



Regulatory information report

PROMASIL® 1100 Super board protected horizontal and vertical duct systems

Sponsor: Promat Australia Pty Ltd

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Executive summary

The report contains the minimum information required for regulatory compliance and refers to the referenced assessment report FAS210077 R2.3.

This report documents the findings of the assessment undertaken to determine the expected fire resistance level (FRL) of horizontally and vertically oriented duct systems made of PROMASIL® 1100 Super boards in accordance with AS 1530.4:2014. The duct systems are expected to provide fire separation for internal and external fire exposures, but not simultaneously.

This report also includes the expected FRL of access hatches installed on the duct systems made of PROMASIL® 1100 Super boards in accordance with AS 1530.4:2014.

The analysis in section 5 to 7 of the referenced report found that the proposed systems, together with the described variations, are expected to achieve FRLs as shown in Table 1 –

Table 5 in accordance with AS 1530.4:2014.

The variations and outcome of this assessment are subject to the limitations and requirements described in sections 2, 3 and 8 of the referenced report. The results of the referenced report are valid until 31 Aug 2028.

Table 1 Variations and assessment outcome for horizontally oriented self-supported duct systems made of PROMASIL® 1100 Super boards

Size (width × height)	Exposure	Hanging rod support	Bottom support angle	Intermediate stiffeners	Referenced figure	FRL
0.6 × 0.6 m	Internal or external	Two M12 hanging rods at 1.2 m centres	65 × 65 × 6 EA	Not required	Figure 2, Figure 3 and Figure 5	120/120/120
1.0 × 1.0 m			75 × 75 × 5 EA	Not required		
1.2 × 1.2 m			90 × 90 × 10 EA	Not required		
2.0 × 1.2 m		Two M16 hanging rods at 1.2 m centres	100 × 100 × 12 EA	One row of PROMASIL® 1100 Super board at mid width	Figure 4	
2.5 × 1.2 m			125 × 125 × 12 EA	Two rows of PROMASIL® 1100 Super boards	Figure 4	
0.6 × 0.6 m	Internal only	Two M12 hanging rods at 1.2 m centres	50 × 50 × 5 EA	Not required	Figure 2, Figure 3 and Figure 5	120/120/120
1.0 × 1.0 m			50 × 50 × 5 EA	Not required		
1.2 × 1.2 m			50 × 50 × 6 EA	Not required		

Size (width × height)	Exposure	Hanging rod support	Bottom support angle	Intermediate stiffeners	Referenced figure	FRL
2.0 × 1.2 m			75 × 75 × 8 EA	One row of PROMASIL® 1100 Super board at mid width	Figure 4	
2.5 × 1.2 m			75 × 75 × 8 EA	Two rows of PROMASIL® 1100 Super boards	Figure 4	

Table 2 Variations and assessment outcome for horizontally oriented steel ducts protected with PROMASIL® 1100 Super boards

Size (width × height)	Exposure	Hanging rod support	Bottom support angle	Referenced figure	FRL
0.6 × 0.6 m	Internal or external	Two M12 hanging rods at 1.2 m centres	65 × 65 × 6 EA	Figure 12 – Figure 14	120/120/120
1.0 × 1.0 m			75 × 75 × 5 EA		
1.2 × 1.2 m			90 × 90 × 10 EA		
0.6 × 0.6 m	Internal only	Two M12 hanging rods at 1.2 m centres	50 × 50 × 5 EA	Figure 12 – Figure 14	120/120/120
1.0 × 1.0 m			50 × 50 × 5 EA		
1.2 × 1.2 m			50 × 50 × 6 EA		
Note – As shown in Figure 12 to Figure 14, the steel duct within the self-supported PROMASIL® 1100 Super board duct must be supported by 50 × 50 × 5 EA and two M12 hanging rods at 1.2 m centres.					

Table 3 Access hatches installed on horizontally oriented duct systems made of PROMASIL® 1100 Super boards

Specimen	Size	Protection	Penetrating surface	Referenced test report	Figure	Fire direction	FRL
Access hatch	Up to a size of 450 mm × 450 mm	Installation must be as per Figure 15	Any surface	FRT210228 R1.0 FRT210229 R1.0	Figure 15	External	-/90/90
						Internal	-/120/120

Table 4 Assessment outcome for vertically oriented self-supported duct systems made of PROMASIL® 1100 Super boards

Size	Exposure	Maximum support height	Referenced figure	FRL
Oversized ducts – larger than tested 1200 mm × 1200 mm	Internal or external	2200 mm	Figure 16 and Figure 17	120/120/120
1200 mm × 1200 mm or smaller ducts	Internal or external	2750 mm		

Table 5 Access hatches installed on vertically oriented duct systems made of PROMASIL® 1100 Super boards

Specimen	Size	Protection	Penetrating surface	Referenced test report	Figure	Fire direction	FRL
Access hatch	Up to a size of 450 mm × 450 mm	Installation must be as per Figure 21	Any surface	FRT210052 R1.0	Figure 21	External or internal	-/120/120

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1. Introduction

This report contains the minimum information sufficient for regulatory compliance and refers to the assessment report FAS210077 R2.3.

This report documents the findings of the assessment undertaken to determine the expected fire resistance level (FRL) of horizontally and vertically oriented duct systems made of PROMASIL® 1100 Super boards in accordance with AS 1530.4:2014¹.

The report also includes the expected FRL of access hatches installed on the duct systems made of PROMASIL® 1100 Super boards in accordance with AS 1530.4:2014.

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 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 Promat Australia Pty Ltd. The sponsor details are included in Table 6.

Table 6 Sponsor details

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

2. Framework for the assessment

2.1 Assessment approach

An assessment is 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 2021².

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

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.

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 15725:2010³ for extended application reports on the fire performance of construction products and building elements.

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 2022⁴ 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 based on prototype tests that are equivalent to or more severe than the proposed elements, 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 12 April 2023, Promat Australia Pty Ltd 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 this report is limited to an assessment of the variations to the tested systems described in section 4.3.
- This report details the methods of construction, test conditions and assessed results expected in accordance with AS 1530.4:2014.
- This report applies to duct systems in accordance with the requirements of AS 1530.4:2014 where they are expected to provide fire separation for internal and external fire exposures, but not simultaneously.

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

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

- The design of the ducts is out of the scope of the referenced assessment. The ducts are to be designed in accordance with AS 4254.2:2012⁵ by others.
- Larger than tested duct systems and all its associated components, including supports, must be determined and calculated by a professional engineer using the temperature data at elevated temperatures for the required period of fire-resistance as outlined in AS 1530.4:2014.
- It is a requirement that the duct system be supported using a supporting system (concrete, masonry or flexible wall) that has been tested or assessed to achieve a fire-resistance of at least that required for duct assembly. In addition, the supporting system shall be able to provide adequate support for the anticipated loads and the fixing should be able to withstand the loading for the required period of fire-resistance.
- Where 1-sided, 2-sided, and 3-sided insulated duct systems are installed, the wall and floor components attached to them must have a fire-resistance level equivalent to or exceeding that which is necessary for the duct assembly.
- Transition between different configurations of self-supported duct systems with 1, 2, 3 and 4 sides are possible.
- This report does not address services penetrating the duct. Nonetheless, services can be routed within the enclosure using supports or trays. It is important to note that these services should be independently supported from the duct. If hangers are used for the support, an additional layer of board must be used around the hanger penetration, following the same approach as used for steel ducts.
- 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 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 documentation that forms the basis for the referenced assessment report is listed in Appendix A and Appendix B of the referenced report.
- This report has been prepared using 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 have been incorporated into the referenced assessment report as a result.
- This report 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 assessed systems include self-supported duct systems made of PROMASIL® 1100 Super boards, as shown in Figure 1.

These duct systems are oriented horizontally or vertically and are expected to provide fire separation for internal and external fire exposures, but not simultaneously.

⁵ Standards Australia, 2012, Ductwork for air-handling systems in buildings, Part 2: Rigid duct, AS 4254.2:2012, Standards Australia, NSW.

4.2 Referenced test data

The assessment of the variation to the tested systems and the determination of the expected performance are based on the results of the fire tests documented in the reports summarised in Table 7. Further details of the tested systems are included in Appendix B of the referenced report.

Table 7 Referenced test data

Report number	Test sponsor	Test date	Testing authority
FRT210052 R1.0	Promat Australia Pty Ltd	27 April 2023	Warringtonfire
FRT210228 R1.0		28 March 2022	
FRT210229 R1.0		8 November 2022	
WF 413276	Etex Building Performance Ltd	17 April 2019	Warringtonfire (Formerly known as Warrington Fire Research Group)
WRFA 41096	Promat International (Asia Pacific) Ltd	26 April 2004	

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 8.

Table 8 Variations to tested systems

Item	Reference test	Description	Variations
Horizontally oriented self-supported duct system made of PROMASIL® 1100 Super boards	FRT210228 R1.0	The referenced test, FRT210228 R1.0, consisted of a horizontally oriented self-supporting duct system made of 60 mm thick PROMASIL®1100 boards. The external dimensions of the duct were 1200 mm wide × 1200 mm high with internal dimension of 1080 mm wide × 1080 mm high. The duct penetrated through a lightweight wall system constructed using 64 mm deep studs and 2 × 13 mm thick fire rated plasterboards on each side. The total length of the duct was 2020 mm consisting two sections. The PROMASIL®1100 boards were screwed to each other with 14g-10 × 100 mm screws at 200 mm nominal centres. PROMASEAL®-A Acrylic sealant was applied to the face of the duct sections before they were butt jointed. The butt joints were further protected using cover strips (100 mm wide × 15 mm thick PROMATECT™ 250 or 100 mm wide × 20 mm thick PROMATECT™ 100 board). The duct system was supported by 50 mm × 50 mm × 5 mm equal angles and M12 threaded rods. These were spaced 1200 mm apart along the length of the duct. PROMASEAL®-A Acrylic sealant was applied to the exposed steel framing in the wall aperture, and mineral wool was then installed into the annular gap between the duct and separating element to full depth. A 100 mm wide PROMASIL®1100 board was installed as a collar on both the exposed and unexposed sides of the separating elements. All abutments and joints were sealed with fire rated mastic. The pattress board was fixed to the duct using 14g-10 × 100 mm screws. The specimen further included a 450 mm × 450 mm access hatch on the vertical surface of the duct, which was protected using a combination of 60 mm thick PROMASIL®1100 Super board and 20 mm thick PROMATECT™ 250 board. The duct was subjected to internal fire exposure, and the test was performed up to 132 minutes in accordance with sections 2 and 9 of AS 1530.4:2014.	Based on the results of the referenced tests, it is proposed to assess self-supported duct systems made of PROMASIL®1100 boards with the following variations: • Large ducts with a maximum size of up to 2.5 m wide × 1.2 m high (Figure 2 to Figure 4) • Use of additional stiffeners for large ducts (Figure 4) • Use of thicker structural steel equal angles as duct support system for larger ducts • Applicability for both internal and external fire exposure • Applicability for 1-side, 2-sides or 3-sides protected duct systems (Figure 5) • Applicability for duct systems penetrating through lightweight, AAC, Speedpanel or rigid wall systems (Figure 11)
	FRT210229 R1.0	The referenced test FRT210229 R1.0 consisted of a horizontally oriented self-supporting duct system made of 60 mm thick PROMASIL®1100 Super boards. The external dimensions of the duct were 1200 mm wide × 1000 mm high with internal dimensions of 1080 mm wide × 880 mm high. The duct penetrated through a lightweight wall system constructed using 64 mm deep studs and 2 × 13 mm thick fire rated plasterboards on each side. Total length of the duct was 4240 mm comprising of four sections. The PROMASIL®1100 boards were screwed to each other with 14g-10 × 100 mm screws at 200 mm nominal centres. PROMASEAL®-A Acrylic sealant was applied to the face of the duct sections before they were butt jointed. The butt joints were further protected using cover strips (100 mm wide	• Applicability for construction of a steel duct inside a duct made of PROMASIL®1100 boards (Figure 12 to Figure 14) • Applicability for optional installation of access hatch with a maximum size of 450 × 450 mm on any surface of the duct (Figure 15).

Item	Reference test	Description	Variations
		× 15 mm thick PROMATECT™ 250 or 100 mm wide × 60 mm thick PROMASIL®1100 Super board). The duct system was supported by 75 mm × 75 mm × 5 mm equal angles and M10 threaded rods. These were spaced 1200 mm apart along the length of the duct. The specimen further included a 450 mm × 450 mm access hatch on the bottom surface of the duct, which was protected using a combination of 60 mm thick PROMASIL® 1100 Super board and 20 mm thick PROMATECT™ 250 board. The duct was subjected to external fire exposure and the test was performed up to 132 minutes in accordance with sections 2 and 9 of AS 1530.4:2014.	Optionally install PROMATECT™ 100 board as the access hatch cover instead of PROMATECT™ 250 board.
	FRT210052 R1.0	The referenced test FRT210052 R1.0 consisted of a vertically oriented self-supporting duct system made of 60 mm thick PROMASIL®1100 boards. The external dimensions of the duct were 1200 mm wide × 1200 mm high with internal dimensions of 1080 mm wide × 1080 mm high. The duct protruded nominally 500 mm past the unexposed faces of the separating element at the top and bottom 120 mm thick concrete slabs. Total length of the duct was 3660 mm consisting two sections. The PROMASIL®1100 boards were screwed to each other with 14g-10 × 100 mm screws at 200 mm nominal centres. PROMASEAL®-A Acrylic sealant was applied to the face of the duct sections before they were butt jointed. The butt joints were further protected using 100 mm wide × 60 mm thick PROMASIL®-1100 Super board cover strips. Cover strips were installed over the duct joint and were fixed into place using 100 mm Type 17 screws at 200 mm staggered centres in two rows located 25 mm from the cover strip edge. The assembled duct was supported on the top side of each slab using 75 mm × 50 mm × 5 unequal angles. The unequal angle was fixed to the concrete slab using Ø6 × 50 mm masonry anchors at 500 mm centres and to the duct using 50 mm Type 17 duct screws at 200 mm centres. The specimen further included a 450 mm × 450 mm access hatch on the duct, which was protected using a combination of 60 mm thick PROMASIL® 1100 Super board and 20 mm thick PROMATECT™ 250 board. The duct was subjected to external fire exposure and the test was performed up to 144 minutes in accordance with sections 2 and 9 of AS 1530.4:2014.	

Item	Reference test	Description	Variations
Vertically oriented self-supported duct system made of PROMASIL® 1100 Super boards	FRT210052 R1.0	The referenced test FRT210052 R1.0 consisted of a vertically oriented self-supporting duct system made of 60 mm thick PROMASIL®1100 boards. The external dimensions of the duct were 1200 mm wide × 1200 mm high with internal dimensions of 1080 mm wide × 1080 mm high. The duct protruded nominally 500 mm past the unexposed faces of the separating element at the top and bottom 120 mm thick concrete slabs. Total length of the duct was 3660 mm consisting two sections. The PROMASIL®1100 boards were screwed to each other with 14g-10 × 100 mm screws at 200 mm nominal centres. PROMASEAL®-A Acrylic sealant was applied to the face of the duct sections before they were butt jointed. The butt joints were further protected using 100 mm wide × 60 mm thick PROMASIL®-1100 Super board cover strips. Cover strips were installed over the duct joint and were fixed into place using 100 mm Type 17 screws at 200 mm staggered centres in two rows located 25 mm from the cover strip edge. The assembled duct was supported on the top side of each slab using 75 mm × 50 mm × 5 unequal angles. The unequal angle was fixed to the concrete slab using Ø6 × 50 mm masonry anchors at 500 mm centres and to the duct using 50 mm Type 17 duct screws at 200 mm centres. The specimen further included a 450 mm × 450 mm access hatch on the duct, which was protected using a combination of 60 mm thick PROMASIL® 1100 Super board and 20 mm thick PROMATECT™ 250 board. The duct was subjected to external fire exposure and the test was performed up to 144 minutes in accordance with sections 2 and 9 of AS 1530.4:2014.	Based on the results of the referenced tests, it is proposed to assess self-supported duct systems made of PROMASIL®1100 boards with the following variations: • Oversized ducts in vertical configuration – ie larger than tested 1200 mm × 1200 mm • Duct size of 1200 mm × 1200 mm – as tested – or smaller • Applicability for both internal and external fire exposure • Applicability for 1-side, 2-sides or 3-sides protected duct systems (Figure 18) • Applicability for duct systems penetrating through fire rated lightweight floor and/or ceiling systems (Figure 20) • Applicability for optional installation of access hatch with a maximum size of 450 × 450 mm on any surface of the duct (Figure 21).

4.4 Test standard

AS 1530.4:2014 sets out the procedure for conducting fire resistance tests on building materials, components and structures. Section 2 of this standard contains general requirements for these tests.

AS 1530.4:2014 Section 9, sets out the procedure for determining the fire resistance of ducts that are required to –

- operate while exposed to an external fire; or
- conduct hot products of combustion.

4.5 Schedule of components

Table 9 outlines the schedule of components for the assessed systems. Figure 1 to Figure 21 show the assessed systems.

Table 9 Schedule of components of assessed system

Item	Description	
1.	Item name	Wall (for horizontal ducts)
	Product name	Masonry, concrete or lightweight wall system with an established FRL in accordance with AS 1530.4:2014. 75 mm AAC or 78 mm Speedpanel wall with an established FRL in accordance with AS 1530.4:2014 can also be used. In this instance, the area around the aperture must be clad with 20 mm thick 200 mm wide Promatect®-100 or Promatect®-250 strips.
2.	Item name	Ceiling/ floor (for vertical ducts)
	Product description	Masonry, concrete or lightweight ceiling/ floor systems with an established FRL in accordance with AS 1530.4:2014.
3.	Item name	Calcium silicate board
	Product name	PROMASIL® 1100 Super board
	Manufacturer / Supplier	Promat
	Thickness	60 mm
	Density	Nominally 350 kg/m ³
4.	Item name	Mineral wool
	Product name	PROMASEAL® SupaWrap with foil backing removed
	Manufacturer / Supplier	Promat
	Density	Nominally 80 kg/m ³
5.	Item name	Fire rated mastic
	Product name	PROMASEAL®-A Acrylic Sealant
	Manufacturer / Supplier	Promat
	Density	Nominally 1400 kg/m ³
6.	Item name	Cover strip
	Product name	PROMASIL® 1100 Super board
	Manufacturer / Supplier	Promat
	Material type	Autoclaved calcium silicate board
	Thickness	60 mm
	Size	150 mm wide
	Density	Nominally 350 kg/m ³

Item	Description	
7.	Item name	Access hatch
	Size	Maximum of 450 wide × 450 mm long
8.	Item name	Hatch cover for horizontal ducts
	Product name	PROMATECT™ 250 board or PROMATECT™ 100 board
	Manufacturer / Supplier	Promat
	Material type	Autoclaved calcium silicate board
	Thickness	20 mm
	Density	Nominally 700 kg/m ³ (PROMATECT™ 250) or nominally 900 kg/m ³ (PROMATECT™ 100)
9.	Item name	Hatch cover for vertical ducts
	Product name	PROMASIL® 1100 Super board
	Manufacturer / Supplier	Promat
	Material type	Autoclaved calcium silicate board
	Thickness	60 mm
	Density	Nominally 350 kg/m ³
Fixing and supports for horizontal ducts		
10.	Item name	Duct framing and cover strip screws
	Product name	14g-10 × 100 mm long screws bugle self-embedding head screws
11.	Item name	Cover strip screws
	Product name	6g × 40 mm bugle head, plasterboard screws
12.	Item name	Plasterboard screws
	Product name	8g × 65 mm bugle head, plasterboard screws
13.	Item name	Hatch screws
	Product name	14 - 10 × 65 mm Galvanised Hex, Part Thread, Type 17 Screws
14.	Item name	Equal angles of duct support system
	Size	Mild steel equal angles as prescribed in Table 10.
15.	Item name	Perimeter equal angles for 1-side, 2-side or 3-side protected duct systems
	Size	75 mm × 75 mm × 5 mm
16.	Item name	Threaded rod
	Size	Threaded rod as prescribed in Table 10.
17.	Item name	Bolts, nuts and washers
	Product name	As appropriate to the size stipulated in Table 10.
Fixing and supports for vertical ducts		
18.	Item name	Unequal angles
	Size	75 mm × 50 mm × 5 mm
	Product name	Mild steel
19.	Item name	Duct framing and cover strip screws
	Product name	14 - 10 × 100 mm long, Timber screws, Type 17 Batten, bugle head, internal hex drive
20.	Item name	Unequal angle masonry anchors

Item	Description	
	Product name	Ø6 × 50 mm AnkaScrew Hex head, Screw Bolt
21.	Item name	Unequal angle duct screw
	Product name	14 - 10 × 50 mm long, Timber screws, Type 17 Batten, bugle head, internal hex drive
22.	Item name	Hatch screws #1
	Product name	8 - 15 × 65 mm bugle head, coarse thread, plasterboard screws
23.	Item name	Hatch screws #2
	Product name	14 - 10 × 65 mm Galvanised, Timber Tek Type 17 Coated, coarse thread, hex head screws

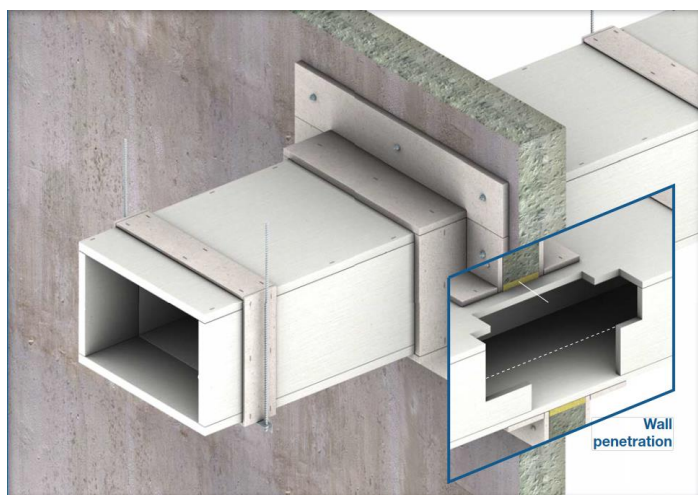


Figure 1 3D schematic of self-supported duct system made of PROMASIL®1100 Super boards

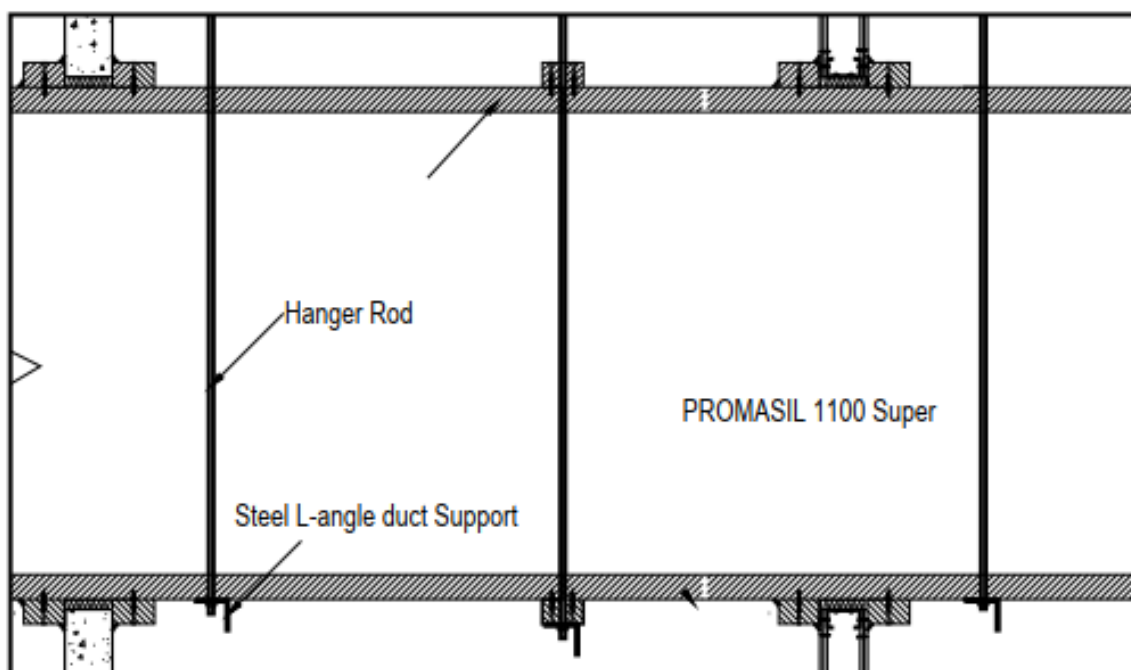
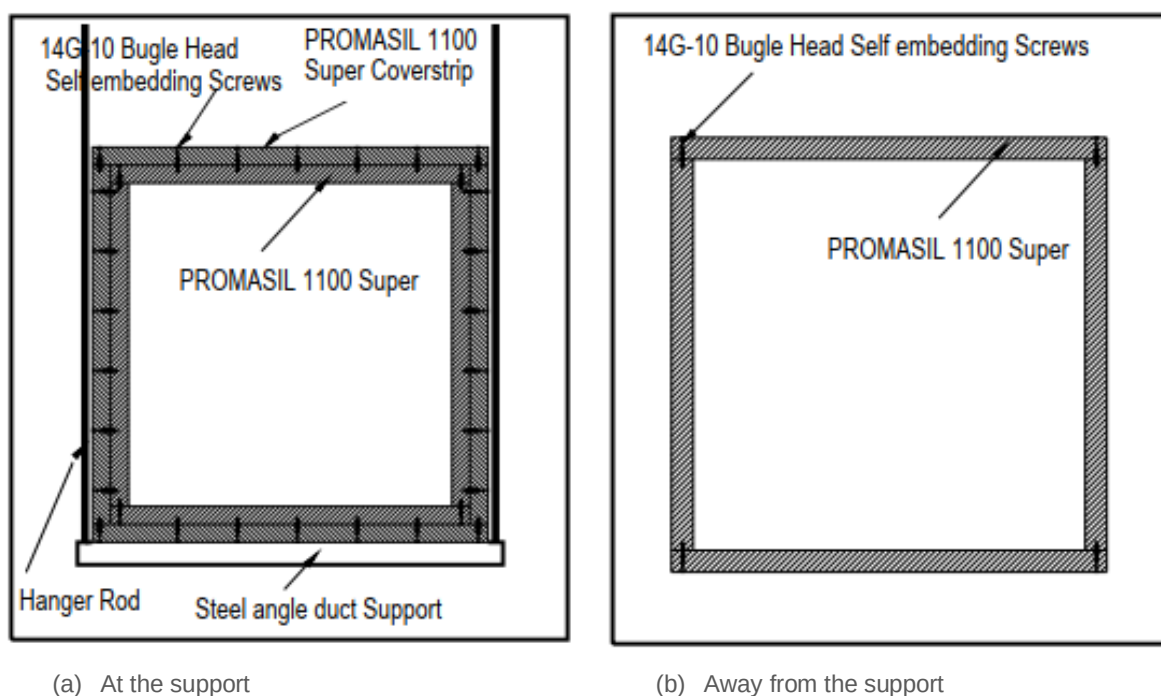


Figure 2 Elevation view of horizontally oriented self-supported duct systems made of PROMASIL®1100 boards



(a) At the support

(b) Away from the support

Figure 3 Elevation view of horizontally oriented self-supported duct systems made of PROMASIL®1100 boards

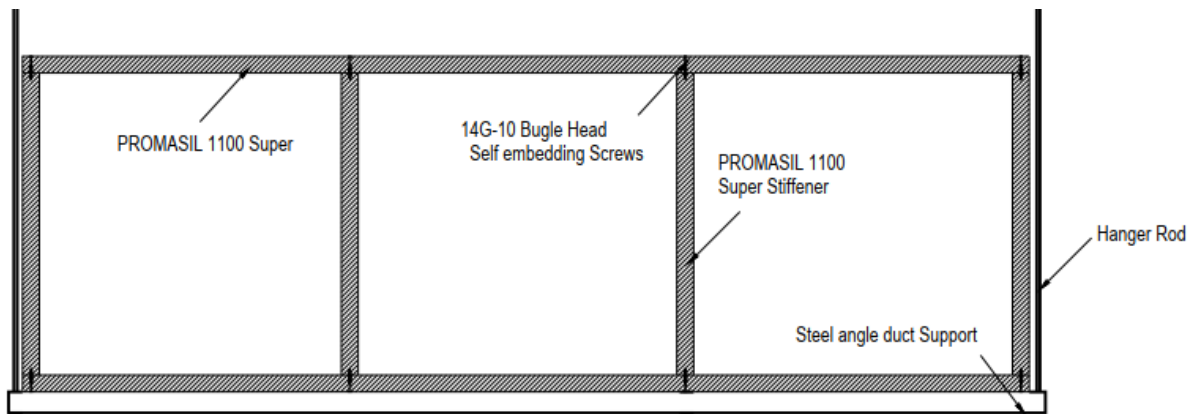
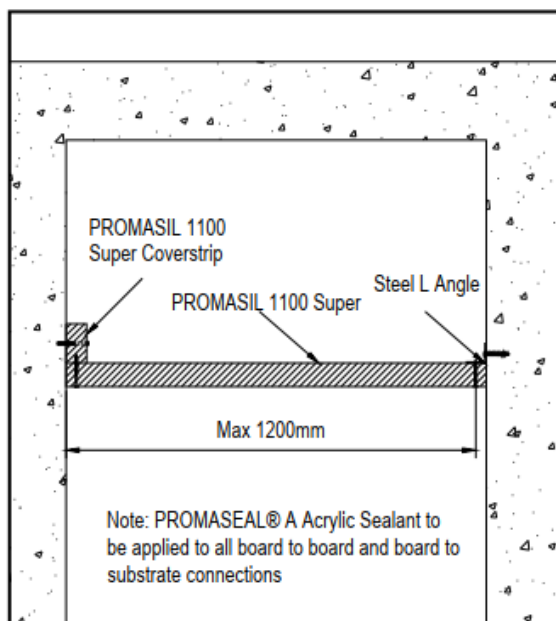
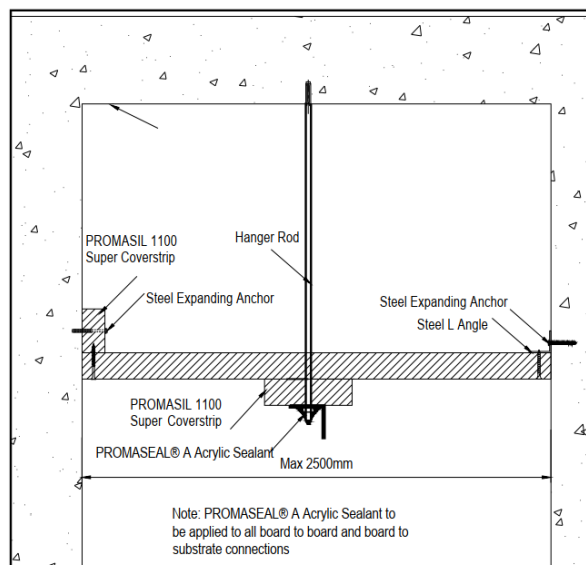


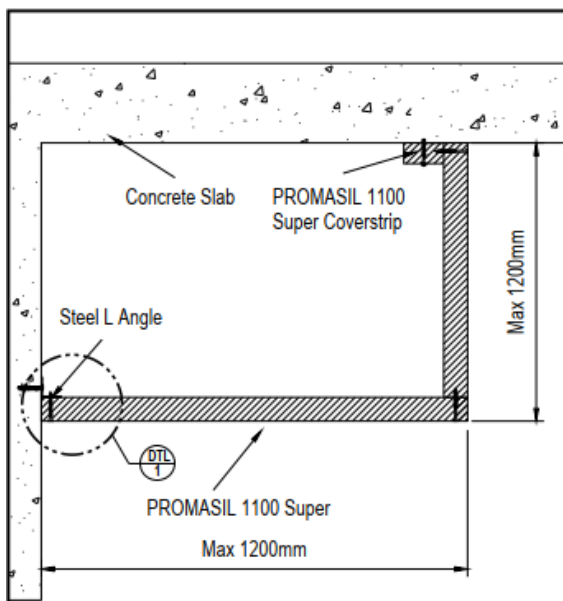
Figure 4 Wide duct detail of horizontally oriented self-supported duct systems made of PROMASIL® 1100 Super boards



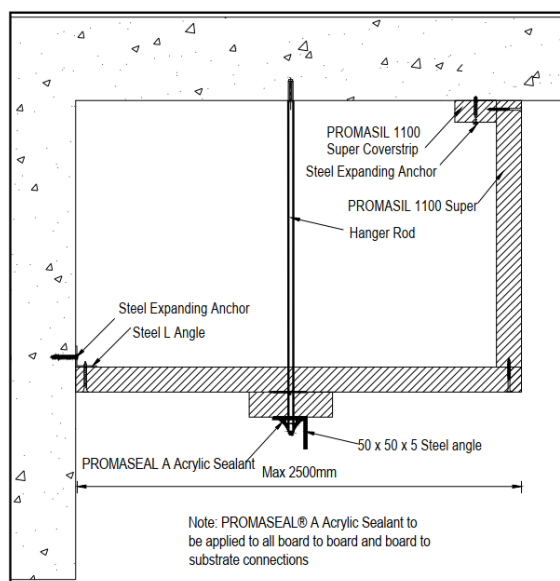
(a) 1-sided board application



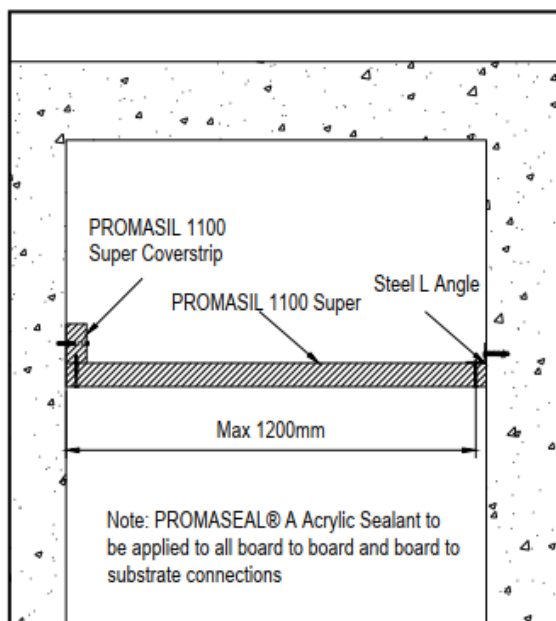
(b) 1-sided board application for wider ducts



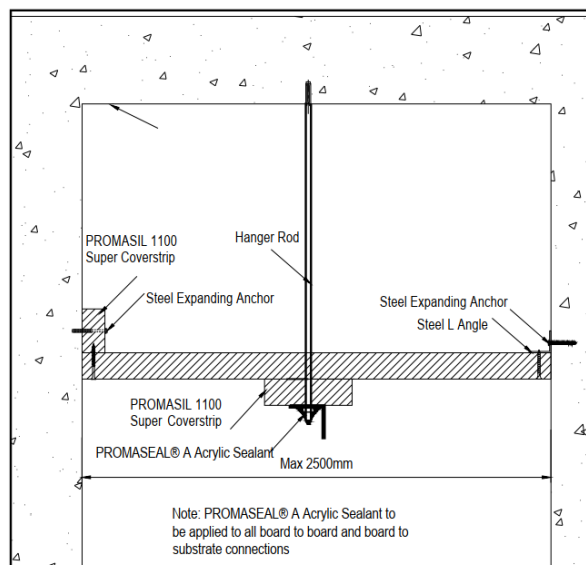
(c) 2-sided board application



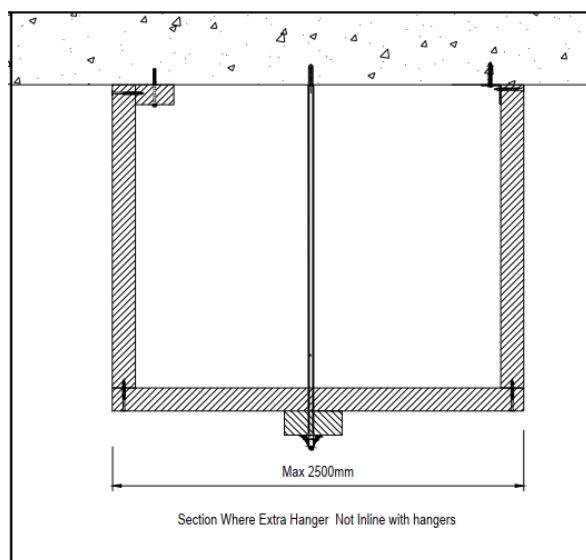
(d) 2-sided board application for wider ducts



(e) 3-sided board application



(f) 3-sided board application where extra hanger is inline with hangers



(g) 3-sided board application where extra hanger is not inline with hangers

Figure 5 Various configurations of horizontally oriented self-supported duct systems made of PROMASIL® 1100 Super boards

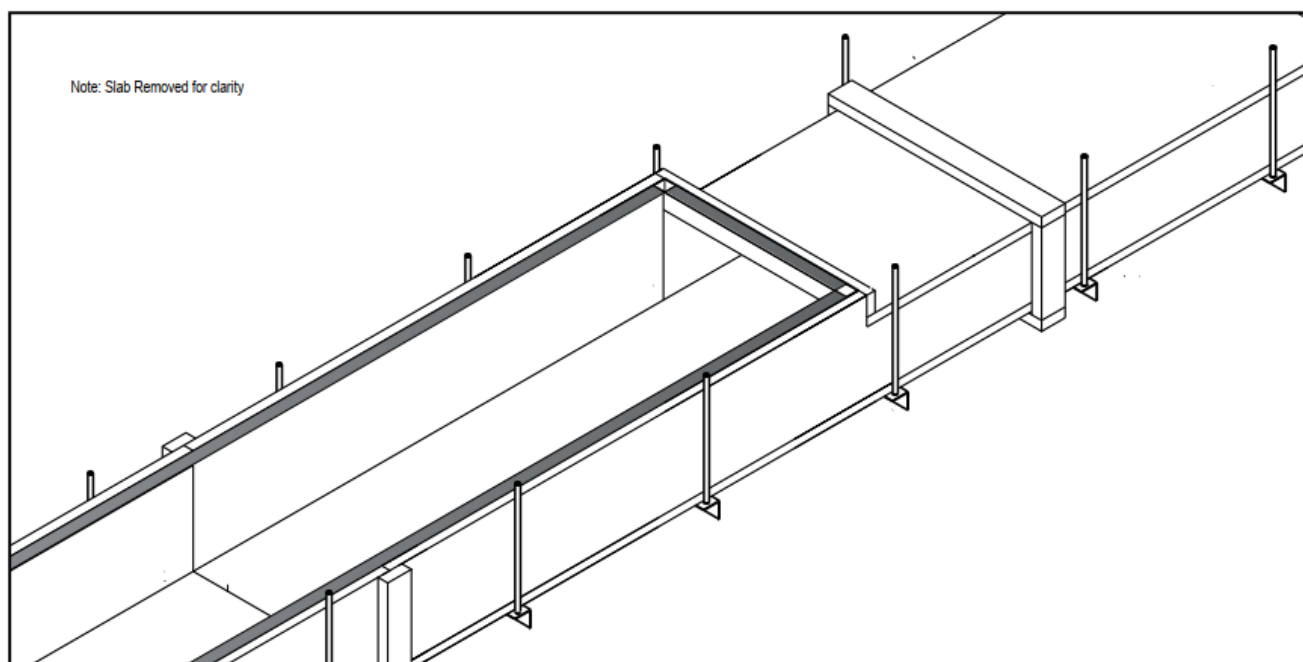


Figure 6 Transition of 3-sided to 4-sided duct system made of PROMASIL® 1100 Super boards

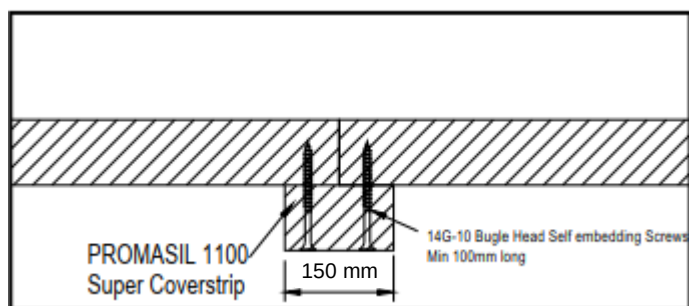


Figure 7 Cover strip detail around the board joint

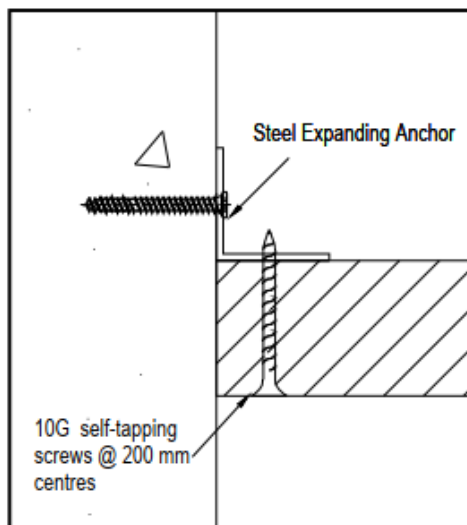


Figure 8 Board to concrete angle fixing (DTL 1)

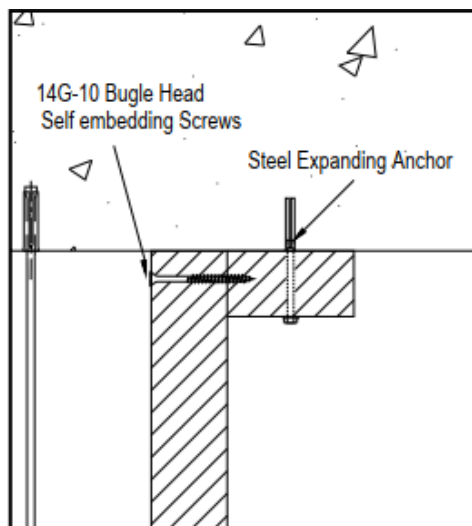


Figure 9 Board to concrete fillet fixing (DTL 2)

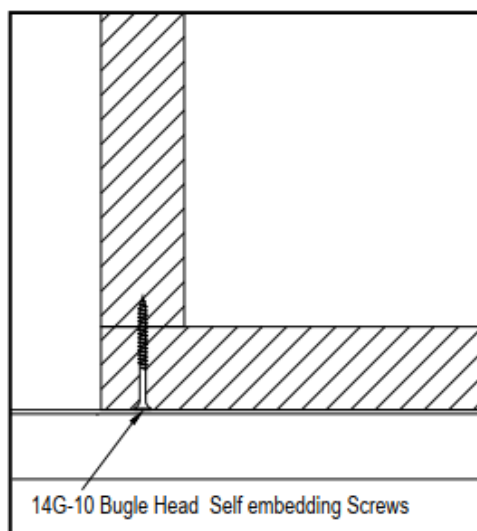


Figure 10 Board to board screw fixing (DTL 3)

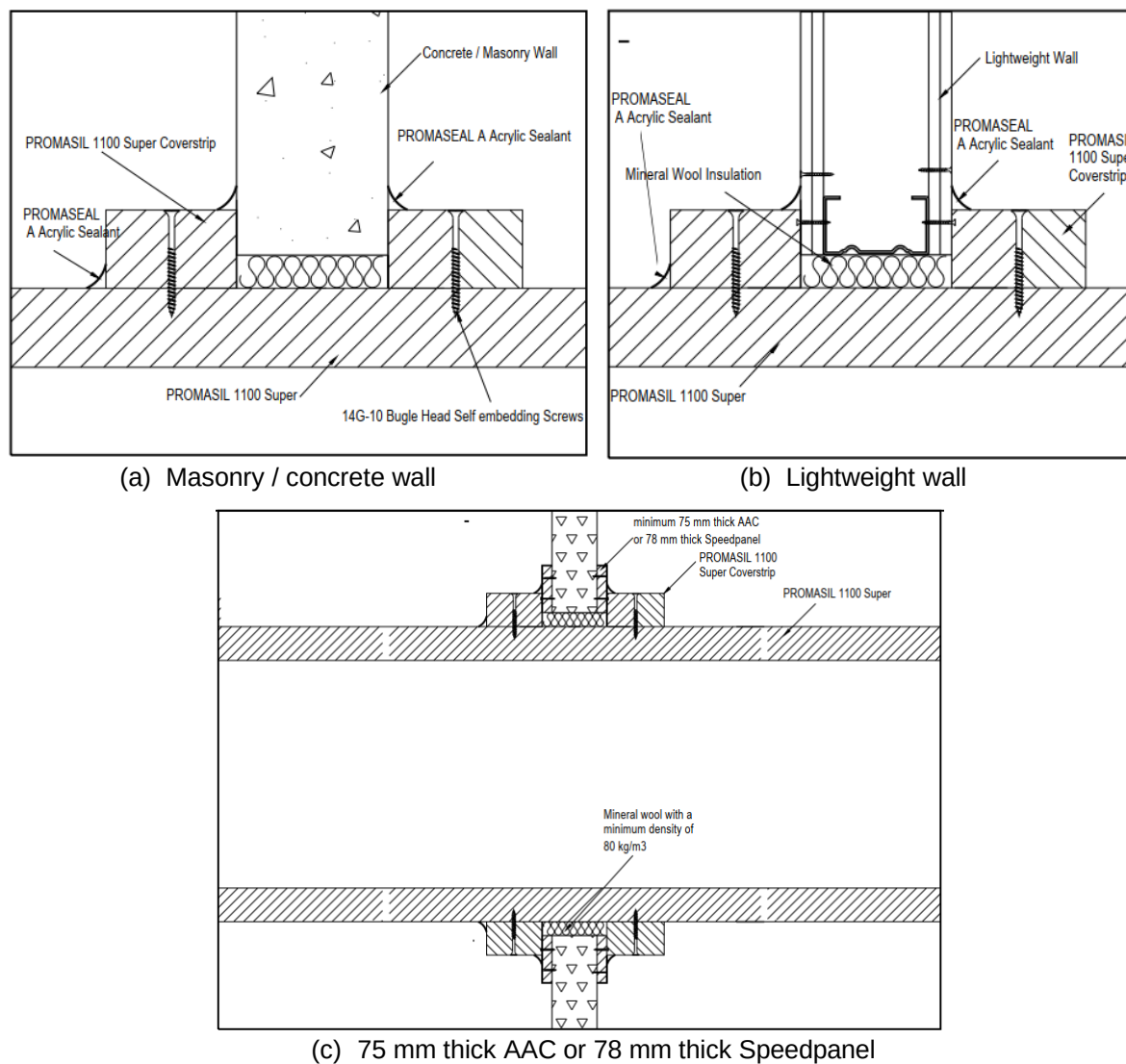


Figure 11 Wall penetration detail of horizontally oriented self-supported duct systems made of PROMASIL®1100 boards

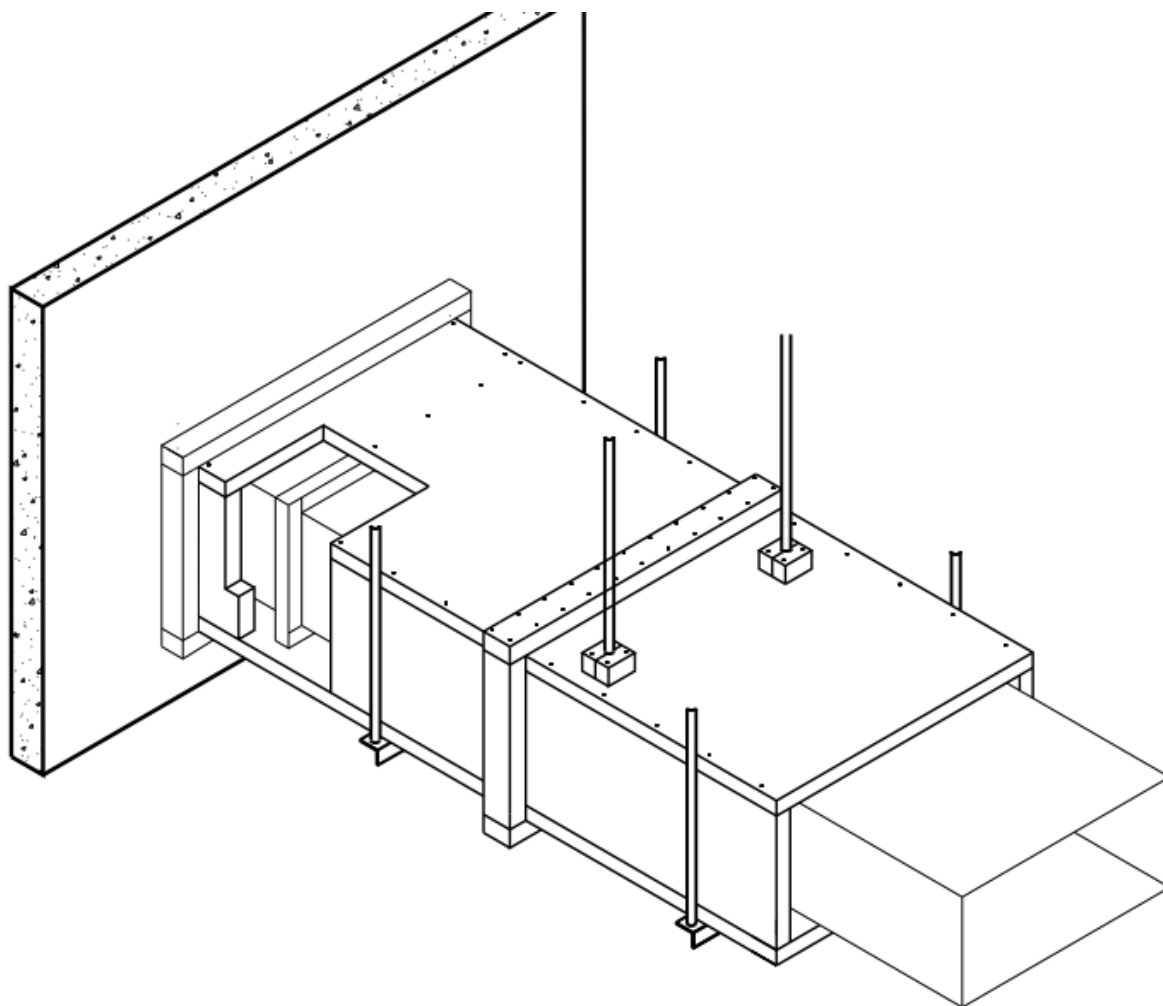


Figure 12 3D schematic of steel duct system protected with PROMASIL®1100 boards

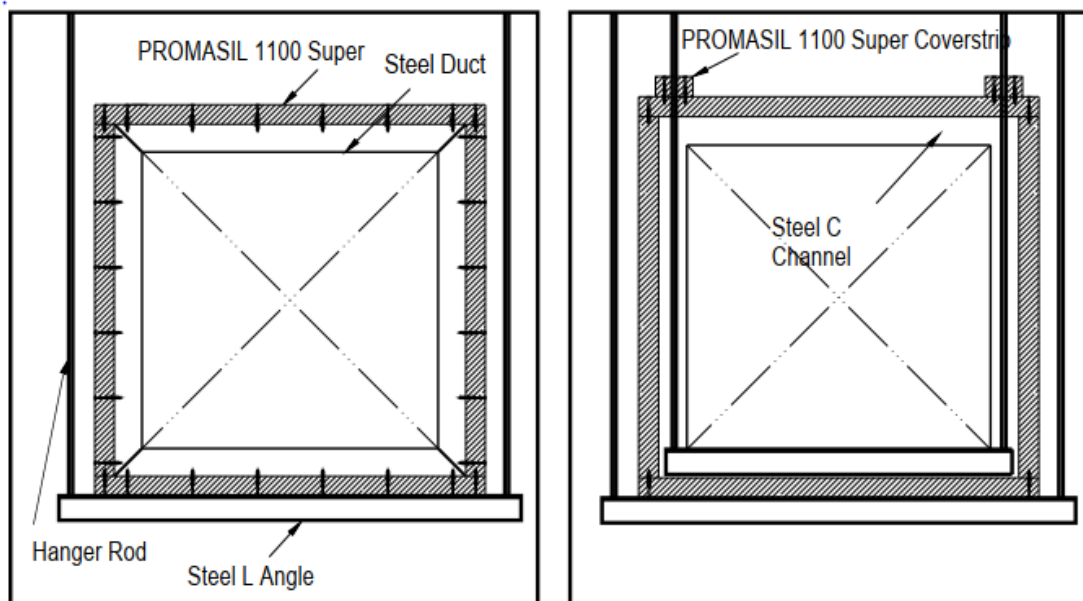


Figure 13 Section views of steel duct system protected with PROMASIL®1100 boards

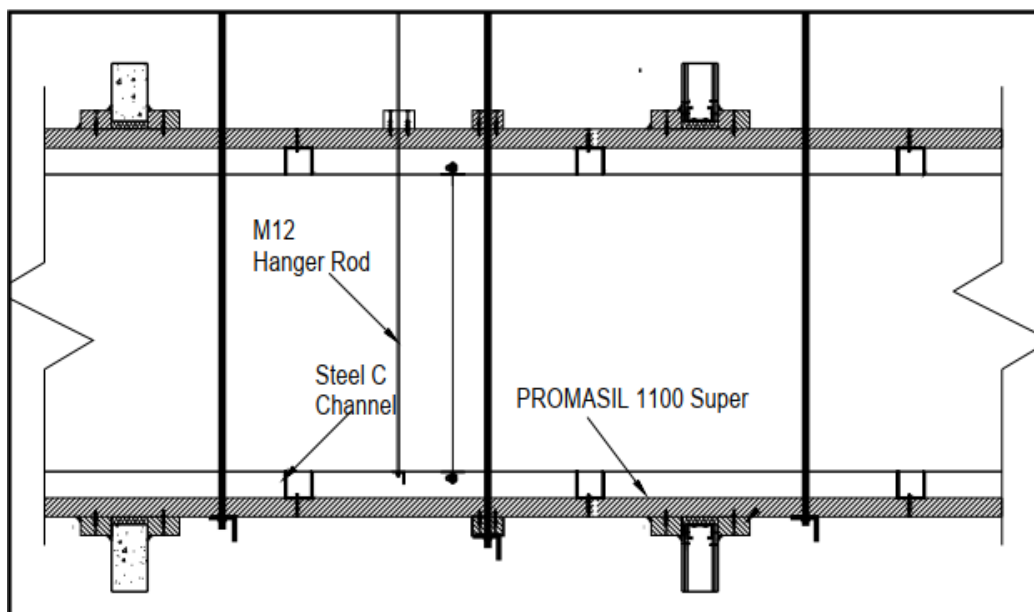


Figure 14 Elevation view of steel duct system through wall penetration protected with PROMASIL®1100 boards

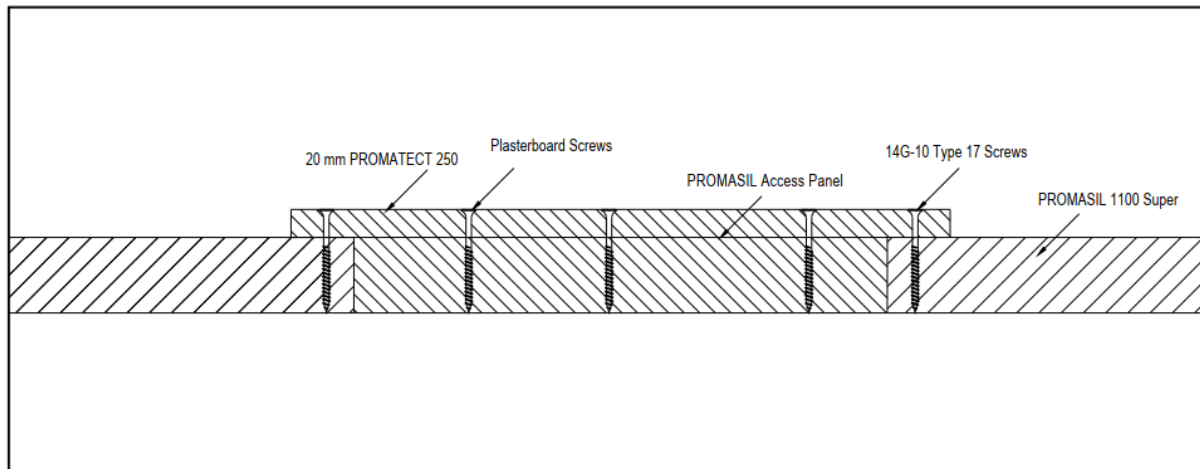


Figure 15 Access panel detail in horizontally oriented self-supported duct systems made of PROMASIL®1100 boards

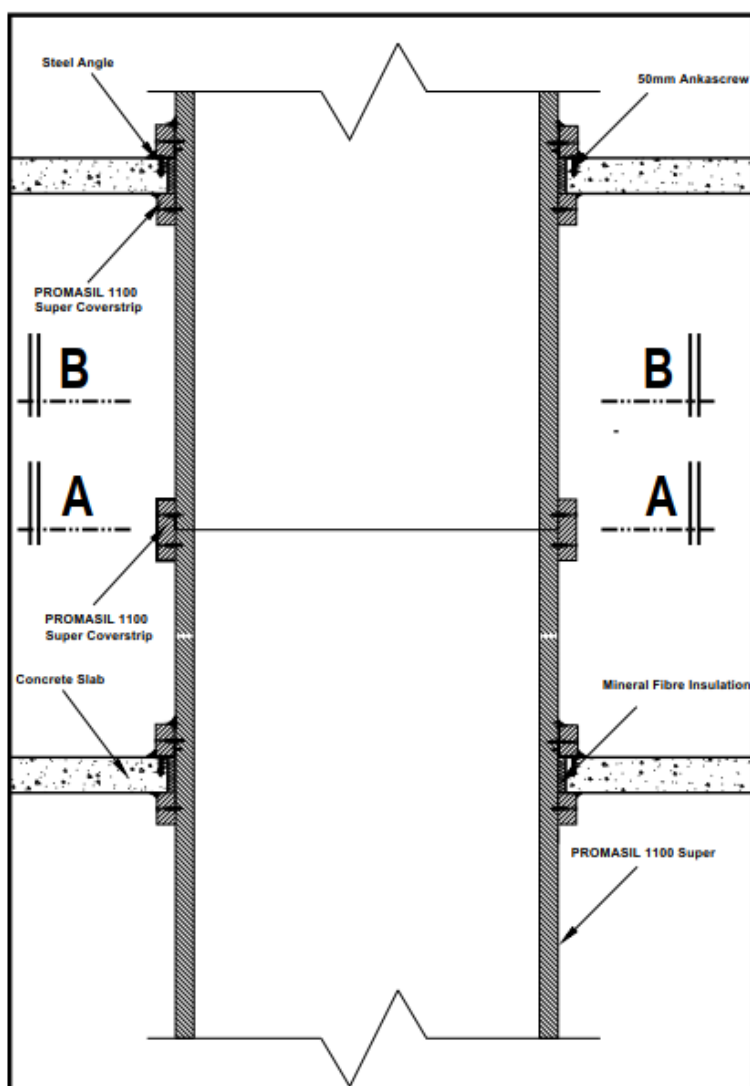
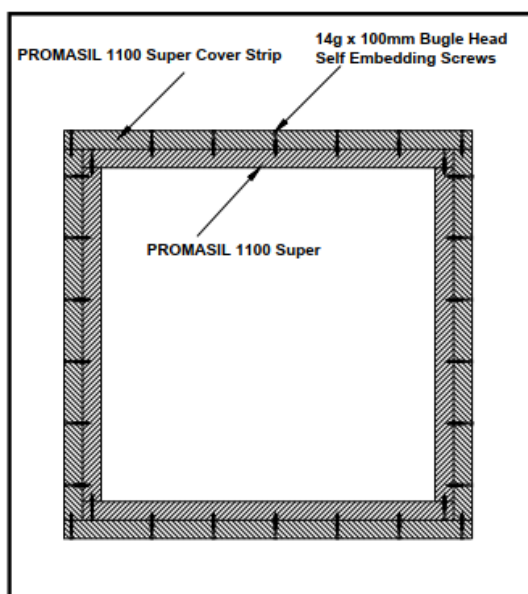
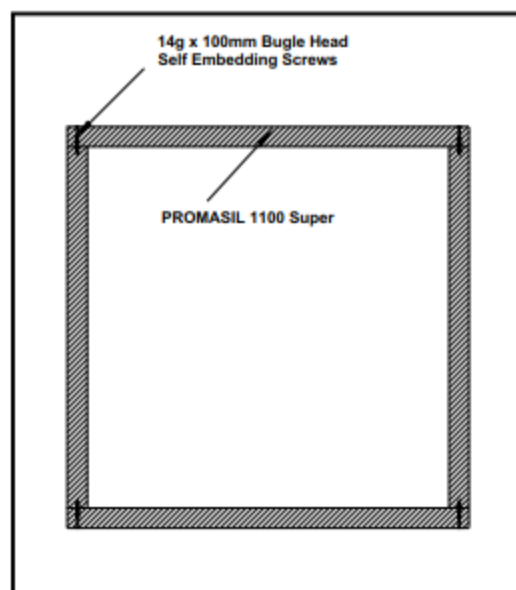


Figure 16 Elevation view of vertically oriented self-supported duct systems made of PROMASIL® 1100 Super boards

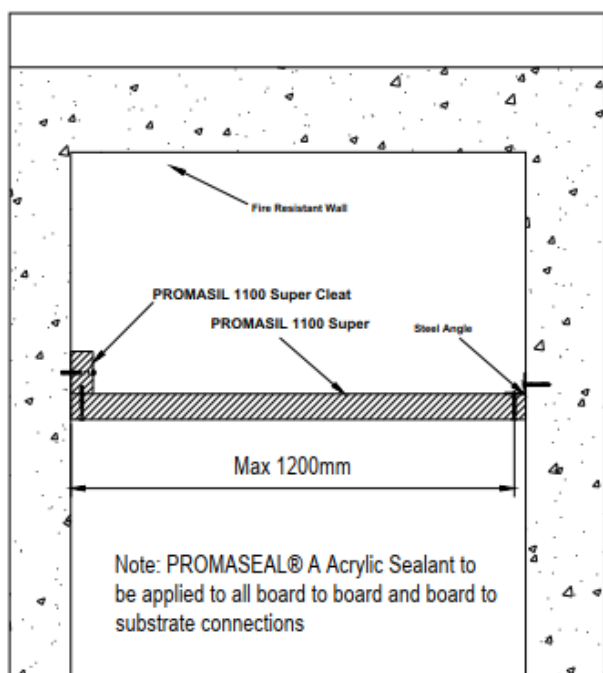


(a) At the connection joint

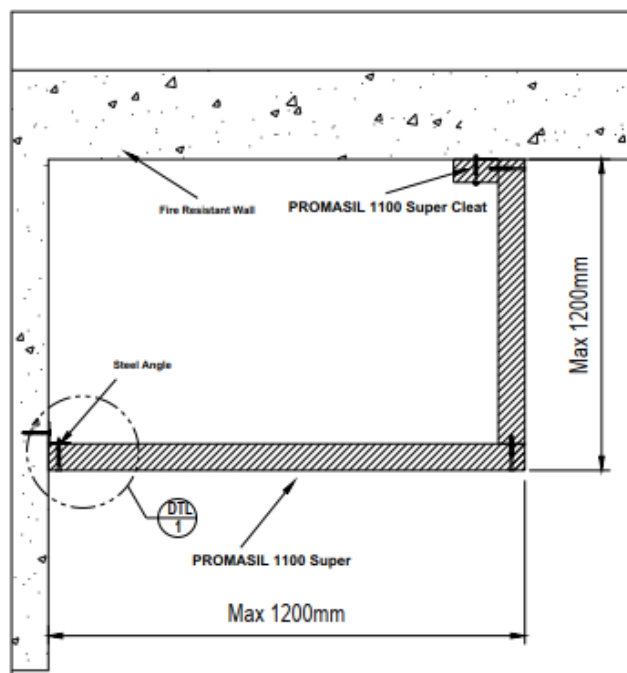


(b) Away from the connection joint

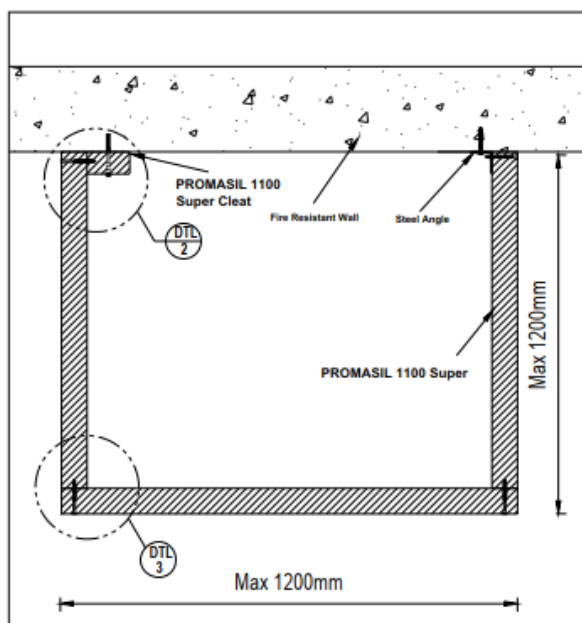
Figure 17 Elevation view of vertically oriented self-supported duct systems made of PROMASIL® 1100 Super boards



(a) 1-sided board application



(b) 2-sided board application



(c) 3-sided board application

Figure 18 Various configurations of vertically oriented self-supported duct systems made of PROMASIL® 1100 Super boards

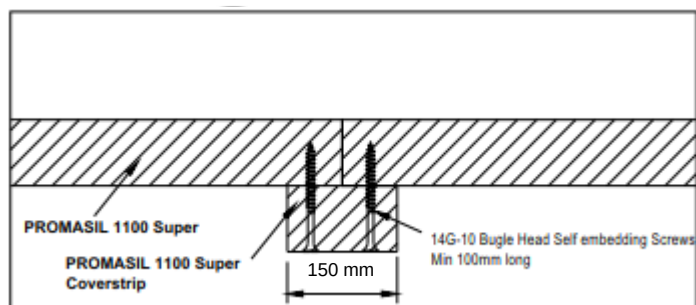


Figure 19 Cover strip detail around the board joint



Figure 20 Vertically oriented duct through fire rated lightweight floor and/or ceiling system

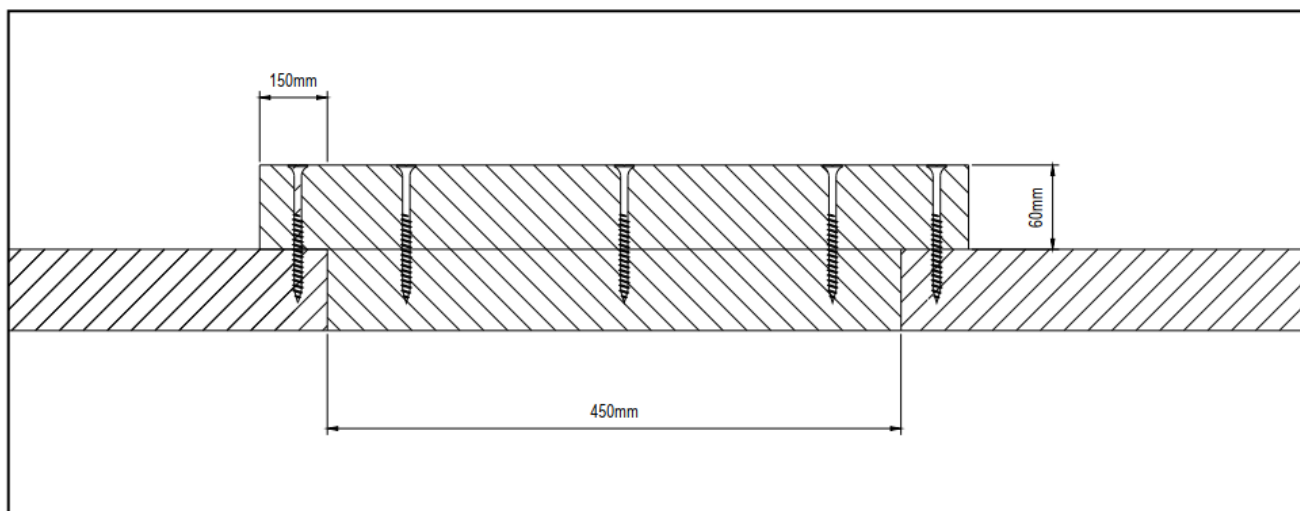


Figure 21 Access panel detail in vertically oriented self-supported duct systems made of PROMASIL®1100 boards

5. Conclusion

Details of the assessment and discussion are only available in the referenced main assessment report.

It has been concluded that the horizontally oriented duct systems made of 60 mm thick PROMASIL® 1100 Super boards and access hatches installed on these duct systems are capable of achieving the FRLs outlined in Table 10 – Table 12, respectively – in accordance with AS 1530.4:2014.

It has also been concluded that the vertically oriented duct systems made of 60 mm thick PROMASIL® 1100 Super boards and access hatches installed on these duct systems are capable of achieving the FRLs outlined in Table 13 –

Table 14, respectively – in accordance with AS 1530.4:2014.

Table 10 Assessment outcome for horizontally oriented self-supported duct systems made of PROMASIL®1100 Super boards

Size (width × height)	Exposure	Hanging rod support	Bottom support angle	Intermediate stiffeners	Referenced figure	FRL
0.6 × 0.6 m	Internal or external	Two M12 hanging rods at 1.2 m centres	65 × 65 × 6 EA	Not required	Figure 2, Figure 3 and Figure 5	120/120/120
1.0 × 1.0 m			75 × 75 × 5 EA	Not required		
1.2 × 1.2 m			90 × 90 × 10 EA	Not required		
2.0 × 1.2 m		Two M16 hanging rods at 1.2 m centres	100 × 100 × 12 EA	One row of PROMASIL® 1100 Super board at mid width	Figure 4	
2.5 × 1.2 m			125 × 125 × 12 EA	Two rows of PROMASIL® 1100 Super boards	Figure 4	
0.6 × 0.6 m	Internal only	Two M12 hanging rods at 1.2 m centres	50 × 50 × 5 EA	Not required	Figure 2, Figure 3 and Figure 5	120/120/120
1.0 × 1.0 m			50 × 50 × 5 EA	Not required		
1.2 × 1.2 m			50 × 50 × 6 EA	Not required		
2.0 × 1.2 m			75 × 75 × 8 EA	One row of PROMASIL® 1100 Super board at mid width	Figure 4	
2.5 × 1.2 m			75 × 75 × 8 EA	Two rows of PROMASIL® 1100 Super boards	Figure 4	

Table 11 Assessment outcome for horizontally oriented steel ducts protected with PROMASIL®1100 boards

Size (width × height)	Exposure	Hanging rod support	Bottom support angle	Referenced figure	FRL
0.6 × 0.6 m	Internal or external	Two M12 hanging rods at 1.2 m centres	65 × 65 × 6 EA	Figure 12 – Figure 14	120/120/120
1.0 × 1.0 m			75 × 75 × 5 EA		
1.2 × 1.2 m			90 × 90 × 10 EA		
0.6 × 0.6 m	Internal only	Two M12 hanging rods at 1.2 m centres	50 × 50 × 5 EA	Figure 12 – Figure 14	120/120/120
1.0 × 1.0 m			50 × 50 × 5 EA		
1.2 × 1.2 m			50 × 50 × 6 EA		
Note – As shown in Figure 12 to Figure 14, the steel duct within the self-supported PROMASIL®1100 board duct must be supported by 50 × 50 × 5 EA and two M12 hanging rods at 1.2 m centres.					

Table 12 Access hatches installed on horizontally oriented duct systems made of PROMASIL® 1100 Super boards

Specimen	Size	Protection	Penetrating surface	Referenced test report	Figure	Fire direction	FRL
Access hatch	Up to a size of 450 mm × 450 mm	Installation must be as per Figure 15	Any surface	FRT210228 R1.0 FRT210229 R1.0	Figure 15	External	-/90/90
						Internal	-/120/120

Table 13 Assessment outcome for vertically oriented self-supported duct systems made of PROMASIL®1100 Super boards

Size	Exposure	Maximum support height	Referenced figure	FRL
Oversized ducts – larger than tested 1200 mm × 1200 mm	Internal or external	2200 mm	Figure 16 and Figure 17	120/120/120
1200 mm × 1200 mm or smaller ducts	Internal or external	2750 mm		

Table 14 Access hatches installed on vertically oriented duct systems made of PROMASIL® 1100 Super boards

Specimen	Size	Protection	Penetrating surface	Referenced test report	Figure	Fire direction	FRL
Access hatch	Up to a size of 450 mm × 450 mm	Installation must be as per Figure 21	Any surface	FRT210052 R1.0	Figure 21	External or internal	-/120/120

6. Validity

Warringtonfire 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.

This report 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 Warringtonfire 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 Warringtonfire's ongoing assessment. The primary goal of this notification is to allow Warringtonfire 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 Warringtonfire 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.

This report 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.

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