

#### **REGULATORY INFORMATION REPORT**

The fire resistance performance of 51mm, 64mm and 78mm thick Speedpanel wall systems incorporating various apertures for penetrations and dampers when tested in accordance with AS1530.4-2014

**Report No:** 

RIR 21622-31

**Report Sponsor:** 

Speedpanel Victoria Pty Ltd 421 Dorset Road, Bayswater, VIC 3153

## **DOCUMENT REVISION STATUS**

Issued	Issue No	Description				
22/8/14	RIR 21622-21	nitial Issue				
2/12/14	RIR 21622-23	Revised to include range of various dampers				
08/10/15	RIR 21622-24	Revised to include Holyoake IBD-FS fire dampers				
09/08/16	RIR 21622-27	Typographical amendment				
13-09-18	RIR 21622-30	Revised to reference the updated assessment report 21622-30				

## **CONTACT INFORMATION**

Exova Warringtonfire Aus Pty Ltd - ABN 81 050 241 524

#### **NATA Registered Laboratory**

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

T: +61 (0)3 9767 1000 F: +61 (0)3 9767 1001

#### **New South Wales**

Suite 802, Level 8 383 Kent Street Sydney NSW 2000 Australia

T: +61 (0)2 9211 4333

#### Perth

Unit 22 22 Railway Road Subiaco WA 6008 Australia

T: +61 (0)8 9382 3844

#### Victoria

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

T: +61 (0)3 9767 1000 F: +61 (0)3 9767 1001

#### Queensland

T6. L12 133 Mary Street Brisbane QLD 4000 Australia

T: +61 (0)7 3238 1700 F: +61 (0)7 3211 4833

#### Canberra

2/11 Murray Cres Griffith ACT 2603 Australia

T: +61 (0)2 6260 8488



# CONTENTS

1	INTRC	DUCTION	4
2	TESTE	D PROTOTYPES	4
3		TION TO TESTED PROTOTYPES	
	3.1	General	6
4	REFE	RENCED TEST PROCEDURES	84
5	FORM	AL ASSESSMENT SUMMARY	84
6	DIREC	T FIELD OF APPLICATION	85
7	REQU	IREMENTS	85
8	VALID	ITY	85
9			86
	9.1	Applicant Undertakings and Conditions of Use	86
	9.2	General Conditions of Use	86
	9.3	Authorisation on Behalf of Exova Warringtonfire Aus Pty Ltd	86
	9.4	Date of Issue	86
	9.5	Expiry Date	86



## 1 INTRODUCTION

This report contains the minimum information sufficient for regulatory compliance in accordance with AS1530.4-2014 Clause 2.15.3 and refers to the Assessment Report EWFA 21622-30.

The referenced assessment report supersedes the previous version of the report (21622-29 and presents an assessment of the fire resistance performance of 51mm, 64mm and 78mm thick Speedpanel wall systems incorporating various apertures for penetrations and dampers when tested in accordance with AS1530.4-2014.

The tested systems are described in Section 2 and are to be subject to the proposed variations described in Section 3 and tested in accordance with the referenced test method described in Section 4. The conclusions of the report are summarised in Section 5. The validity of this assessment is conditional on compliance with Sections 7, 8 and 9 of this report.

Summaries of the test data on which this assessment is based are provided in the Appendices together with a summary of the critical issues leading to the assessment conclusions including the main points of argument.

## 2 TESTED PROTOTYPES

The referenced assessment report is based on fire resistance tests FSV 0562, FSP 0146, SI 1798, FSV 0094, SI 1797, SI 569, WFRA 41162.1, EWFA 2517300.2, BWA 22869-00.5, BWA 2245900.2, FSV 0750, EWFA 2736000.1, EWFA 2600700.1, EWFA 2848300, EWFA 2736002.1, EWFA 2798800.1, EWFA 2741700, BWA 2257600, FR 4322, FAR 3754, FSV 0844, FSV 0931, FSV 1253, F91675B, WARRES 63297, EWFA 2294200.4 and EWFA 24105.10 together with assessment report EWFA 46883300.1

The test specimen reported in FSV 0562 comprised a Speedpanel wall lined with two types of plasterboard in order to provide information. The test was stated to be in accordance with AS1530.4-1997. This test was sponsored by Speedwall Building Product, who has provided permission for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.

The test specimen reported in FSP 0146 comprised a 230mm thick masonry wall incorporating a Bullock Model 5650F Damper tested in accordance with AS1530.4-1990. This test was sponsored by Bullock Manufacturing Pty Ltd, who has provided permission for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.

The test specimen reported in SI 1798 comprised a 230mm thick masonry wall incorporating a Bullock Model 4900 Damper tested in accordance with AS1530.4-1975. This test was sponsored by Jackson International Pty Ltd now owned by Bullock Manufacturing Pty Ltd, who has provided permission for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.

The test specimen reported in FSV 0094 comprised a 230mm thick masonry wall incorporating a Bullock 4900 Curtain Type Fire damper assembly of four modules tested in accordance with AS1530.4-1990. This test was sponsored by Jackson International Pty Ltd, who has provided permission for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.

The test specimen reported in SI 1797 was a multi-unit damper assembly comprising three Prefco 5020-1 series smoke/fire damper units in two rows tested in accordance with AS1530.4-1975. This test was sponsored by Jackson International Pty Ltd, who has provided permission for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.

The test specimen reported in SI 569 comprised of a brick wall incorporating six rectangular multi-blade damper assemblies tested in accordance with AS A30-1958. This test was sponsored by M & E Air Control Pty Ltd, who has provided permission for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd. Refer to Appendix A for full summary of the referenced test data.



The test specimen reported in WFRA 41162.1 comprised a 48mm thick Speedpanel wall tested in accordance with AS1530.4-1997. This test was sponsored by Speedpanel Victoria Pty Ltd.

The test specimen reported in EWFA 2517300.2 comprised a 77mm thick Speedpanel wall incorporating various dampers in close proximity to each other tested in accordance with AS1530.4. This test was sponsored by Speedpanel Victoria Pty Ltd.

BWA 2286900.5 comprised a test of a vertically orientated 78mm thick Speedpanel wall system 3m x 3m in size. The wall was loaded to simulate a wall of increased height. The test was conducted by Exova Warringtonfire and sponsored by Speedpanel Vic Pty Ltd.

The test specimen reported in BWA 2245900.2 comprised a 190mm thick masonry wall incorporating a single opening with dual module curtain blade damper tested in accordance with AS1530.4- 1997. This test was sponsored by Bovis Lend Lease Pty. Ltd, who has provided permission for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.

The test specimen reported in FSV 0750 comprised a 230mm thick masonry wall incorporating 200mm and 300mm diameter Lorient LVH-O (identical to Kilargo IFD-O) circular intumescent dampers and a nominal 1000mm × 1000mm Lorient LVH-W (identical to Kilargo IFD4) square intumescent damper unit tested in accordance with AS1530.4-1997. The test was sponsored by Lorient Fireseals (Aust) Pty Ltd.

EWFA 2736000.1 comprised a test of a vertical 78mm thick Speedpanel wall 2950 mm wide x 3000 mm high loaded wall system that incorporated various apertures. The wall was loaded to simulate a wall of increased height. The specimen was tested in accordance with AS 1530.4-2005 and sponsored by Speedpanel Vic Pty. Ltd

EWFA 2600700.1 comprised a test of a 128mm thick steel framed plasterboard lined wall with an opening consisting of two layers of friction fitted 50mm thick Firetherm<sup>™</sup> Intubatt 1, which was penetrated by various penetrations. The test was sponsored by Firetherm (Holdings) Ltd and TBA Textiles who have provided permission of the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.

EWFA 2848300.2 comprised a test of a vertically orientated 64mm thick Speedpanel wall system  $3m \times 3m$  in size. The test was conducted by Exova Warringtonfire and sponsored by Speedpanel Vic Pty Ltd.

EWFA 2736002.1 comprised a test of a vertically orientated 51mm thick Speedpanel wall system  $3m \times 3m$  in size. The test was conducted by Exova Warringtonfire and sponsored by Speedpanel Vic Pty Ltd.

This assessment is also based on reference test reports EWFA 2798800.1 and EWFA 2741700, EWFA 2848300.2. BWA 2257600, FR 4322 and FAR 3754 were sponsored by Speedpanel Vic. P/L. and Speedwell New Zealand Ltd, respectively. The tests were conducted by Bodycote Warringtonfire (Aus) Pty Ltd, BRANZ Limited and Warrington Fire Research (Aust) Pty Ltd, respectively.

The referenced assessment also makes reference to test EWFA 29942200.1 comprised a test of a vertical orientated 78mm thick Speedpanel wall system incorporating various services including a 400mm diameter Ravenscroft Fire Damper protected with various systems with Sika Firerate-PU sealant. The test was conducted by Exova Warringtonfire Aus Pty Ltd and was sponsored by Sika Australia Pty Ltd. Permission has been granted by Sika Australia Pty Ltd for referencing the test report EWFA 2994200.1.

The test specimen reported in FSV 0931 comprised a 142mm drywall incorporating three Blendair SHD Series dampers, a MFD Series damper and a SBFP Series damper tested in accordance with AS1530.4-1997. This test was sponsored by Blendair Pty Ltd.

The test specimen reported in FSV 0844 comprised a 230mm thick masonry wall incorporating a Blendair SHD Series Damper tested in accordance with AS1530.4-1997. This test was sponsored by Blendair Pty Ltd.

The test specimen reported in FSV 1253 comprised a 144mm thick fire grade plasterboard lined wall incorporated a dual module motorised fire/smoke damper assembly tested in accordance with AS1530.4-1997. This test was sponsored by Blendair Pty Ltd and Bovis Lend Lease Pty Ltd who has provided permissions for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.



The test specimen reported in F91675B comprised a 140mm thick masonry wall incorporated a dual module Lorient LVH44 damper tested in accordance with AS1530.4-1990. The test was sponsored by Lorient Polyproducts who has provided permissions for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.

The test specimen reported in WARRESS No. 63297 comprised a Lorient LVH-O damper mounted in the wall tested in accordance with BS 476 Part 20: 1987. The test was sponsored by Lorient Polyproducts who has provided permissions for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.

The test specimen reported in EWFA 2294200.4 comprised a 103mm thick plasterboard lined wall incorporated a Holyoake IBD-FS fire damper tested in accordance with AS1530.4-2005 for evaluating the performance of the wall and damper junction. The test was sponsored by Holyoake Industries Limited, who has provided permission for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.

The referenced assessment makes reference to assessment report EWFA 24105.10 comprising Holyoake IBD-FS fire dampers installed in plasterboard walls, masonry walls and concrete floor slabs with high temperature seals tested in accordance with AS1530.4-2014. The assessment report was based on tests EWFA 37846000, and EWFA 2358000.5, which were sponsored by Holyoake Industries Limited, who has provided permission for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.

The referenced assessment also makes reference to assessment report EWFA 46883300.1 comprising Holyoake IBD-FS Modular Fire Damper System if tested in accordance with AS1530.4-2014. The assessment report was based on tests EWFA 45528200, and EWFA 45528500, which were sponsored by Holyoake Industries Limited, who has provided permission for the reference of this data by Exova Warringtonfire on behalf of Speedpanel Victoria Pty Ltd.

Refer to Appendix A for a detailed summary of the reference test data.

# **3 VARIATION TO TESTED PROTOTYPES**

#### 3.1 GENERAL

The proposed wall shall be constructed as tested in BWA 2286900.5 and EWFA 2736000, subject to the following variations:

- Walls for 51mm, 64mm and 78mm vertical panel walls up to 5m or 6m depending on design.
- Walls shall be made from vertical or horizontal oriented panels or a combination of both.
- Walls shall include apertures for dampers listed in Table 1, large penetration seals and groups of smaller penetrations making a "notional" aperture, though aperture may comprise a group of smaller penetrations that are within the same area as the aperture.
- The Intubatt penetration seal may include other penetrating services supported by suitable test or assessment evidence.
- Include up to a 20mm gap between panel and track trimming our aperture in walls
- Include butt joins between Speedpanel panels are shown in figures 68, 69 and 70. The butt joins shall be fully filled with Promaseal Supa Mastic or Hilti CP606 and the minimum panel overlap for two butt joins shall be 750mm. Additional 200mm wide x 0.4mm BMT metal flashing shall be applied over the butt joints at one side with minimum 100mm wide overlap. The metal flashing is held in place with 10 gauge and 16mm long self-drilling screws with Promaseal Supa Mastic or Hilti CP606 applied around the perimeter of flashing.
- Apertures may be filled with the following services or penetration seals. The size of the aperture is limited by the type of service and the wall construction it is fitted too. The limiting sizes for each service are shown in Table1. The maximum size based on the wall design is listed in Tables 3 to Table 21 and figure 1-18.



- The details of aperture and wall junctions, head, base, side details and bracing are shown in figure 19 to 90.
- The sealant product can optionally be Sika Firerate PU sealant as tested in EWFA 29942200 at side and bottom tracks of Speedpanel wall systems.
- Service penetrations shall be spaced at a minimum of 40mm apart
- Holyoake IBD-FS fire damper installation details to include high temperature seals and corner mounting
- Include Holyoake IBD-FS modular fire damper system with a size of up to 2,400 maximum width and no more than 4 square metres in area

The details in this assessment shall be read in conjunction with schedule of components shown in Table 2.

Aperture Filled With	Size of Aperture			
Bullock Model 5650F Damper	400mm wide × 250mm high (max)			
Bullock 4800	390mm wide × 290mm high			
	A maximum of 2000mm wide x 1000mm high or			
Bullock Model 4900 Curtain Damper	A maximum of 2.4m wide or high and a maximum area of $4m^2$			
Kilargo IFD-O Damper	Ø300mm (max)			
Kilargo IFD44 Damper	1000mm wide × 1000mm high (max)			
2 x 50mm TBA Intubatt (This may include other services)	1200mm wide x 1200mm high (max)			
Large Penetrations for Dampers, Doors or other penetration seals	A maximum of 2.4m wide or high and a maximum area of $4m^2$			
Riley Blendair MFD Series Damper	A maximum of 1200mm wide x 1200mm high			
Riley Blendair SBFP Series Damper	A maximum of 300mm wide x 300mm high			
Riley Blendair SHD Series Damper	A maximum of 1200mm wide x 1200mm high			
Riley Blendair SSD Series Damper	A maximum of 1200mm wide x 300mm high, and 450mm wide x 450mm high			
Ravenscroft BSD-C Fire Damper	Ø400mm (max)			
Lorient LVH44 Damper	1000mm wide × 1000mm high (max)			
Holyoake IBD-FS Fire Damper	A maximum of 1200mm wide x 1200mm high			
Holyoake IBD-FS Modular Damper	A maximum of 4 square meters and up to 2400mm wide			
Holyoake IBD Fire Damper	A maximum of 1200mm wide x 1200mm high for a single damper			

Table 1 – Aperture Options

Clearance between Damper and opening shall be in accordance with AS1668 Part 1 but not exceeding 25mm.



### Table 2 – Schedule of Components

ID		Description						
	Name	Trimming Channel						
	Material	Galvanised mild steel						
1	Size	Minimum 50mm (legs) x 1.2mm or 1.15mm C track (width to suit panel) Fixed to support structure with track fixings (item 3) and fixed to the Speedpanel panel (Item 2) with 10-gauge × 30mm long self-drilling screws at 500mm centres.						
	Name	Speedpanel Panel						
	Material	Mild steel section filled with lightweight concrete						
2	Size	78mm thick Speedpanel panels as tested in BWA 2286900.5 or 64mm thick Speedpanel panels as tested in EWFA 2848300.2 or 51mm thick Speedpanel panels as tested in EWFA 2736002.1						
	Name	Track fixing						
3	Size	Mechanical fixing of track to surround minimum 5mm steel bolt at 500mm maximum centres and shall be in accordance with project engineer's specification and at least 40mm embedment.						
	Spacing	500mm centres						
	Name	Head Track to panel Fixing						
4	Material	Mild steel						
	Spacing	10 gauge × 30mm long self-drilling screws at 500mm centres.						
	Name	Panel to Panel connecting screws						
5	Material	10G self-drilling screw through tongue and groove connecting panel together, on each side of panel.						
5	Spacing	Above dampers at 500mm vertical centres in every joint. Wall up to 5m in height 1500mm centres in every joint. Walls up to 6.0m in height 1000mm centres in every joint.						
	Name	Trimming Channel to Panel Screws						
6	Material	10G self-drilling screws through track into panel on each side of wall.						
	Spacing	500mm centres.						
	Name	Fire Tested Sealant						
_	Material	Hilti CP 606 Flexible firestop sealant						
7	Installation	Used to seal all gaps between top tracks and panels, between flashing and panels, between plasterboard strip and panels and between angle and panels at wall head.						
	Name	Fire Tested Sealant						
Ω	Material	sealant used for sealing around a damper shall have demonstrated by test that when used to protect a control joint on the underside of a floor slab 20mm wide the system is capable of achieving an FRL of at least -/120/- with a sealant depth not exceeding 15mm.						
8	Installation	To be applied at the gap between the track and the damper body To be applied at the gap between the angle (item 9) and the sleeve For Kilargo Intumescent dampers, to be applied to top and side gaps between casing and surrounding construction and IBS rod (item 33) positioned to allow for 25mm fill depth.						
	Name	Trimming Angles						
9	Material	Galvanised mild steel						
	Size	50mm × 50mm × 1.6mm						



ID	Description					
	Name	Angle to Duct fixing				
10	Material	Galvanised mild steel				
	Size	10G self-drilling screws				
	Name	Fire Tested Sealant				
11	Material	Hilti CP 606 Flexible firestop sealant or Sika FireFlex 400 PU sealant				
	Installation	Used to seal all gaps between side and bottom tracks and panels.				
12	Name	Damper				
12	Product	See Table 1				
	Name	Duct				
13	Material	Galvanised mild steel				
	Installation	To be fixed to each side of damper via a suitable break-away joint.				
	Name	SHS				
	Size	75mm $\times$ 75mm $\times$ 5mm SHS for up to 4m high walls.				
14	5126	75 x 125mm x 4mm RHS for up to 6m high walls.				
	Material	Galvanised mild steel				
	Installation	To be fabricated into portal frame to support panels over damper.				
	Name	Protection for Steel				
15	Material	Fire Grade Plasterboard				
	Size	3 layers of 16mm Fire grade plasterboard and 75mm wide.				
	Name	Gyprock Screws				
16	Material	6g plasterboard screws				
	Fixing	Fixed from each layer to boxed steel stud or trimming track				
	Name	Boxed Track				
17	Material	Galvanised mild steel				
	Size	Boxed 76 $\times$ 32mm steel track fixed to steel frame at 400 centres with 10 self-drilling screws.				
	Name	Trimming Angles				
18	Material	Galvanised mild steel				
	Size	75mm × 75mm × 0.8mm steel angles				
	Name	Lateral Support Beam				
	Material	Galvanised mild steel				
19	Installation	Z-section purlin sized by others. Shall be used in conjunction with lateral restraining braces (see items 22 and 23). The purlin and associated braces shall be designed and installed such that purlin has a maximum deflection of span/360 or 20mm for internal building pressures.				
	Installation	Beam shall be fixed to every panel with 10G self-drilling screws through every intersecting tongue and groove panel joint.				
	Name	Beam Protection				
	Material	Board Material such as Boral Firestop plasterboard				
20	Installation	Protection system shall be tested or assessed to have an FRL of at least 120/-/- when installed on beam section protected. All connections shall be protected with the maximum protection thickness required of any of the members utilising the connection, as per AS4100-1998 clause 12.10.1.				
	Installation	Board protection shall be fixed in accordance with tested or assessed prototype design.				
	Name	Column Protection				
	Material	Board Material such as Boral Firestop plasterboard				
21	Specification	Protection system shall be tested or assessed to have an FRL of at least 120/-/- when installed on column section protected. All connections shall be protected with the maximum protection thickness required of any of the members utilising the connection, as per AS4100-1998 clause 12.10.1.				



ID		Description
	Installation	Board protection shall be fixed in accordance with tested or assessed prototype design.
	Name	L Brace
	Material	Mild Steel
22	Installation	Protection system shall be tested or assessed to have an FRL of at least 120/-/- when installed on beam section protected. All connections shall be protected with the maximum protection thickness required of any of the members utilising the connection, as per AS4100-1998 clause 12.10.1.
	Name	Inclined Brace / Prop.
	Material	Mild Steel
23	Installation	Brace / prop. Shall be fixed to underside of slab and designed to laterally support beam (item 19) for ambient loading. All connections shall be protected with the maximum protection thickness required of any of the members utilising the connection, as per AS4100-1998 clause 12.10.1.
	Name	Tek Screw
	Specification	14 – 20 × 150mm
24	Installation	Installed through RHS section into wall panel. Two screws shall be installed at nominally 250mm centres at each panel joint location that fully penetrate the panel.
	Name	Top Track Protection
	Material	Fire Rated Plasterboard
25	Size	One layer of 13mm thick strip × 120mm wide
	Installation	Installed on one side of top track (see figs 24-29), or both sides of top track (see figs 32-34), secured with fixings through metal capping.
	Name	Metal Flashing
26	Size	130mm wide x 0.7mm thick galvanised steel
20	Installation	Screw fixed into track and panel at 500mm centres and staggered at top to bottom row by 250mm,
	Name	Vicuclad, fire grade plasterboard or Promatect L500/Speedpanel
27	Size	Minimum 50mm thick
	Installation	Fixed into the Speedpanel track leaving a gap of maximum 20mm under adjustable track
28	Name	Floor Slab
20	Description	Concrete floor slab of required FRL to support wall
	Name	Steel Angle
	Size	50mm × 25mm
29	Installation	<i>Option 1</i> -Installed between top C-track (item 1) and two layers of 16mm thick Fyrchek plasterboard (item 34) and fixed through the C-track into panel at 250mm centres and then fixed to concrete slab by using track fixing (item 3). <i>Option 2</i> -Installed adjacent to metal flashing (item 26) and fixed through plasterboard and C-track into panel at 250mm centres and then fixed to concrete slab by using track fixing (item 3).
	Name	IBS Rod
30	Installation	For intumescent dampers, to be positioned between damper casing and surrounding support construction to allow a 25mm fill depth for fire rated sealant.
	Name	Firetherm/TBA Intubatt
	Material	50mm thick mineral fibre wool with nominal density of 180kg/m <sup>3</sup> , coated on both sides with Firetherm Intumastic to a thickness of 1.0mm
31	Size	Nominal 1200mm long × 600mm wide × 50mm thick panels
51	Installation	Apertures - One batt shall be friction fitted into the opening and the second layer overlapping the opening by 100mm on all edges with 8g × 15mm screws at nominal 300 centres. Joints in layers of batt shall be off-set at minimum 200mm distance.



ID	Description						
	Linear Gap Seals – Two layers of Intubatt fitted to opening with the second layer overlapping the opening by 100mm on all Speedpanel interfaces. It is required the Linear gap seal be supported by test or assessment evidence for 120 minutes integrity and insulation when fitted to Speedpanel.						



ID	Description				
-	Name	Damper Trimming Angles			
32	Material	Galvanised mild steel			
	Size	40mm × 40mm × 1.6mm			
	Name	Notched and Formed C Track – Circular Dampers			
33	Material	Galvanised mild steel			
55	Size	76mm C track, notched and formed			
	Installation	Screw fix track on both side			
	Name	Top Track Protection			
	Material	CSR Fyrchek Plasterboard			
34	Size	Two layers of 16mm thick strips × 120mm wide			
	Installation	Installed one side of top track, secured with fixings through metal capping into top track.			
	Name	Metal Flashing (Over Butt Join)			
35	Material	Minimum 200mm wide $\times$ 0.42mm thick steel flashing (length to suite the butt joint length), made of shell of the 78mm Speedpanel panel.			
	Installation,	Applied over the butt joint with min. 100mm wide overlap at one side of the wall held in place with 10 gauge × 16mm screws and sealed around perimeter with Promaseal Supa Mastic (item 36) or Hilti CP606 (item 7)			
	Name	Fire Tested Sealant			
36	Material	Hilti CP 606 Flexible firestop sealant or Sika Firerate PU sealant			
	Installation	Fully applied within the butt joints between Speedpanel panels. Sealed around perimeter of metal flashing applied over the butt joints.			
	Name	Top Track			
37	Material	Galvanised Steel nominally 0.75mm with 35mm, 50mm or 75mm leg length			
	Installation	Installed above dampers less that 100mm from top of wall.			
	Name	Damper Sleeve to Wall Seal			
38	Material	13mm thick CSR Bradford Fireseal damper strip			
50	Installation	Damper strip shall be compressed to 85% of the original thickness when installed.			
	Name	Damper Trimming Angles			
39	Material	Galvanised mild steel			
29	Size	40mm × 60mm × 2mm			
	Installation	Bolted to the damper body on each side of the perimeter.			
	Name	Protection of Wall Junction - Plasterboard			
	Material	One layer of 16mm thick fire rated plasterboard strip			
40	Installation	Fixed to one side of the side tracks of Speedpanel wall by using 10 gauge × 30mm SDS Screws in two rows at 500mm centres and staggered top to bottom row by 250mm.			
	Nama	The plasterboard strip shall be extended to fully cover the side tracks.			
	Name Material	Protection of Wall Junction - Metal Flashing			
41	Material	0.7mm thick galvanised steel flashing Fixed to the Speedpanel panel and concrete wall with 10 gauge × 30mm SDS			
	Installation	screws at 500mm centres.			
	Name	Sleeve to Wall Seal for Holyoake IBD-FS Fire Damper			
42	Material	Corner mounting brackets with high temp seal			
	Installation	Corner mounting brackets to locate between the perimeter of damper and inside perimeter of wall aperture.			
	Name	Protection for steel			
40	Material	Fire Grade Plasterboard			
43	Size	3 layers of 16mm Fire grade plasterboard/ 2 layers of 13mm fire grade plasterboard 75mm wide installed on the occupancy side between damper flange and speedpanel wall			



#### Table 3 – Wall Details for Figure 1

51mm Panel	64mm Panel	78mm Panel	Maximum Area A x B	B <sub>max</sub> (mm)	Y <sub>max</sub> (mm)	Head Detail
N N	Wall Height (mm)					
3000	-	-	4m <sup>2</sup>	2000	35-1000	Fig 20-31
-	5000	-	4m <sup>2</sup>	2200	35-1000	Fig 20-31
-	-	5000	4m <sup>2</sup>	2400	35-1000	Fig 20-31
5000	-	-	4m <sup>2</sup>	2400	>1000	Fig 32-34
-	5000	-	4m <sup>2</sup>	2400	>1000	Fig 32-34
-	-	6000	4m <sup>2</sup>	2400	>1000	Fig 32-34

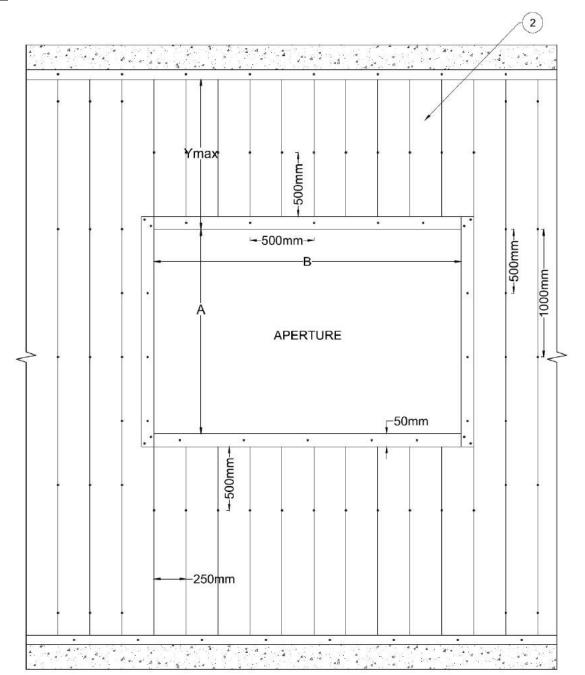


Figure 1 – Typical vertical Speedpanel details around single apertures



Table 4 – Wall Details for Figure 2

51mm Panel	64mm Panel	78mm Panel	Maximum	B <sub>max</sub> (mm)	Y <sub>max</sub> (mm)	Head Detail
Wall Height (mm)			Area A x B			
3000	-	-	4m <sup>2</sup>	2000	35-1000	Fig 20-31
-	5000	-	4m <sup>2</sup>	2200	35-1000	Fig 20-31
-	-	5000	4m <sup>2</sup>	2400	35-1000	Fig 20-31
5000	-	-	4m <sup>2</sup>	2400	>1000	Fig 32-34
-	5000	-	4m <sup>2</sup>	2400	>1000	Fig 32-34
-	-	6000	4m <sup>2</sup>	2400	>1000	Fig 32-34

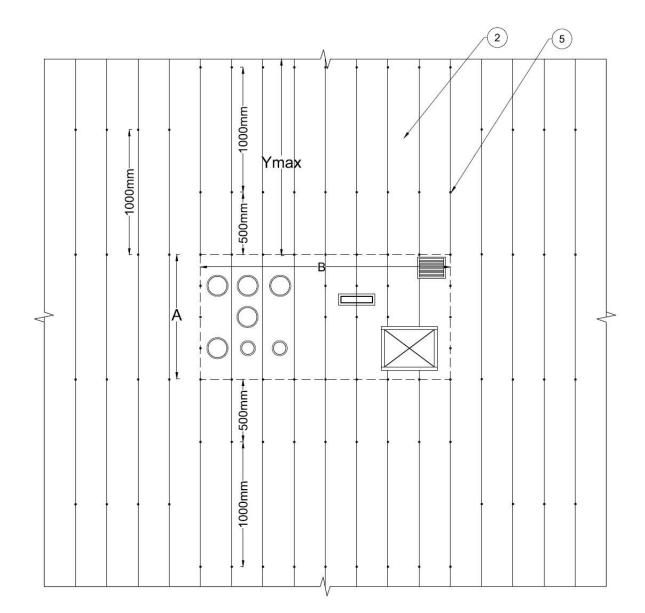


Figure 2 – Vertical Speedpanel details around notional apertures made by groups of various service penetrations



#### Table 5 – Wall Details for Figure 3

51mm Panel	64mm Panel	78mm Panel		
	Wall Height (mm)		- Head Detail	
3000	-	-	Fig 20-31	
-	5000	-	Fig 20-31	
-	-	5000	Fig 20-31	
5000	-	-	Fig 32-34	
-	5000	-	Fig 32-34	
-	-	6000	Fig 32-34	

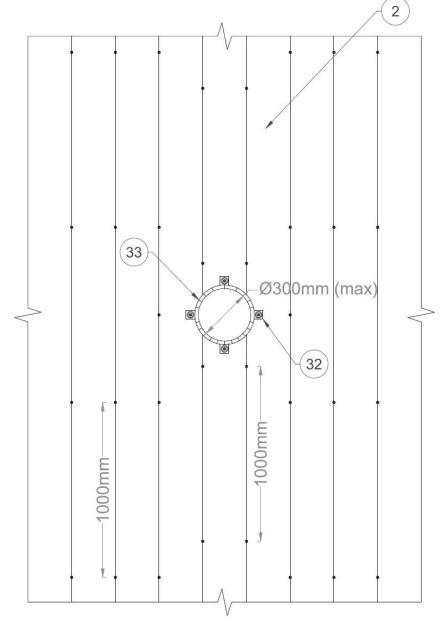


Figure 3 – Vertical Speedpanel Details around Circular Damper Apertures



Table 6 – Wall Details for Figure 4

51mm Panel	64mm Panel	78mm Panel	Maximum Area A x	B <sub>max</sub> (mm)	Y <sub>max</sub> (mm)	Z <sub>min</sub> (mm)	Head Detail	
Wa	Wall Height (mm)		В					
3000	-	-	4m <sup>2</sup>	2000	35 -1000	200	Fig 20-31	
-	5000	-	4m <sup>2</sup>	2200	35 -1000	200	Fig 20-31	
-	-	5000	4m <sup>2</sup>	2400	35 -1000	200	Fig 20-31	
5000	-	-	4m <sup>2</sup>	2400	>1000	200	Fig 32-34	
-	5000	-	4m <sup>2</sup>	2400	>1000	200	Fig 32-34	
-	-	6000	4m <sup>2</sup>	2400	>1000	200	Fig 32-34	

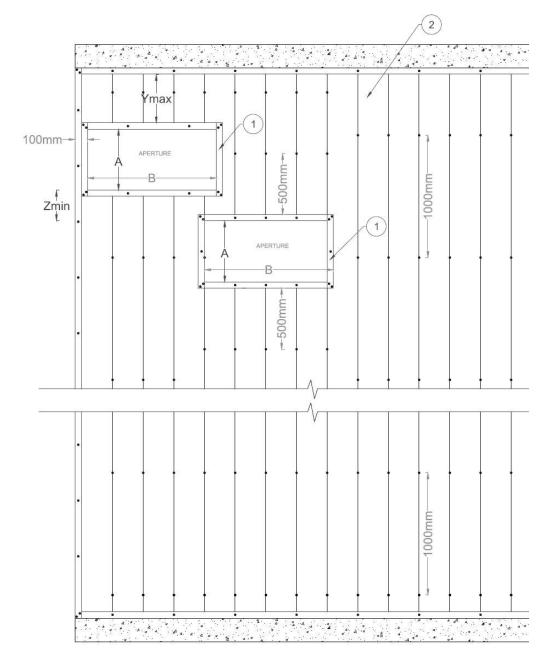


Figure 4 – Vertical Speedpanel arrangement with multiple apertures within wall



51mm Panel	64mm Panel	78mm Panel	Maximum Area A x B	A <sub>max</sub> and B <sub>max</sub> (mm)	Y <sub>max</sub> (mm)	Head Detail
١	Nall Height (mm	)				
3000	-	-	4m <sup>2</sup>	2444	35-1000	Fig 20-31
-	5000	-	4m <sup>2</sup>	2444	35-1000	Fig 20-31
-	-	5000	4m <sup>2</sup>	2444	35-1000	Fig 20-31
5000	-	-	4m <sup>2</sup>	2444	>1000	Fig 32-34
-	5000	-	4m <sup>2</sup>	2444	>1000	Fig 32-34
-	-	6000	4m <sup>2</sup>	2444	>1000	Fig 32-34

#### Table 7 – Wall Details for Figure 5

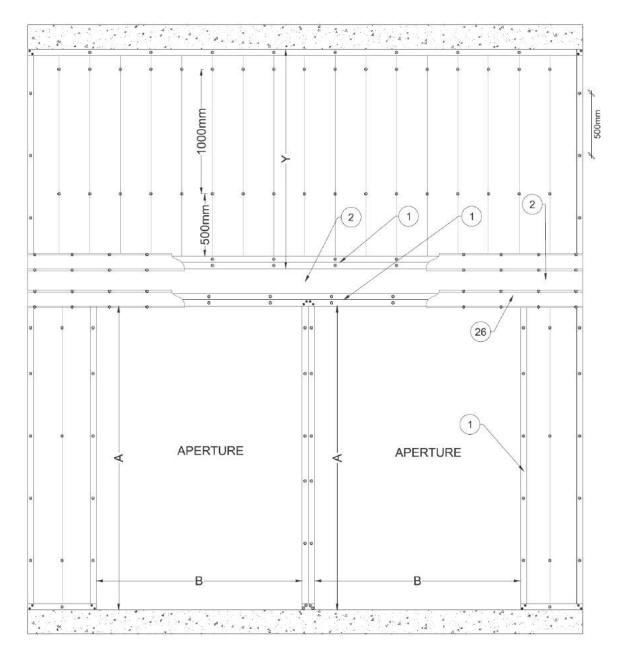


Figure 5 – Vertical Speedpanel arrangement of large apertures



#### Table 8 – Wall Details for Figure 6

51mm Panel	64mm Panel	78mm Panel	Maximum Area A x B	A <sub>max</sub> (mm)	B <sub>max</sub> (mm)	Head Detail	Brace Details
Wa	all Height (m	m)	Alea A X D	(1111)			Details
3000	-	-	4m <sup>2</sup>	1100	Unlimited	Fig 62	Fig 63- 68
-	5000	-	4m <sup>2</sup>	1100	Unlimited	Fig 62	Fig 63- 68
-	-	5000	4m <sup>2</sup>	1100	Unlimited	Fig 62	Fig 63- 68
5000	-	-	4m <sup>2</sup>	1100	Unlimited	Fig 62	Fig 63- 68
-	5000	-	4m <sup>2</sup>	1100	Unlimited	Fig 62	Fig 63- 68
-	-	6000	4m <sup>2</sup>	1100	Unlimited	Fig 62	Fig 63- 68

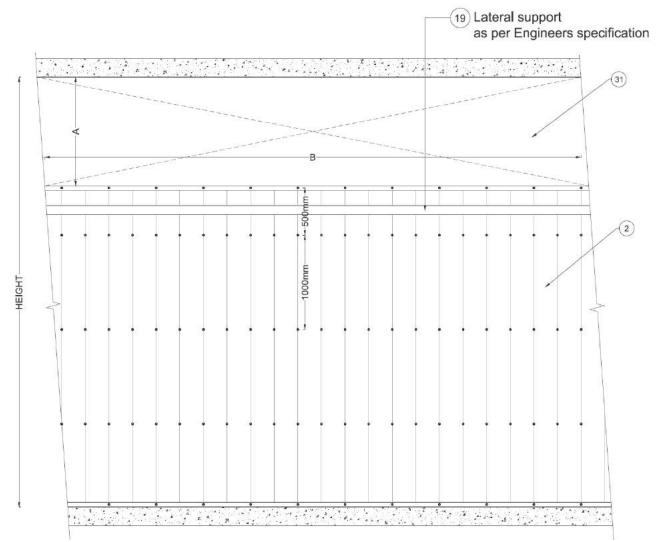
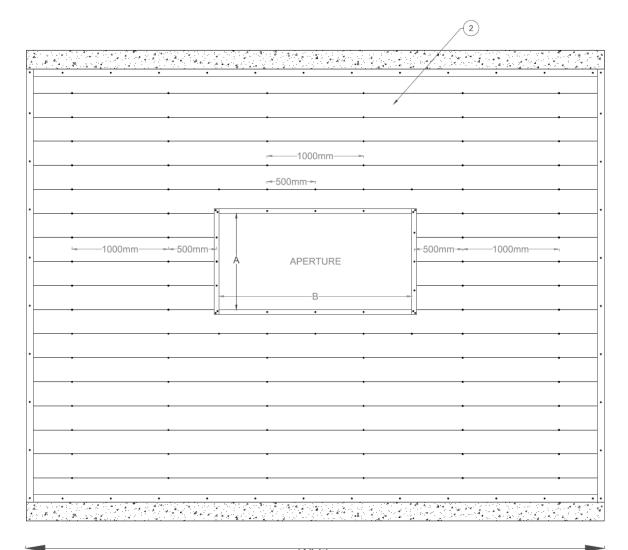


Figure 6 – Vertical Speedpanel arrangement of a linear gap at the top of vertical walls



#### Table 9 – Wall Details for Figure 7

51mm Panel	64mm Panel	78mm Panel	Maximum	P (mm)	Head Datail
Wall Height (mm)		Area A x B	B <sub>max</sub> (mm)	Head Detail	
3000	-	-	4m <sup>2</sup>	2444	Fig 43-44
-	5000	-	4m <sup>2</sup>	2444	Fig 43-44
-	-	5000	4m <sup>2</sup>	2444	Fig 43-44
5000	-	-	4m <sup>2</sup>	2444	Fig 43-44
-	5000	-	4m <sup>2</sup>	2444	Fig 43-44
-	-	6000	4m <sup>2</sup>	2444	Fig 43-44



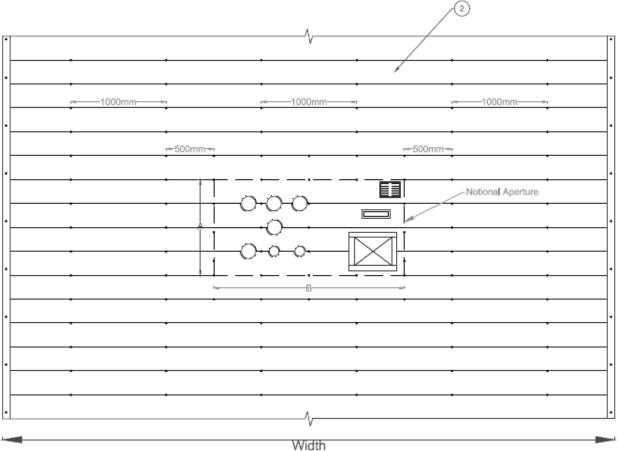
Width 3000mm for 51 mm and 64mm Panel 5000mm for 78mm Panel

Figure 7 – Typical Horizontal Speedpanel details around single apertures



#### Table 10 – Wall Details for Figure 8

51mm Panel	64mm Panel	78mm Panel	Maximum	P (mm)	Head Detail
Wall Height (mm)		Area A x B	B <sub>max</sub> (mm)		
3000	-	-	4m <sup>2</sup>	2444	Fig 43-44
-	5000	-	4m <sup>2</sup>	2444	Fig 43-44
-	-	5000	4m <sup>2</sup>	2444	Fig 43-44
5000	-	-	4m <sup>2</sup>	2444	Fig 43-44
-	5000	-	4m <sup>2</sup>	2444	Fig 43-44
-	-	6000	4m <sup>2</sup>	2444	Fig 43-44



3000mm for 51 mm and 64mm Panel 5000mm for 78mm Panel

# Figure 8 – Horizontal Speedpanel details around notional apertures made by groups of various service penetrations



#### Table 11 – Wall Details for Figure 9

51mm Panel	64mm Panel	78mm Panel	Maximum Area A x B	Head Detail
Wall Height (mm)				Head Detail
3000	-	-	4m <sup>2</sup>	Fig 43-44
-	5000	-	4m <sup>2</sup>	Fig 43-44
-	-	5000	4m <sup>2</sup>	Fig 43-44
5000	-	-	4m <sup>2</sup>	Fig 43-44
-	5000	-	4m <sup>2</sup>	Fig 43-44
-	-	6000	4m <sup>2</sup>	Fig 43-44

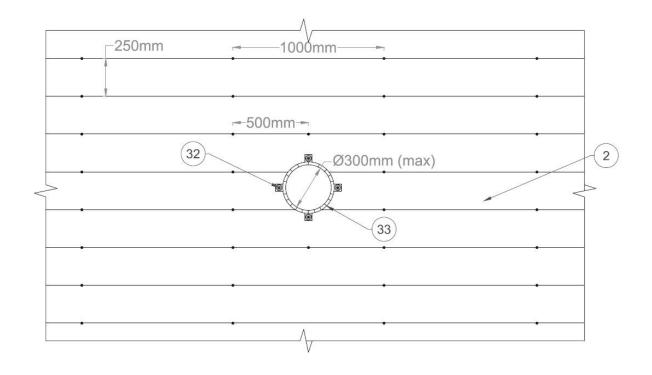
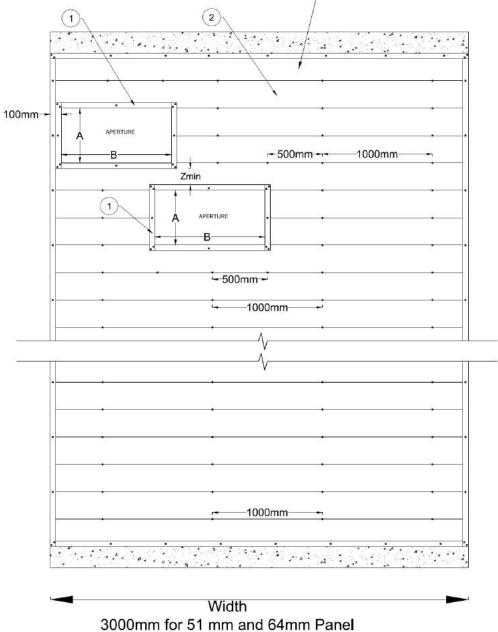


Figure 9 – Horizontal Speedpanel Details around Circular Damper Apertures



Table 12 – Wall Details for Figure 10

51mm Panel	64mm Panel	78mm Panel	Maximum Area A x B	B <sub>max</sub> (mm)	Z <sub>min</sub> (mm)	Head Detail
۱ N	Nall Height (mm	)	Alea A X D			
3000	-	-	4m <sup>2</sup>	2444	200	Fig 43-44
-	5000	-	4m <sup>2</sup>	2444	200	Fig 43-44
-	-	5000	4m <sup>2</sup>	2444	200	Fig 43-44
5000	-	-	4m <sup>2</sup>	2444	200	Fig 43-44
-	5000	-	4m <sup>2</sup>	2444	200	Fig 43-44
-	-	6000	4m <sup>2</sup>	2444	200	Fig 43-44



At least one panel above

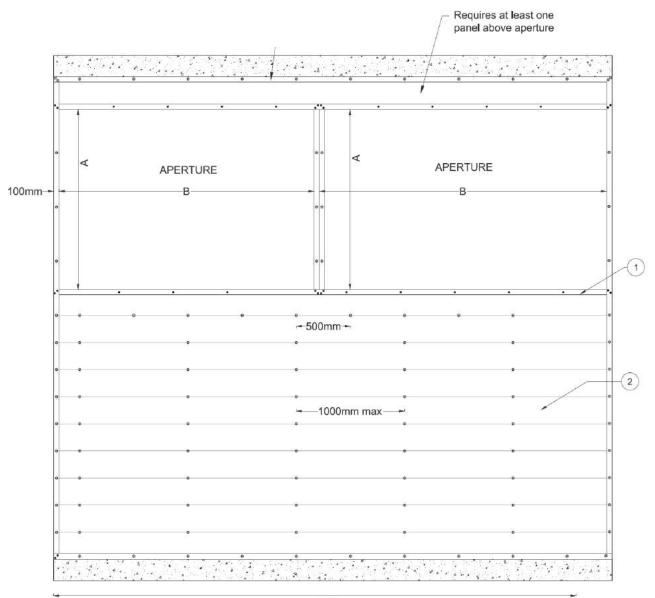


5000mm for 78mm Panel



Table 13 – Wal	I Details for	Figure 11
----------------	---------------	-----------

51mm Panel	64mm Panel	78mm Panel	Maximum	A <sub>max</sub> (mm) and	Head Detail	
Wall Height (mm)		)	Area A x B	B <sub>max</sub> (mm)	Head Detail	
3000	-	-	4m <sup>2</sup>	2400	Fig 43-44	
-	5000	-	4m <sup>2</sup>	2400	Fig 43-44	
-	-	5000	4m <sup>2</sup>	2400	Fig 43-44	
5000	-	-	4m <sup>2</sup>	2400	Fig 43-44	
-	5000	-	4m <sup>2</sup>	2400	Fig 43-44	
-	-	6000	4m <sup>2</sup>	2400	Fig 43-44	



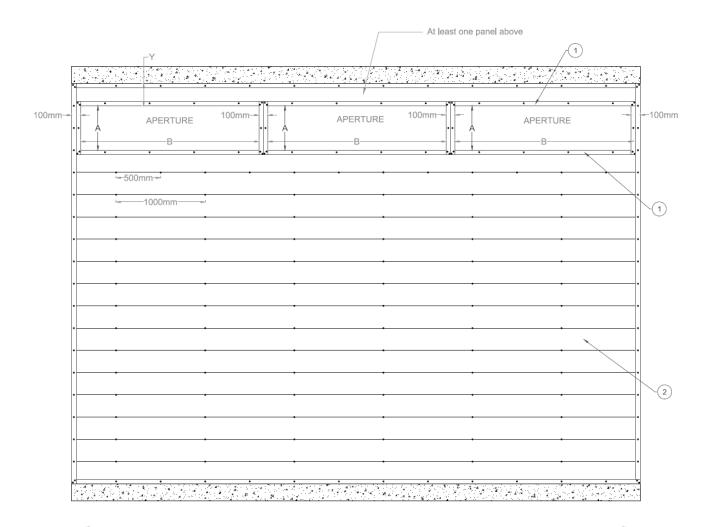
max width: 51m m panel 3.0m 64mm Panel 3.0m 78mm Panel 5.0m

Figure 11 – Horizontal Speedpanel arrangement of apertures at the top of wall



#### Table 14 – Wall Details for Figure 12

51mm Panel	64mm Panel	78mm Panel	Maximum	A <sub>max</sub> (mm) and	Hood Dotail	
Wall Height (mm)		)	Area A x B	B <sub>max</sub> (mm)	Head Detail	
3000	-	-	4m <sup>2</sup>	2444	Fig 43-44	
-	5000	-	4m <sup>2</sup>	2444	Fig 43-44	
-	-	5000	4m <sup>2</sup>	2444	Fig 43-44	
5000	-	-	4m <sup>2</sup>	2444	Fig 43-44	
-	5000	-	4m <sup>2</sup>	2444	Fig 43-44	
-	-	6000	4m <sup>2</sup>	2444	Fig 43-44	



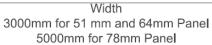


Figure 12 – Horizontal Speedpanel arrangement of apertures at the top of wall



#### Table 15 – Wall Details for Figure 13

51mm Panel	64mm Panel	78mm Panel	Maximum Area A x B	A <sub>max</sub> (mm) and	Head Detail
N N	Wall Height (mm	)		B <sub>max</sub> (mm)	
3000	-	-	4m <sup>2</sup>	2444	Fig 48-53 or Fig 55-57
-	5000	-	4m <sup>2</sup>	2444	Fig 48-53 or Fig 55-57
-	-	5000	4m <sup>2</sup>	2444	Fig 48-53 or Fig 55-57
5000	-	-	4m <sup>2</sup>	2444	Fig 48-53 or Fig 55-57
-	5000	-	4m <sup>2</sup>	2444	Fig 48-53 or Fig 55-57
-	-	6000	4m <sup>2</sup>	2444	Fig 48-53 or Fig 55-57

л А	APER'		mm	APERT	100mm- JRE	A	APERTURE	100mm-
-500	mm <del>-</del>	· · ·	<u>_</u>	· · ·	•		· · ·	
•	—1000mm—— <del>-</del>	•						
•		•						
•		•	•				•	
•		•						
•		•	•			•	•	

Width 3000mm for 51 mm and 64mm Panel 5000mm for 78mm Panel

#### Figure 13 – Horizontal Speedpanel arrangement of spaced apertures at the top of wall



Table 16 – Wall Details for Figure 14

51mm Panel	64mm Panel	78mm Panel	Maximum Area A x B	A <sub>max</sub> (mm) and B <sub>max</sub>	Head Detail	Base Detail
V	Vall Height (mm	ı)		(mm)	Dotai	
3000	-	-	4m <sup>2</sup>	2444	Fig 43-44	Fig 58-60
-	5000	-	4m <sup>2</sup>	2444	Fig 43-44	Fig 58-60
-	-	5000	4m <sup>2</sup>	2444	Fig 43-44	Fig 58-60
5000	-	-	4m <sup>2</sup>	2444	Fig 43-44	Fig 58-60
-	5000	-	4m <sup>2</sup>	2444	Fig 43-44	Fig 58-60
-	-	6000	4m <sup>2</sup>	2444	Fig 43-44	Fig 58-60

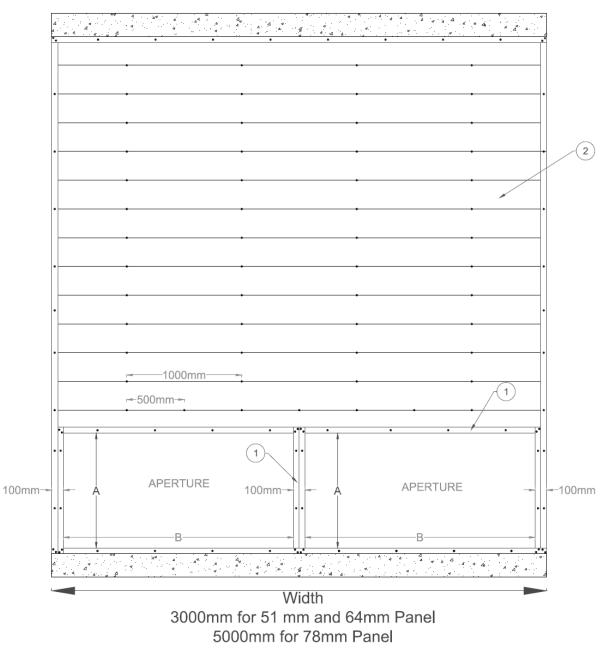


Figure 14 – Horizontal Speedpanel arrangement of apertures at the bottom of the wall



51mm Panel	64mm Panel	78mm Panel	Maximum Area A x B	A <sub>max</sub> (mm) and B <sub>max</sub> Detail	Head Detail	Base Detail
١	Wall Height (mm)			(mm)	Detail	
3000	-	-	4m <sup>2</sup>	2444	Fig 32-34	Fig 58-60
-	5000	-	4m <sup>2</sup>	2444	Fig 32-34	Fig 58-60
-	-	5000	4m <sup>2</sup>	2444	Fig 32-34	Fig 58-60
5000	-	-	4m <sup>2</sup>	2444	Fig 32-34	Fig 58-60
-	5000	-	4m <sup>2</sup>	2444	Fig 32-34	Fig 58-60
-	-	6000	4m <sup>2</sup>	2444	Fig 32-34	Fig 58-60

#### Table 17 – Wall Details for Figure 15

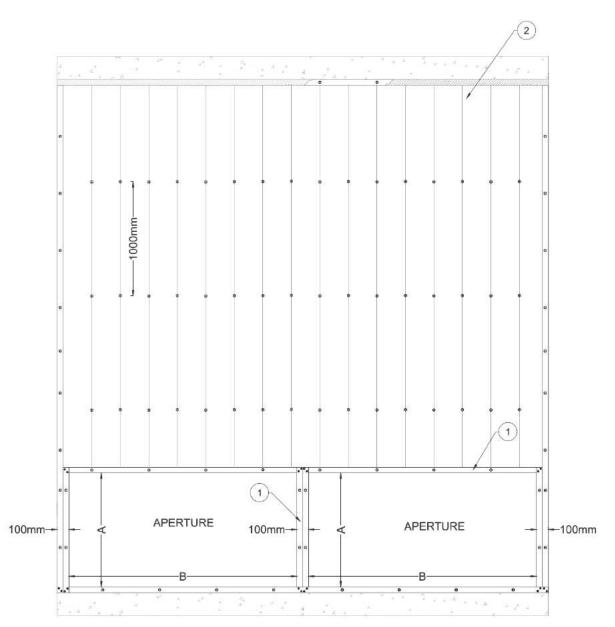


Figure 15 – Vertical Speedpanel arrangement of apertures at the bottom of the wall



51mm Panel	64mm Panel	78mm Panel	Maximum	A <sub>max</sub> (mm) and	Head Detail
Wall Height (mm)			Area A x B	B <sub>max</sub> (mm)	Head Detail
3000	-	-	4m <sup>2</sup>	2444	Fig 20-31
-	5000	-	4m <sup>2</sup>	2444	Fig 20-31
-	-	5000	4m <sup>2</sup>	2444	Fig 20-31
5000	-	-	4m <sup>2</sup>	2444	Fig 20-31
-	5000	-	4m <sup>2</sup>	2444	Fig 20-31
-	-	6000	4m <sup>2</sup>	2444	Fig 20-31



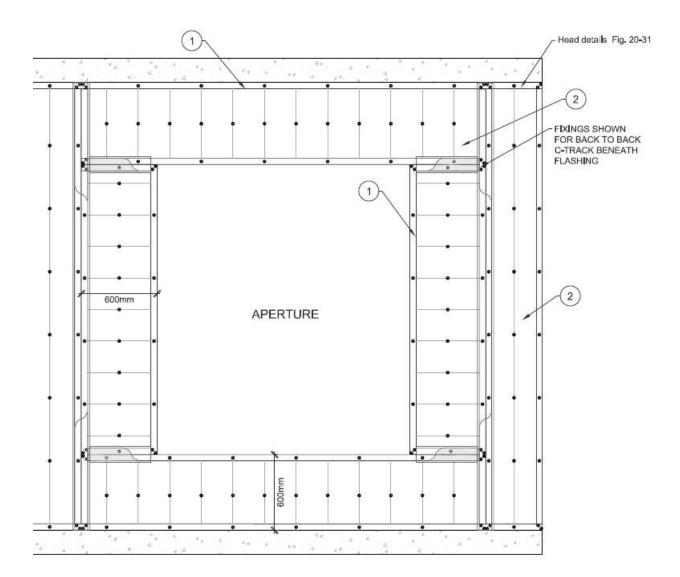


Figure 16a – Typical Vertical Speedpanel wall with 600mm maximum vertical and horizontal infill.



51mm Panel	64mm Panel	78mm Panel	Maximum	A <sub>max</sub> (mm) and	Head Detail
Wall Height (mm)			Area A x B	B <sub>max</sub> (mm)	Head Detail
3000	-	-	4m <sup>2</sup>	2444	Fig 32-34
-	5000	-	4m <sup>2</sup>	2444	Fig 32-34
-	-	5000	4m <sup>2</sup>	2444	Fig 32-34
5000	-	-	4m <sup>2</sup>	2444	Fig 32-34
-	5000	-	4m <sup>2</sup>	2444	Fig 32-34
-	-	6000	4m <sup>2</sup>	2444	Fig 32-34

#### Table 18b – Wall Details for Figure 16b

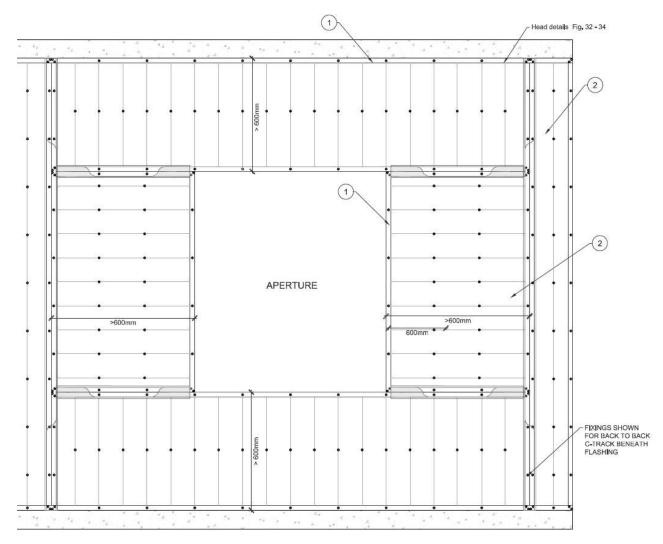
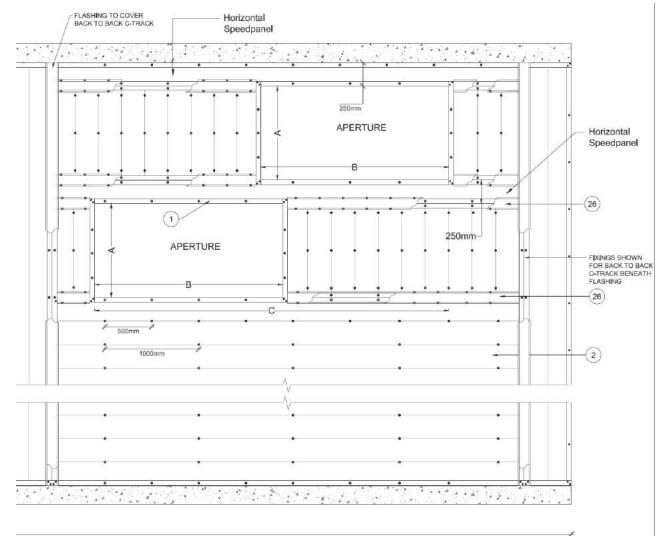


Figure 16b – Typical Vertical Speedpanel wall with greater than 600mm vertical and horizontal infill.



Table 19 – Wall Details for Figure 17

51mm Panel	64mm Panel	78mm Panel	Maximum	A <sub>max</sub> (mm) and	Head Detail	
Wall Height (mm)			Area A x B	B <sub>max</sub> (mm)	Head Detail	
3000	-	-	4m <sup>2</sup>	2444	Fig 43-44	
-	5000	-	4m <sup>2</sup>	2444	Fig 43-44	
-	-	5000	4m <sup>2</sup>	2444	Fig 43-44	
5000	-	-	4m <sup>2</sup>	2444	Fig 43-44	
-	5000	-	4m <sup>2</sup>	2444	Fig 43-44	
-	-	6000	4m <sup>2</sup>	2444	Fig 43-44	



51mm panel max span - 3.0m 64mm panel max span - 3.0m 78mm panel max span - 5.0m

Figure 17 – Typical Horizontal Speedpanel details around multiple apertures with vertical infill.



#### Table 20 – Wall Details for Figure 18

51mm Panel	64mm Panel	78mm Panel	Maximum	A <sub>max</sub> (mm) and	Head Detail
Wall Height (mm)			Area A x B	B <sub>max</sub> (mm)	Head Detail
3000	-	-	4m <sup>2</sup>	2444	Fig 43-44
-	5000	-	4m <sup>2</sup>	2444	Fig 43-44
-	-	5000	4m <sup>2</sup>	2444	Fig 43-44
5000	-	-	4m <sup>2</sup>	2444	Fig 43-44
-	5000	-	4m <sup>2</sup>	2444	Fig 43-44
-	-	6000	4m <sup>2</sup>	2444	Fig 43-44

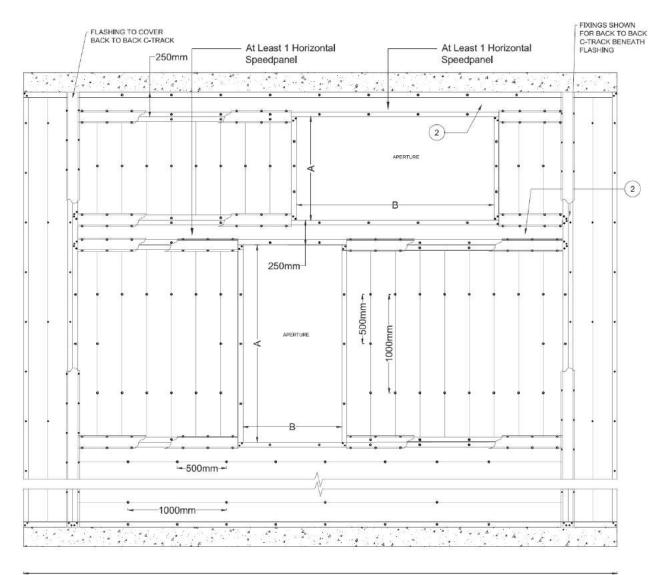




Figure 18 – Typical Horizontal Speedpanel details around multiple apertures with vertical infill.



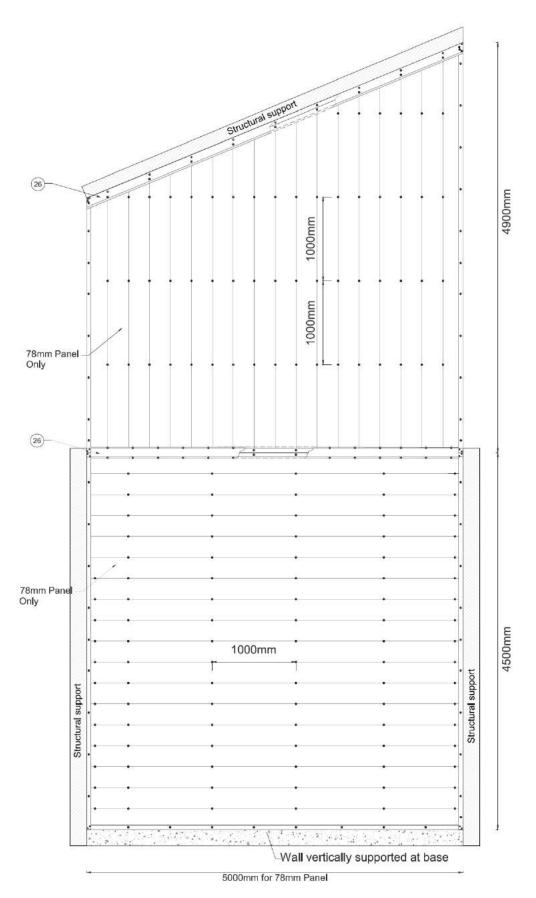


Figure 19 –Horizontal Speedpanel with vertical panels above (78mm panels only).



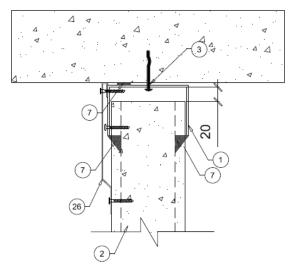


Figure 20 – Head Detail Option (Lateral Support only)

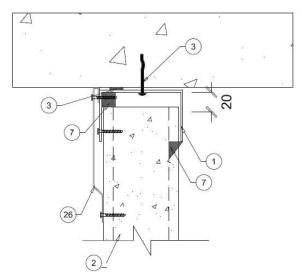


Figure 22 – Head Detail Option (Lateral Support only)

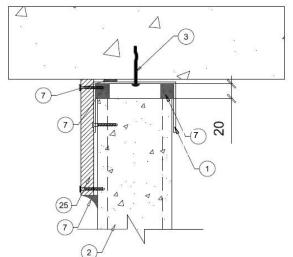


Figure 24 – Head Detail Option (Lateral Support only)

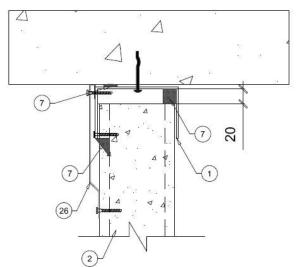


Figure 21 – Head Detail Option (Lateral Support only)

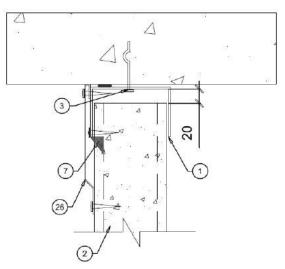


Figure 23 – Head Detail Option Lateral Support only)

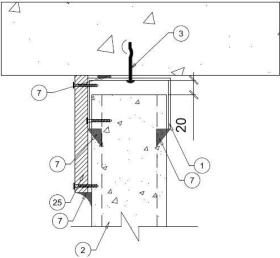


Figure 25 – Head Detail Option Lateral Support only)



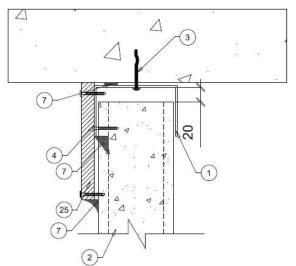


Figure 26 – Head Detail Option (Lateral Support only)

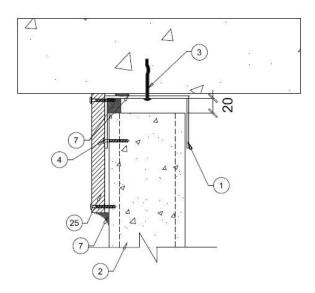


Figure 28–Head Detail Option (Lateral Support only)

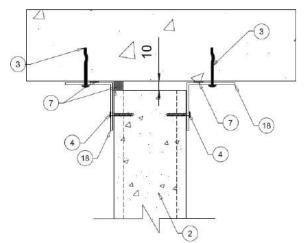


Figure 30–Head Detail Option (Lateral and Vertical Support)

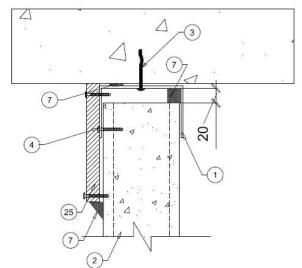
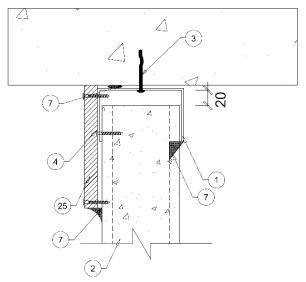
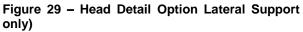


Figure 27 – Head Detail Option Lateral Support only)





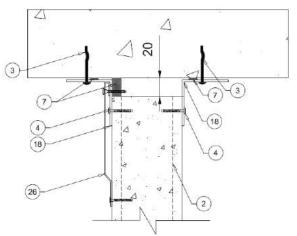


Figure 31–Head Detail Option (Lateral and Vertical Support)



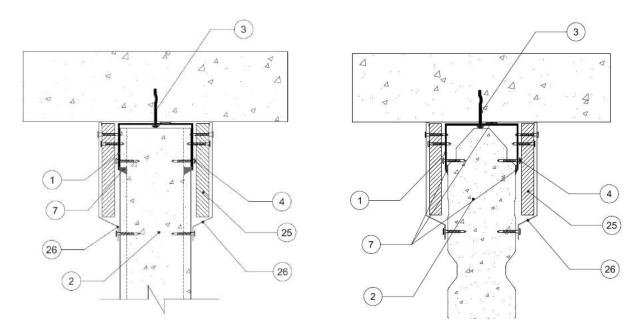
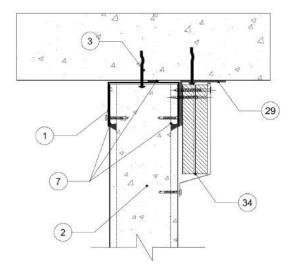


Figure 32 - Top track detail with one layer of 16mm thick of fire grade plasterboard on each side



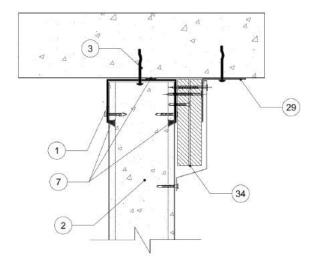
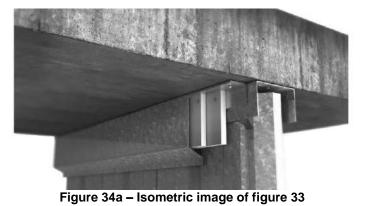


Figure 33 – Top track protection with two layers of 16mm thick plasterboard

Figure 34 – Top track protection with two layers of 16mm thick plasterboard with Steel Angle





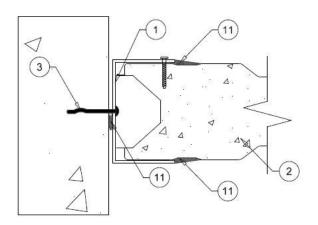


Figure 35 - Female Panel End Option

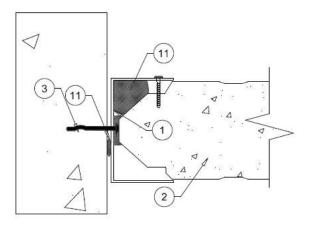


Figure 37 - Male Panel End Option

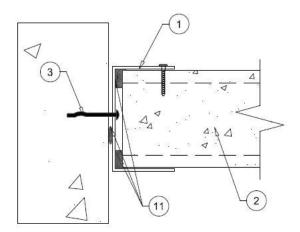


Figure 39 – Side Track Option

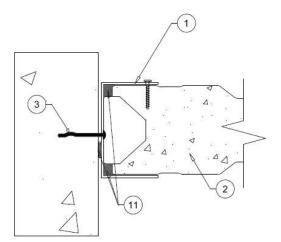


Figure 36 - Female Panel End Option

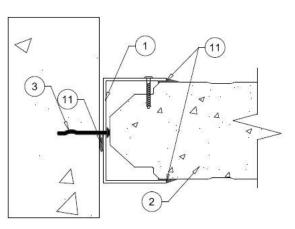


Figure 38 - Male Panel End Option

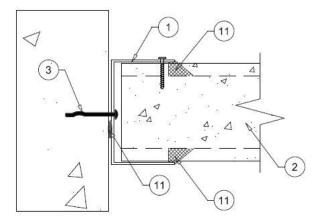


Figure 40 – Side Track Option



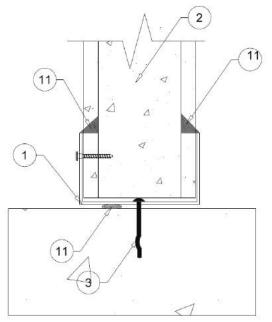


Figure 41 – Bottom Track Option

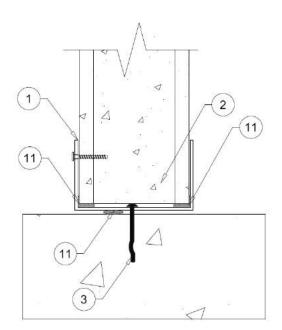


Figure 42 – Bottom Track Option

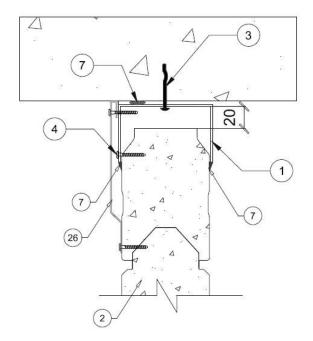
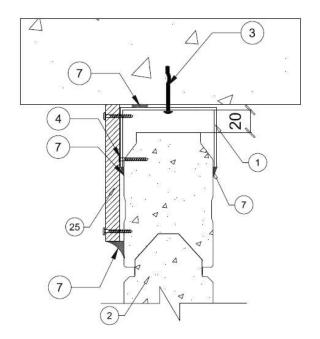


Figure 43 – Head C-Track Detail with Flashing at Figure 44 – Head C-Track Detail with Plasterboard One Side Strip at One Side





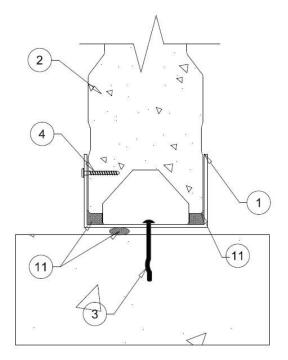


Figure 45- Bottom Track Sealant in track

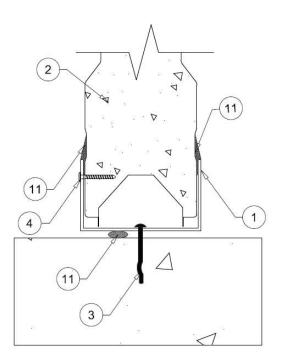


Figure 46 - Bottom Track Sealant on panel



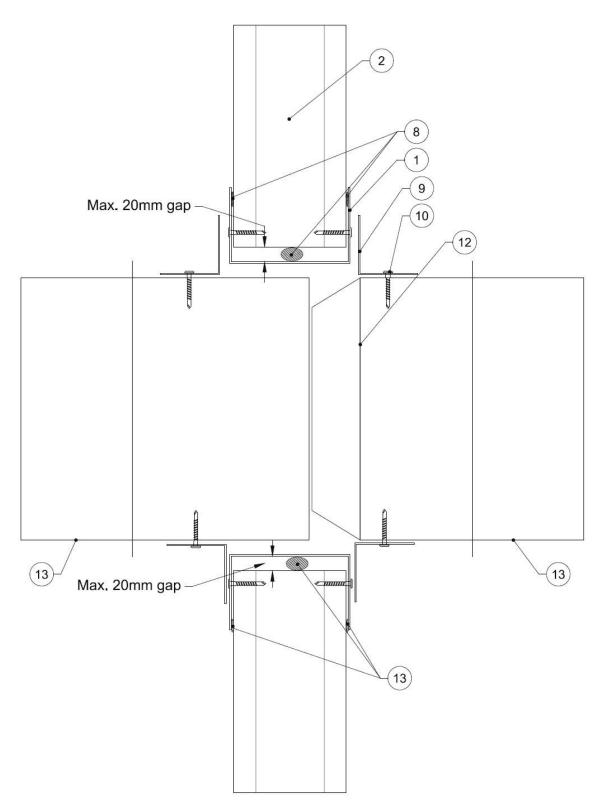


Figure 47 – Damper installation General



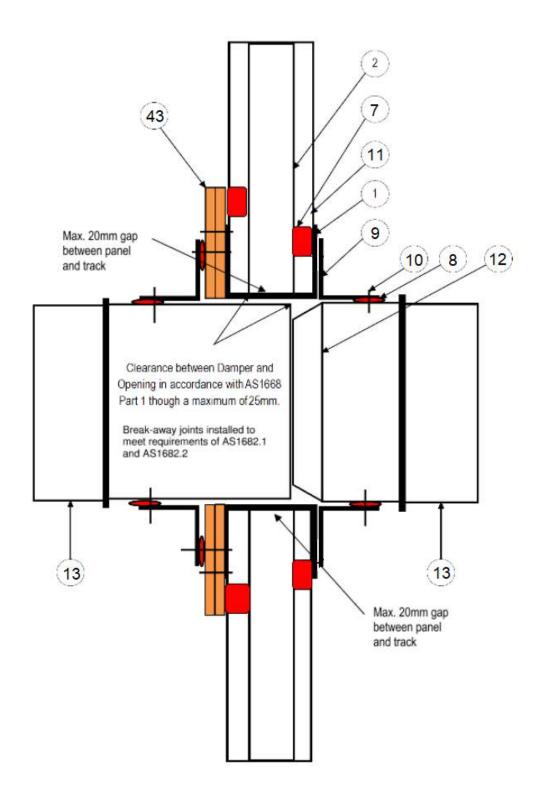


Figure 47A – Damper installation General with Fire grade plasterboard installed on the occupancy side between damper flange and speedpanel wall



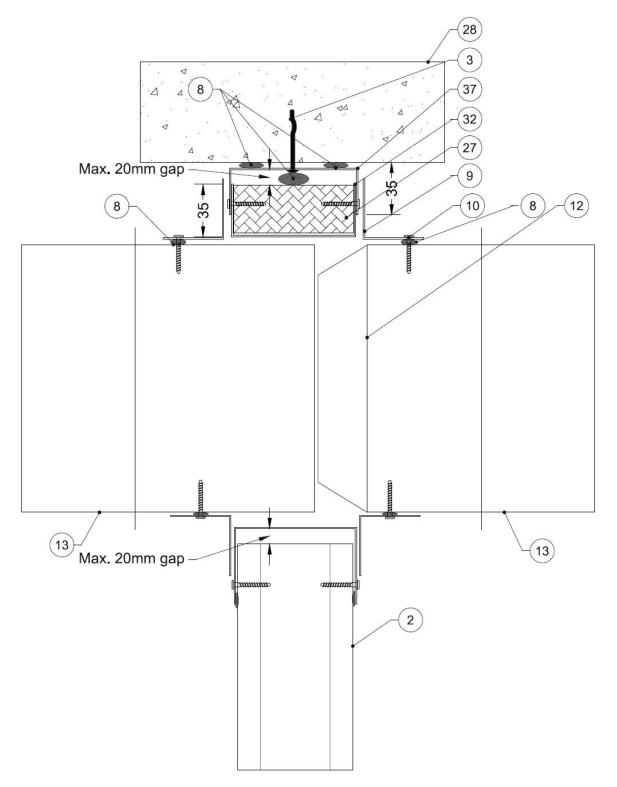


Figure 48 – Damper installation 35mm-55mm from top or side



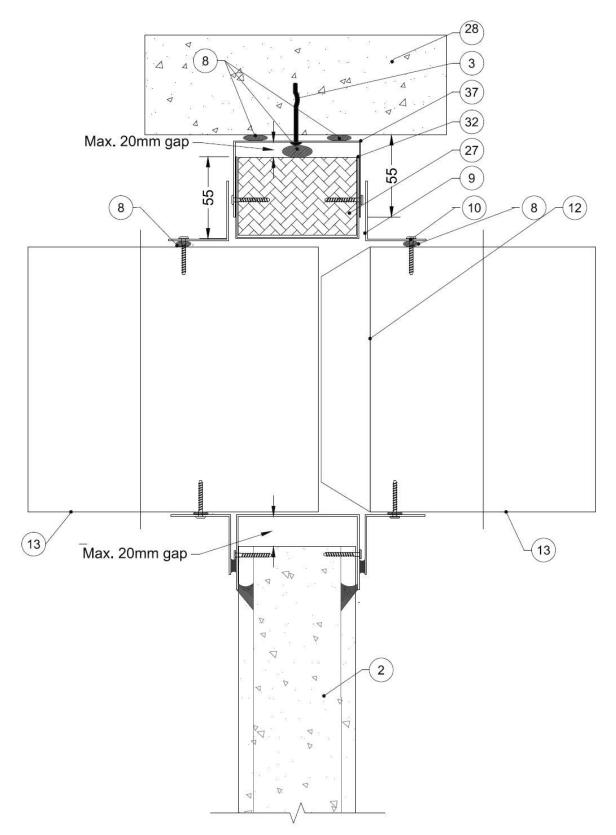


Figure 49 – Damper installation 55mm-75mm from top or side



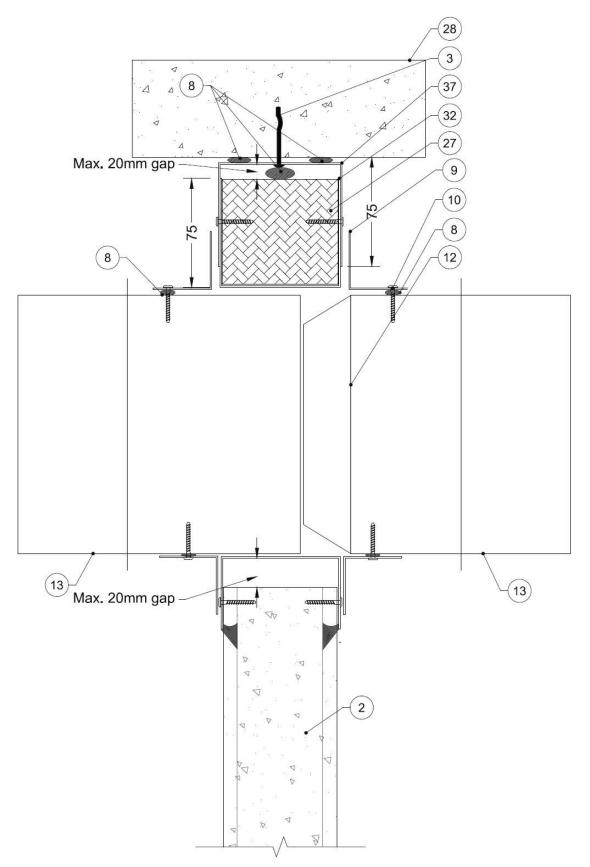


Figure 50 – Damper installation 75mm-95mm from top or side



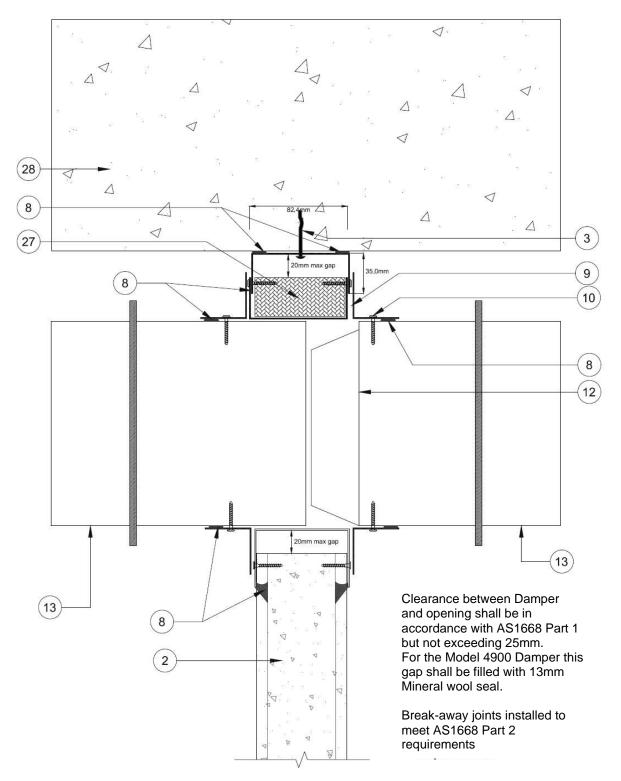
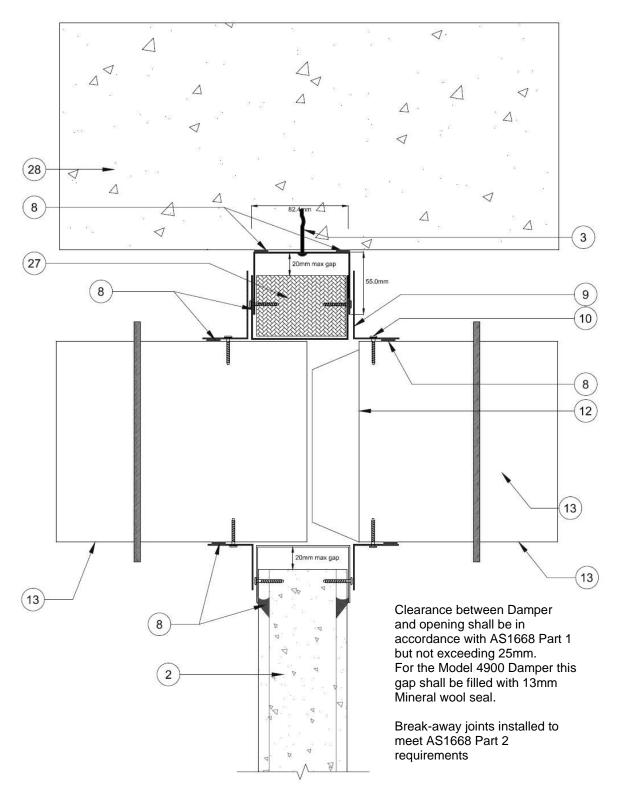


Figure 51– Damper installation 35mm-55mm from top or side









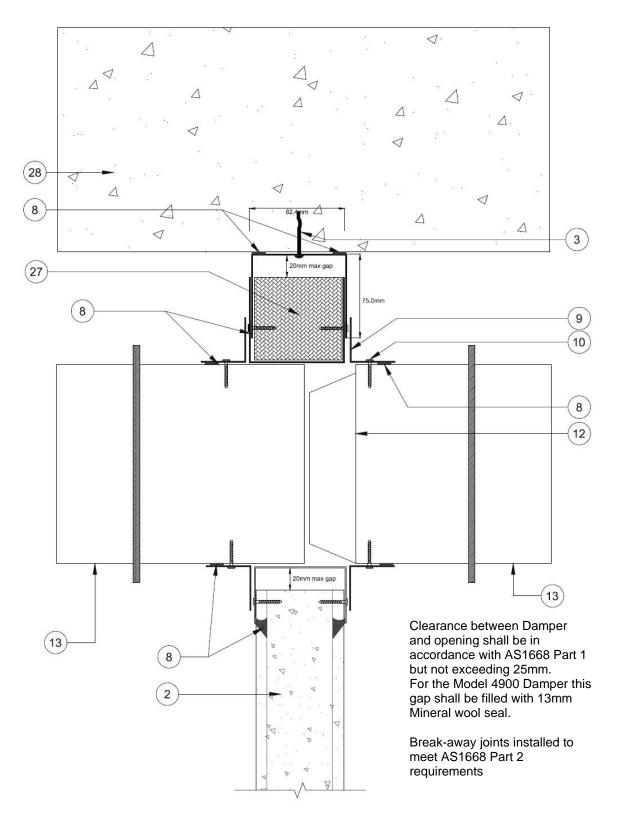
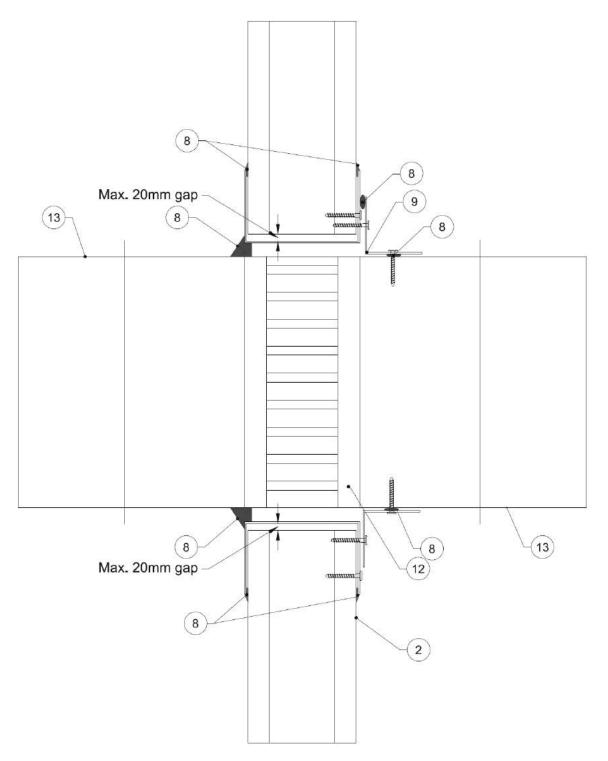


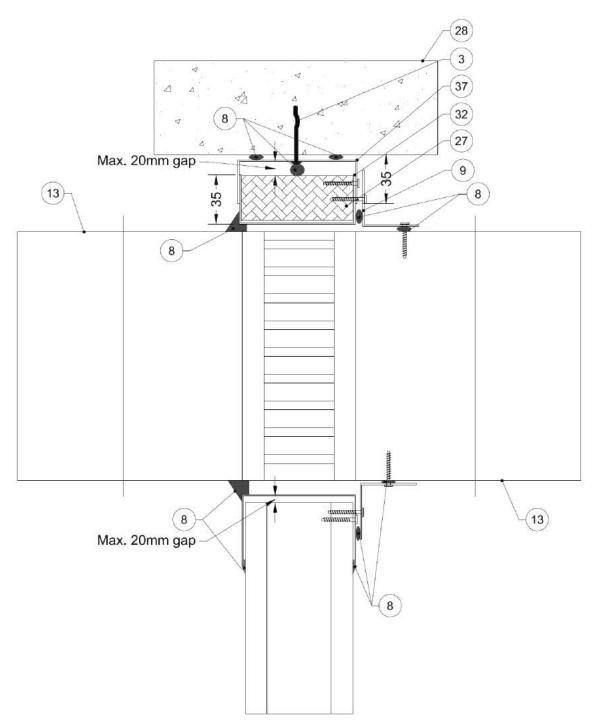
Figure 53 – Damper installation 75mm-95mm from top or side

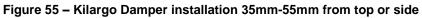














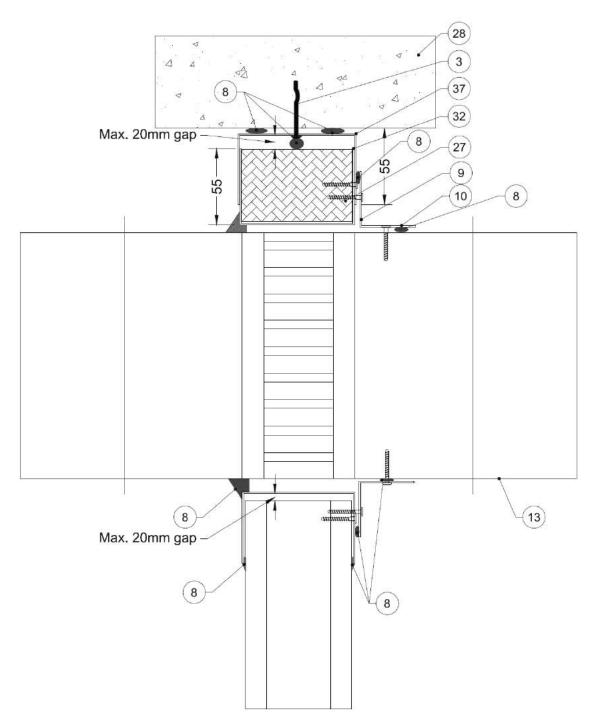
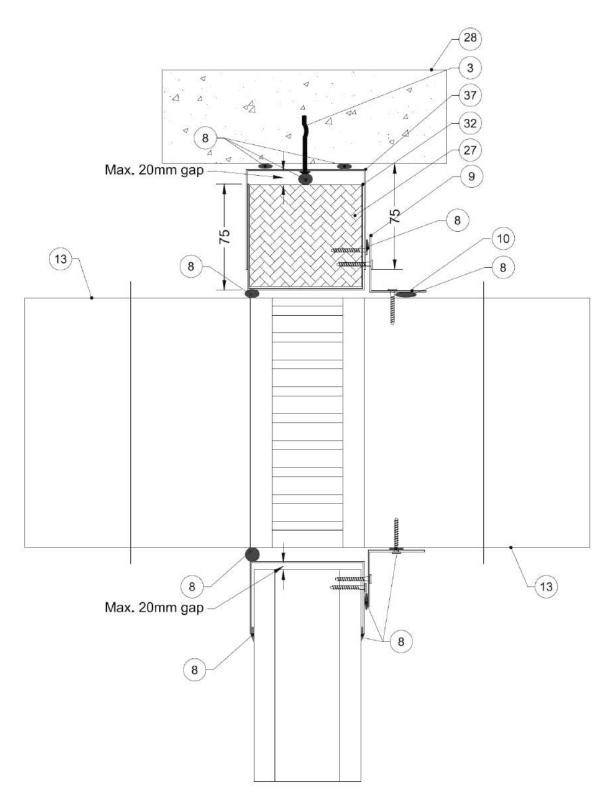


Figure 56 – Kilargo Damper installation 55mm-75mm from top or side









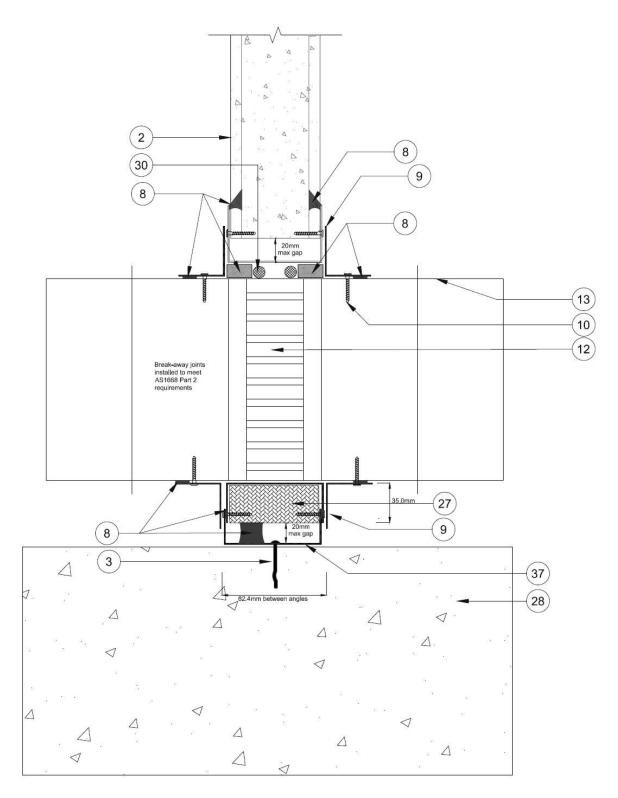


Figure 58 – Kilargo Damper installation 35mm-55mm from base of wall



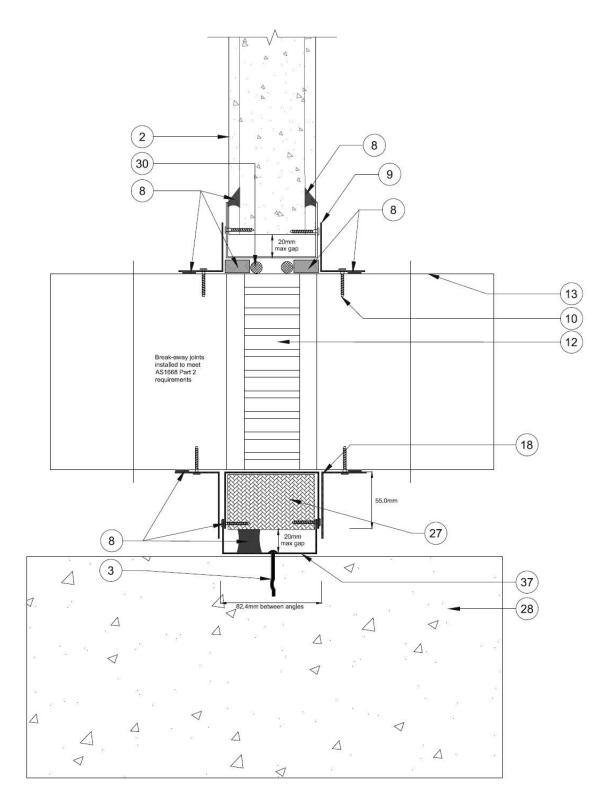


Figure 59 – Kilargo Damper installation 55mm-75mm from base of wall



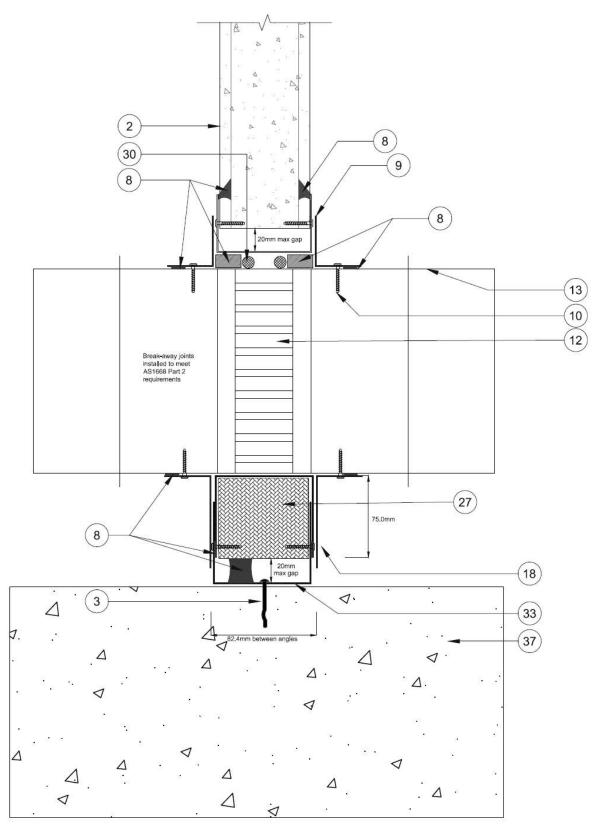


Figure 60 – Kilargo Damper installation 75mm-95mm from base of wall



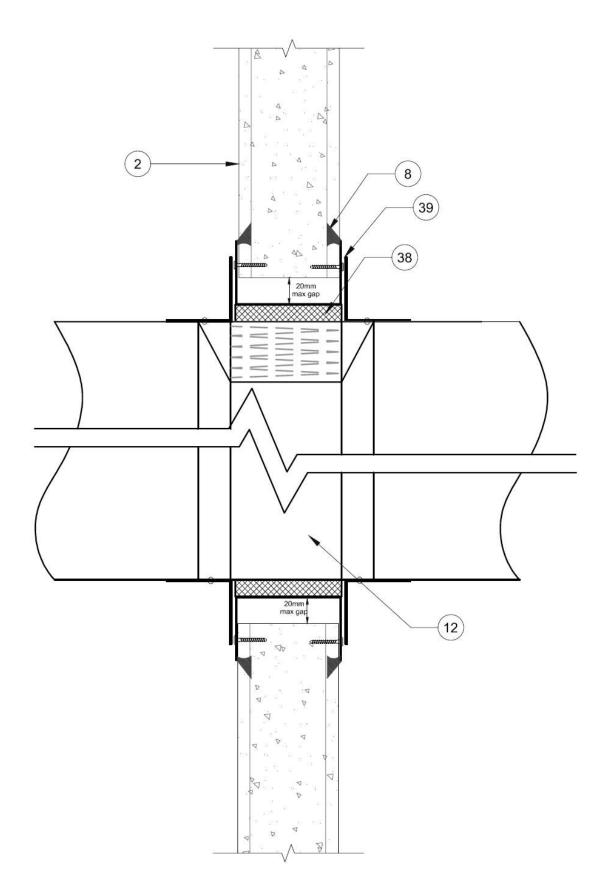


Figure 61 – Holyoake IBD-FS and IBD Damper installation General



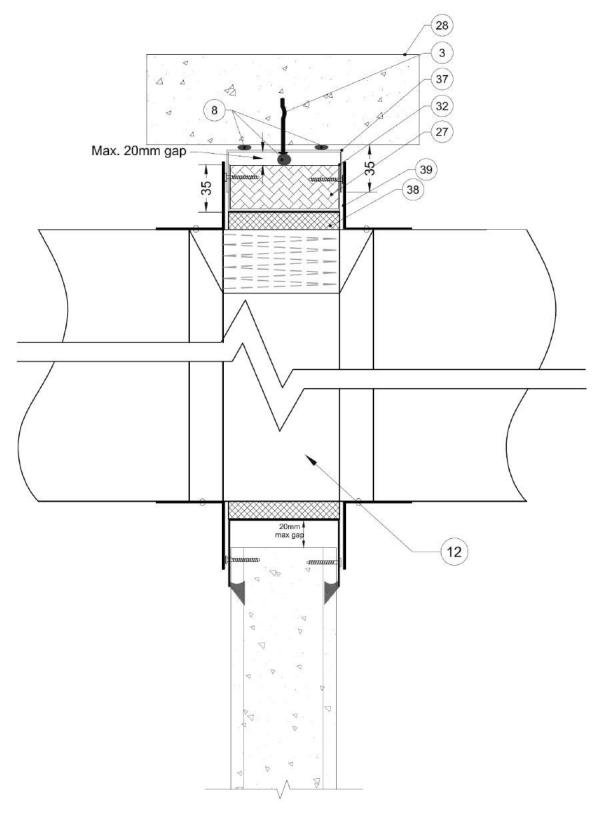


Figure 62 – Holyoake IBD-FS and IBD Damper installation 35mm-55mm from top or side



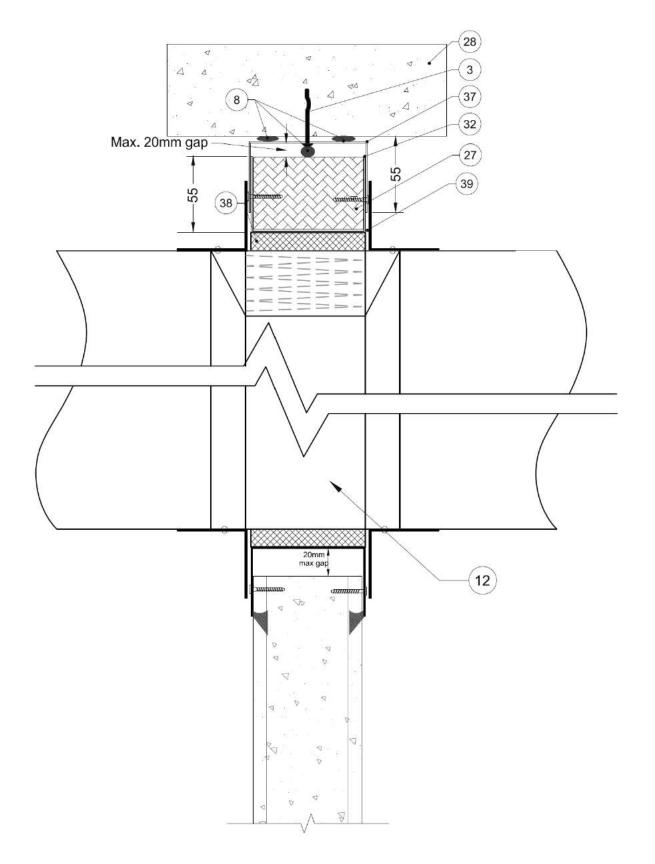


Figure 63 – Holyoake IBD-FS and IBD Damper installation 55mm-75mm from top or side



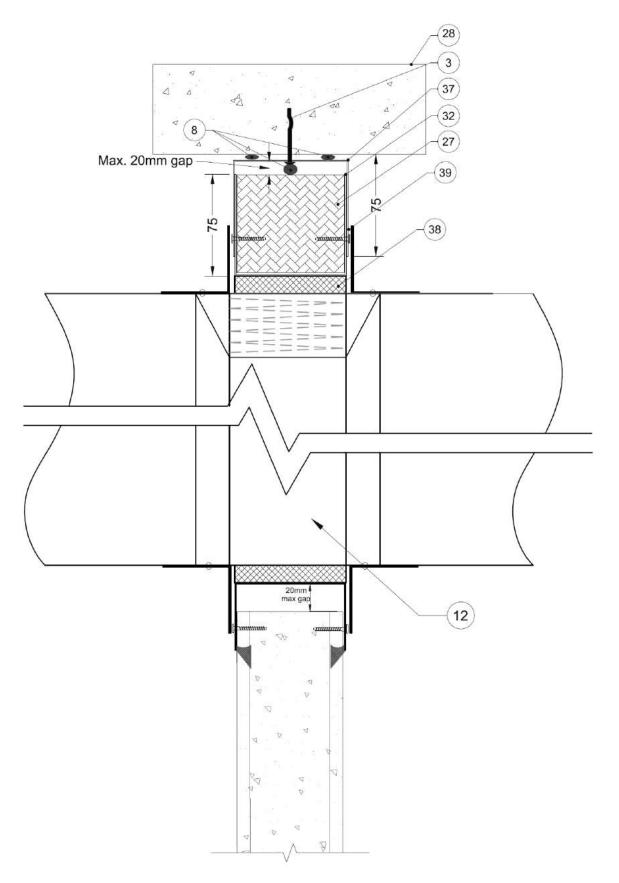


Figure 64 – Holyoake IBD-FS and IBD Damper installation 75mm-95mm from top or side



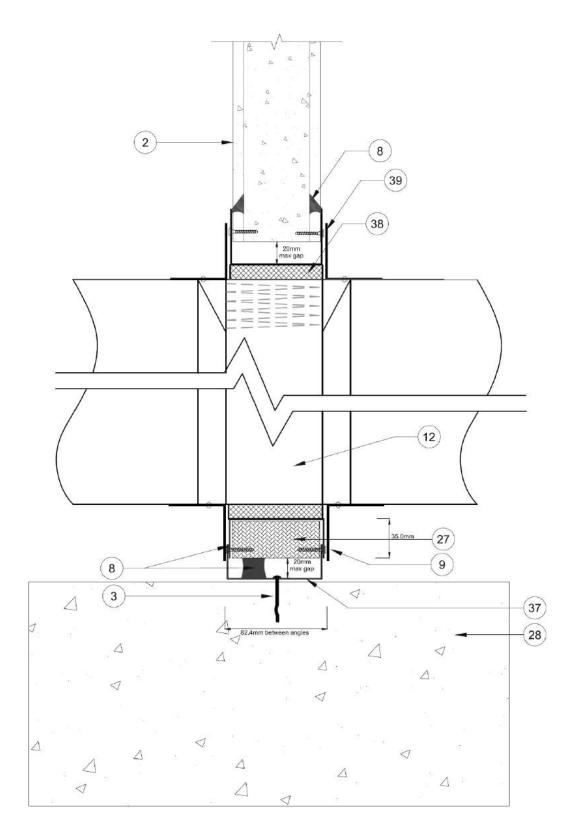


Figure 65 – Holyoake IBD-FS and IBD Damper installation 35mm-55mm from base of wall



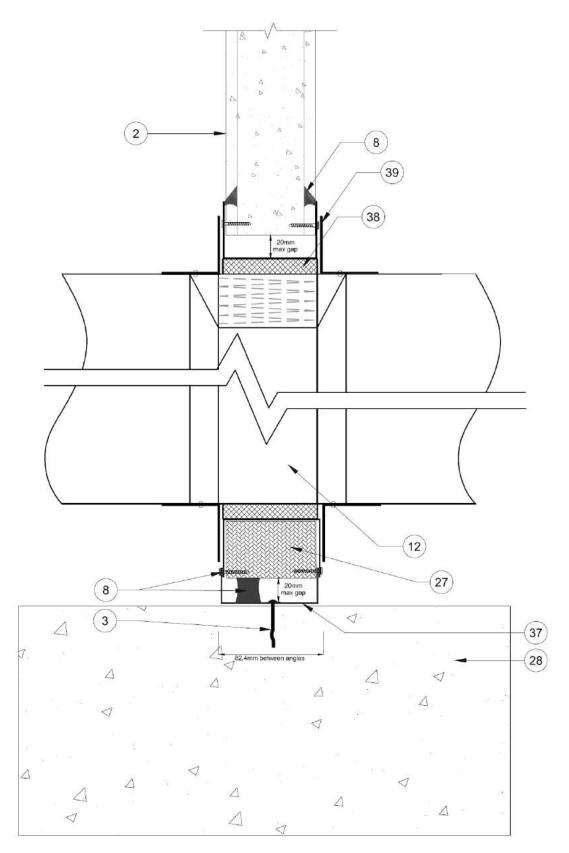


Figure 66 – Holyoake IBD-FS and IBD Damper installation 55mm-75mm from base of wall



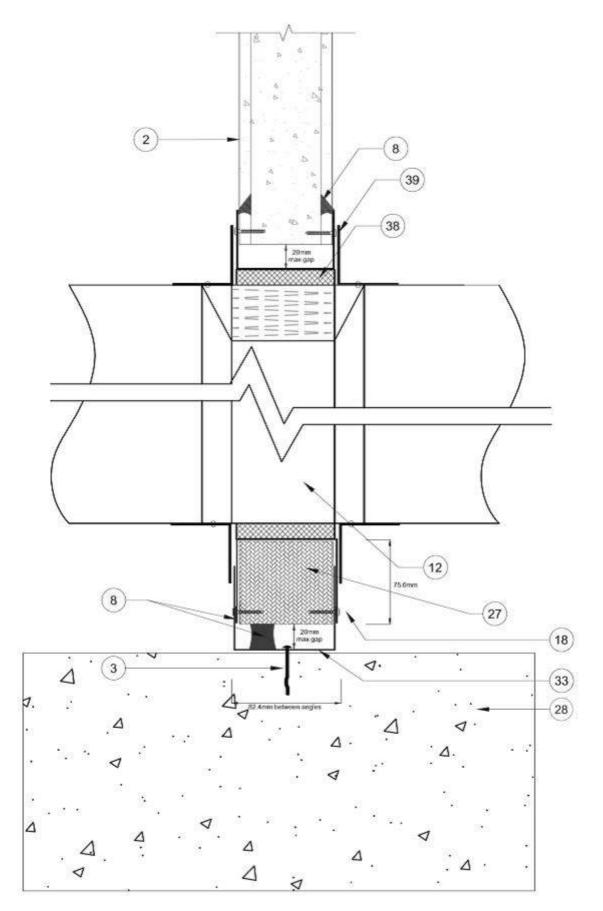


Figure 67 – Holyoake IBD-FS and IBD Damper installation 75mm-95mm from base of wall



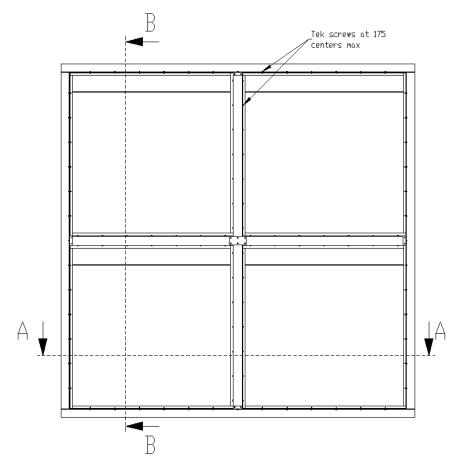
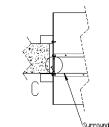
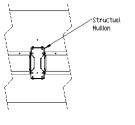
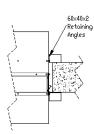


Figure 67A – Holyoake IBD-FS Modular Damper System (Note that the largest modular damper is shown for illustration only, Installation of the damper in Speedpanel wall is restricted to a maximum of 2400mm wide or 2 modules width.)









SECTION A-A

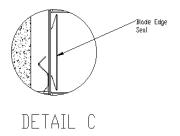
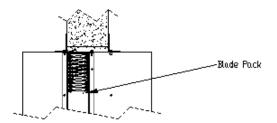
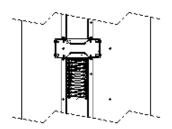


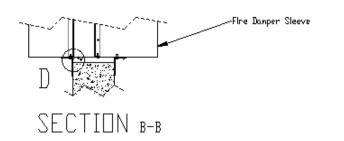
Figure 67B – Holyoake 2x2 IBD-FS Modular Damper System Horizontal Section A-A Detail











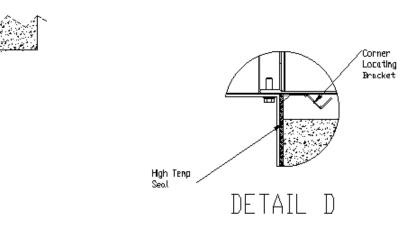
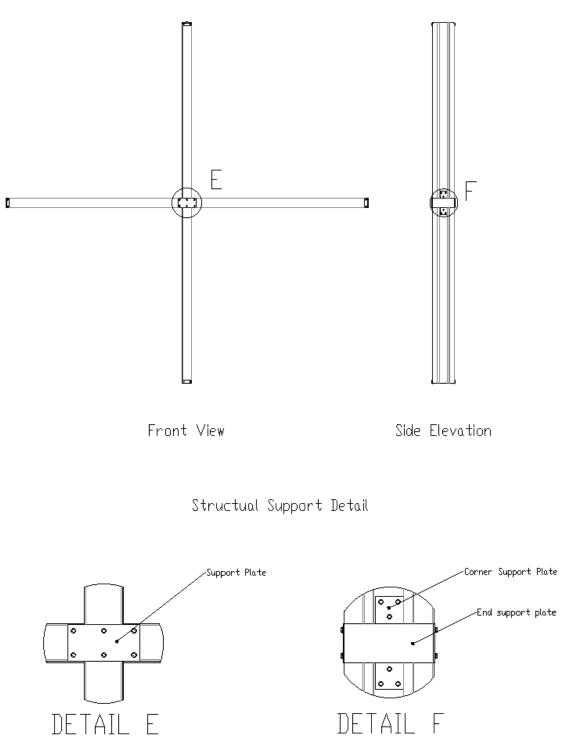


Figure 67C – Holyoake 2x2 IBD-FS Modular Damper System Vertical Section B-B Detail









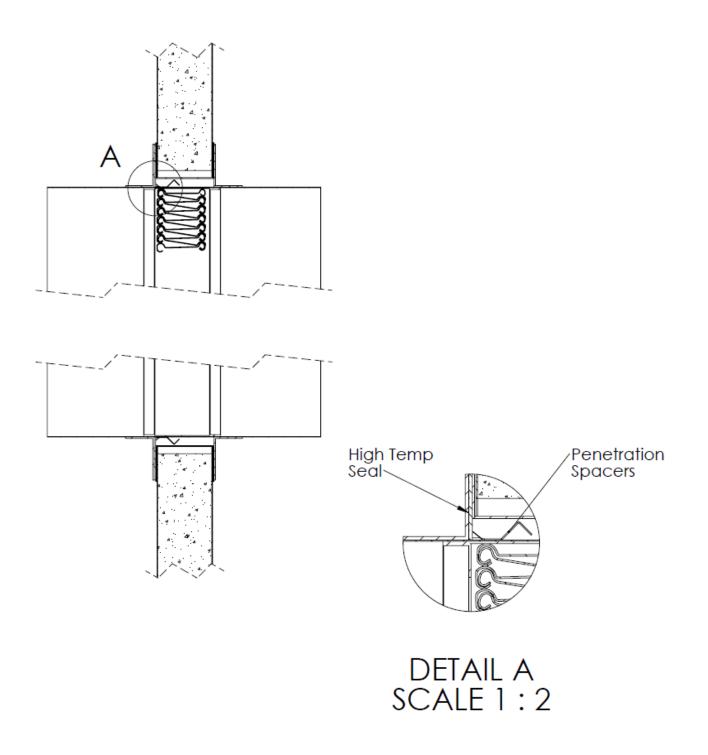


Figure 67E – Holyoake IBD-FS Fire damper installation with penetration spacers



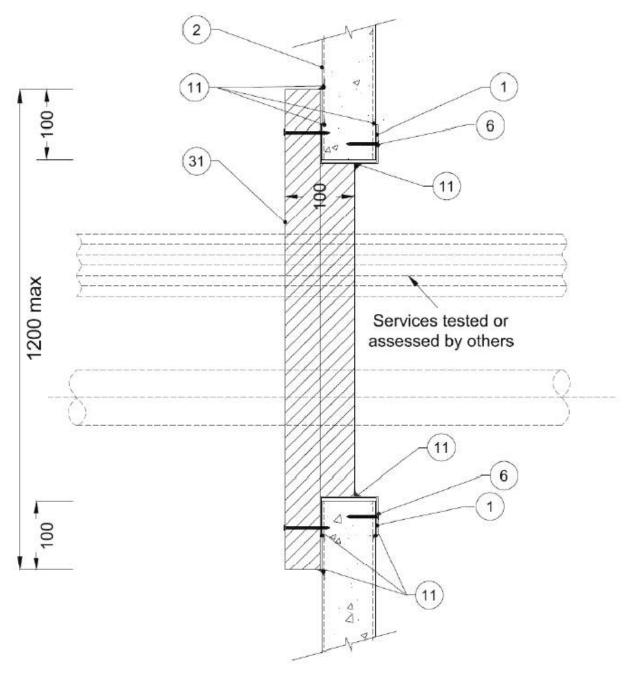


Figure 68 – Firetherm/TBA Intubatt Penetration Seal



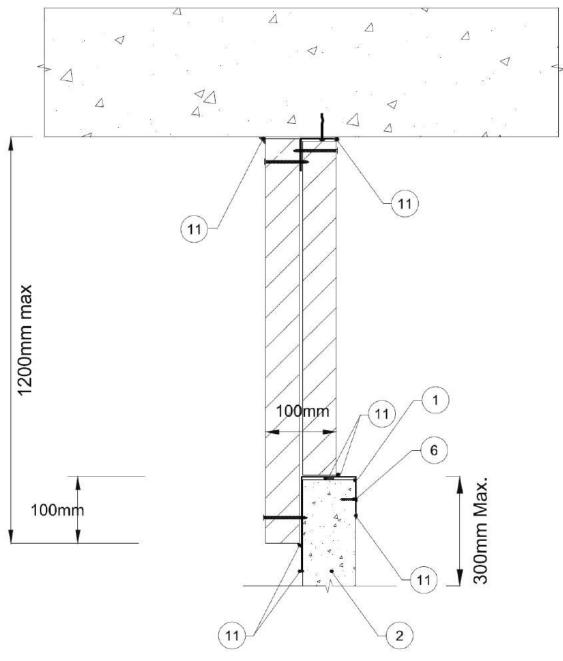


Figure 69 – Firetherm/TBA Intubatt Linear Gap Seal



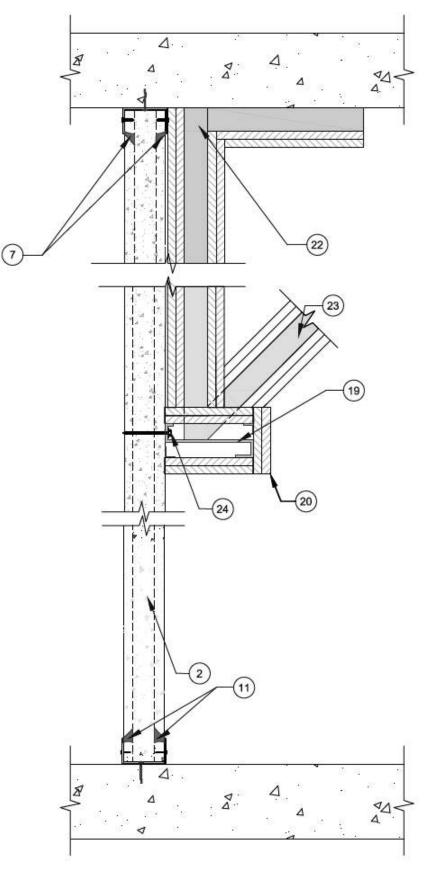


Figure 70 – Example of protected lateral bracing



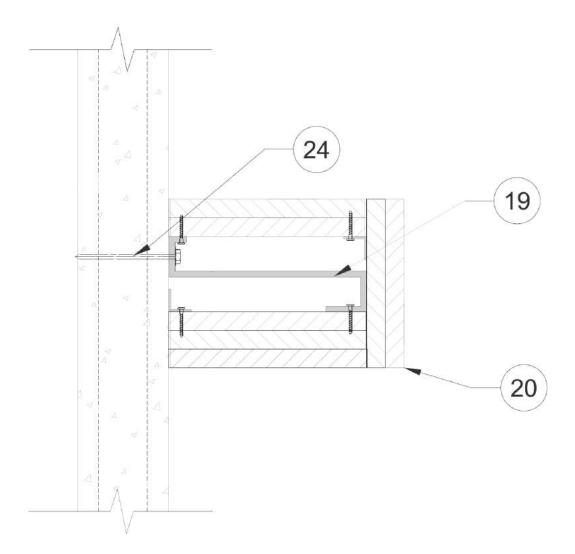


Figure 71 – Example of protected lateral bracing



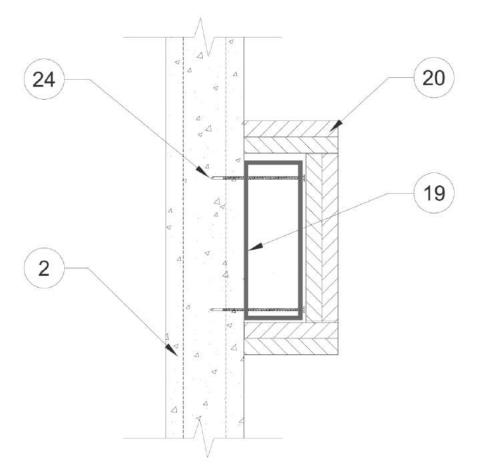


Figure 72 – Example of protected lateral bracing

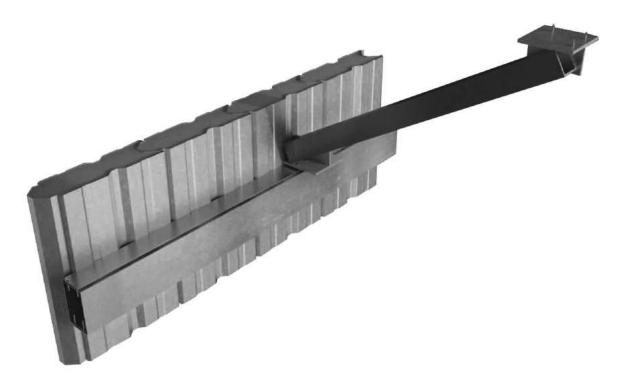


Figure 73 – Example of lateral bracing (protection not shown for clarity)



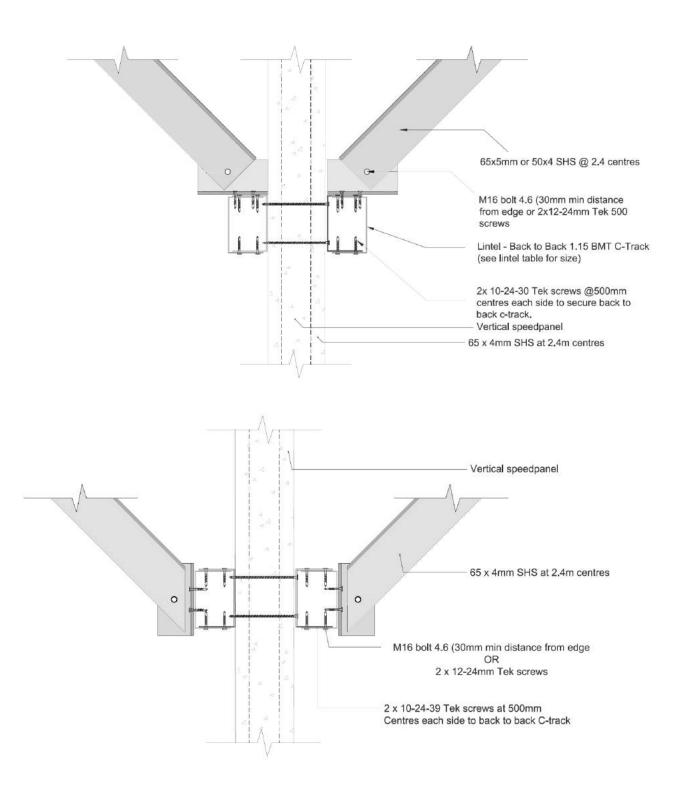


Figure 74 – Unprotected Lateral bracing required on both sides of wall



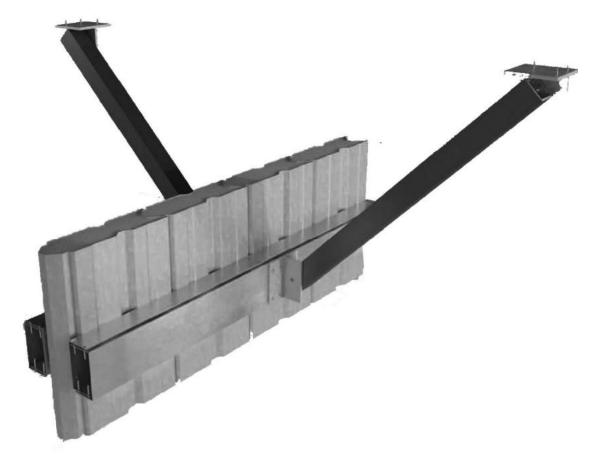


Figure 75 – Example of unprotected lateral bracing on both sides of wall



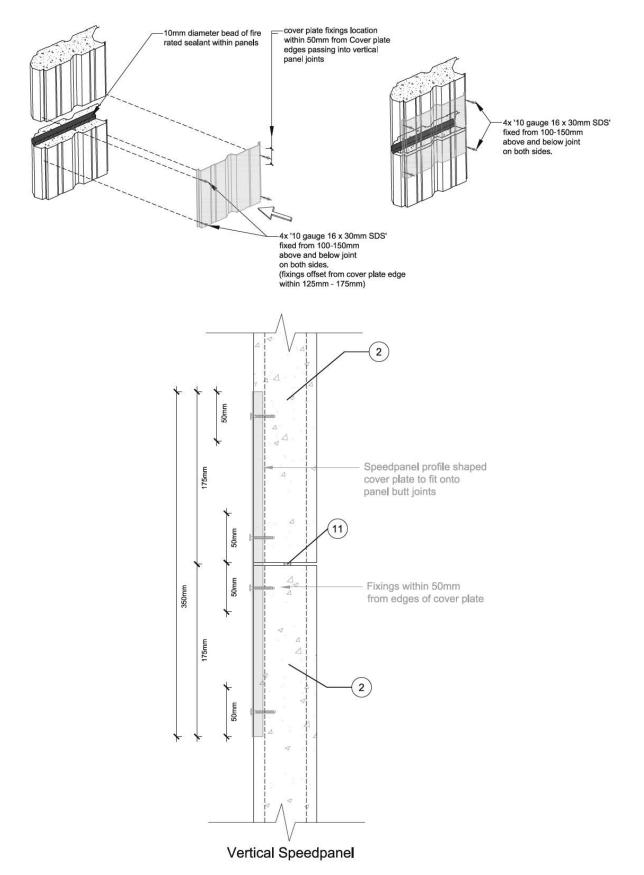


Figure 76 – Reinforcement details of butt joins in panels



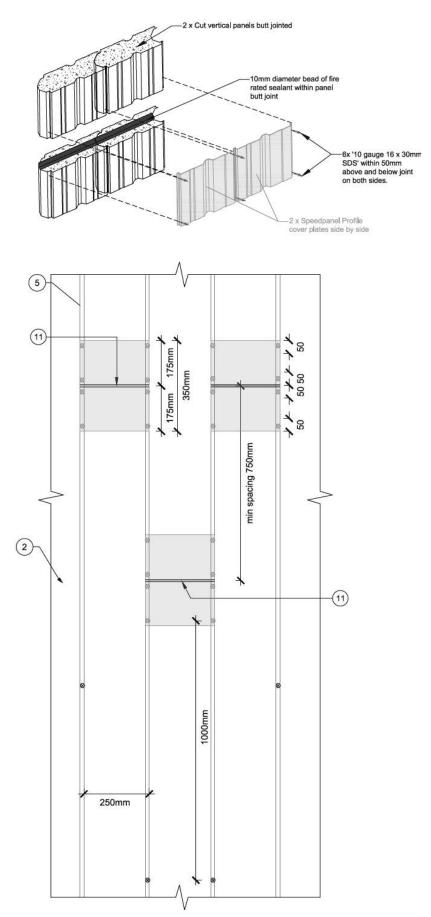


Figure 77 – Arrangement of Staggered butt joins in panels



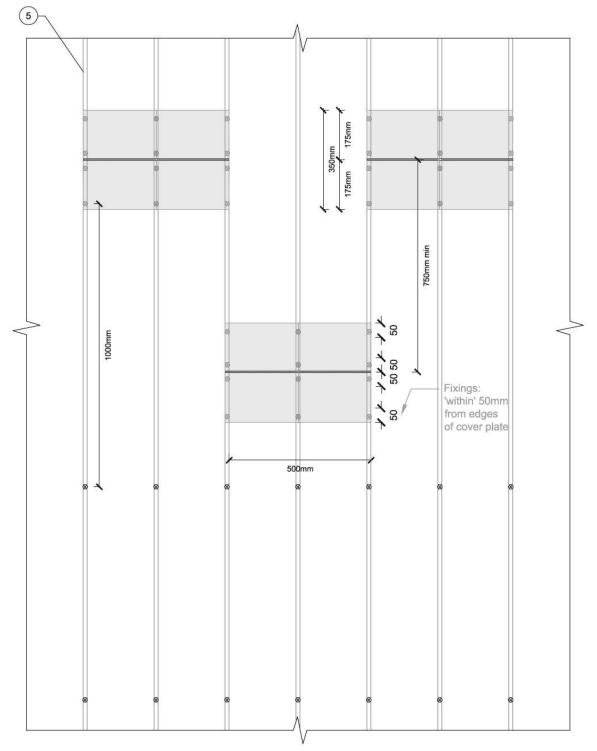
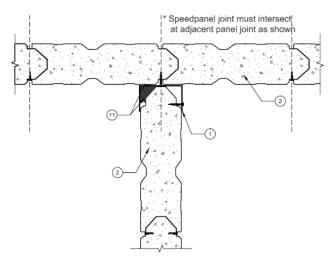
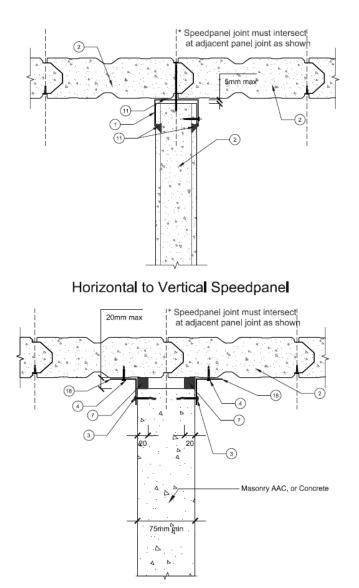


Figure 78 – Arrangement of butt joins in adjacent panels









Vertical Speedpanel to Structure

Figure 79 – Arrangement T Junctions with various Vertical and Horizontal panels



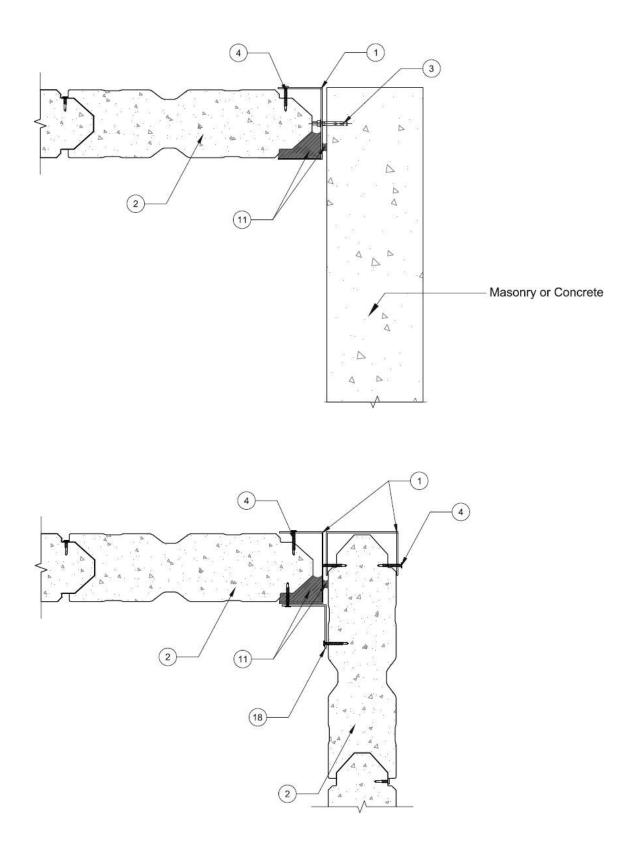
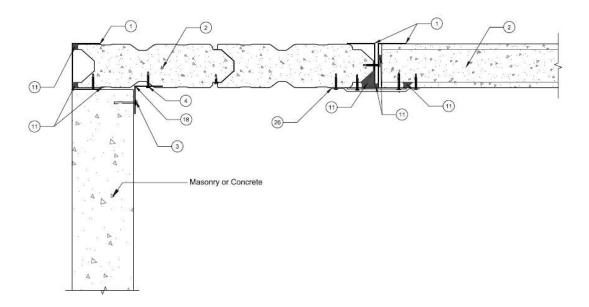
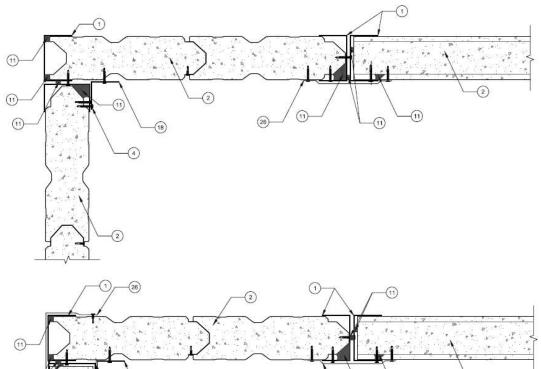


Figure 80 – Arrangement of various Corner Details for vertical panels supported by floor







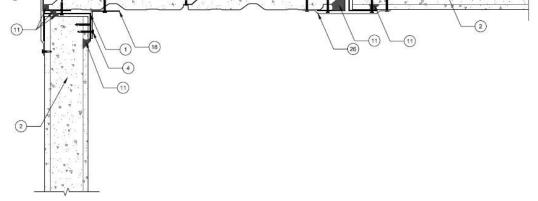


Figure 81 – Arrangement of various Corner Details for vertical and horizontal panels supported by floor



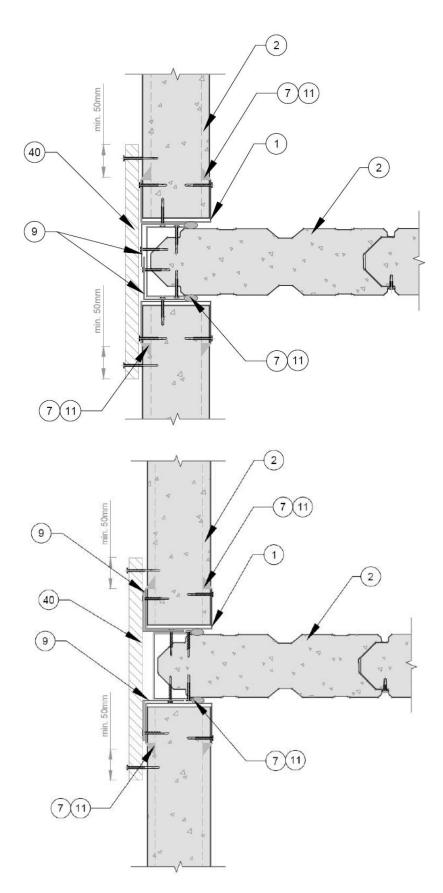


Figure 82 – Arrangement of T-junction Details for vertical and horizontal panels supported by floor



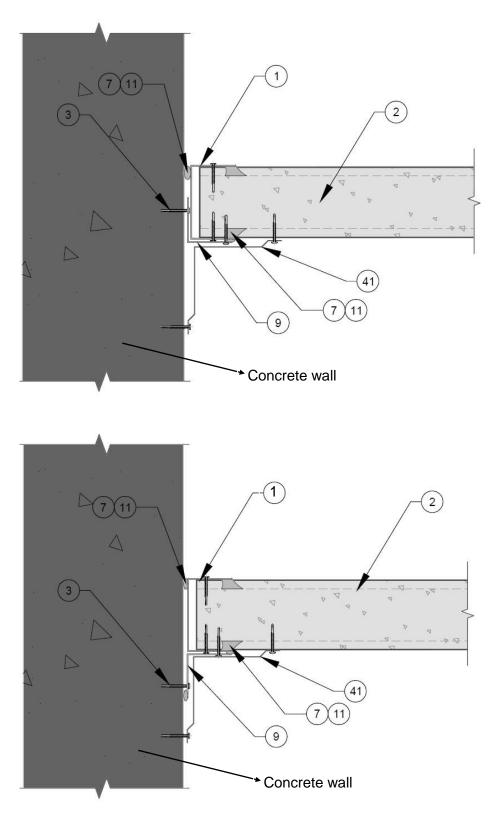


Figure 83 – Arrangement of various Corner Details for horizontal panels supported by floor



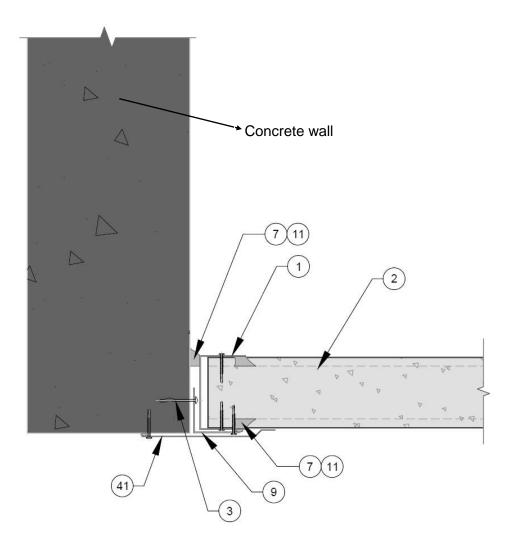


Figure 84 – Arrangement of various Corner Details for horizontal panels supported by floor





Figure 85 – Example of pipe penetration through Intubatt

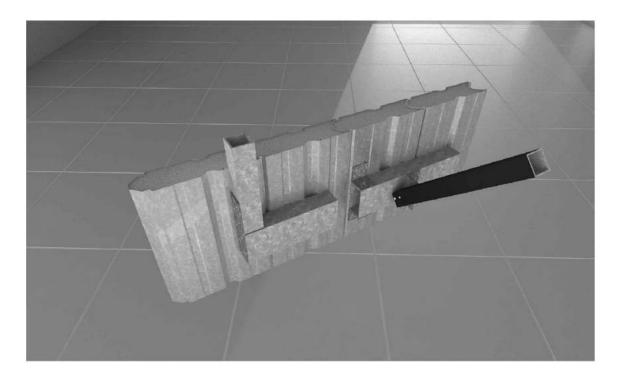


Figure 86 – Example of Lateral Brace





Figure 87 – Example of Damper Installation (duct not shown for clarity)



Figure 88 – Example of Damper Installation (duct not shown for clarity)



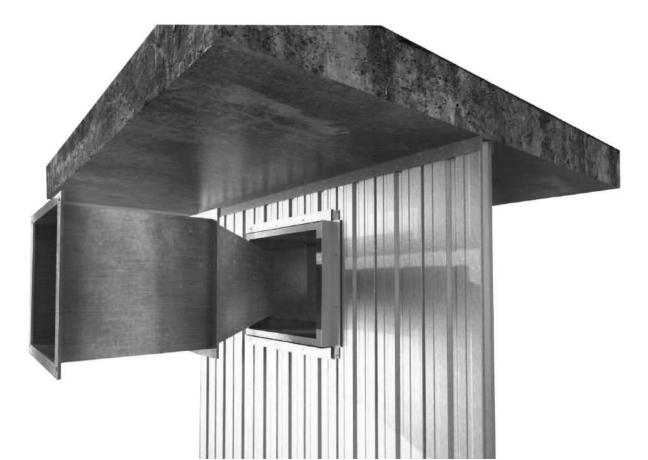


Figure 89 – Example of Damper Installation (duct not shown for clarity)



Figure 90 – Example of protected Brace, with protection shown cut-away for clarity



### 4 **REFERENCED TEST PROCEDURES**

The referenced assessment report is prepared with reference to the requirements of AS1530.4-2014 Section 3 and section 10. Reference is also made to AS4100-1998 (steel structures standard) Section 12 for fire protection of structural fixings.

Reference is made to AS4072 clause 4.8 appropriate the junction of the damper with the support construction.

### 5 FORMAL ASSESSMENT SUMMARY

Based on the discussion presented in the referenced assessment report, it is the opinion of this testing authority that if the tested prototype described in Section 2 had been modified within the scope of Section 3, it will achieve the fire resistance level (FRL) as stated below in if tested in accordance with the test method referenced in Section 4 and subject to the requirements of Section 7.

Element	Figure	FRL for Each Panel Thickness		
		51mm	64mm	78mm
Horizontal and vertical Speedpanel wall elements	1-18, 70-75, 79- 84	-/60/60	-/90/90	-/120/120
Speedpanel and damper junction	47, 54, 61	-/60/-	-/90/-	-/120/-
Speedpanel damper junction within 100mm of top, side or base of wall	48-53, 55-60, 62- 67	-/60/-	-/90/-	-/120/-
Speedpanel head and side details >100mm from dampers	20-46	-/60/60	-/90/90	-/120/120
Speedpanel and Intubatt Junction	68 and 69	-/60/60	-/90/90	-/120/120
Butt Joints in Vertical Speedpanel walls	76-78	-	-	-/120/120
Horizontal and Vertical Walls	19	-	-	-/120/120
Dampers	Outside the scope of this assessment			
Penetrations in Intubatt	-	Please refer to the relevant evidence of compliance that is covering these services (tested , assessed or certified by others)		
Miscellaneous Penetrations in Speedpanel				

Table 21- Fire resistance of various Speedpanel walls with and without apertures



## 6 DIRECT FIELD OF APPLICATION

The referenced assessment report applies to damper assemblies smaller than the assessed sizes provided there are no changes to the cross-sectional dimensions of the components.

The referenced assessment report applies to dampers fixed to continuous ducts on each side of the wall.

The results of this opinion report are based on actual test data and the scope is necessarily limited to the specifications indicated Section 3 and discussed in the Appendices of the assessment.

# 7 REQUIREMENTS

The referenced assessment report details the methods of construction, test conditions and assessed results that would have been expected had the specific elements of construction described herein been tested in accordance with AS1530.4-2014. Any further variations with respect to size, constructional details, loads, stresses, edge or end conditions, other than those identified in this report, may invalidate the conclusions drawn in this report.

Unless otherwise stated in this report:

all materials used, methods of installation and restraint conditions are to be the same as the tested prototype(s).

The fire rated sealant used for sealing around a damper shall have demonstrated by test that when used to protect a control joint on the underside of a floor slab 20mm wide the system is capable of achieving an FRL of at least -/120/- with a sealant depth not exceeding 15mm.

Dampers shall be installed to ducts on each side of the wall and break away joints shall otherwise be designed and installed in accordance with and AS1682.1 and AS 1682.2. 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.

The supporting masonry or concrete construction shall be capable of providing effective support for the proposed construction for the required fire period.

The insulation performance of the wall at the top track, bottom track and wall junction is outside the scope of this assessment.

### 8 VALIDITY

The referenced assessment report does not provide an endorsement by Exova Warringtonfire Aus Pty Ltd of the actual products supplied.

The conclusions of this assessment may be used to directly assess the fire resistance performance under such conditions, but it should be recognised that a single test method will not provide a full assessment of the fire hazard under all fire conditions.

Because of the nature of fire resistance 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 can therefore only relate only to the actual prototype test specimens, testing conditions and methodology described in the supporting data, and does not imply any performance abilities of constructions of subsequent manufacture.

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 the subject of constant review and improvement and it is recommended that this report be reviewed on or, before, the stated expiry date.



The information contained in the referenced assessment report shall not be used for the assessment of variations other than those stated in the conclusions above. The assessment is valid provided no modifications are made to the systems detailed in this report. All details of construction should be consistent with the requirements stated in the relevant test reports and all referenced documents.

# 9 AUTHORITY

#### 9.1 APPLICANT UNDERTAKINGS AND CONDITIONS OF USE

By using this report as evidence of compliance or performance, the applicant(s) confirms 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, and
- they agree to withdraw this assessment from circulation should the component or element of structure be 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, and
- 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, agree to ask the assessing authority to withdraw the assessment.

#### 9.2 GENERAL CONDITIONS OF USE

This report may only be reproduced in full without modifications by the report sponsor. Copies, extracts or abridgments of this report in any form shall not be published by other organisations or individuals without the permission of Exova Warringtonfire Aus Pty Ltd.

#### 9.3 AUTHORISATION ON BEHALF OF EXOVA WARRINGTONFIRE AUS PTY LTD

Prepared by:

RAN

R.Al Darwish

Reviewed by:

Hon Wong

DATE OF ISSUE 9.4

14/02/2019

9.5 EXPIRY DATE 30/8/2023

