) of 51 mm, 64 mm and 78 mm thick vertically orientated Speedpanel wall system in accordance with AS 1530.4:2014. This includes construction details for base, head, corners and
T-junctions of the wall.

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

- Walls can be up to 5 m high for 51 mm, 64 mm and 78 mm thick Speedpanel wall depending on design and the general arrangement as shown in Figure 1.
- Head details fixed to concrete slab can be as shown in Figure 3 to Figure 18.
- Head detail fixed to steel structure can be as shown in Figure 19.
- Wall edge details can be as shown in Figure 20 to Figure 45.
- Wall base details can be as shown in Figure 46 to Figure 53.
- Corner details can be as shown in Figure 54 to Figure 71.
- T-junction details can be as shown in Figure 72 and Figure 73.
- Angled details can be as shown in Figure 74 to Figure 83.
- Multi-angled corner details can be as shown in Figure 84 and Figure 85.
- The sealant product at side and bottom tracks can be optionally Hilti CP606 Firestop Acrylic Sealant, Promaseal A, Bostik Fireban One PU or Sikaflex 400 Fire PU.

Additionally for 78 mm wall system only:

- Inclined wall systems can be constructed as shown in Figure 86.
- For inclined and segmented wall heights between 5 m and 6 m, angled connection and head details must be as shown in Figure 87 – Figure 89, and Figure 91 – Figure 93, respectively.
- Vertical wall curved in plan detail shown in Figure 90.

Based on the discussion presented in this report, it is the opinion of this registered testing authority that the proposed wall construction are expected to achieve the FRLs stated in Table 1 and Table 2 – in accordance with AS 1530.4:2014.

The variations and outcome of the referenced assessment report are subject to the limitations and requirements described in sections 2, 3 and 6 of this report. The results of this report are valid until 31 March 2026.

Table 1 Vertical Speedpanel wall systems

Wall thickness (mm)	Max. wall height (m)	Panel-to-panel fixings	Connections								FRL
			Head to concrete slab	Head to steel structure	Side/edge	Base	Corner	T-intersection	Angled	Multi-Angled	
51	5.0	Required to be installed to one face of the panels across the wall at 1000 mm centres (Figure 1)	Figure 3 to Figure 18	Figure 19	Figure 20 to Figure 45	Figure 46 to Figure 53	Figure 54 to Figure 71	Figure 72 to Figure 73	Figure 74 to Figure 83	Figure 84 to Figure 85	-/60/60
64	5.0										-/90/90
78	5.0										-/120/120
78	6.0	Required to be installed to one face of the panels at (Figure 2): • 500 mm centres (1st two joints); • 750 mm centres (2nd two joints); and then • 1000 mm centres									-/120/120

Table 2 Inclined and curved/segmented Speedpanel wall systems

Wall thickness (mm)	Wall height (H) (m)	Maximum inclined distance (D) (m)	Maximum inclined angle (Θ) (°)	Connections Head	Side/Edge	Base	Minimum radius of curvature view (m)	FRL
78	4.0	1.34	19	Figure 86	Figure 20 to Figure 45	Figure 86	-	-/120/120
	4.2	1.18	16					
	4.5	0.94	12					
	4.7	0.79	10					
	4.8	0.71	8					
	4.9	0.64	7					
	5.0	0.56	6					
	5.2	0.42	5	Figure 91 to Figure 93	Figure 20 to Figure 45	Figure 86		
	5.5	0.19	2					
	5.7	0.04	0					
	5.8	0.00	0					
	6.0	0.00	0					
78	5.0	-	-	Figure 3 to Figure 18	Figure 87 to Figure 89	Figure 46 to Figure 53	-	-/120/120
	5.01 – 6.0	-	-	Figure 91 to Figure 93			-	-/120/120
78	6.0	-	-	Figure 3 to Figure 18	Figure 90	Figure 46 to Figure 53	1.35 (int) / 1.45 (ext)	-/120/120
Note: Situations where two angle sections are used to connect the Speedpanel system, both angle sections may face opposite directions and achieve the relevant FRLs in Table 1 and Table 2.								

Contents

1. Introduction

This report contains the minimum information sufficient for regulatory compliance and refers to the assessment report 28928 R4.5.

The analysis conducted in the refenced assessment report documents the findings of the assessment undertaken to determine the fire resistance level (FRL) of 51 mm, 64 mm and 78 mm thick vertically orientated Speedpanel wall system in accordance with AS 1530.4:2014[1]. This includes construction details for base, head, corners, T-junctions, angled and multi-angled details of the wall.

The referenced assessment was carried out at the request of Speedpanel Holdings Pty Ltd.

The sponsor details are included in Table 3.

Table 3 Sponsor details

Sponsor	Address
Speedpanel Holdings Pty Ltd	421 Dorset Road Bayswater VIC 3153 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 if it was subject to a standard fire test.

No specific framework, methodology, standard or guidance documents exists in Australia for doing 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 will 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 based on the tested constructions and performances obtained. The referenced assessment is an evaluation of the potential fire resistance performance if the elements were to be tested in accordance with AS 1530.4:2014.

This assessment has been written in accordance with the general principles outlined in EN 15725:2010[3] for extended application reports on the fire performance of construction products and building elements. It also references test evidence for meeting a performance requirement or deemed

[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.
[3] European Committee for Standardization, EN 15725:2010: Extended application reports on the fire performance of construction products and building elements, European Committee for Standardization, Brussels, Belgium.

to satisfy (DTS) provisions of the NCC under A5.4 for fire resistance levels, and as applicable to the assessed systems.

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

This assessment report has been prepared to meet the evidence of suitability requirements of the NCC 2022[4] 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.

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 26 November 2021, Speedpanel Holdings Pty Ltd confirmed that:

- To their knowledge the component or element of structure, which is the subject of this assessment, has not been subjected to a fire test to the standard against which this assessment is being made.
- 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 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 that are expected if the systems were tested in accordance with AS 1530.4:2014.
- The results of the referenced assessment are applicable to fire exposure from either side for the assessed wall system, but not simultaneously. For multi-angled corner details, the assessment is applicable to fire exposure from either side of one of the connected wall panels, but not simultaneously.
- It is required that the lateral load capacity of the head track and base track be verified by the design engineer for the lateral load capacity under ambient loading conditions.
- It is required the support construction above and below the wall be capable of providing adequate vertical and lateral support for the FRL period.
- It is required the steel structure above the wall shall be protected with vermiculite spray be providing adequate support for the FRL period. The protection of structural steel does not form part of the referenced assessment and required protection thickness must be determined by others by at least considering critical temperature of 550°C. In addition, the

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

design of steel beam must be conducted in a such manner not to allow the steel beam to deflect more than 20 mm during the fire exposure.

- 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 this 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).
- The documentation that forms the basis for this report is listed in Appendix A of referenced assessment report.
- The referenced assessment 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.
- 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 the 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 System description

This assessment makes reference to test reports BWA 2286900.5, EWFA 2848300.2 and EWFA 2736002.1 being tests of Speedpanel wall systems tested in accordance with AS 1530.4:2005[5].

BWA 2286900.5 consisted of a test of a vertically orientated 78 mm thick 3 m × 3 m Speedpanel wall system. The wall was loaded to simulate a wall of increased height. The test was conducted by Warringtonfire and sponsored by Speedpanel (Vic.) Pty Ltd.

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

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

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

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

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

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

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

[5] Standards Australia, 2005, Methods for fire tests on building materials, components and structures – Part 4: Fire-resistance tests for elements of construction, AS 1530.4:2005, Standards Australia, NSW.

4.2 Referenced test data

The assessment of the variation to the tested system and the determination of the expected performance is based on the results of the fire tests documented in the reports summarised in Table 4.

Table 4 Referenced test data

Report number	Test sponsor	Test date	Testing authority
BWA 2286900.5	Speedpanel VIC Pty Ltd.	18 August 2008	Warringtonfire Australia
EWFA 2736000	Speedpanel VIC Pty Ltd.	22 June 2012	Warringtonfire Australia
EWFA 2736002	Speedpanel VIC Pty Ltd.	13 July 2012	Warringtonfire Australia
EWFA 2741700.1	Speedpanel VIC Pty Ltd.	20 July 2012	Warringtonfire Australia
EWFA 2798800.1	Speedpanel VIC Pty Ltd.	29 January 2013	Warringtonfire Australia
EWFA 2848300.2	Speedpanel VIC Pty Ltd.	29 May 2013	Warringtonfire Australia
EWFA 29942200.1	Speedpanel VIC Pty Ltd.	31 July 2014	Warringtonfire Australia
FR 3754	Speedwall New Zealand Ltd	17 May 2006	BRANZ
FR 4322	Speedpanel VIC Pty Ltd.	22 October 2009	BRANZ
TE 93878	Cafco Europe Group SA (T/A Cafco International)	9 January 2001	BRE laboratories

4.3 Variations to the tested systems

An identical system has not been subject to a standard fire test. We have therefore assessed the systems using baseline test information for similar systems.

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

- Walls can be up to 5 m high for 51 mm, 64 mm and 78 mm thick Speedpanel wall depending on design and the general arrangement as shown in Figure 1.
- Head details fixed to concrete slab can be as shown in Figure 3 to Figure 18.
- Head detail fixed to steel structure can be as shown in Figure 19.
- Wall edge details can be as shown in Figure 20 to Figure 45.
- Wall base details can be as shown in Figure 46 to Figure 53.
- Corner details can be as shown in Figure 54 to Figure 71.
- T-junction details can be as shown in Figure 72 and Figure 73.
- Angled details can be as shown in Figure 74 to Figure 83.
- Multi-angled corner details can be as shown in Figure 84 and Figure 85.
- The sealant product at side and bottom tracks can be optionally Hilti CP606 Firestop Acrylic Sealant, Promaseal A, Bostik Fireban One PU or Sikaflex 400 Fire PU.

Additionally for 78 mm wall system only:

- Inclined wall systems can be constructed as shown in Figure 86.
- For inclined and segmented wall heights between 5 m and 6 m, angled connection and head details must be as shown in Figure 87 – Figure 89, and Figure 91 – Figure 93, respectively.
- Vertical wall curved in plan detail shown in Figure 90.

4.4 Purpose of the test

AS 1530.4:2014 sets out procedures for conducting fire resistance tests on building materials, components and structures. Specifically, section 2 of this standard contains general requirements for these tests. Section 3 addresses the fire resistance testing of walls.

4.5 Schedule of components

Table 5 outlines the schedule of components for the assessed systems subject to a fire test, as referenced in Appendix A of referenced assessment report.

Table 5 Schedule of components of assessed systems

Item	Description		
1	Name	Speedpanel® panel – vertical	
	Material	0.4 mm BMT mild steel sheath with lightweight cementitious infill	
	Size	• 78 mm profile panels as tested in EWFA 2286900.5; or • 64 mm profile panels as tested in EWFA 2848300.2; or • 51 mm profile panels as tested in EWFA 2736002.1	
2	Name	C-track	
	Material	1.15 mm BMT (1.2 mm TCT) galvanised mild steel	
	Size	• 50 mm × 82 mm × 50 mm – 78 mm • 50 mm × 68 mm × 50 mm – 64 mm • 50 mm × 56 mm × 50 mm – 51 mm	
3	Name	Equal angle	
	Material	1.15 mm BMT (1.2 mm TCT) galvanised mild steel	
	Spacing	50 mm × 50 mm	
4	Name	J-track	
	Material	1.15 mm BMT (1.2 mm TCT) galvanised mild steel	
	Spacing	• 50 mm × 82 mm × 90 mm – 78 mm • 50 mm × 68 mm × 90 mm – 64 mm • 50 mm × 56 mm × 90 mm – 51 mm	
5	Name	Fixing – track/angle to panel	
	Material	Minimum 10 g × 30 mm SDS	
	Spacing	Maximum 500 mm centres	
6	Name	Fixing – panel to panel	
	Material	Minimum 10 g × 16 mm SDS	
	Installation	Into every joint at 1000 mm centres	
7	Name	Fixing – masonry	
	Material	Hilti HUS3-P 6 × 40/5 Screw anchor; or 6.5 mm × 50 mm Mushroom head spike – installed in accordance with project engineer's specification and at least 40 mm embedment	
	Installation	Maximum 500 mm centres	
8	Name	Fire rated sealant	
	Material	Hilti CP606 Firestop Acrylic Sealant, Promaseal A, Bostik Fireban One PU, Sikaflex 400 Fire PU	
	Installation	Seal all gaps as shown	
9	Name	Top track protection	

Item	Description		
	Option 1	Name	Plasterboard strip
		Material	13 mm thick × 120 mm wide strip of fire rated plasterboard
		Installation	fixed to min. one face of wall system with: 2 rows of Item 10 at 250 mm centres (top and bottom staggered at 125 mm)
	Option 2	Name	Head track flashing
		Material	Minimum 0.7 mm BMT × 130 mm galvanised steel
		Installation	fixed to min. one face of the wall system with: 2 rows of Item 5 at 500 mm centres (top and bottom staggered at 250 mm)
	Option 3	Name	Promat Promatect 250 Board
		Material	15 mm × 120 mm wide strip
		Installation	fixed to min. one face of wall system with 2 rows of Item 10 at 250mm centres (top and bottom staggered at 125mm), and all gaps sealed with Promaseal A acrylic sealant
	Option 4	Name	Promat CAFCO 300 Vermiculite
		Material	Gypsum-based wet mix spray
		Installation	Sprayed over the flange of the top track/angles and the interface of the track/angles and panels on each side (t_1) with a minimum thickness of: 20 mm for 51 mm or 64 mm panels, or 25 mm for 78 mm panels The thickness of vermiculite to protect the structural steel (t_2) is outside the scope of this assessment and additional advice is required from Promat directly.
	Option 5	Name	Trafalgar COREX Board
		Material	15 mm × 120 mm wide strip
		Installation	fixed to min. one face of wall system with 2 rows of Item 10 at 250 mm centres (top and bottom staggered at 125 mm), and all gaps sealed with FyreFLEX acrylic sealant.
10	Name	Fixing – plasterboard strip	
	Material	6 g × 45 mm bugle head screws	
11	Name	Fixing – corners	
	Material	14 g × 115 mm (course thread)	
	Installation	Max. 500 mm centres through joint and protected with corner flashing (Item 13)	
12	Name	Fixing – structural steel	
	Material	Series 500 screws	
	Installation	Equivalent to a minimum 5 mm mild steel bolts – with tension and shear capacities not less than 9 kN at ambient temperature – installed in accordance with project engineer's specification.	
13	Name	Flashing - corner	
	Material	Min. 0.7 mm BMT × 160 mm ×160 mm galvanised mild steel	
	Installation	Fixed along both edges at max. 500 mm centres using Item 5	
14	Name	C-track – 90 mm	
	Material	1.15 mm BMT (1.2 mm TCT) galvanised mild steel	

Item	Description	
	Installation	90 mm × 82 mm × 90 mm
15	Name	Corner protection – plasterboard strip
	Material	13 mm fire rated plasterboard
	Installation	Overlapping the Speedpanel system by minimum 100 mm from the edge of the track
16	Name	Fixing – T-intersections
	Material	14 g × 115 mm (coarse thread)
	Installation	Maximum 500 mm centres
17	Name	Custom angled C/J-track
	Material	1.15 mm BMT (1.2 mm TCT) galvanised mild steel
	Installation	Fit to the thickness and height of Speedpanel wall panels - where both flanges are minimum 35 mm onto the face of the panels
18	Name	Custom angles/flat plate
	Material	1.15 mm BMT (1.2 mm TCT) galvanised mild steel
	Installation	Both flanges are minimum 35 mm long
19	Name	Custom corner angle
	Material	1.15 mm BMT (1.2 mm TCT) galvanised mild steel
	Installation	Fixed along both edges at max. 500 mm centres using Item 5
20	Name	Non-Combustible Infill
	Material	• Minimum 120 kg/m³ non-combustible rockwool; or • Non-shrink grout
	Installation	Fill the cavity
21	Name	Speedpanel Head Flashing (to cover plasterboard)
	Material	Min. 0.7 mm BMT Galv mild steel
	Installation	Fixed along both edges at max. 500 mm centres using Item 5
22	Name	Unequal angle
	Material	1.15 mm BMT (1.2 mm TCT) Galv mild steel
	Size	50 mm × 75 mm (75 mm leg to face of Speedpanel)
23	Name	Protection Lining
	Material	• 13 mm thick fire grade plasterboard; • 15 mm thick Promatect 250; • 15 mm thick Trafalgar COREX; or • Minimum 120 kg/m³ non-combustible rockwool
	Installation	Boards • Fixed to the C-tracks encasing the Speedpanel with 6g × 45 mm plasterboard screws (Item 10) at 500 mm centres; and • Seal all gaps with board manufacturer's sealant (Item 8) Rockwool • Fill cavity between C-tracks

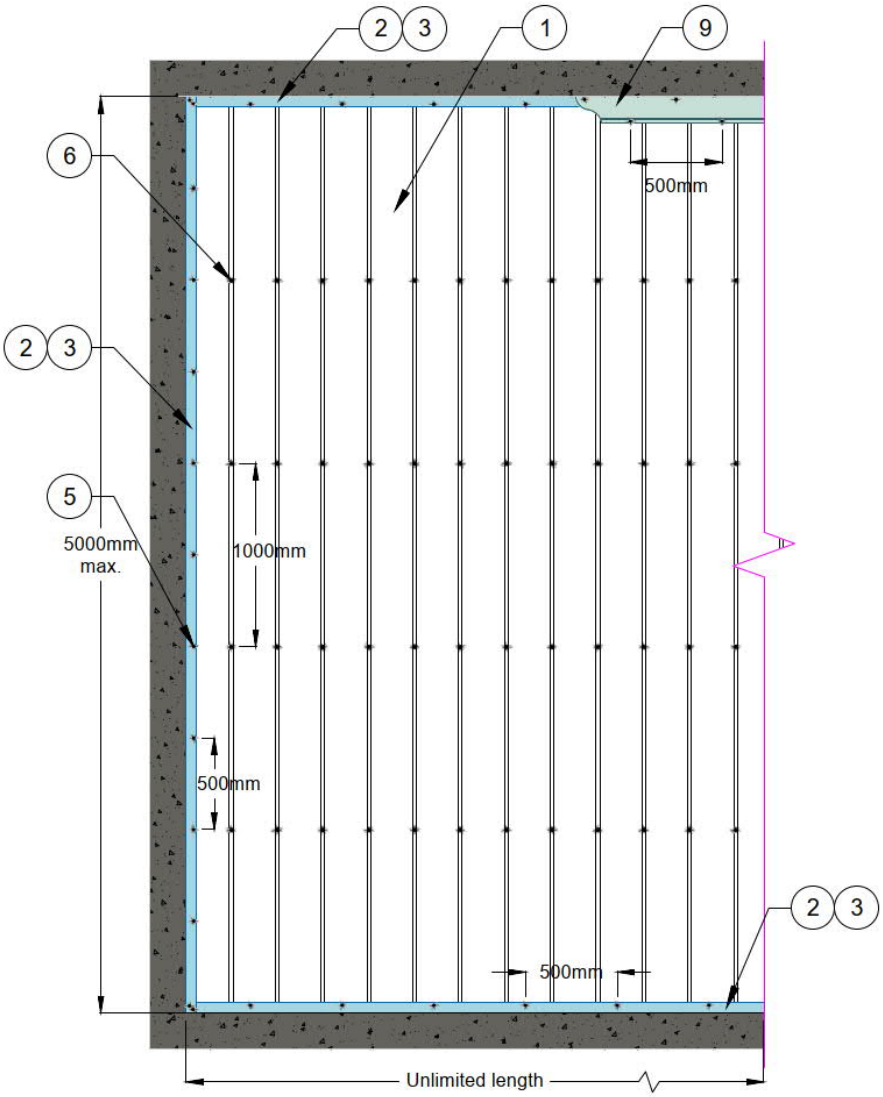


Figure 1 Elevation of vertical Speedpanel wall (up to 5 m high)

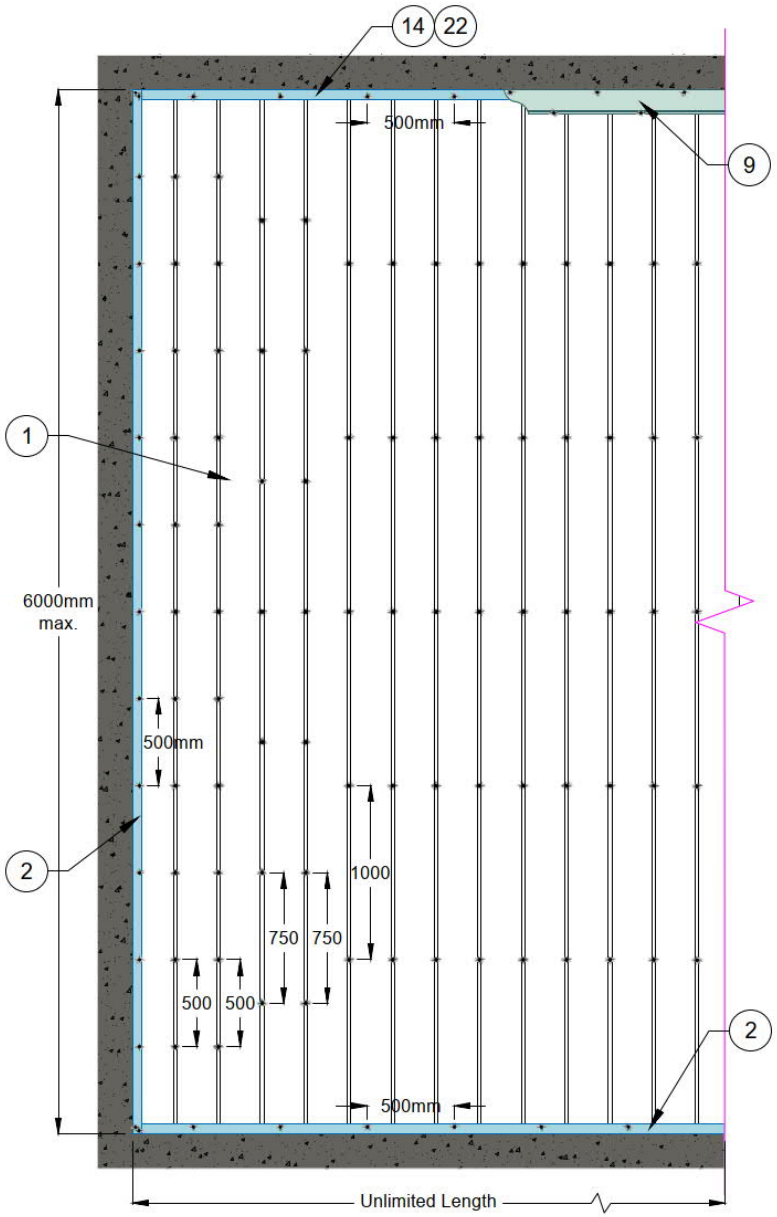


Figure 2 Elevation of vertical Speedpanel wall (up to 6 m high, only for 78 mm wall system)

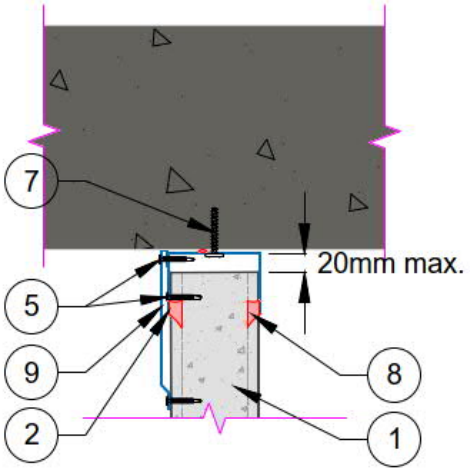


Figure 3 Head detail option 1

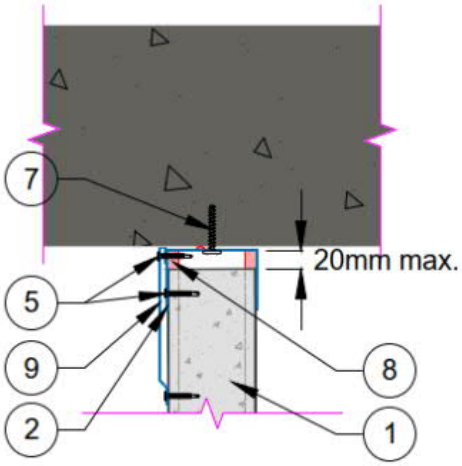


Figure 4 Head detail option 2

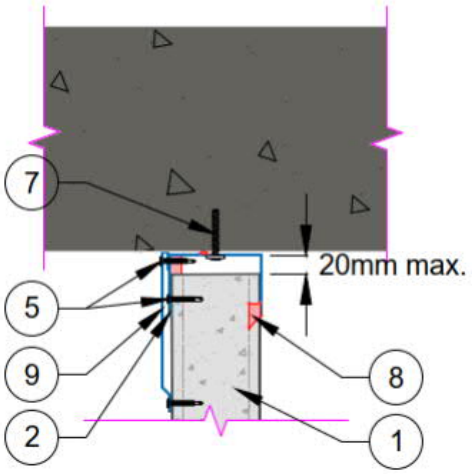


Figure 5 Head detail option 3

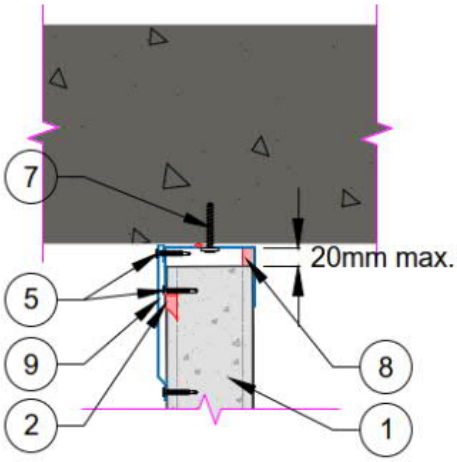


Figure 6 Head detail option 4

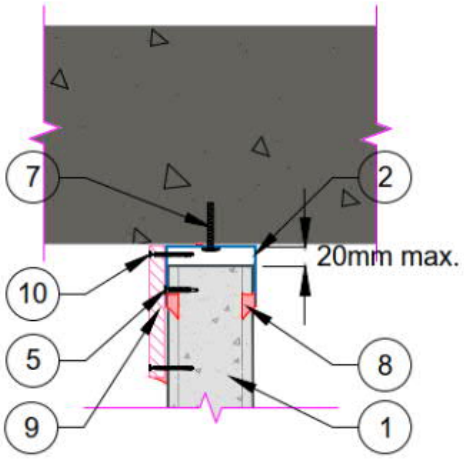


Figure 7 Head detail option 5

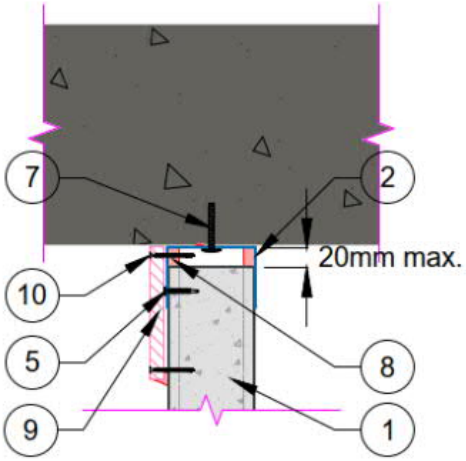


Figure 8 Head detail option 6

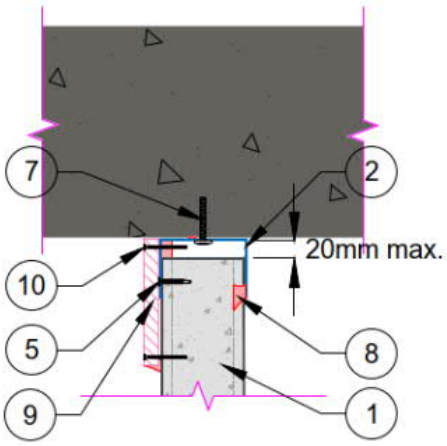


Figure 9 Head detail option 7

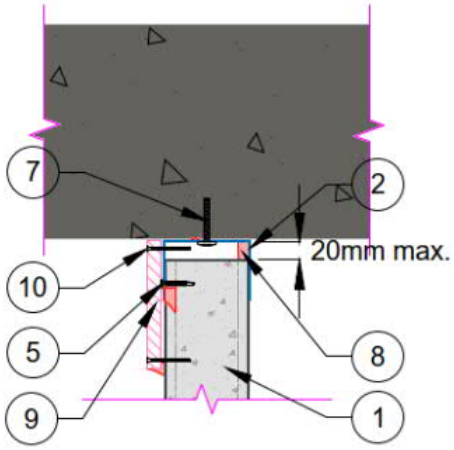


Figure 10 Head detail option 8

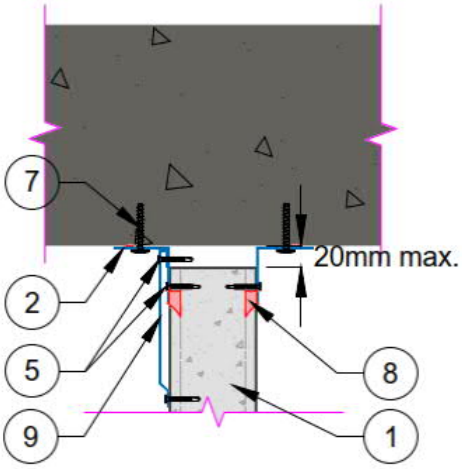


Figure 11 Head detail option 9

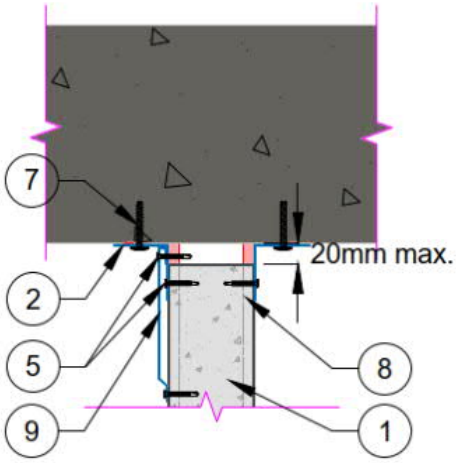


Figure 12 Head detail option 10

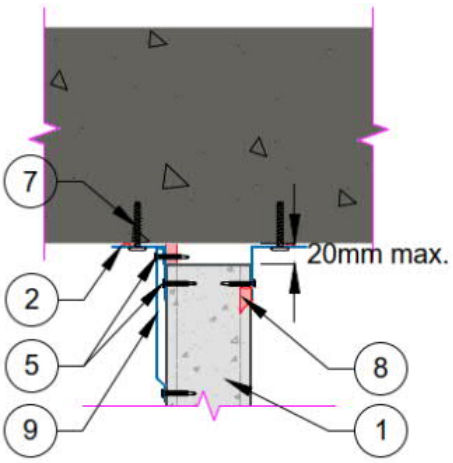


Figure 13 Head detail option 11

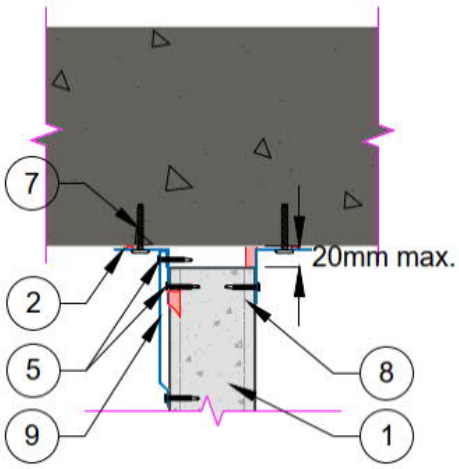


Figure 14 Head detail option 12

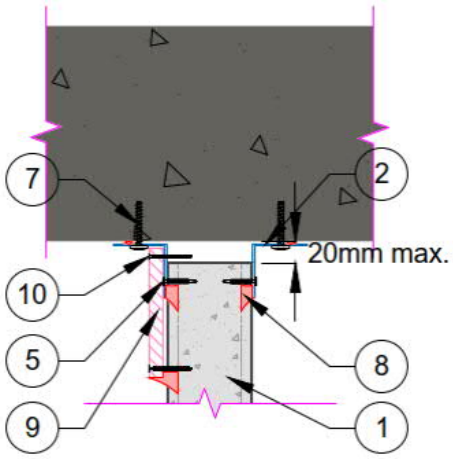


Figure 15 Head detail option 13

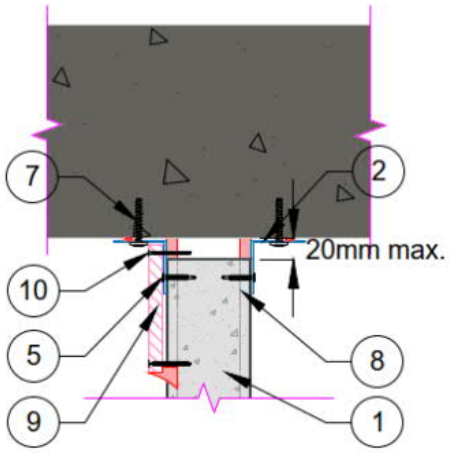


Figure 16 Head detail option 14

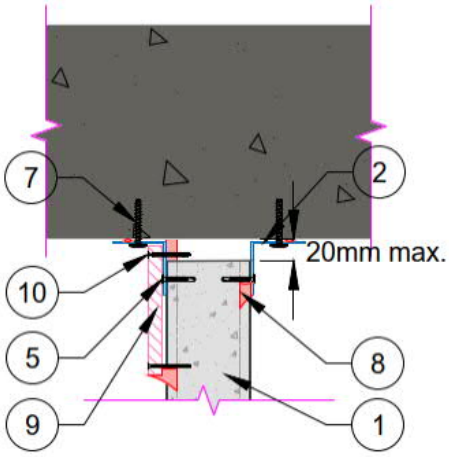


Figure 17 Head detail option 15

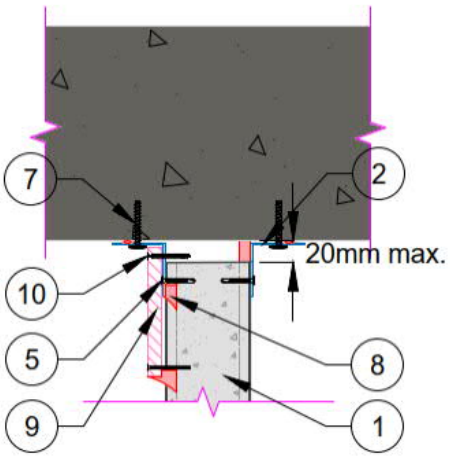


Figure 18 Head detail option 16

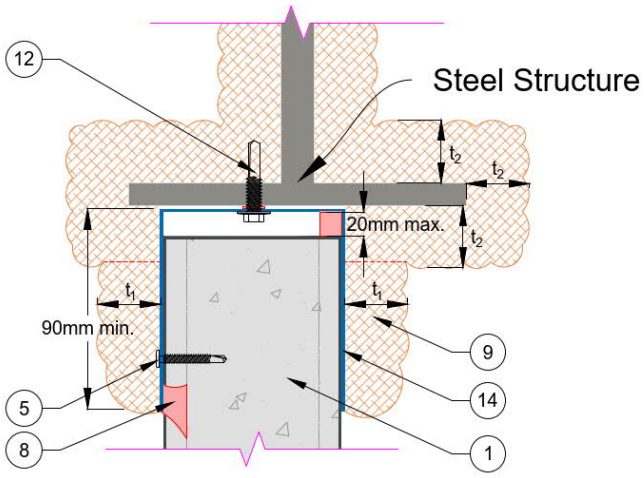


Figure 19 Head connected to structural steel

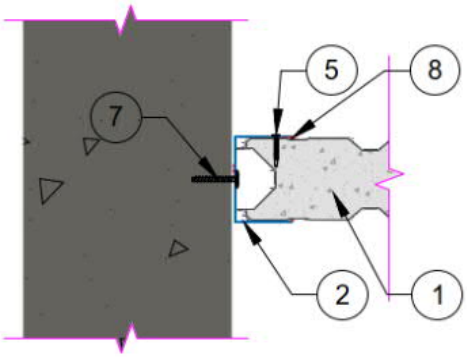


Figure 20 Side detail option 1

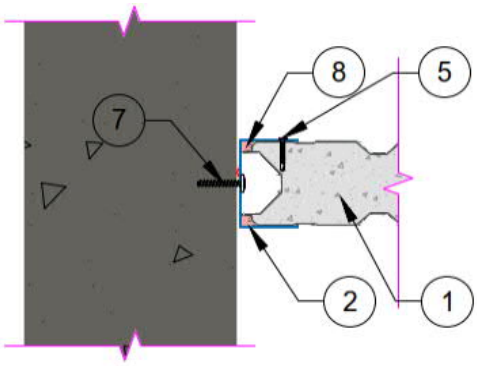


Figure 21 Side detail option 2

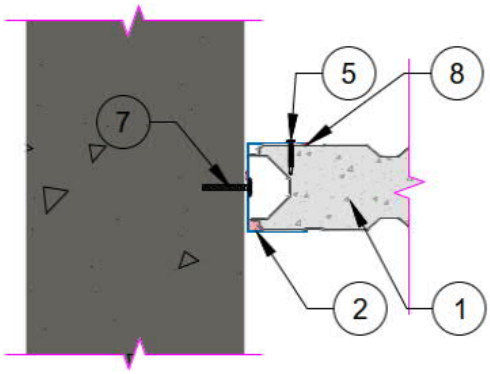


Figure 22 Side detail option 3

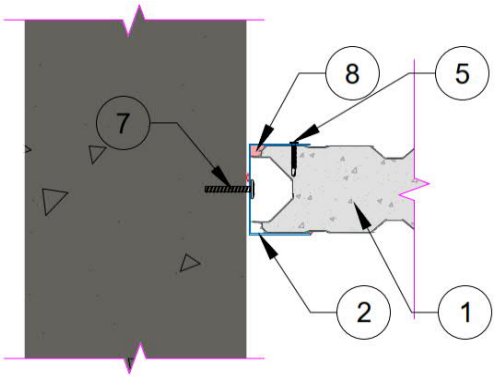


Figure 23 Side detail option 4

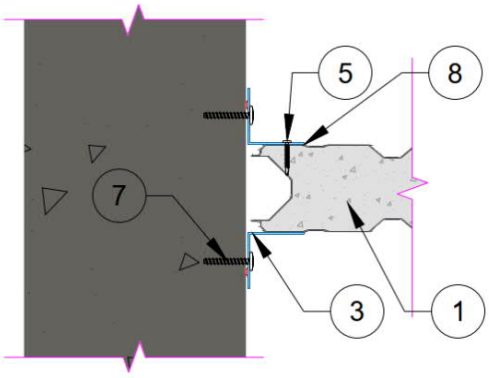


Figure 24 Side detail option 5

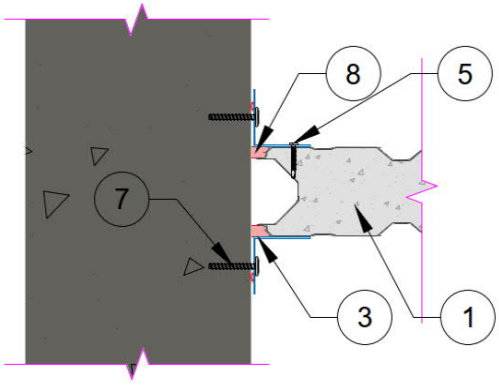


Figure 25 Side detail option 6

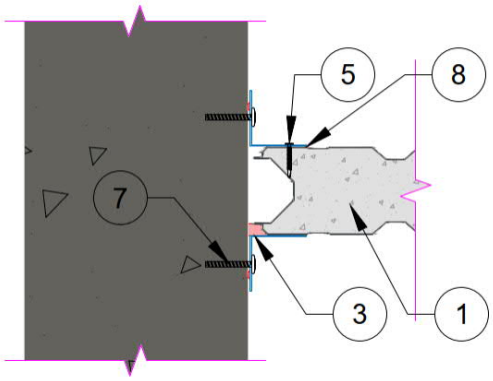


Figure 26 Side detail option 7

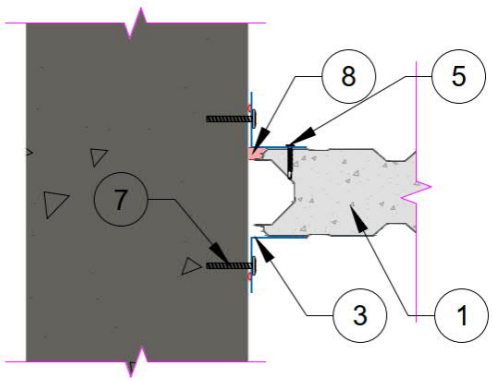


Figure 27 Side detail option 8

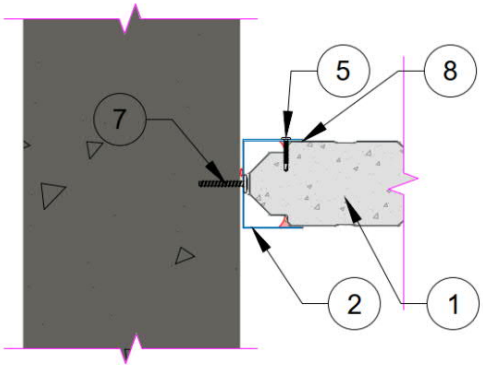


Figure 28 Side detail option 9

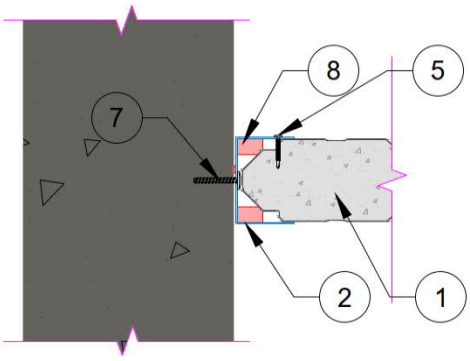


Figure 29 Side detail option 10

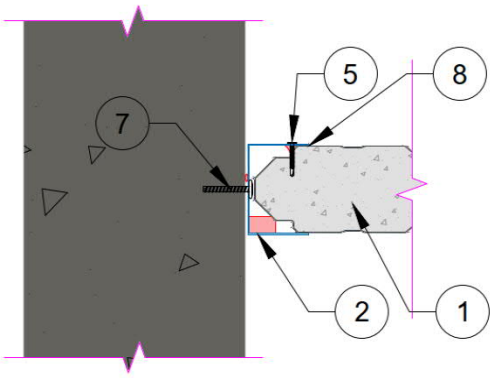


Figure 30 Side detail option 11

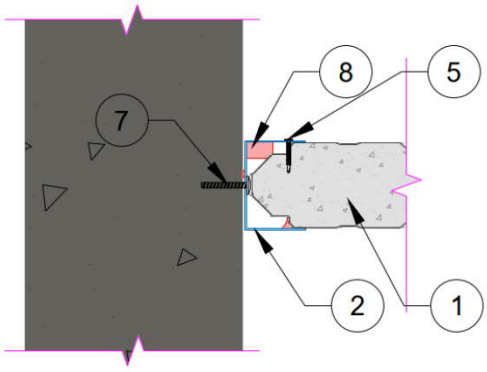


Figure 31 Side detail option 12

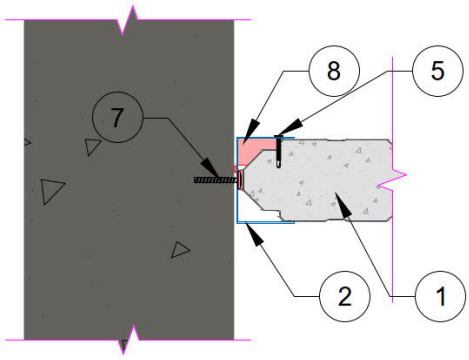


Figure 32 Side detail option 13

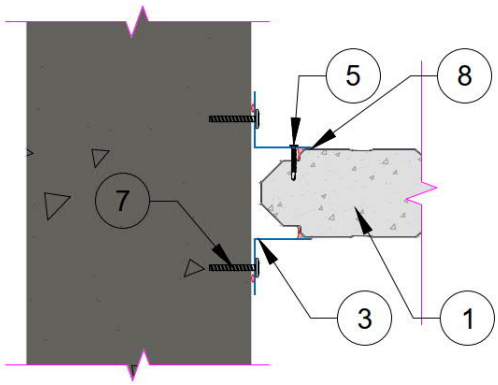


Figure 33 Side detail option 14

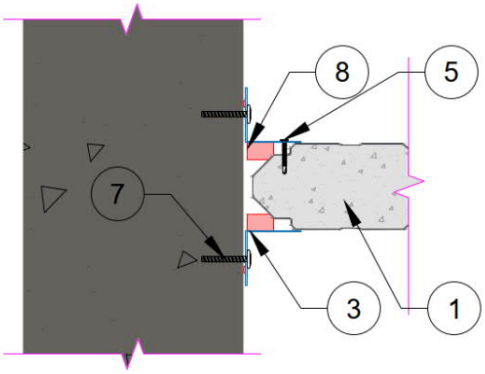


Figure 34 Side detail option 15

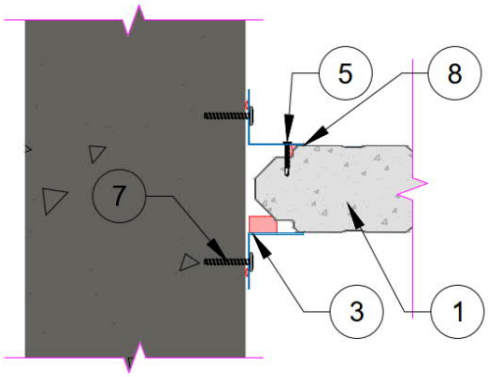


Figure 35 Side detail option 16

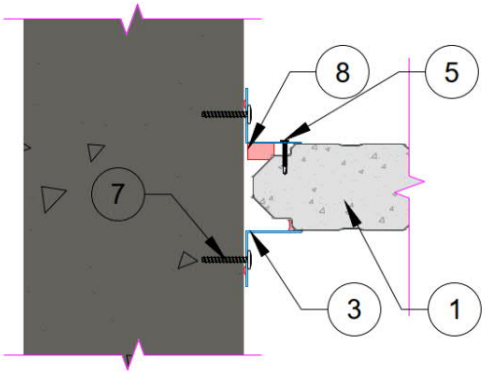


Figure 36 Side detail option 17

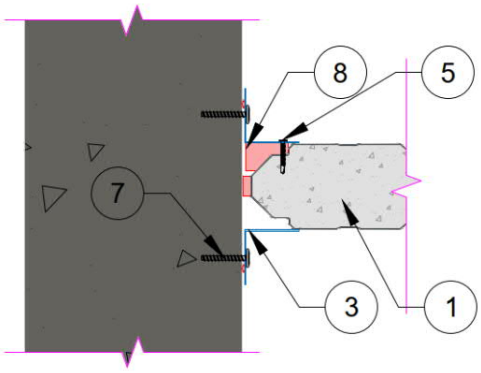


Figure 37 Side detail option 18

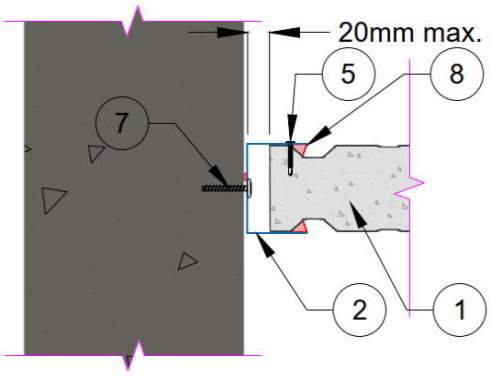


Figure 38 Side detail option 19

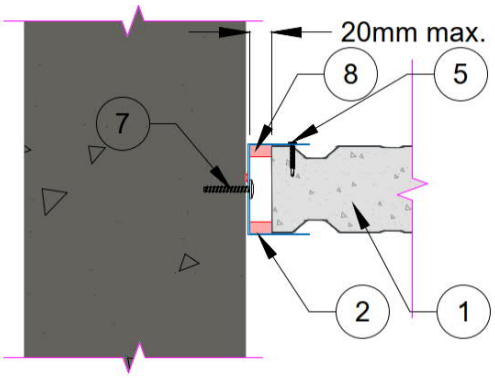


Figure 39 Side detail option 20

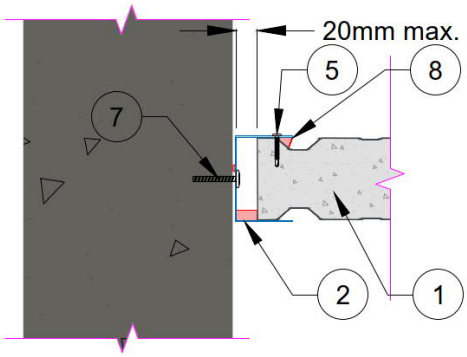


Figure 40 Side detail option 21

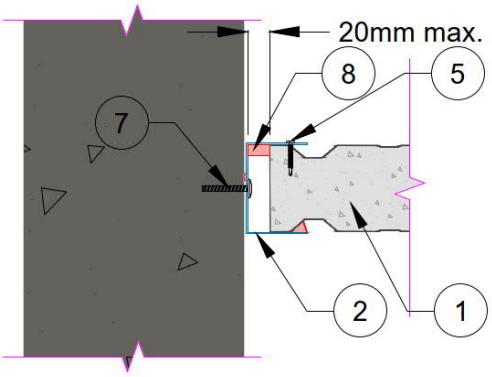


Figure 41 Side detail option 22

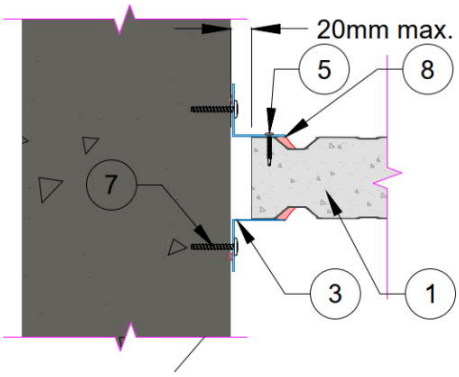


Figure 42 Side detail option 23

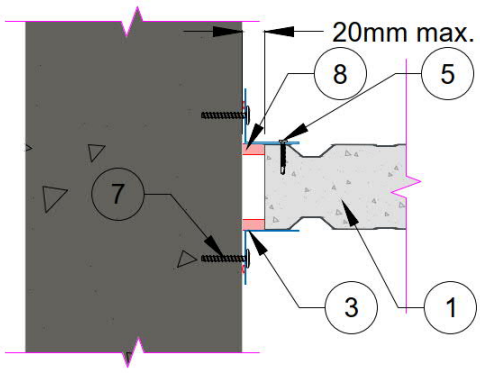


Figure 43 Side detail option 24

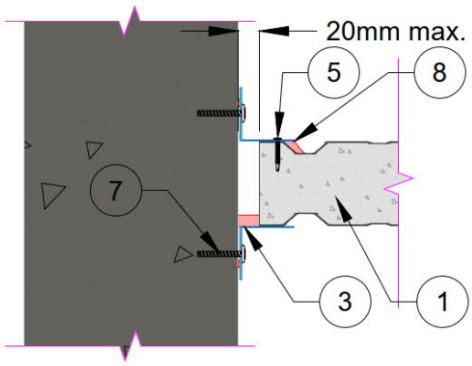


Figure 44 Side detail option 25

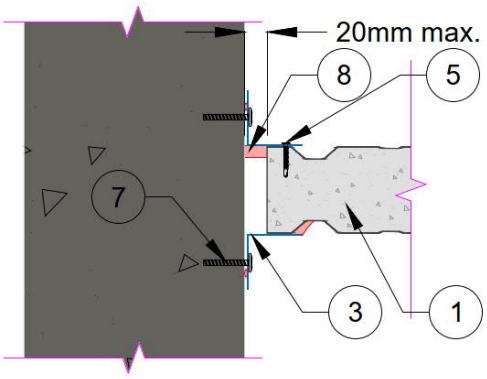


Figure 45 Side detail option 26

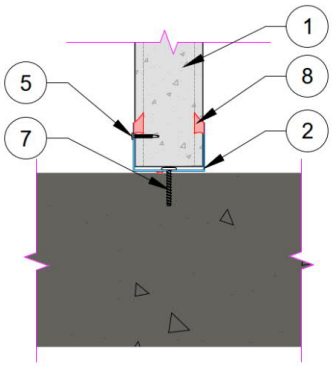


Figure 46 Base detail option 1

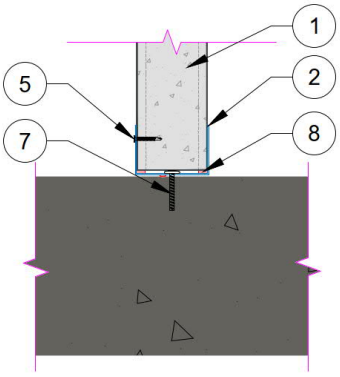


Figure 47 Base detail option 2

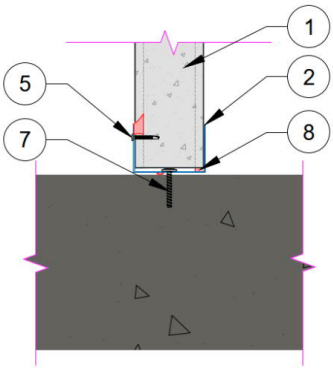


Figure 48 Base detail option 3

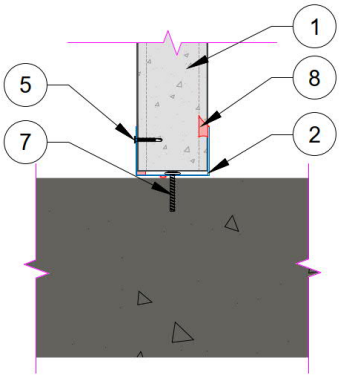


Figure 49 Base detail option 4

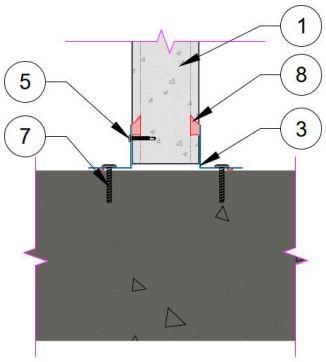


Figure 50 Base detail option 5

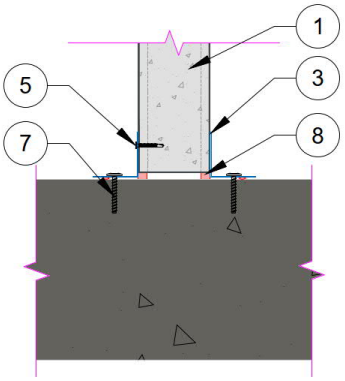


Figure 51 Base detail option 6

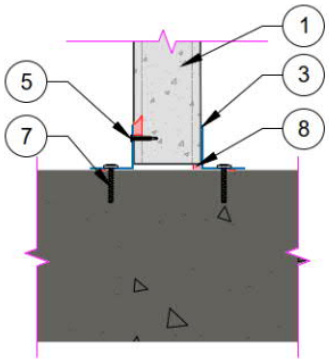


Figure 52 Base detail option 7

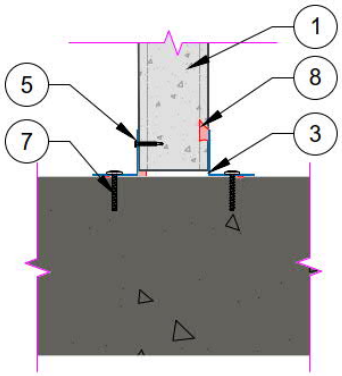


Figure 53 Base detail option 8

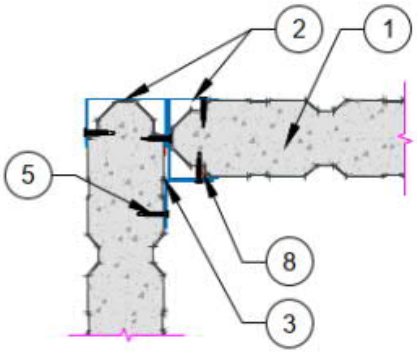


Figure 54 Corner detail option 1

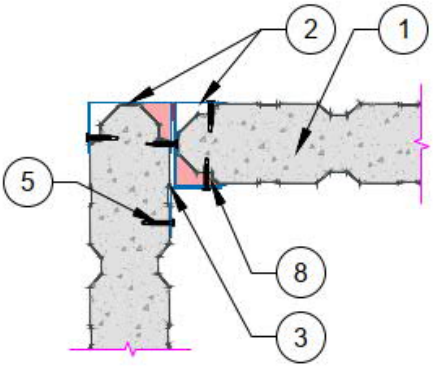


Figure 55 Corner detail option 2

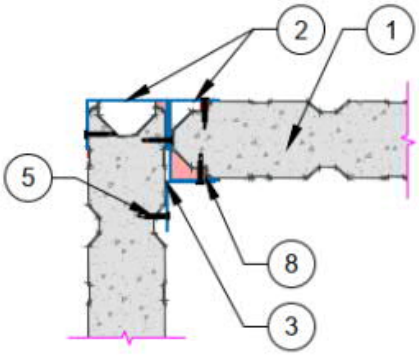


Figure 56 Corner detail option 3

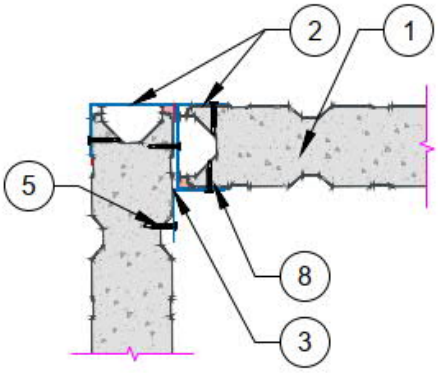


Figure 57 Corner detail option 4

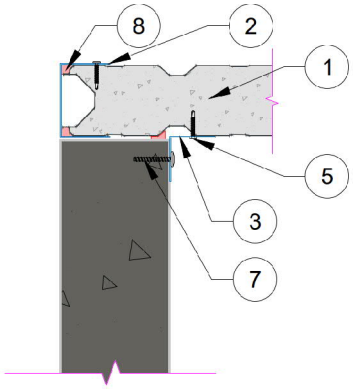


Figure 58 Corner detail option 5

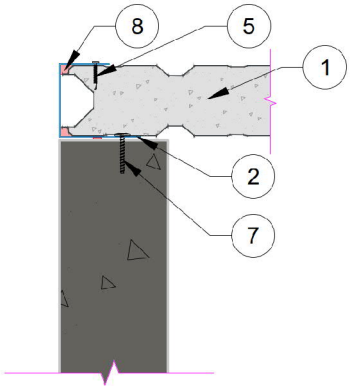


Figure 59 Corner detail option 6

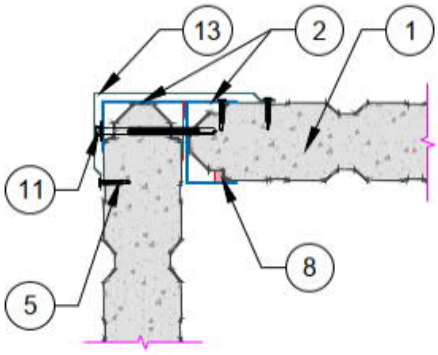


Figure 60 Corner detail option 7

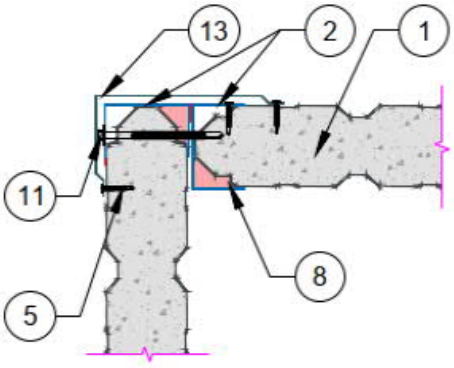


Figure 61 Corner detail option 8

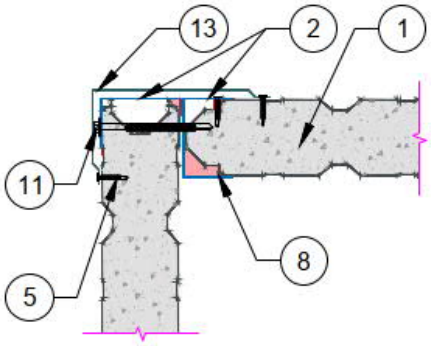


Figure 62 Corner detail option 9

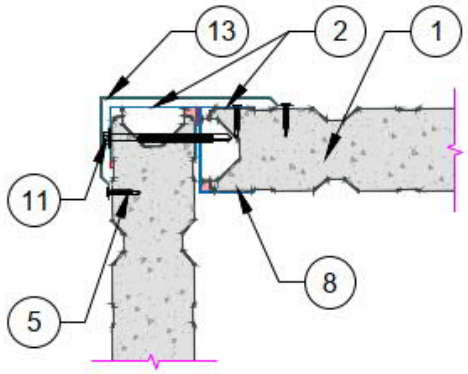


Figure 63 Corner detail option 10

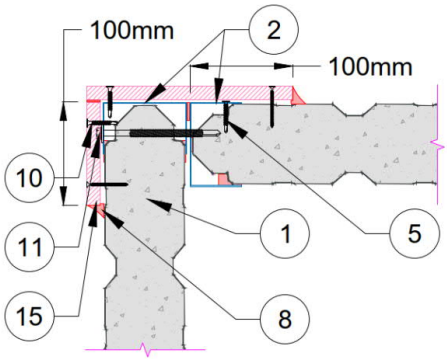


Figure 64 Corner detail option 11

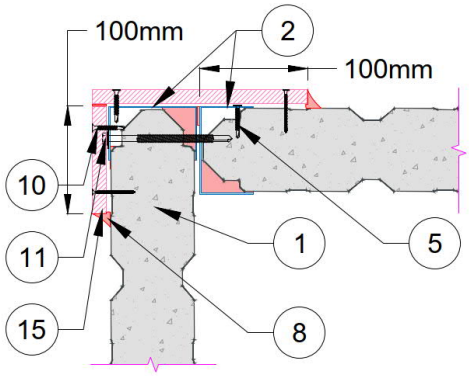


Figure 65 Corner detail option 12

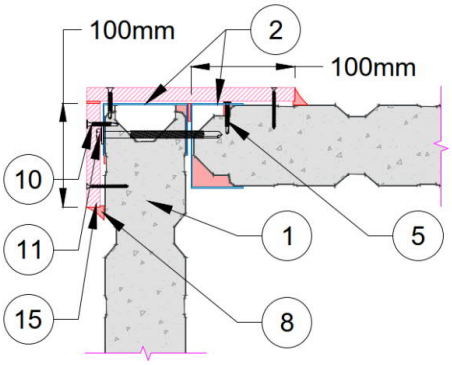


Figure 66 Corner detail option 13

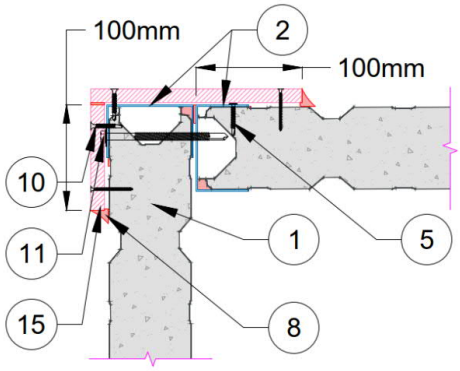


Figure 67 Corner detail option 14

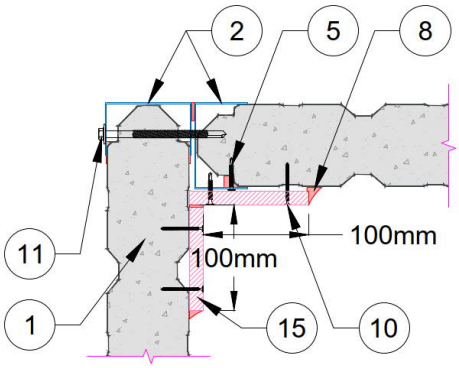


Figure 68 Corner detail option 15

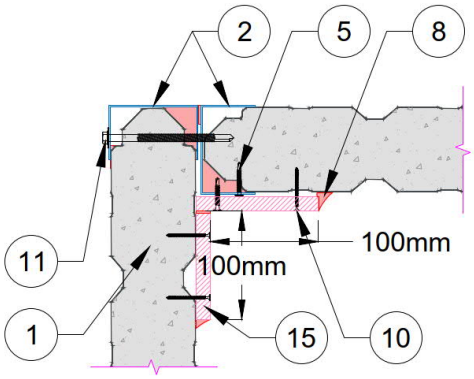


Figure 69 Corner detail option 16

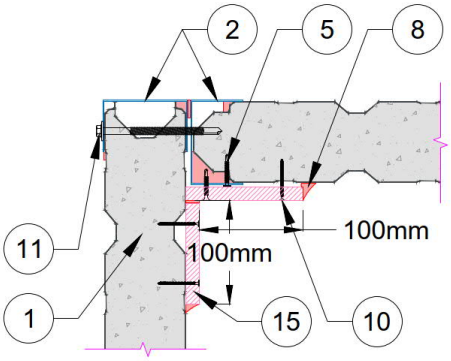


Figure 70 Corner detail option 17

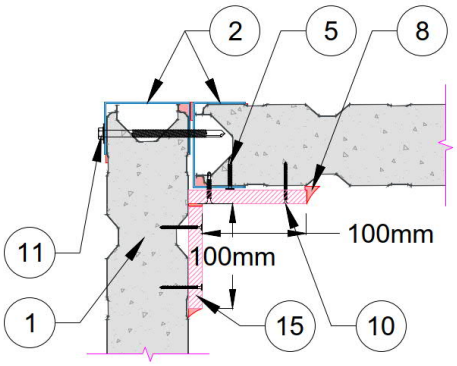


Figure 71 Corner detail option 18

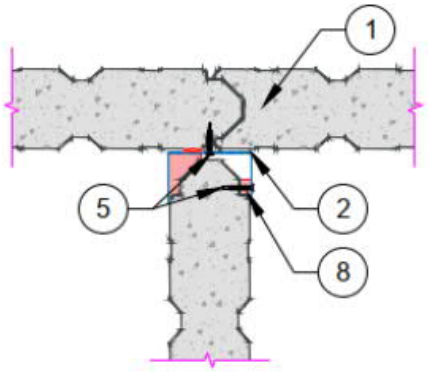


Figure 72 T-intersection option 1

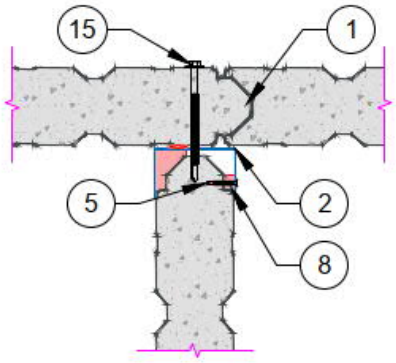


Figure 73 T-intersection option 2

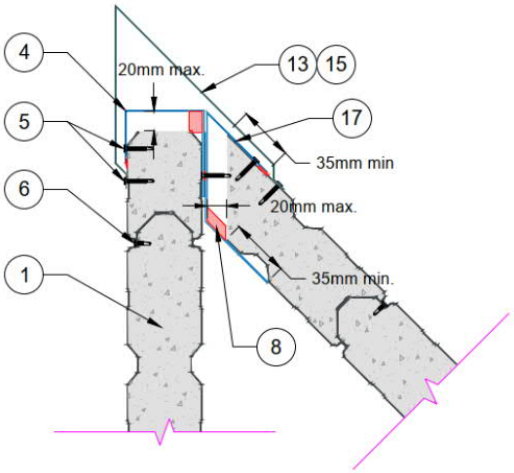


Figure 74 Acute angled corner detail option 1

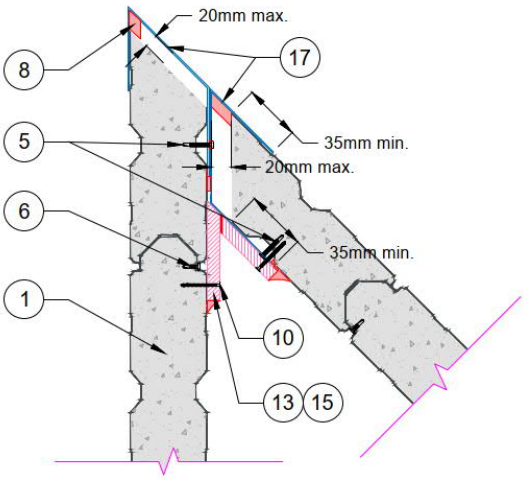


Figure 75 Acute angled corner detail option 2

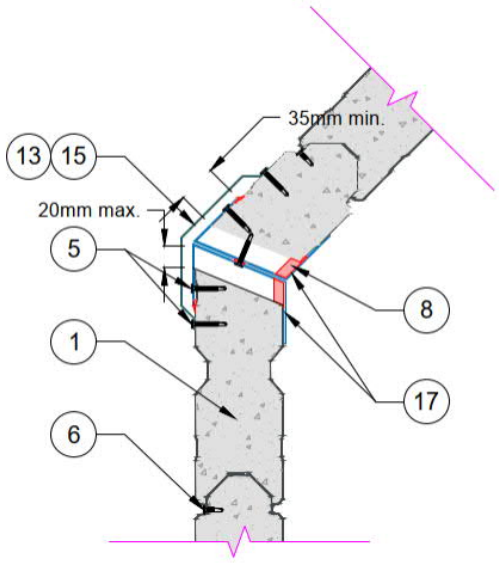


Figure 76 Obtuse angled corner detail option 1

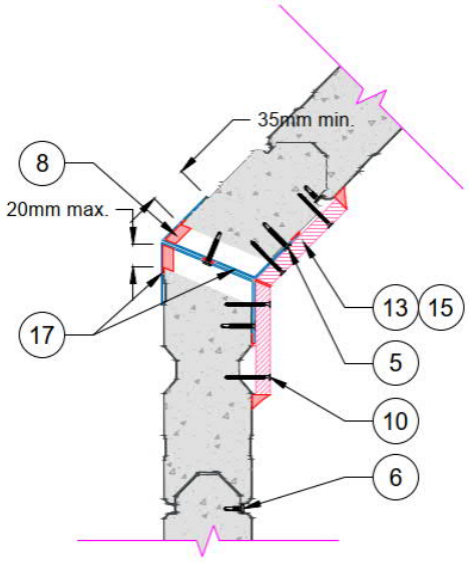


Figure 77 Obtuse angled corner detail option 2

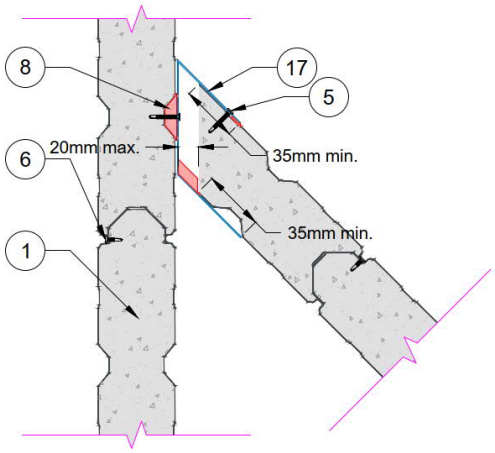


Figure 78 Angled T-junction detail option 1

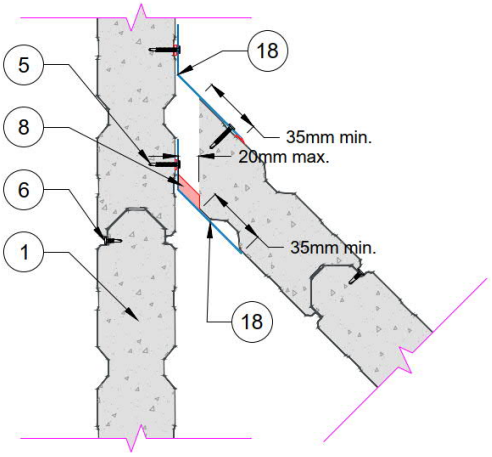


Figure 79 Angled T-junction detail option 2

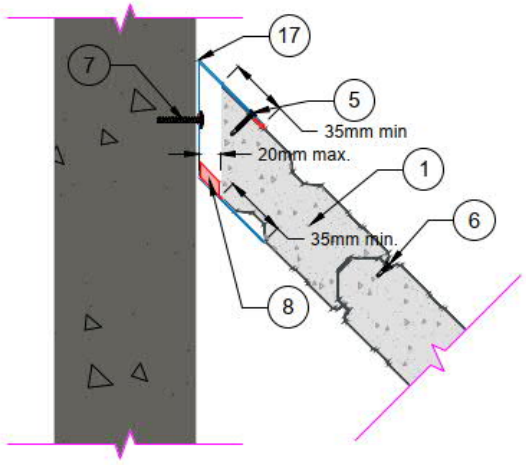


Figure 80 Angled wall detail option 1

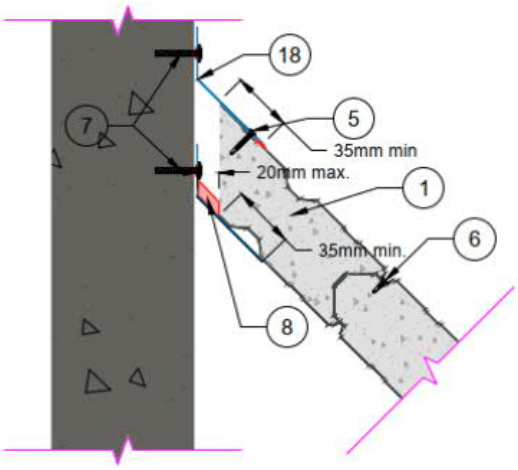


Figure 81 Angled wall detail option 2

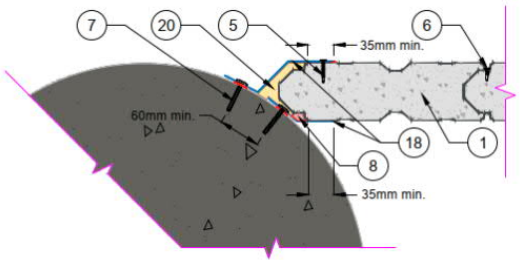


Figure 82 Circular column detail option 1

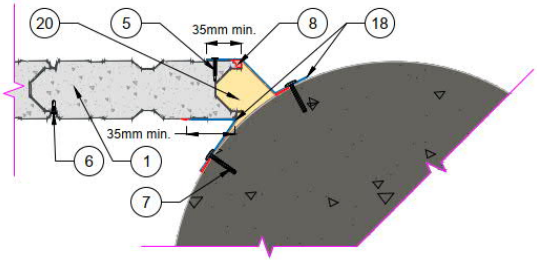
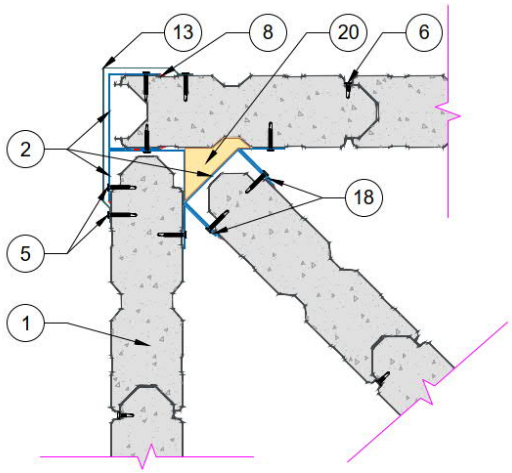


Figure 83 Circular column detail option 2



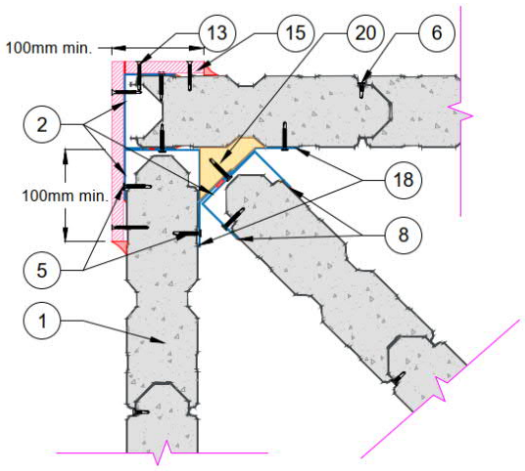


Figure 84 Multi-angled corner detail option 1 **Figure 85 Multi-angled corner detail option 2**

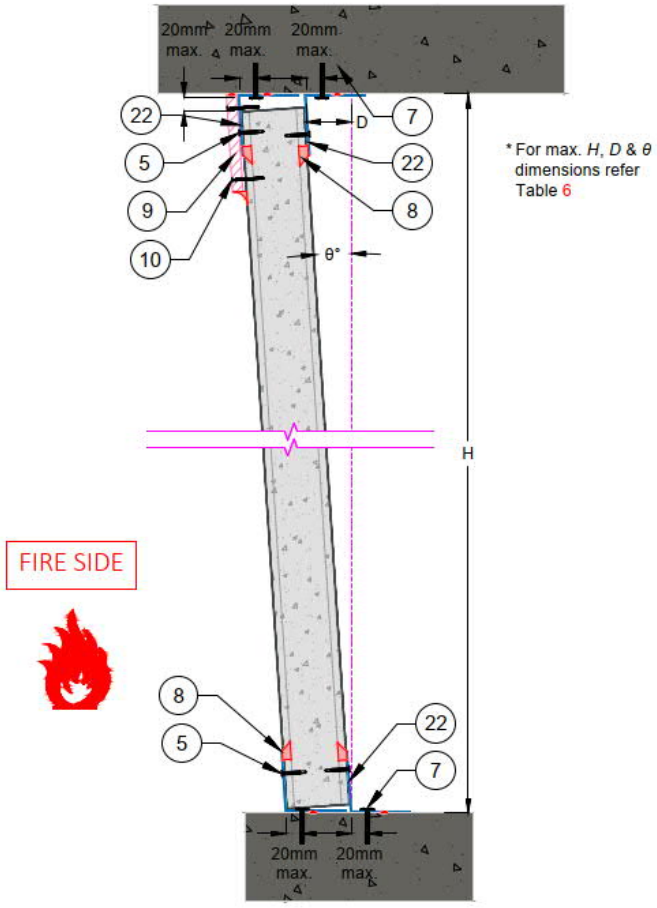


Figure 86 Inclined vertical Speedpanel wall – 78 mm system only

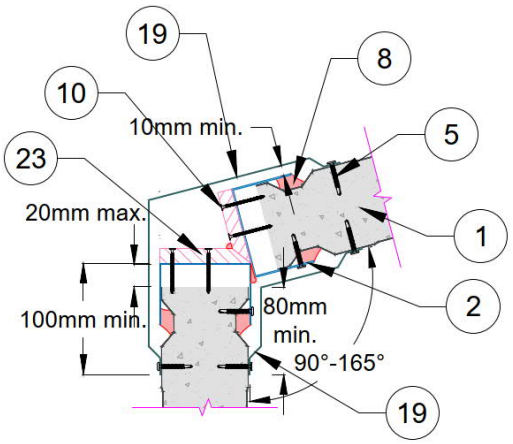


Figure 87 Angled connection (segmented) option 1

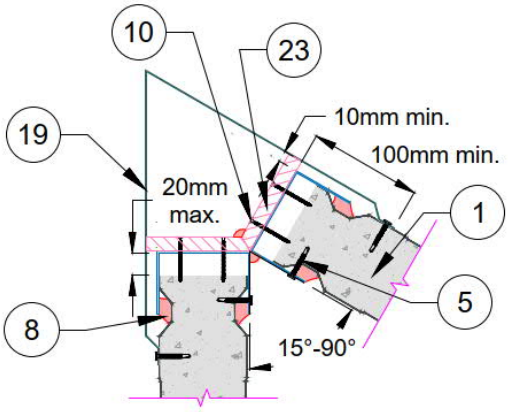


Figure 88 Angled connection (segmented) option 2

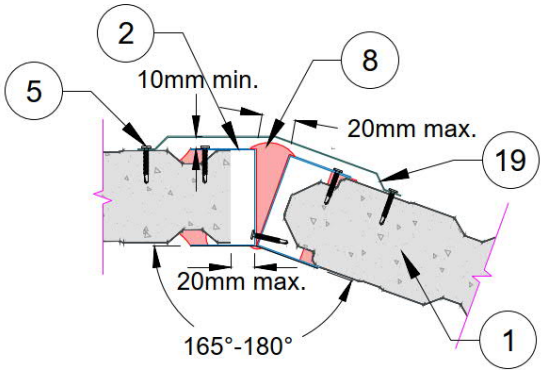


Figure 89 Angled connection (segmented) option 3

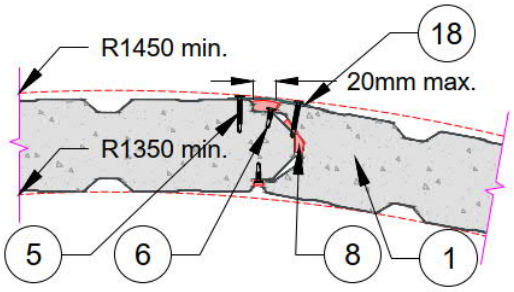


Figure 90 Vertical wall with radius (plan)

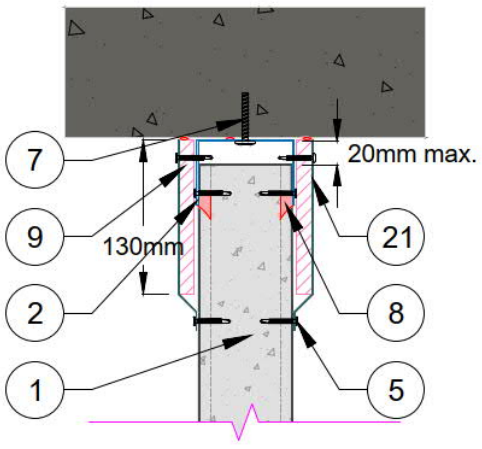


Figure 91 Head detail (segmented) option 1

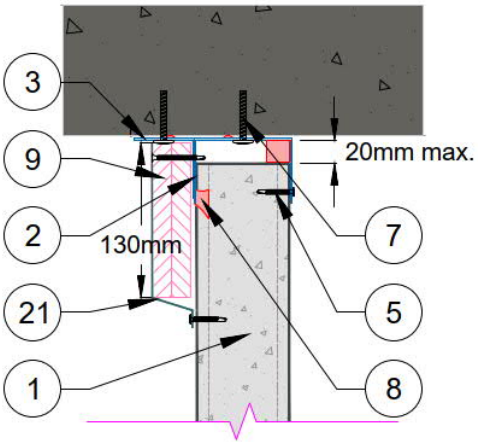


Figure 92 Head detail (segmented) option 2

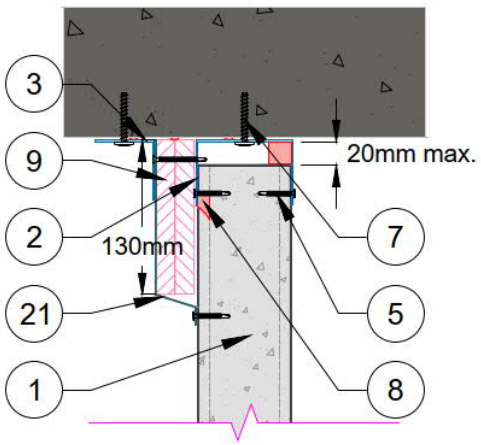


Figure 93 Head detail (segmented) option 3

5. Conclusion

Based on the discussion presented in the referenced assessment report, it is the opinion of this registered testing authority that the proposed wall systems will achieve the FRLs stated in Table 6 and Table 7 – in accordance with AS 1530.4:2014.

The outcome of the referenced assessment are subject to the limitations and requirements described in sections 2, 3 and 6 of this report.

Table 6 Vertical Speedpanel wall systems

Wall thickness (mm)	Max. wall height (m)	Panel-to-panel fixings	Connections								FRL
			Head to concrete slab	Head to steel structure	Side/edge	Base	Corner	T-intersection	Angled	Multi-Angled	
51	5.0	Required to be installed to one face of the panels across the wall at 1000 mm centres (Figure 1)	Figure 3 to Figure 18	Figure 19	Figure 20 to Figure 45	Figure 46 to Figure 53	Figure 54 to Figure 71	Figure 72 to Figure 73	Figure 74 to Figure 83	Figure 84 to Figure 85	-/60/60
64	5.0										-/90/90
78	5.0										-/120/120
78	6.0	Required to be installed to one face of the panels at (Figure 2): • 500 mm centres (1st two joints); • 750 mm centres (2nd two joints); and then • 1000 mm centres									-/120/120

Table 7 Inclined and curved/segmented Speedpanel wall systems

Wall thickness (mm)	Wall height (H) (m)	Maximum inclined distance (D) (m)	Maximum inclined angle (Θ) (°)	Connections Head	Side/Edge	Base	Minimum radius of curvature view (m)	FRL
78	4.0	1.34	19	Figure 86	Figure 20 to Figure 45	Figure 86	-	-/120/120
	4.2	1.18	16					
	4.5	0.94	12					
	4.7	0.79	10					
	4.8	0.71	8					
	4.9	0.64	7					
	5.0	0.56	6					
	5.2	0.42	5	Figure 91 to Figure 93	Figure 20 to Figure 45	Figure 86		
	5.5	0.19	2					
	5.7	0.04	0					
	5.8	0.00	0					
	6.0	0.00	0					
78	5.0	-	-	Figure 3 to Figure 18	Figure 87 to Figure 89	Figure 46 to Figure 53	-	-/120/120
	5.01 – 6.0	-	-	Figure 91 to Figure 93			-	-/120/120
78	6.0	-	-	Figure 3 to Figure 18	Figure 90	Figure 46 to Figure 53	1.35 (int) / 1.45 (ext)	-/120/120
Note: Situations where two angle sections are used to connect the Speedpanel system, both angle sections may face opposite directions and achieve the relevant FRLs in Table 6 and Table 7.								

6. Validity

Warringtonfire Australia does not endorse the tested or assessed product in any way. The conclusions of the referenced 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.

The referenced assessment is based on information and experience available at the time of preparation. The published procedures for the conduct of tests and the assessment of test results are subject to constant review and improvement. It is therefore recommended that this report be reviewed on, or before, the stated expiry date.

The referenced assessment represents our opinion about the performance likely to be demonstrated on a test in accordance with AS 1530.4:2014, based on the evidence referred to in this report.

The referenced assessment is provided to Speedpanel Holdings Pty Ltd for their own specific purposes. Building certifiers and other third parties are responsible for deciding if they accept the referenced assessment in a particular context.