

# Shaft Systems

Lift, stairwell and service shaft design and installation guide



PROFESSIONAL  
SOLUTIONS



CSR

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# Introduction

Gyprock™ Shaft Systems are non-loadbearing, fire resistant wall assemblies designed to encase lift shafts, stairwells and service ducting in low and high rise construction.

A comprehensive range of Gyprock™ Shaft Systems is available to accommodate most common applications.

Systems include Shaftwall Systems for lifts, stairwells and service shafts, and Laminated Service Systems for service shafts.

Shaftwall Systems comprise 25mm thick Gyprock™ Shaft Liner Panel and Gyprock Fyrchek™ plasterboard supported by a frame of galvanised steel C-H studs, tracks or angles.

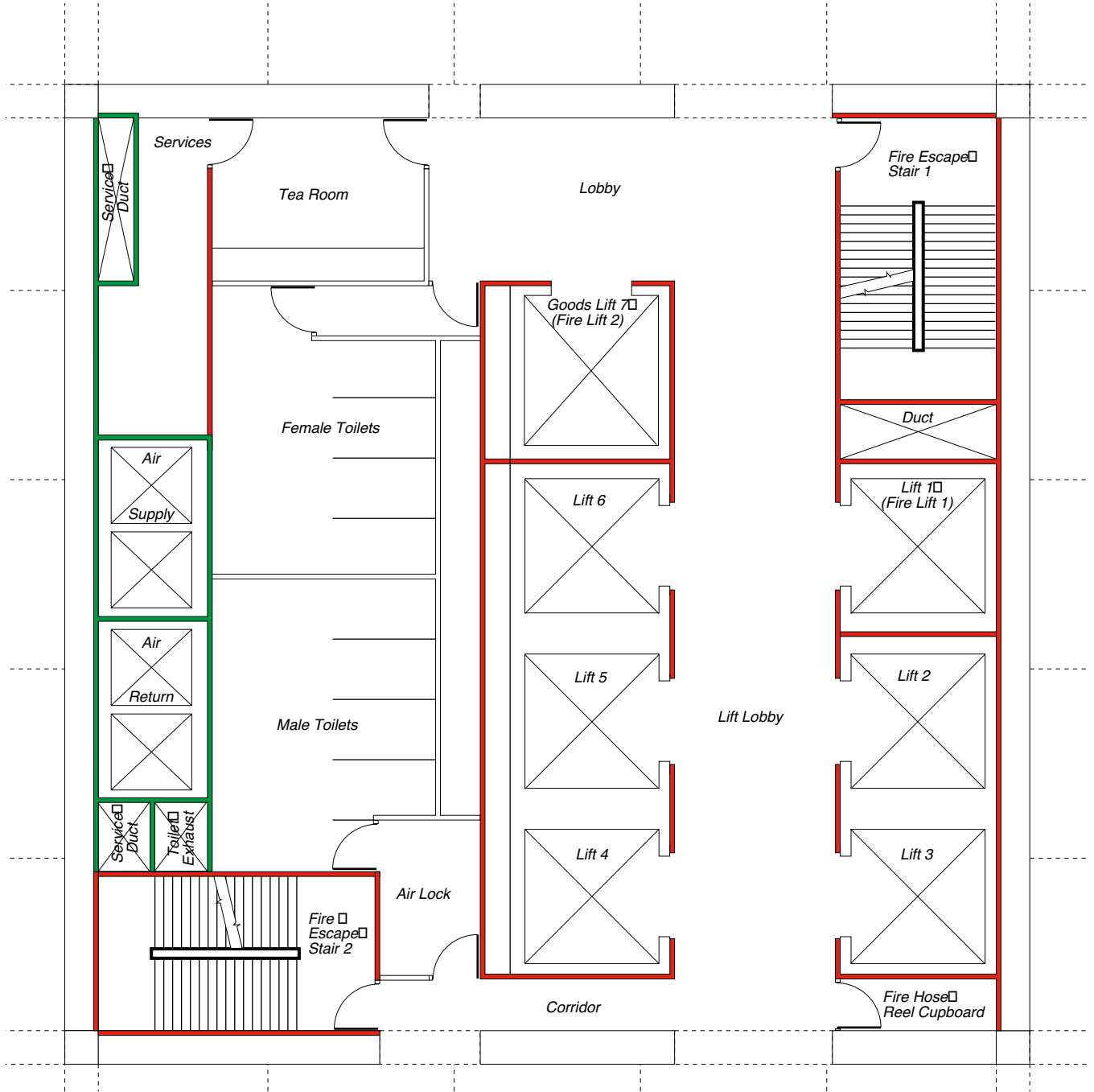
Laminated Service Systems comprise 3 layers of Gyprock Fyrchek™ plasterboard laminated together using screws or screws and glue, and incorporating perimeter steel angle framing.

Gyprock™ Shaft Systems are designed predominantly for erection from one side only. Walls are assembled from outside the shaft at each floor, reducing the need for access or scaffolding within the shaft.

Gyprock™ Shaft Systems combine lightweight construction, rapid installation and drywall finishing techniques to offer significant cost savings to builders and developers. These benefits are of particular significance when used in conjunction with structural steel construction.

# Typical Applications for Gyprock™ Shaft Systems

Figure 1: Typical Building Core Plan



Typical Applications for GYPROCK Shaft Systems

Shaftwall System

Laminated Service System

# System Performance

Construction used to bound means of egress, such as walls enclosing lifts, stairwells and fire-isolated passageways, performs an important function should fire occur.

Such walls provide protection for the fire brigade entering the building to reach a fire, and to the occupants attempting to leave the building. These walls must offer proven fire resistance for the design fire period, including sufficient structural strength to fulfil these functions.

Service shafts are typically enclosures containing electrical, mechanical or hydraulic services between floor levels. Walls for these enclosures may be required to:

- Protect the services from fire.
- Prevent the spread of fire via the service duct.
- Provide acoustic separation between noisy services and building occupants.

The Building Code of Australia specifies the minimum fire resistance level and structural performance requirements of lightweight construction systems when used to protect building components in the various types of buildings.

Gyprock™ Shaft Systems are classified as 'lightweight construction' under the Building Code of Australia definition, and have been subjected to appropriate testing as required by the Code.

## Fire Resistance

Gyprock™ Shaft Systems have been tested in accordance with Australian Standard AS1530 Part 4, and letters of opinion covering minor variations from tested prototypes have been obtained from recognised authorities.

The fire resistance levels quoted for Gyprock™ Shaft Systems apply for fire attack from either direction, despite their non-symmetrical nature.

## Acoustic Performance

Various Gyprock™ Shaft System configurations have been laboratory tested for acoustic performance. Testing has been conducted in accordance with the relevant Australian or Overseas Standard applying at the time of testing.

Where test results are not available, estimates calculated by PKA Acoustic Consulting are provided.

## The CSR Gyprock™ Acoustic Predictor

CSR Gyprock™ provides a service which can assist in determining the Rw ratings of stud walls lined with Gyprock™ plasterboard that are not published in this guide. Please telephone the CSR designLINK Service on 1800 621 117 for assistance.

## Structural Performance

The Building Code of Australia – Specification C1.8 'Structural Tests for Lightweight Construction', details the tests to be applied and criteria to be satisfied by lightweight wall construction. These four tests are as follows –

### Resistance to Static Pressure

Typical wall sections are subjected to a uniformly distributed load (or its equivalent) of 0.25kPa or 0.35kPa depending on the location of the wall and the class of the building in which it is used.

Gyprock™ Shaft Systems have the proven strength to resist these loads, which are typical of those experienced during the lifetime of the building.

Laminated Service Systems are suitable for 0.35kPa.

Refer to NATA Test Report N°MT12-90.

Gyprock™ Shaft Systems are not suitable for certain walls of Class 9B buildings which require 1.0kPa loading.

### Resistance to Impact

A series of impacts from a 27.2kg sandbag are imposed on a typical wall section and must not cause permanent damage.

Gyprock™ Shaft Systems combine the structural efficiency of C-H studs or steel angle framing with the strength of plasterboard to satisfy this requirement.

Refer to NATA Test Report N°MT2-88.

### Resistance to Surface Indentation

This test measures the surface hardness of the material.

Gyprock Fyrchek™ and Gyprock™ Shaft Liner Panel both satisfy the requirements of this test.

Refer to NATA Test Report N°MT8-89 and MT9-89.

### Resistance to Repetitive Loads

The movement of high speed lift cars within the shaft of a high rise building exerts positive and negative air pressure forces on the walls enclosing the shaft. These forces have been known to damage rigid masonry enclosures over time.

This test simulates these forces by the imposition of one million cycles of a uniformly distributed load (or its equivalent) between 0 and 0.35kPa.

Gyprock™ Shaft Systems using C-H stud framing have been subjected to these dynamic tests and have the ability to flex in response to such loads without sustaining damage

Refer to NATA Test Report N°MT13-90.

# Advantages

## Rapid Installation

Gyprock™ Shaft Systems are rapidly installed from one side at each floor, with no need for access within the shaft.

Shafts are rapidly closed in, providing safe work areas for following trades.

As no scaffolding is required within shafts, lifts services can be installed early in the construction program, ready to move men and materials to higher floors as needed.

All components are screw or screw and adhesive fixed, and there is no need for welding or bolting.

## Light Weight

Gyprock™ Shaft Systems weigh less than 50kg/m<sup>2</sup>, or approximately 25% of the weight of equivalent masonry or concrete enclosures.

Weight reductions of this magnitude can result in significant cost savings through the complete structure, from structural columns and beams to footing and foundations.

## Slender Walls

The reduced floor space required by Gyprock™ Shaft Systems means greater net floor areas are available for use/lease.

## Easier Materials Handling

Large quantities of metal components and plasterboard sheathing can be transported to site, craned into position and stored on each floor ready for installation with a minimum of disruption to other trades.

## Drywall Construction

Drywall construction methods eliminate the delays, mess and inconvenience associated with traditional wet trades, and allow the early decoration of finished walls.

# Design Considerations

## BCA Requirements

Gyprock™ Shaft Systems are classed as 'Lightweight Construction' by the Building Code of Australia. Designers should ensure that selected wall systems satisfy the fire resistance and structural requirement of the Code for the applications proposed.

## Air Movement/Pressures

Gyprock™ Shaft Systems used to enclose lift shafts or service ducts must have all perimeters and penetrations effectively sealed with Gyprock™ Fire Mastic to eliminate whistling and sound leakage while maintain the stated fire resistance level.

## Service Ducts

Gyprock™ Shaft Systems may be used as unlined return air ducts, providing surface air temperatures and humidities do not allow condensation to occur on the faces of the plasterboard linings or the metal framework. These systems are not recommended for use as unlined HVAC supply ducts/shafts.

## Moisture

Exposure to excessive or continuous moisture or humidity should be avoided both during construction and in service.

Allowance needs to be made for the capping of shafts during the construction phase to ensure installations are not damaged by excessive rainwater.

## Service Penetrations

Gyprock™ Shaft Systems incorporating access panels, fire dampers, plumbing penetrations and the like, must be detailed to ensure both their fire and structural integrity is maintained. Refer to the service manufacturer or seal supplier for certification of fire performance.

## Fire Doors

Proprietary steel door frames are available. Refer to the appropriate manufacturer for certification of fire performance.

## Lift Equipment

Lift operating equipment should be mounted independently from the shaftwall system.

## Structural

All Gyprock™ Shaft Systems are designed as non-loadbearing partitions. It is acceptable however to include loadbearing elements within the system cavity.

Gyprock™ Shaft Systems are not intended to provide resistance to in-plane loading (bracing).

## Perimeter Fasteners

It is important that the project engineer approve the type, size and maximum spacing of perimeter fasteners to meet the design load requirements.

Track fasteners shall be capable of withstanding a minimum of 0.86kN single shear and 0.89kN bearing force.

# Gyprock™ Plasterboard & Accessories

CSR Gyprock™ manufactures a diverse range of plasterboard sheet products for fire rated and non-fire rated applications. Refer to Table 1 for thickness and sheet size availability.

## Fire Rated Plasterboards

**Gyprock Fyrchek™** can be used in wall and ceiling systems where fire resistance is to be achieved and is also useful where improved acoustic performance is required. Gyprock Fyrchek™ is machine made sheet composed of a specially processed glassfibre reinforced gypsum core encased in a heavy duty liner board.

**Gyprock FyrchekMR™** is primarily intended for walls and ceilings in 'wet area rooms' and for soffits and external eaves which must also achieve fire resistance. Gyprock FyrchekMR™ is machine made sheet composed of a specially processed glassfibre reinforced gypsum core encased in a heavy duty liner board. Both the core and the liner board are treated in manufacture to withstand the effects of high humidity and moisture.

**Gyprock™ Shaft Liner Panel** is a 25mm thick machine made sheet composed of a specially processed glass fibre reinforced gypsum core encased in a heavy duty liner board. Gyprock™ Shaft Liner Panel is specifically developed to enclose lift shafts, stairwells and service shafts in multi-storey construction. Gyprock™ Shaft Liner Panel can be used to achieve fire resistance in wall and ceiling systems. Gyprock Shaft Liner Panel is also available in a mould resistant version - Shaft Liner MP Panel - for enhanced protection against mould growth on the board during construction.

**Gyprock EC08™ Range.** A first in the Australian plasterboard industry, the Gyprock EC08 range was developed to meet the changing needs of the green building market. The range is fully GECA accredited, including the premium EC08™ Complete which is Mould, Impact and Moisture resistant, and Fire and Acoustic rated. EC08™ Impact MR is Impact and Moisture resistant, and Fire and Acoustic rated.

Table 1: Gyprock Plasterboard availability

Gyprock™ Product	Thickness mm	Width mm	Mass kg/m <sup>2</sup>
Fyrchek™	13	1200	10.5
	16	1200	12.5
FyrchekMR™	13	1200	10.7
	16	1200	13.5
Shaft Liner Panel	25	600	19.8
Shaft Liner MP Panel	25	600	19.8
EC08™ Impact	13	1200	12.1
EC08™ Complete	13	1200	12.4

Gyprock™ plasterboard sheet products have coloured face liners for easy identification. (Approximate colours are shown behind product groups). Call 13 17 44 to confirm available products and sizes for your region. Custom sizes may be available subject to minimum order. Lead times may apply.

## Fire Resistance

Gyprock™ plasterboard products have been tested to AS1530.3, 'Simultaneous determination of Ignition, Flame Propagation, Heat Release and Smoke Release. See Table 2 for test results.

Table 2: Fire Hazard Properties

GYPROCK Product	ASEA m <sup>2</sup> /kg	Group Number
13 – 16mm Fyrchek™	<250	1
13 – 16mm FyrchekMR™	<250	1
25mm Shaft Liner Panel	<250	1
25mm Shaft Liner MP Panel	<250	1
13mm EC08™ Impact	<250	1
13mm EC08™ Complete	<250	1

NOTES:  
ASEA = Average Specific Extinction Area

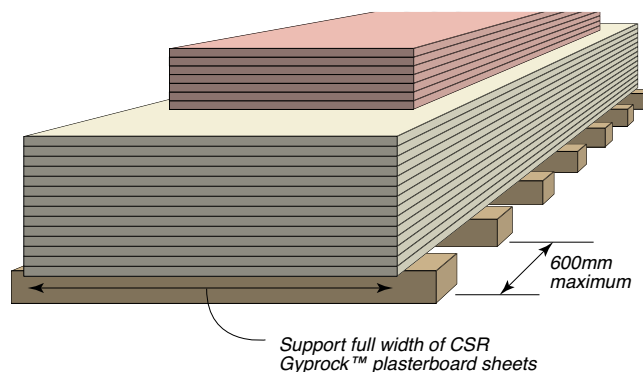
## Handling & Storage

All materials must be kept dry, preferably stored inside. Care should be taken to avoid sagging or damage to ends, edges and surfaces of sheets.

All Gyprock™ plasterboard must be stacked flat, properly supported on a level platform or on support members which extend the full width of the sheets and which are spaced at a maximum of 600mm centres.






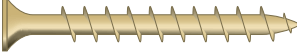
If stored outside, sheets must be stored off the ground, stacked as previously detailed and protected from the weather.

Figure 2: Stacking and Support of Plasterboard Sheets



## Fasteners

CSR Gyprock™ distributes a comprehensive range of screws for use with steel framing to accommodate most installation applications.

- N°6-18 Type 'S' Needle Point Screws (25mm or 40mm) for lightweight steel studs and furring channel up to 0.8mm thickness.  
- N°6-18 Type 'S' Drill Point Screws (25mm or 40mm) for steel framing 0.8mm to 1.2mm thickness.  
- Gyprock™ Plasterboard Laminating Screws. 40mm x N°10. for laminating layers of plasterboard together at butt joints and control joints (where permitted).  

## Sealants

Gyprock™ Fire Mastic must be used in fire rated systems where caulking is indicated, and is also recommended for caulking acoustic systems.

Promaseal IBS™ Rod (20mm and 29mm dia.) are to be used where indicated.

## Jointing and Finishing

CSR Gyprock™ has a wide range compounds, cements and accessories for finishing plasterboard installations.

This manual does not provide plasterboard jointing and finishing details.

It should be noted that multi-layered systems only require jointing and finishing of the outer layer.

Information relating to the jointing and finishing of Gyprock™ plasterboard can be found in The Red Book™ 2 – Residential Installation Guide, or visit the CSR Gyprock website: [www.gyprock.com.au](http://www.gyprock.com.au)

Figure 3: Gyprock™ Jointing and Finishing Compounds



## Steel Components

CSR Gyprock™ recommends steel building elements manufactured by Rondo Building Services Pty Ltd, for our systems.

Other brands of equivalent or better performance may be used.

It is the responsibility of the manufacturer of the steel component to substantiate equivalent or better performance

than the recommended Rondo component.

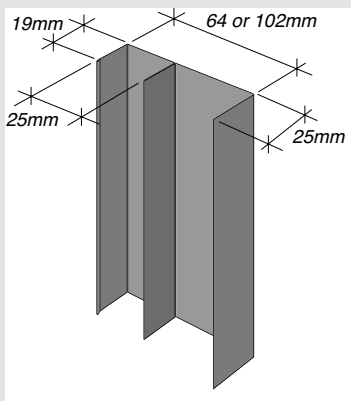
General information on Rondo steel building components is provided throughout this manual.

Additional information can be obtained from the Rondo Building Services Pty Ltd office in your state, or telephone 1300 367 663.

**Table 3: Design Properties of Rondo Steel Framing Components**

Component Type	Size	Stud BMT (mm)	Stud Depth (mm)	Standard Lengths (mm)
CH Stud	64CH55	0.55	64	3000, 3600
	64CH90	0.90	64	4500
	102CH55	0.55	102	3600, 4300
	102CH90	0.90	102	5500
E Stud	64E55	0.55	64	3000, 3600
	102E55	0.55	102	3600, 4300
J Track	64J80	0.80	64	3000
	102J80	0.80	102	3000
Deflection Head Track	64DT80	0.80	64	3000
	102DT80	0.80	102	3000
Jamb Stud	64JS80	0.80	64	3000
	102JS80	0.80	102	3600

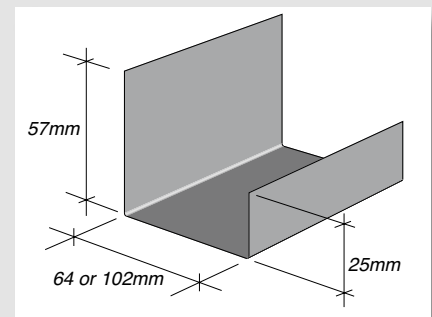
### E STUD



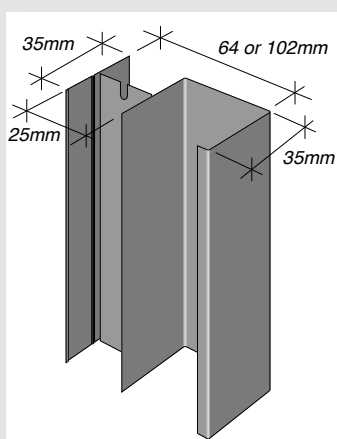
### COMPONENT DESIGNATION

64 CH 55  
 Width (mm) | Base Metal Thickness  
 Component

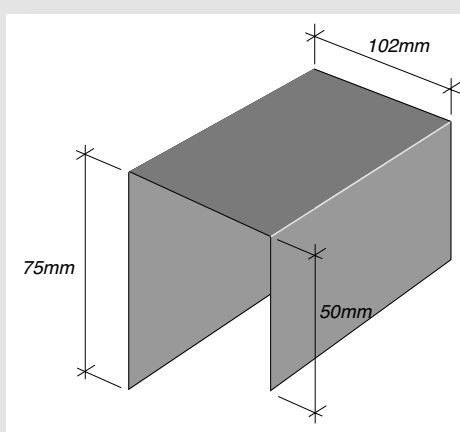
### J TRACK



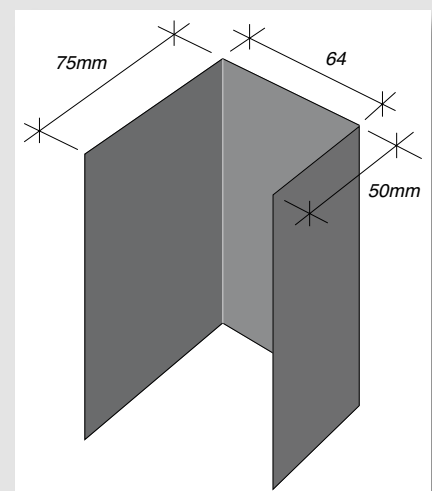
### C-H STUD



### DEFLECTION HEAD TRACK



### JAMB





# Architectural Specification

## Scope

The contractor shall furnish all materials, labour and equipment for the installation of the Gyprock™ plasterboard Shaft Systems where indicated on the drawings and/or as specified.

## Materials

All lining materials shall be Gyprock™ plasterboard and accompanying accessories as manufactured or supplied by CSR Gyprock™.

Gyprock™ Plasterboard shall be manufactured to meet the dimensional requirements of AS/NZS2588 'Gypsum Plasterboard'.

Steel frame components shall be those manufactured by Rondo Building Services Pty Ltd (or products of equivalent or better performance).

## Shaft Systems

The contractor shall supply and install the *lift shaft/stairwell/vertical duct* using Gyprock™ Shaft System \*N°CSR..... in accordance with brochure N°GYP546, Gyprock™ Shaft Systems.

The installation shall satisfy the following performance criteria.

The wall shall have a \*Fire Resistance Level – /...../..... in accordance with the requirements of AS1530.4.

The wall shall be designed to resist a uniformly distributed load of \*.....kPa, in accordance with BCA Specification C1.8.

Installation shall also be carried out to the level specified for an acoustic performance of \* $R_w$ .....

\*Cavity infill insulation shall be .....mm Bradford.....

## Framing

Steel framing shall be installed in accordance with brochure N°GYP546, Gyprock™ Shaft Systems.

Shaftwall System framing shall consist of \*64mm/102mm x .....mm BMT C-H Studs, E Studs, J-Tracks, Jamb-Struts and Deflection Tracks.

Studs shall be designed for a maximum span/deflection ratio of \*1/240 or 1/360 and shall be installed at \*.....mm maximum centres OR Laminated Service System framing shall consist of \*25mm/50mm x 0.8mm BMT galvanised steel angle.

Track fasteners shall be capable of withstanding 0.86kN single shear and 0.89kN bearing force.

## Plasterboard

Plasterboard lining shall comprise:

\* One layer of 25mm Gyprock™ Shaft Liner Panel;

PLUS/OR ..... layer(s) of .....mm Gyprock Fyrchek™ plasterboard applied to *one/both side(s)* of the framing.

## Plasterboard Fixing

Plasterboard shall be installed in accordance with brochure N°GYP546, Gyprock™ Shaft Systems.

## Caulking

All gaps and penetrations shall be caulked in accordance with brochure N°GYP546, Gyprock™ Shaft Systems, using Gyprock™ Fire Mastic.

## Jointing and Finishing

Where indicated on the drawings and/or as specified, jointing and finishing of the outer layer of Gyprock Fyrchek™ plasterboard shall be in accordance with brochure The Red Book #3 Commercial Installation Guide.

\* Insert or select appropriate specifications.

NOTE: This information can be downloaded from the CSR Gyprock™ website: [www.gyprock.com.au](http://www.gyprock.com.au)

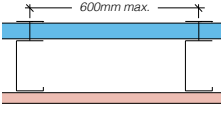
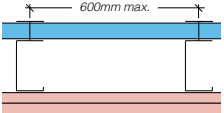
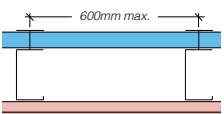
# System Selection

## Shaftwall Systems

Gyprock™ Shaftwall Systems constructed with C-H Stud framing can be selected from Table 4.

These systems are most appropriate for lift shafts and stairwells, and for service ducts which are outside the dimensional range of the laminated systems detailed below.

**Table 4: Maximum C-H Stud Height for Gyprock Shaftwall Systems**

Framing/Lining Configuration	Stud Lining Layers x Thickness (mm)	UDL kPa	Shaftwall C-H Stud Depth x BMT (mm)			
			64 x 0.55	64 x 0.9	102 x 0.55	102 x 0.9
			Maximum C-H Stud Height (mm)			
 1 x 16 Fyrchek		0.25	3130	3450	3820	4710
		0.35	2730	3450	2730	4710
 2 x 13 Fyrchek		0.25	3320	3650	3820	4980
		0.35	2730	3510	2730	4750
 2 x 16 Fyrchek		0.25	3460	3780	3820	5040
		0.35	2730	3640	2730	4830
		0.5	2080	3220	1910	3680

NOTES:

- Deflection limit is Span/240 to a maximum of 30mm, in accordance with BCA Specification C1.8.
- Tabulated heights do not include axial loads (except self weight) or shelf loading.
- Loadings:  $P_{ultimate} = 0.375$  kPa,  $P_{service} = 0.25$  kPa.  
 $P_{ultimate} = 0.525$  kPa,  $P_{service} = 0.35$  kPa.  
 $P_{ultimate} = 0.750$  kPa,  $P_{service} = 0.50$  kPa.
- Walls are not for external applications.
- All loadings in accordance with AS1170:2002.
- Walls analysed in accordance with AS4600:1996.

**Figure 4: A Typical Shaft Wall System During Construction for a Lift Application**



## Laminated Service Systems

Laminated Service Systems consist of three plasterboard leaves laminated together. They are typically used as fire rated services' enclosures between floor slabs and are not suitable as lift shafts.

There are three types of Gyprock™ Laminated Service Systems:

- Three layers of 13mm fire grade plasterboard
- Three layers of 16mm fire grade plasterboard
- One layer of 25mm Shaftliner board between two layers of 16mm fire grade plasterboard

The appropriate Gyprock™ Laminated Service system can be selected based on the required fire resistance level (FRL) and the required enclosure height and width. Refer to the systems table for available combinations.

The systems rely on support at each side (end) of the wall as well as at the top and the bottom. Two plasterboard fixing methods, (screw only fixing, or screw and adhesive fixing) cater for wall heights up to 7.2m and for wall widths up to 4.2m.

Table 5 details the maximum permitted wall dimensions for each type of system and construction method

**Table 5: Maximum Permitted Wall Height/Width Uniformly Distributed Load (UDL) – 0.35kPa.**

Layers of Gyprock™ Fire Grade Plasterboard	Lamination method	Maximum Wall Height (mm)			
		2400	3000	3600	7200
		Maximum Wall Width (mm)			
3x13mm	Screw only	1200	1200	1200	N/A
	Screw/ Adhesive	2200	2100	2000	N/A
3x16mm	Screw only	1200	1200	1200	1200
	Screw/ Adhesive	3100	2700	3600	1200
16/25/16mm	Screw/ Adhesive	4200	3200	3000	N/A
N/A - Not Applicable					

**Figure 5: Service Shaft with Perimeter Angle Frame Fixed**



**Figure 6: First Layer of Gyprock Fyrcek and Perimeter Framing Fixed**

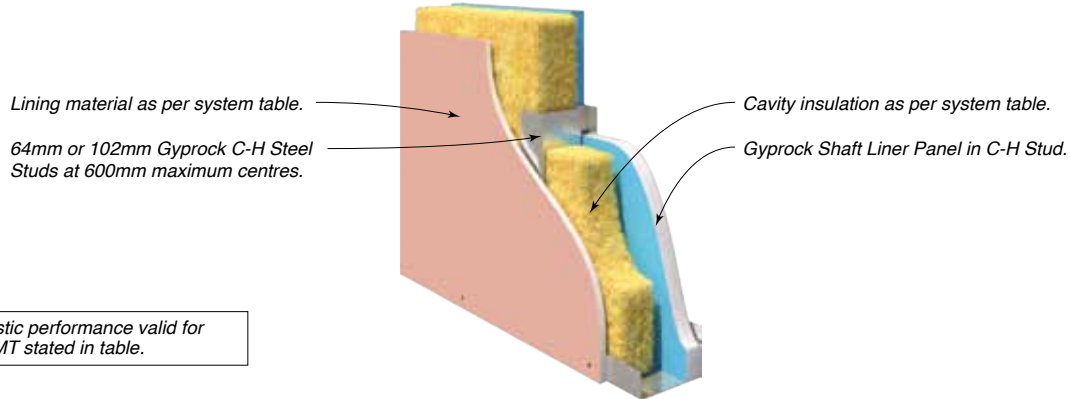


**Figure 7: Gyprock Laminated Service System after Completion**



# SYSTEM SPECIFICATIONS

## Internal Services Wall – Shaft Wall System



NOTE: Acoustic performance valid for studs with BMT stated in table.

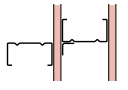
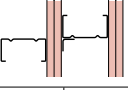
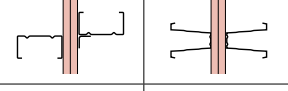
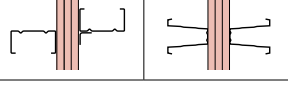
SYSTEM SPECIFICATION			ACOUSTIC OPINION: PKA Predictor V16		
Refer to GYP546, Gyprock Shaft Wall Installation Guide for further information					
FRL Report/Opinion	SYSTEM N°	WALL LININGS	STUD DEPTH mm	64	102
			STUD BMT mm	0.5	0.5
			CAVITY INFILL (Refer to TRB1)	R <sub>w</sub> / R <sub>w</sub> +C <sub>tr</sub>	
- /60/60 (from both sides) FCO 3063	<b>CSR 7655</b> 	<b>BETWEEN STUDS</b> • 1 x 25mm Gyprock Shaft Liner Panel.  <b>SIDE ONE</b> • 1 x 16mm Gyprock Fyrchek Plasterboard.	(a) Nil	36/29	40/33
			(b) 50 GW Acoustigard 11kg	44/35	48/39
			(c) 75 GW Acoustigard 11kg	–	50/41
			(d) MSB3 Polyester	–	46/38
			(e) 60 Soundscreen 1.7	–	50/40
			Wall Thickness mm	80	118
- /60/60 (from both sides) FCO 3063	<b>CSR 7660</b> 	<b>BETWEEN STUDS</b> • 1 x 25mm Gyprock Shaft Liner Panel.  <b>SIDE ONE</b> • 1 x 16mm Gyprock Fyrchek MR Plasterboard.	(a) Nil	37/30	41/34
			(b) 50 GW Acoustigard 11kg	45/36	49/40
			(c) 75 GW Acoustigard 11kg	–	50/41
			(d) MSB3 Polyester	–	47/39
			(e) 60 Soundscreen 1.7	–	51/41
			Wall Thickness mm	80	118
- /90/90 (from both sides) FCO 3063	<b>CSR 7665</b> 	<b>BETWEEN STUDS</b> • 1 x 25mm Gyprock Shaft Liner Panel.  <b>SIDE ONE</b> • 2 x 13mm Gyprock Fyrchek Plasterboard.	(a) Nil	40/33	45/39
			(b) 50 GW Acoustigard 11kg	47/38	52/44
			(c) 75 GW Acoustigard 11kg	–	54/46
			(d) MSB3 Polyester	–	50/43
			(e) 60 Soundscreen 1.7	–	54/45
			Wall Thickness mm	90	128
- /90/90 (from both sides) FCO 3063	<b>CSR 7670</b> 	<b>BETWEEN STUDS</b> • 1 x 25mm Gyprock Shaft Liner Panel.  <b>SIDE ONE</b> • 2 x 13mm Gyprock Fyrchek MR Plasterboard.	(a) Nil	40/33	45/39
			(b) 50 GW Acoustigard 11kg	47/38	52/44
			(c) 75 GW Acoustigard 11kg	–	53/45
			(d) MSB3 Polyester	–	50/43
			(e) 60 Soundscreen 1.7	–	54/45
			Wall Thickness mm	90	128
- /120/120 (from both sides) FCO 3063	<b>CSR 7675</b> 	<b>BETWEEN STUDS</b> • 1 x 25mm Gyprock Shaft Liner Panel.  <b>SIDE ONE</b> • 2 x 16mm Gyprock Fyrchek Plasterboard.	(a) Nil	40/33	45/39
			(b) 50 GW Acoustigard 11kg	47/38	52/44
			(c) 75 GW Acoustigard 11kg	–	54/46
			(d) MSB3 Polyester	–	50/43
			(e) 60 Soundscreen 1.7	–	54/45
			Wall Thickness mm	96	134
- /120/120 (from both sides) FCO 3063	<b>CSR 7680</b> 	<b>BETWEEN STUDS</b> • 1 x 25mm Gyprock Shaft Liner Panel.  <b>SIDE ONE</b> • 2 x 16mm Gyprock Fyrchek MR Plasterboard.	(a) Nil	41/34	46/40
			(b) 50 GW Acoustigard 11kg	48/39	53/45
			(c) 75 GW Acoustigard 11kg	–	54/46
			(d) MSB3 Polyester	–	51/44
			(e) 60 Soundscreen 1.7	–	55/46
			Wall Thickness mm	96	134

## Steel Stud Systems

### (With Alternative Installation Method)

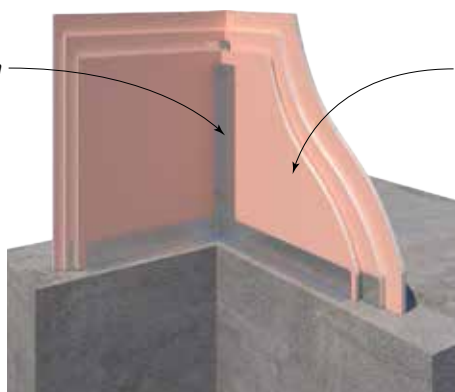
For system specifications, please refer to 'THE RED BOOK 1'.

For installation details, please refer to Figure 47 in this guide.

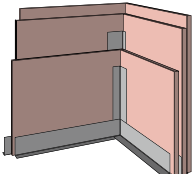
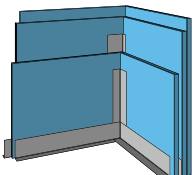
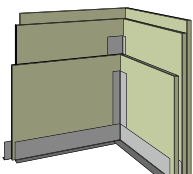
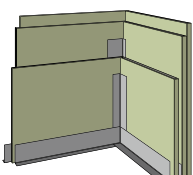
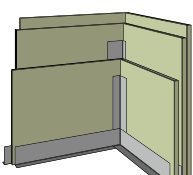
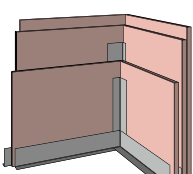
FRL	SYSTEM N°	WALL LININGS	CONSTRUCTION TYPE
<ul style="list-style-type: none"> <li>- /60/60 and 30/30/30</li> <li>- /90/90 and 60/60/60</li> </ul>	<ul style="list-style-type: none"> <li><b>CSR 1050</b></li> <li><b>CSR 1065</b></li> </ul>	<ul style="list-style-type: none"> <li>• 1 + 1 x 13mm Gyprock Fyrchek™ plasterboard.</li> <li>• 1 + 1 x 16mm Gyprock Fyrchek™ plasterboard.</li> </ul>	
<ul style="list-style-type: none"> <li>- /120/120 and 90/90/90</li> <li>- /180/180 and 120/120/120</li> </ul>	<ul style="list-style-type: none"> <li><b>CSR 1078</b></li> <li><b>CSR 1085</b></li> </ul>	<ul style="list-style-type: none"> <li>• 2 + 2 x 13mm Gyprock Fyrchek™ plasterboard.</li> <li>• 2 + 2 x 16mm Gyprock Fyrchek™ plasterboard.</li> </ul>	
<ul style="list-style-type: none"> <li>- /30/30 and 30/30/30</li> <li>- /60/60 and 60/60/60</li> </ul>	<ul style="list-style-type: none"> <li><b>CSR 7440</b></li> <li><b>CSR 7450</b></li> </ul>	<ul style="list-style-type: none"> <li>• 2 x 13mm Gyprock Fyrchek™ plasterboard.</li> <li>• 2 x 16mm Gyprock Fyrchek™ plasterboard.</li> </ul>	
<ul style="list-style-type: none"> <li>- /90/90 and 90/90/90</li> <li>- /120/120 and 120/120/120</li> </ul>	<ul style="list-style-type: none"> <li><b>CSR 7470</b></li> <li><b>CSR 7480</b></li> </ul>	<ul style="list-style-type: none"> <li>• 3 x 13mm Gyprock Fyrchek™ plasterboard.</li> <li>• 3 x 16mm Gyprock Fyrchek™ plasterboard.</li> </ul>	

## SYSTEM SPECIFICATIONS Internal Services Wall – Laminated Linings – Screw Only or Screw & Adhesive

Perimeter framing 25x50mm or 50x50mm x 0.7mm BMT steel angle.



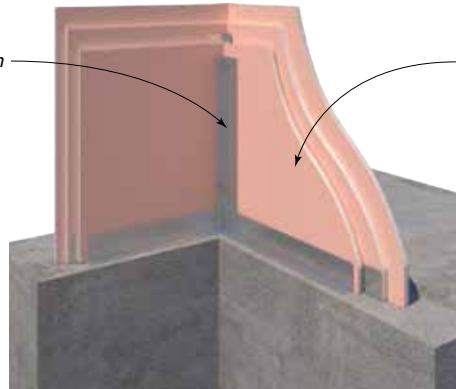
Lining material as per system table. (Laminated with screws only or with full cover adhesive and screws. Refer to height selection tables).

SYSTEM SPECIFICATION Refer to GYP546, Gyprock Shaft Wall Installation Guide for further information			ACOUSTIC OPINION: PKA-A121	
FRL Report/Opinion	SYSTEM N°	WALL LININGS	CAVITY INFILL (Refer to TRB1)	R <sub>w</sub> / R <sub>w</sub> +C <sub>tr</sub>
- /90/90 WFRA 21898	<b>CSR 7705</b> 	<ul style="list-style-type: none"> <li>3 x 13mm Gyprock Fyrchek Plasterboard.</li> </ul>	(a) Nil	35/32
- /90/90 WFRA 21898	<b>CSR 7710</b> 	<ul style="list-style-type: none"> <li>3 x 13mm Gyprock Fyrchek MR Plasterboard.</li> </ul>	(a) Nil	35/32
- /90/90 (from both sides) EWFA 21898 EWFA 24040	<b>CSR 3580</b> 	<ul style="list-style-type: none"> <li>3 x 13mm Gyprock EC08 Impact.</li> </ul>	(a) Nil	37/34
- /90/90 (from both sides) EWFA 21898 EWFA 24040	<b>CSR 3581</b> 	<ul style="list-style-type: none"> <li>3 x 13mm Gyprock EC08 Impact MR.</li> </ul>	(a) Nil	38/35
- /90/90 (from both sides) EWFA 21898 EWFA 27358	<b>CSR 3582</b> 	<ul style="list-style-type: none"> <li>3 x 13mm Gyprock EC08 Complete.</li> </ul>	(a) Nil	38/35
- /120/120 WFRA 21898	<b>CSR 7715</b> 	<ul style="list-style-type: none"> <li>3 x 16mm Gyprock Fyrchek Plasterboard.</li> </ul>	(a) Nil	36/33

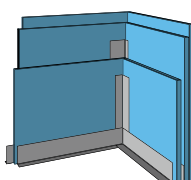
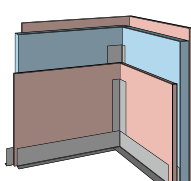
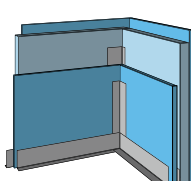
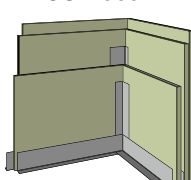
## SYSTEM SPECIFICATIONS

## Internal Services Wall – Laminated Linings – Screw Only or Screw & Adhesive

Perimeter framing 25x50mm or 50x50mm x 0.7mm BMT steel angle.



Lining material as per system table. (Laminated with screws only or with full cover adhesive and screws. Refer to height selection tables).

SYSTEM SPECIFICATION Refer to GYP546, Gyprock Shaft Wall Installation Guide for further information			ACOUSTIC OPINION: PKA-A121	
FRL Report/Opinion	SYSTEM N°	WALL LININGS	CAVITY INFILL (Refer to TRB1)	R <sub>w</sub> / R <sub>w</sub> +C <sub>tr</sub>
- /120/120 WFRA 21898	<b>CSR 7720</b> 	<ul style="list-style-type: none"> <li>• 3 x 16mm Gyprock Fyrchek MR Plasterboard.</li> </ul>	(a) Nil	37/34
- /120/120 WFRA 21898	<b>CSR 7725</b> 	<ul style="list-style-type: none"> <li>• 1 x 16mm Gyprock Fyrchek Plasterboard.</li> <li>• 1 x 25mm Gyprock Shaft Liner Panel. (middle layer)</li> <li>• 1 x 16mm Gyprock Fyrchek Plasterboard.</li> </ul>	(a) Nil	37/34
- /120/120 WFRA 21898	<b>CSR 7730</b> 	<ul style="list-style-type: none"> <li>• 1 x 16mm Gyprock Fyrchek MR Plasterboard.</li> <li>• 1 x 25mm Gyprock Shaft Liner Panel. (middle layer)</li> <li>• 1 x 16mm Gyprock Fyrchek MR Plasterboard.</li> </ul>	(a) Nil	38/35
- /120/120 (from both sides) EWFA 21898 EWFA 27909	<b>CSR 3592</b> 	<ul style="list-style-type: none"> <li>• 3 x 16mm Gyprock EC08 Complete.</li> </ul>	(a) Nil	40/37

# Shaft Wall System Installation

## Introduction

Gyprock™ Shaft Walls are most commonly installed from one side only (known as the storey side), progressively installing the 25mm Shaft Line Panels and C-H studs before applying the finishing layer/s of Gyprock Fyrchek™ to the storey side.

Some wall systems, such as those used to enclose stairwells, require access to the shaft side of the wall for installation of a finishing layer.

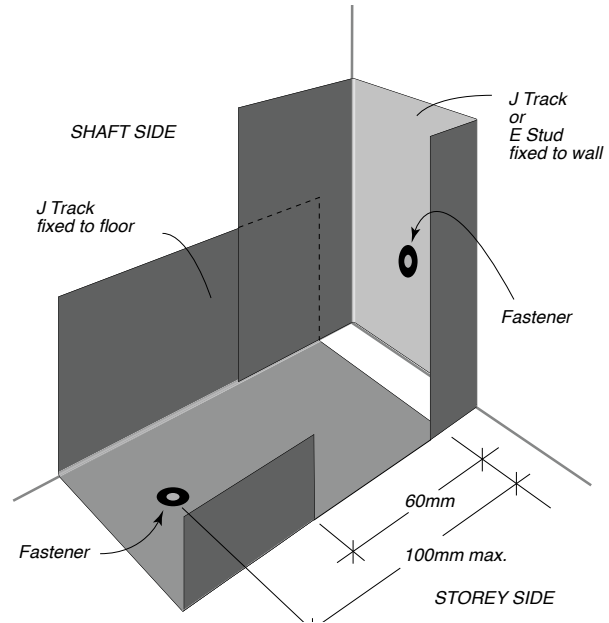
## Safety

Where walls are to be erected around open shafts ensure that adequate safety measures are taken.

## Framing

- Cut both the floor and soffit J tracks 20mm shorter than the actual length of the wall.
- Cut the narrow flange off both ends of the floor and soffit J tracks for a distance of 60mm maximum. Refer to FIG 3.
- Accurately align the floor and soffit tracks according to the wall layout. Position the tracks with the narrow flange facing the storey side.
- Secure the floor and soffit tracks with fasteners at 100mm maximum from ends and at 600mm maximum centres. Refer to Page 5 for fastener performance requirements.
- Cut the end stud 20mm shorter than the wall height. Position the stud with the 25mm face to the storey side.
- Fix the end stud to the wall with fasteners at 100mm maximum from the ends and at 600mm maximum centres.
- With steel frame construction, tracks and studs should be attached to steel columns and beams before the structural members are independently fire rated.
- C-H studs should be cut 13mm shorter than the wall height to allow a gap at the top of the studs.

Figure 8: Detail at Ends of Floor & Soffit Tracks



## Shaft Liner Panel

- Cut the 25mm thick Gyprock™ Shaft Liner panel 25mm shorter than the overall wall height.
- Position the first liner panel vertically between the floor and soffit tracks, pushing the panel hard against the web of the end stud, leaving the 25mm gap at the top.
- When using J track as an end stud, screw fix the liner panels to the wide flange of the J track with 45mm screws at 300mm centres. Alternatively, E stud can be used. Refer to page 18 for details.
- Position the first C-H stud inside the floor and soffit tracks, fitting the 'H' section of the stud hard against the trailing edge of the Shaft Liner Panel already in position.
- Insert the next 25mm Shaft Liner Panel inside the floor and soffit tracks, pushing the panel hard against the web of the 'H' section of the C-H stud.
- Repeat this process until the last panel is to be installed.
- Fold the narrow flange of the bottom track over to allow for the last liner panel to be installed.
- Fix the J track to the wall with fasteners at 100mm maximum from the ends and at 600mm maximum centres.
- Cut the last Shaft Liner Panel 20mm short of the remaining width, and insert into the C-H stud. Screw fix to the end stud at 300mm centres.
- Pack the 20mm gap between the end stud and the last Shaft Liner Panels with 29mm diameter IBS backing rod. Refer to Figure 16.
- Pack the 25mm gap at the top of the Shaft Liner Panels with 29mm diameter IBS backing rod.



### Alternative Installation Method for Last Panel

- Fold the narrow flange of the bottom track over to allow for the last liner panel to be installed.
- Place the end E stud over the vertical edge of the last Shaft Liner Panel and insert the panel at an angle into the 'H' section of the last C-H stud. Refer to FIG 9.
- Position the panel against the wide flange of the floor and soffit tracks.
- Attach the end stud to the wall with fasteners at 100mm maximum from ends and at 600mm maximum centres.

### Butt Joints

- Where wall heights exceed the maximum available length of Gyprock™ Shaft Liner Panel, butt joints should be positioned within the upper or lower third of the wall. These liner panel joints should be reinforced with horizontal sections of C-H stud and joints in adjacent panels staggered to avoid a continuous horizontal joint. Refer to FIG 19 for details.

Figure 9: Exploded View of Installation Order

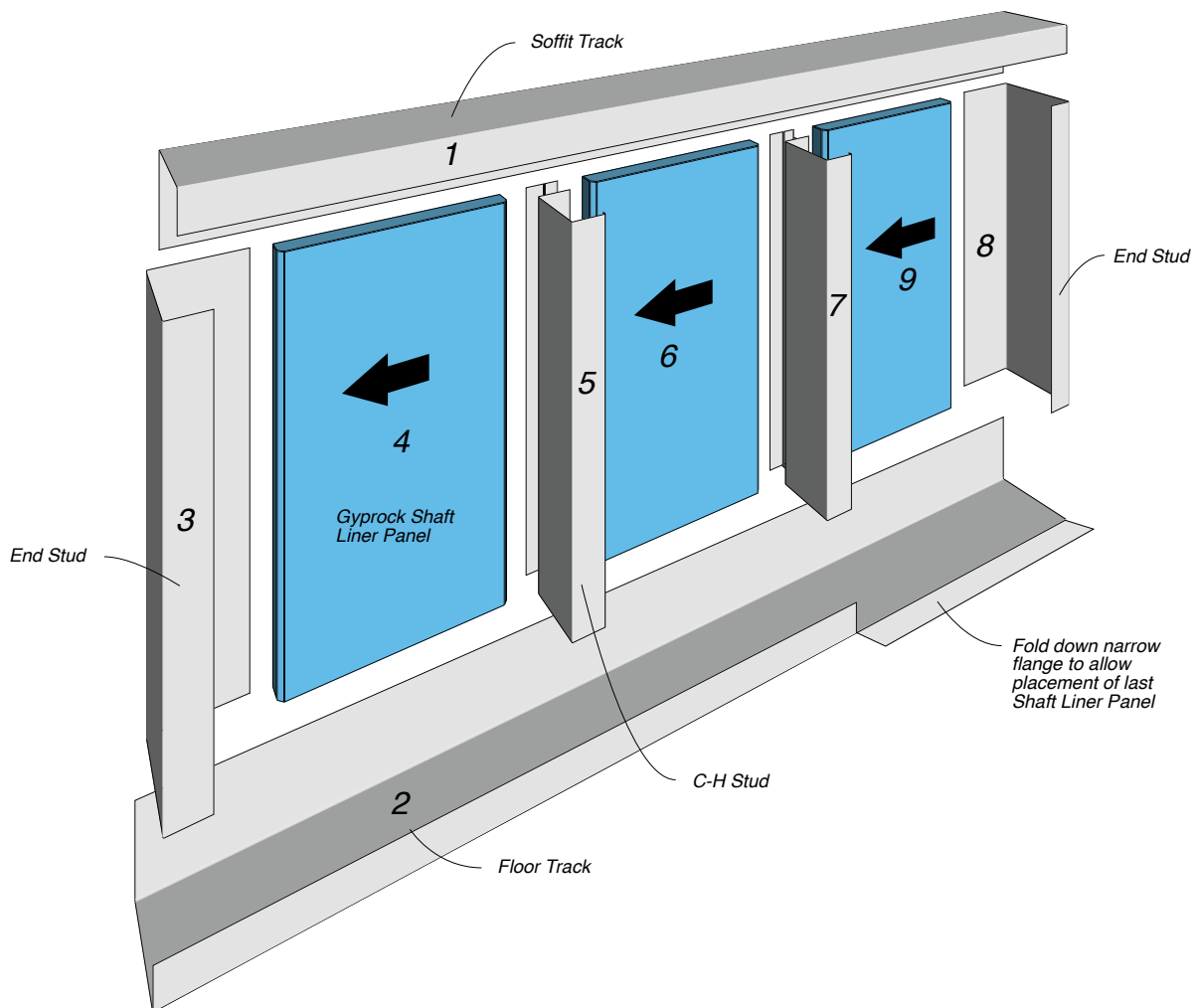


Figure 10: Gyprock™ Shaft Liner Panel

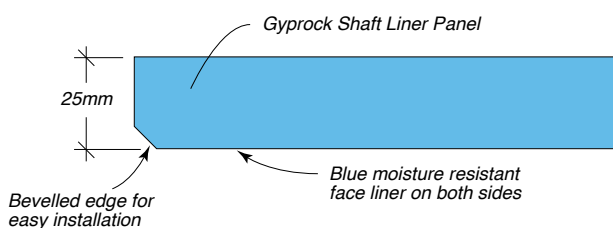
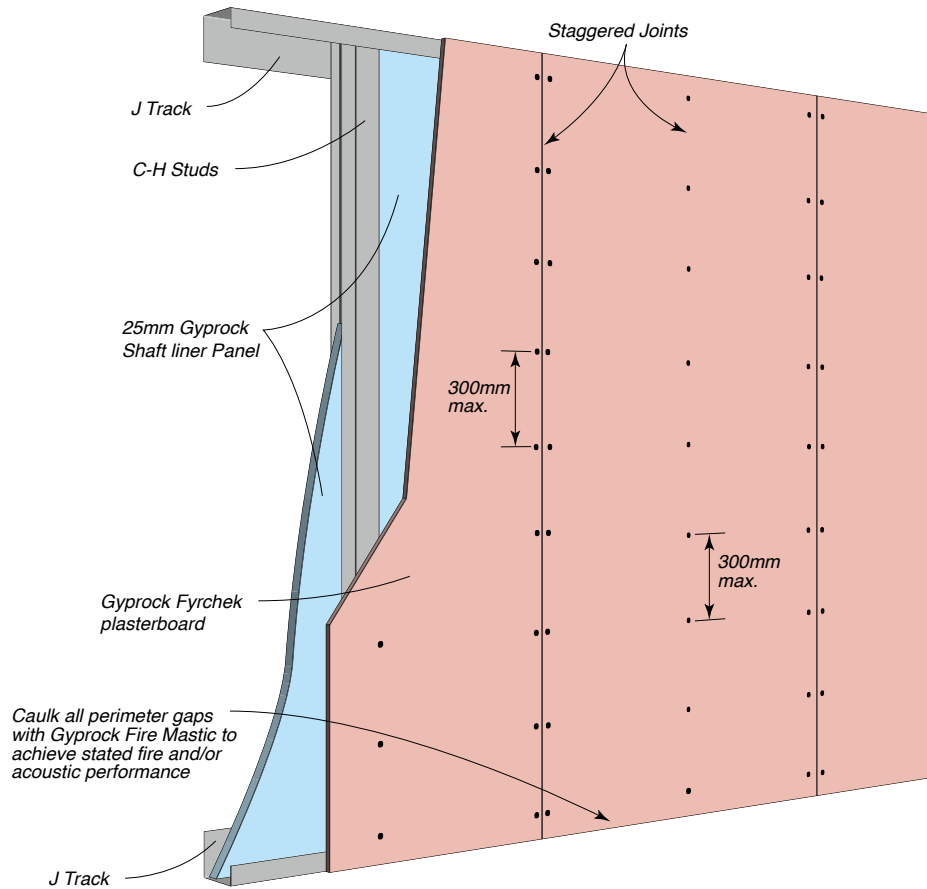


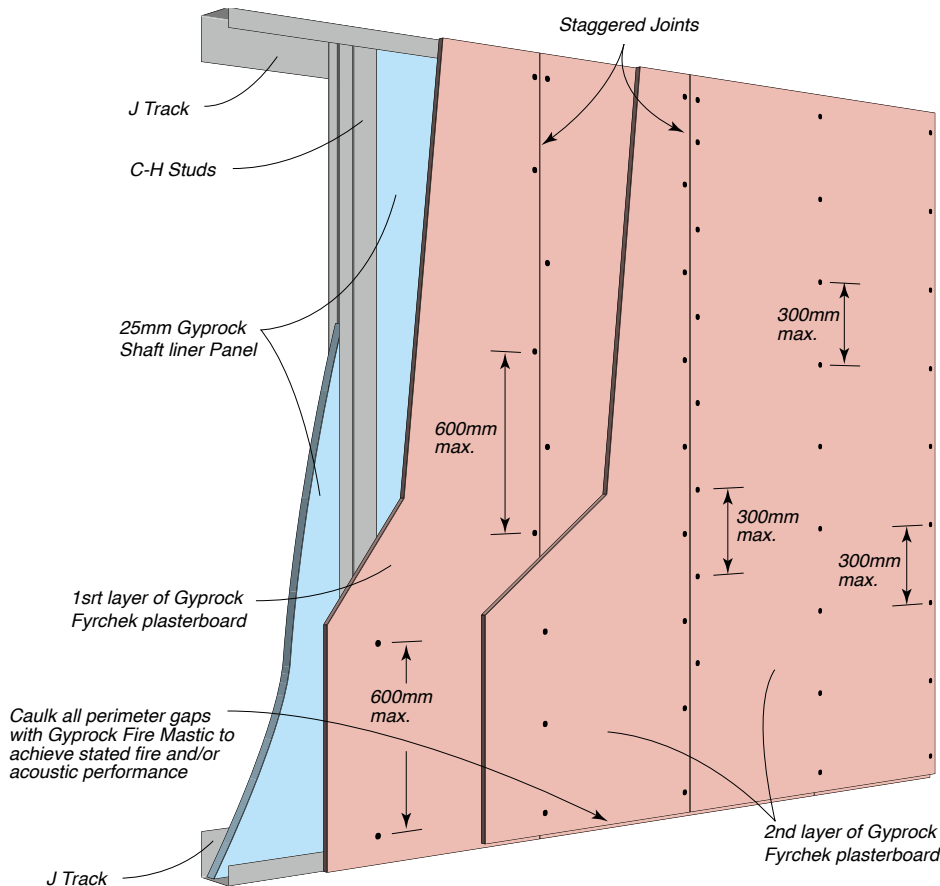
Figure 11: Fire Grade Plasterboard Fixing to Shaftwall – One Layer Horizontal Sheeting – Non-Tiled Areas



Fixing Specifications	
Fixing – suitable for up to 1.0kPa.	
Screws	Refer to Components
Location	Fixing & Spacing
Field	Screw at top and bottom and 300mm max. cts
Recessed Edges	Screw at top and bottom and 300mm max. cts
Corners & Openings	Screw at top and bottom and 200mm max. centres

**IMPORTANT**  
Walls enclosing lift shafts must have Gyprock fire grade plasterboard fastened to the top and bottom J tracks with screws at 300mm maximum centres.

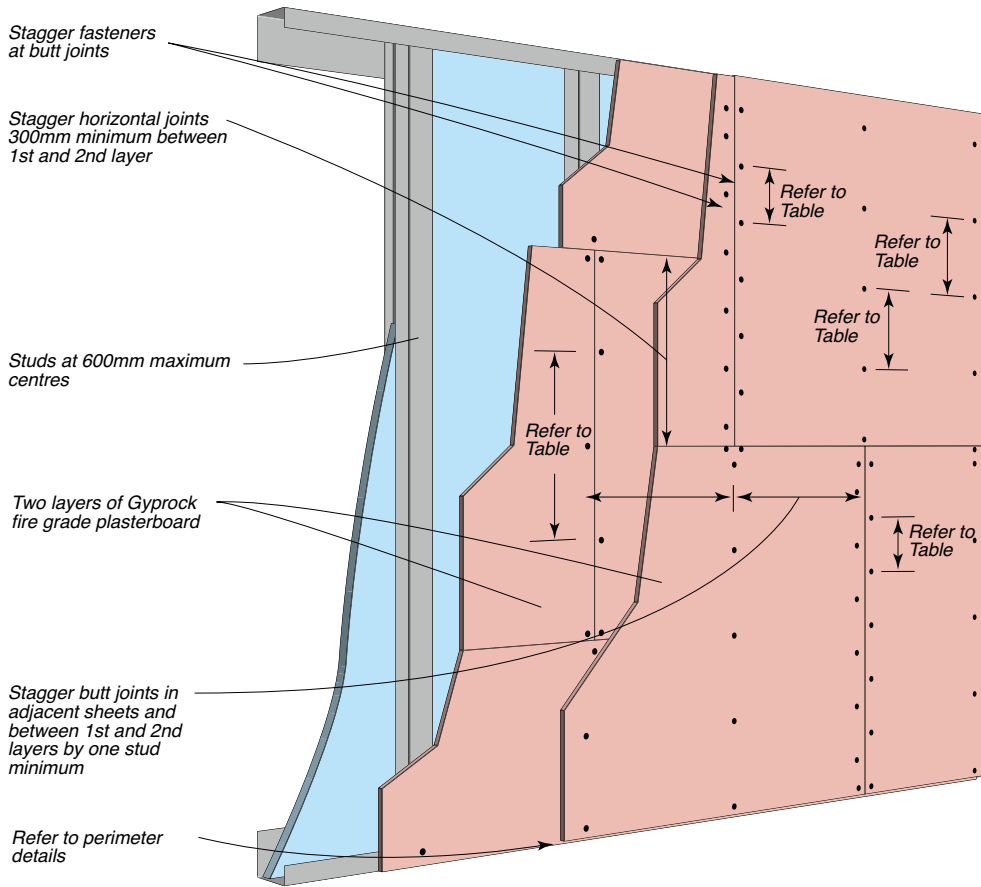
Figure 12: Fire Grade Plasterboard Fixing to Shaftwall – Two Layer Vertical Sheeting – Non-Tiled Areas



Fixing Specifications for Vertical Sheeting	
Fixing – suitable for up to 1.0kPa.	
Screws	Refer to Components
1st Layer	
Location	Fixing & Spacing
Recessed Edges, Field, Corners & Openings	Screws at 600mm max. centres
2nd Layer	
Location	Fixing & Spacing
Recessed Edges & Field	Screw at top and bottom and 300mm max. cts
Corners & Openings	Screws at 300mm max. centres
Butt Joints	Screws at 200mm max. centres (use laminating screws for joints in each layer. Refer to Figure 25)

**IMPORTANT**  
Walls enclosing lift shafts must have one layer of Gyprock fire grade plasterboard fastened to the top and bottom J tracks with screws at 300mm maximum centres.

Figure 13: Fire Grade Plasterboard Fixing to Shaftwall – Two Layer Horizontal Sheeting – Non-Tiled Areas



<b>Fixing Specifications</b>	
<i>Fixing – suitable for up to 1.0kPa.</i>	
Screws	Refer to Components
<b>1st Layer</b>	
Location	Fixing & Spacing
Recessed Edges	Screw at each stud
Field, Corners & Openings	Screws at 600mm max. centres
Butt Joints (on framing)	Screws at 600mm max. cts
<b>2nd Layer</b>	
Location	Fixing & Spacing
Field	Screws at 300mm max. centres
Sheet Width	
900mm	5 Screws
1200mm	5 Screws
1350mm	6 Screws
Recessed Edges	Screw at each stud
Corners & Openings	Screws at 300mm max. centres
Butt Joints (on framing)	Screws at 200mm max. centres

**IMPORTANT**  
Walls enclosing lift shafts must have one layer of Gyprock fire grade plasterboard fastened to the top and bottom J tracks with screws at 300mm maximum centres.

## Notes on Fixing Fyrchek Plasterboard

- Offset joints in adjacent layers or layers on opposite sides of the wall by one stud.
- Cut sheets as necessary to provide 6-10mm clearance at the head and ends of the wall, and a 6mm gap at the bottom of the outer layer sheets.
- Do not fix sheets to the top and bottom tracks except for walls enclosing lifts.
- If butt joints are required, they must be staggered by 600mm min. between layers, between adjacent sheets and on opposite sides of the wall. Joints must be either backed by nogging and screw fixed at 200mm max. centres, or fixed with laminating screws at 200mm max. centres.
- Place edge fasteners at 10 to 16mm from sheet edge.

## Fixing Procedure

### Double Layer Systems Vertical Sheeting

#### First Layer

- Apply sheets vertically with paper bound edges parallel with studs and with recess joints centred on stud flanges.
- Press the sheet firmly against the studs and screw fix at 100mm maximum from top and bottom of sheet, and at 600mm maximum centres along recessed edges, at all angles and around openings.

#### Second Layer

- Cut the first sheet to half width so that joints in the second layer do not align with joints in the first layer.
- Apply sheets vertically, leaving a 6mm gap between the bottom of the sheet and the floor, at the head and ends of the wall and screw fix at 100mm maximum from top and bottom of sheet, and at 300mm maximum centres to all studs.
- Screw fix at all angles and around openings at 300mm maximum centres.

### Double Layer Systems Horizontal sheeting

#### First Layer

- Cut the top and bottom sheets to a suitable width so that second layer recessed joints will be offset a minimum 300mm from those in the first layer.
- Apply sheets horizontally (paper bound edges at right angles to furring) and with butt joints centred on furring.
- Screw fix to each stud along recessed edges, beginning at the centre of the sheet and working towards the ends.
- Screw fix field of sheet, butt joints, corners and openings as per the Fixing Specification Table.

#### Second Layer

- Apply sheets horizontally (paper bound edges at right angles to framing), leaving a 10mm max. gap between the bottom of the sheet and the floor.
- Screw fix to each stud along recessed edges, beginning at the centre of the sheet and working towards the ends.
- Centre butt joints on studs and screw fix as per the Fixing Specification Table and staggered.
- Screw fix field of sheet, all corners and around openings as per the Fixing Specification Table.
- Apply the next row of sheets, cutting the first sheet so that butt joints will be offset from adjacent sheets by a minimum of one stud spacing.
- Screw fix recess edges, field of sheet, butt joints, corners and around openings as per the Fixing Specification Table.

### Single Layer Systems

- Fix single layer systems, install Gyprock Fyrchek sheets vertically as per the details for the second layer of double layer systems.

#### Sealants

Fill all perimeter gaps with Gyprock™ Fire Mastic to the depth of one sheet.

#### Jointing

Fire rated shaft systems must be jointed with perforated paper tape and standard Gyprock™ jointing techniques in accordance with The Red Book™ 2 – Residential Installation Guide.

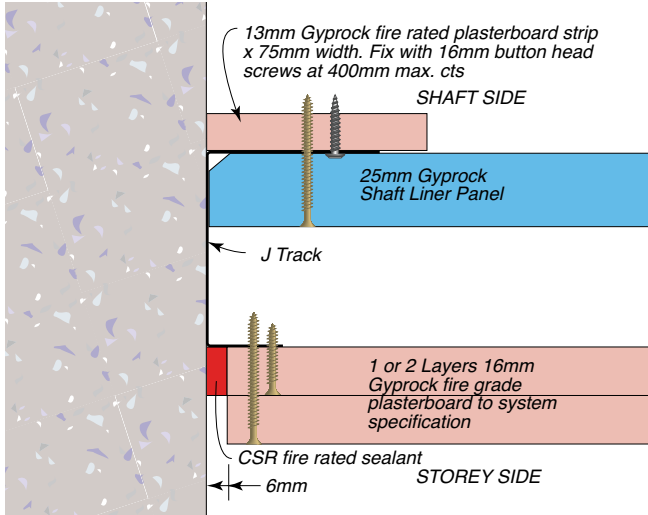
Tape and set face layer joints of Gyprock Fyrchek plasterboard only.

Corners formed by Gyprock Fyrchek™ must be taped and set or reinforced with corner beads.

# Wall Junction Details

## Junctions with Masonry Walls

Figure 14: Wall Junction – J-Track Detail – Plan



## Junctions with Stud Walls

Figure 15: Junction with C-H Stud Wall

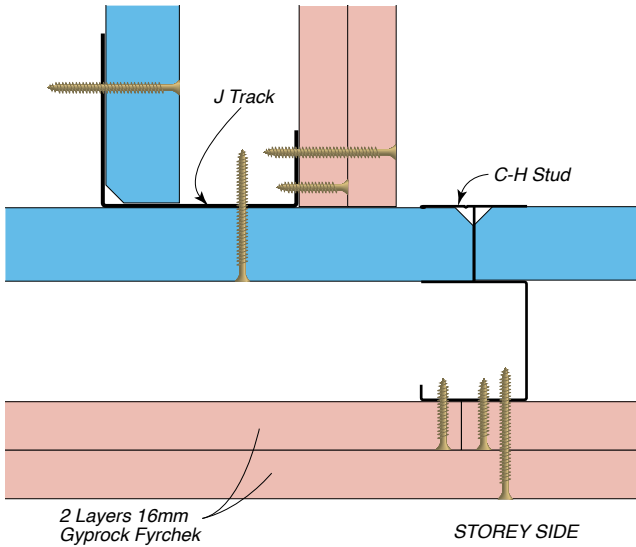


Figure 16: Wall Junction – J-Track With Ibs™ Rod – Plan

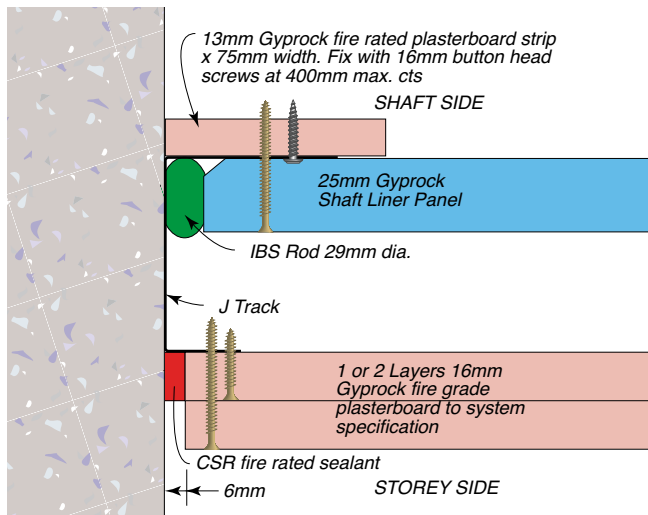


Figure 17: Junction with C-H Stud Wall

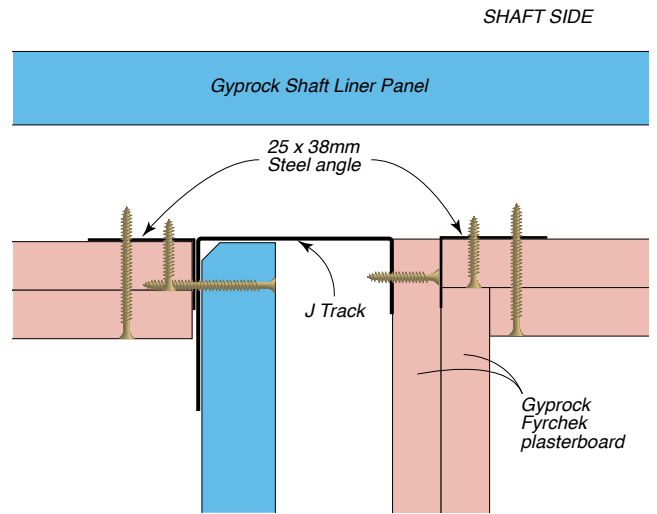


Figure 18: Inside Corner Detail

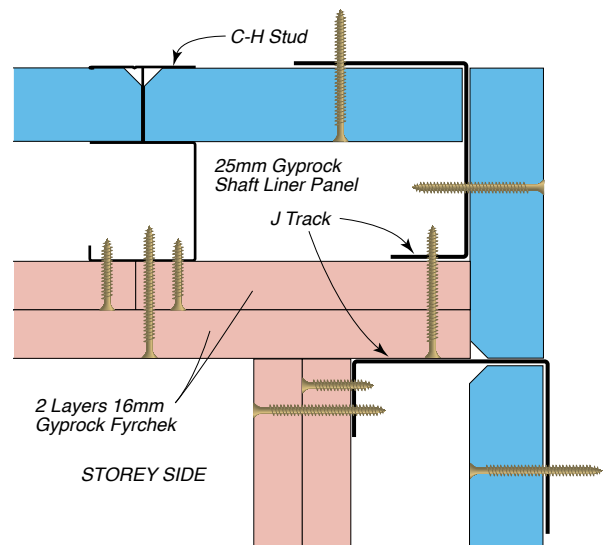


Figure 19: Angled Corner Detail

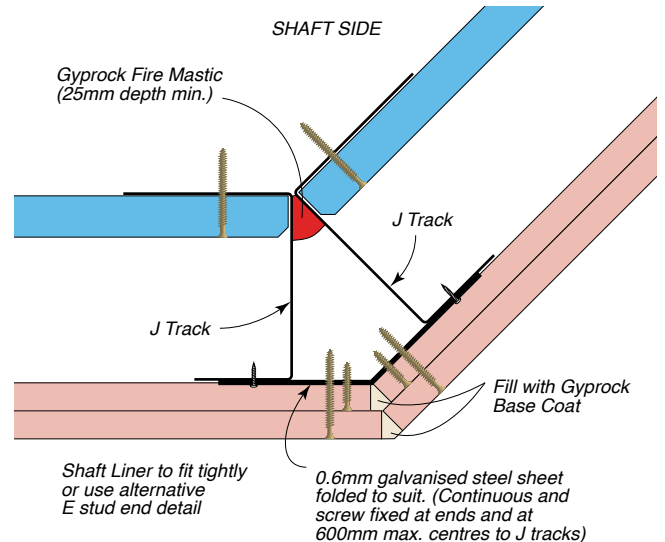


Figure 20: Outside Corner Detail

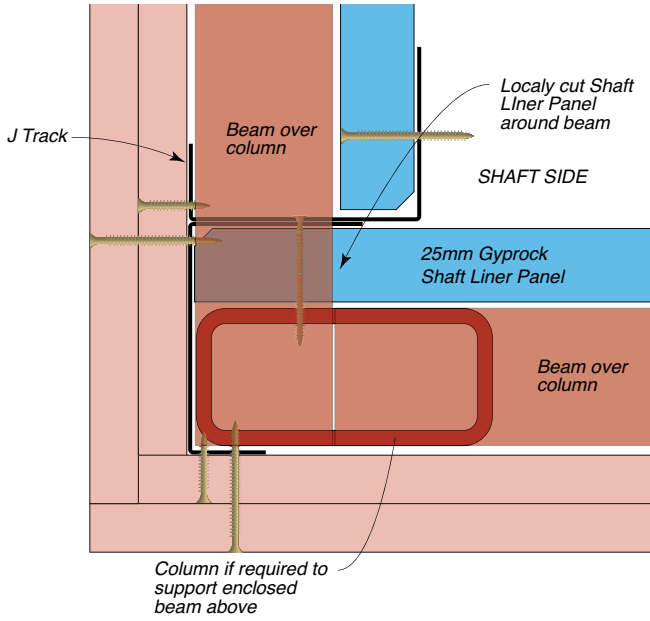


Figure 21: Enclosed Steel Beam Detail

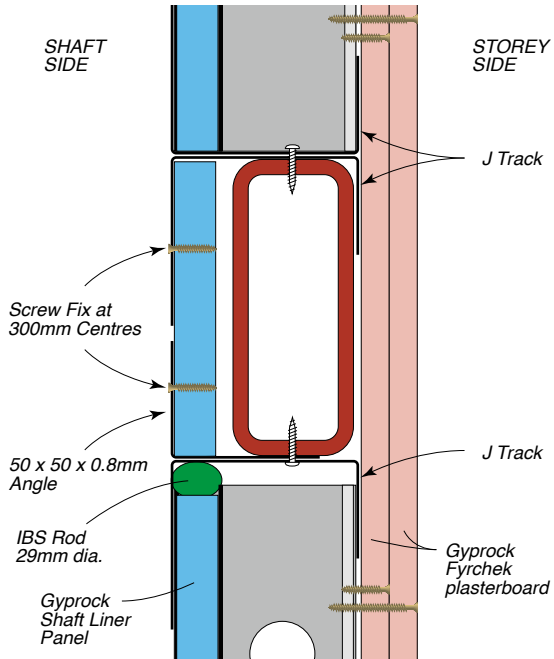


Figure 22: Column Fixing Detail

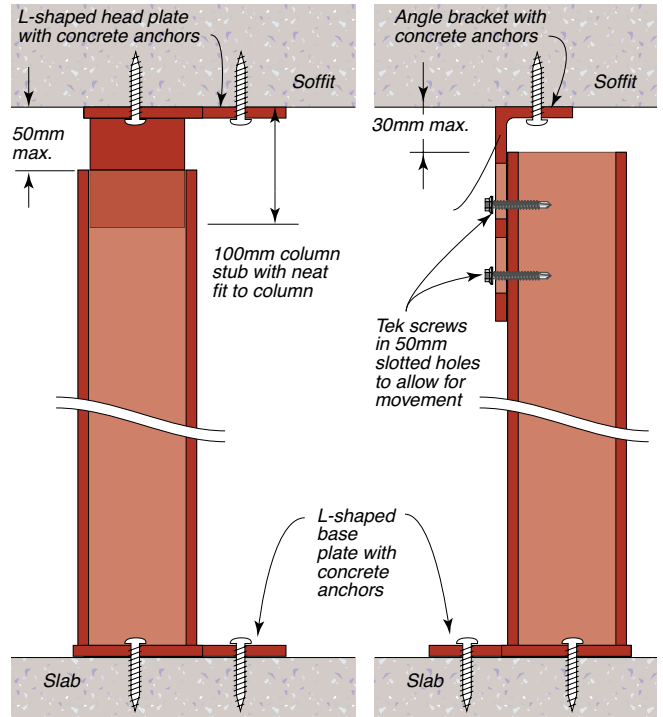


Figure 23: Head Detail

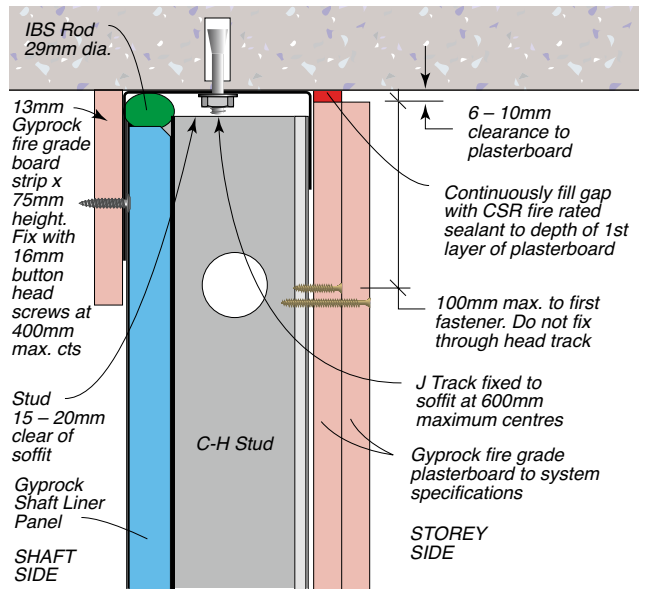


Figure 24: Base Detail

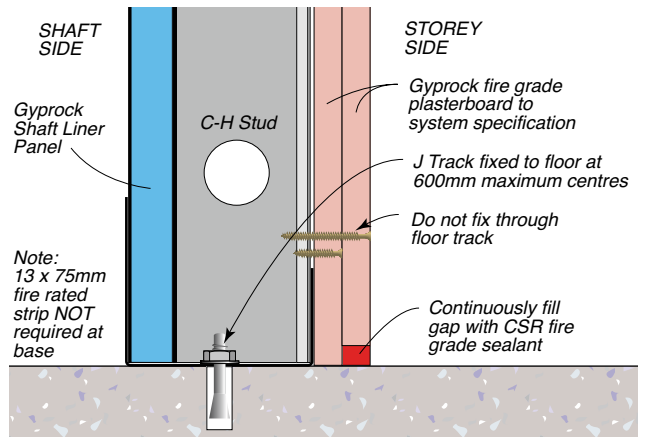


Figure 25: Alternative Details for Horizontal Butt Joints

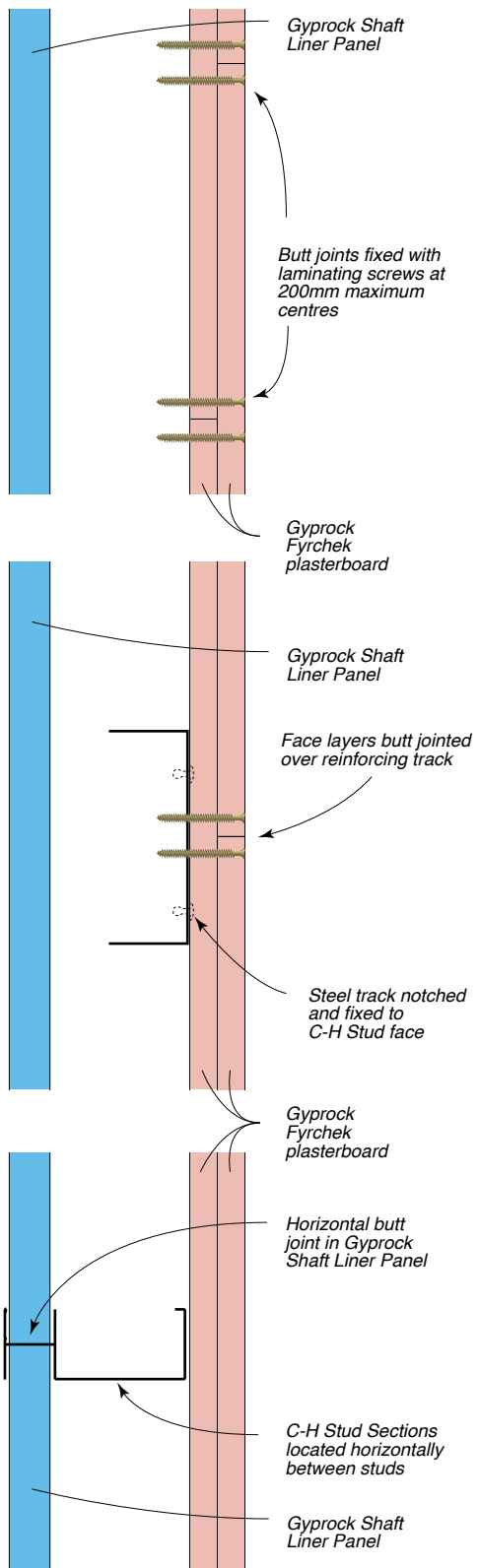


Figure 26: Shaft Liner Butt Join

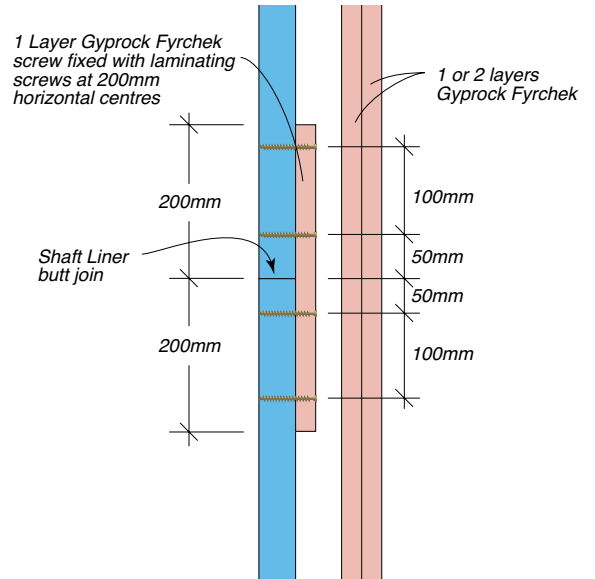
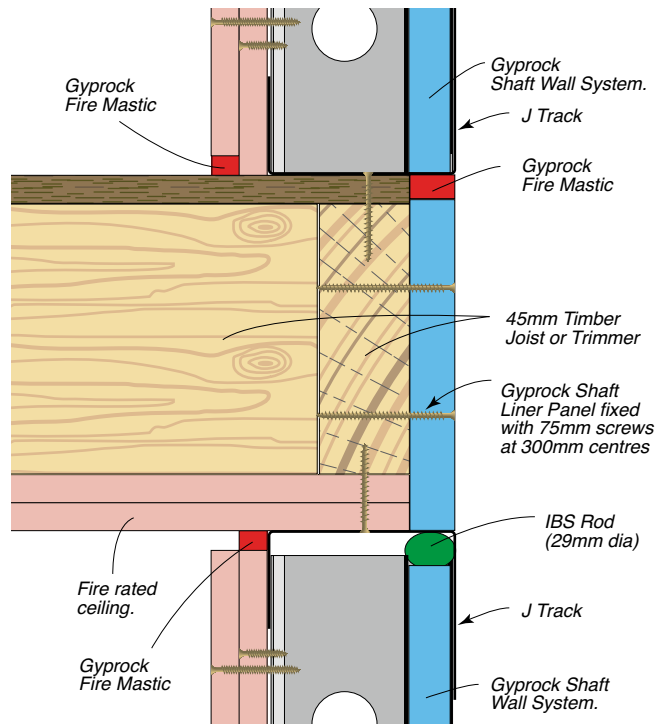


Figure 27: Junction of - /120/120 Shaftwall System to Timber Floor (Where timber framing is permitted)



## Wall Junctions with structural Steel Members

Figure 28: Wall Junction at Universal Column

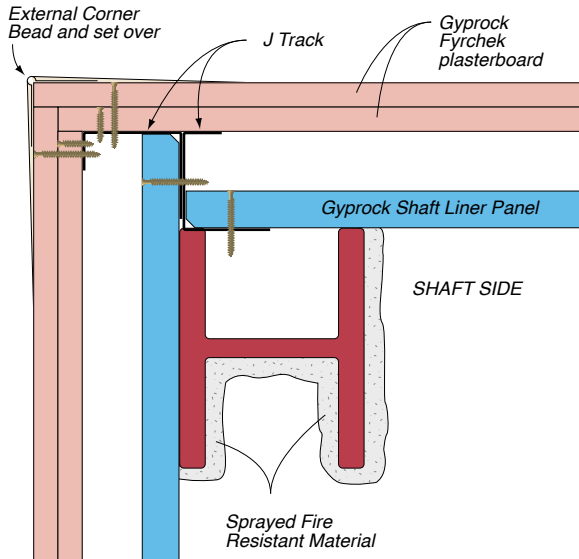


Figure 29: Wall Junction at Universal Column

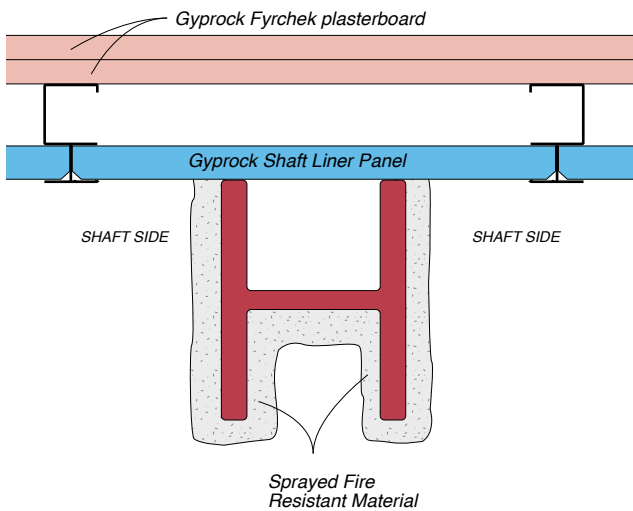


Figure 30: Wall Head Connection to Steel Beam

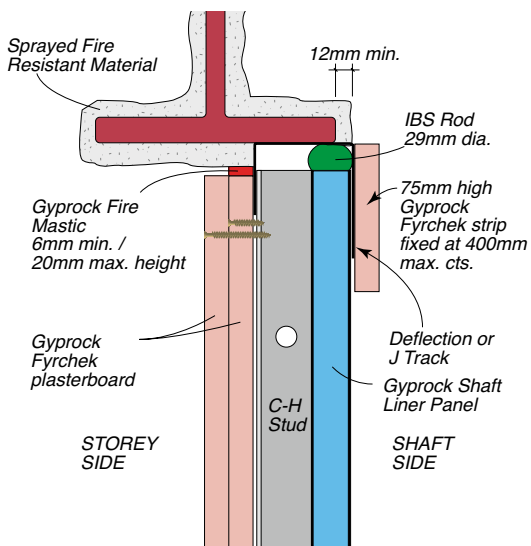


Figure 31: Wall Junction at Universal Column

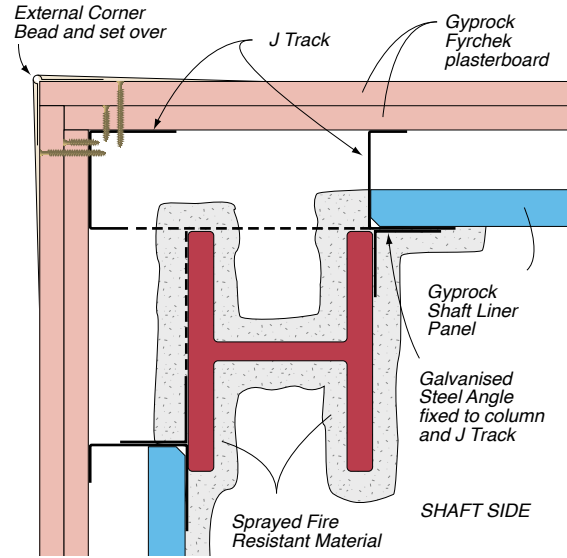


Figure 32: Wall Bypassing Universal Column Alternative Detail

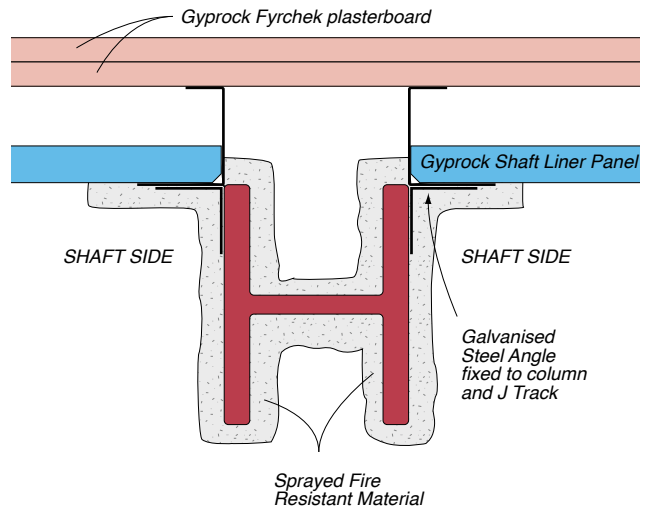
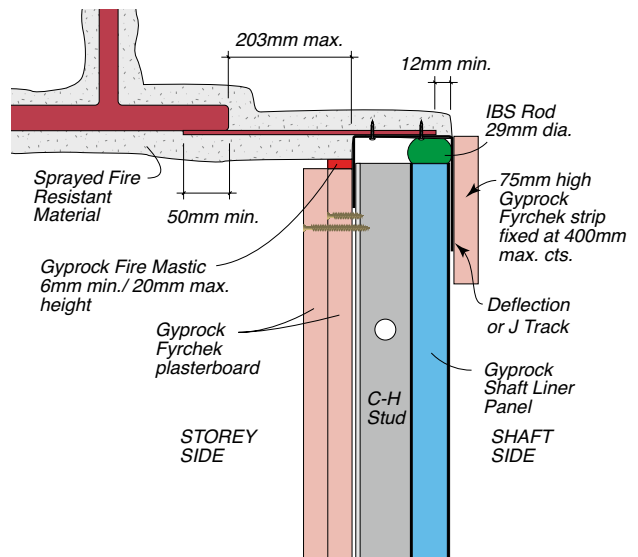


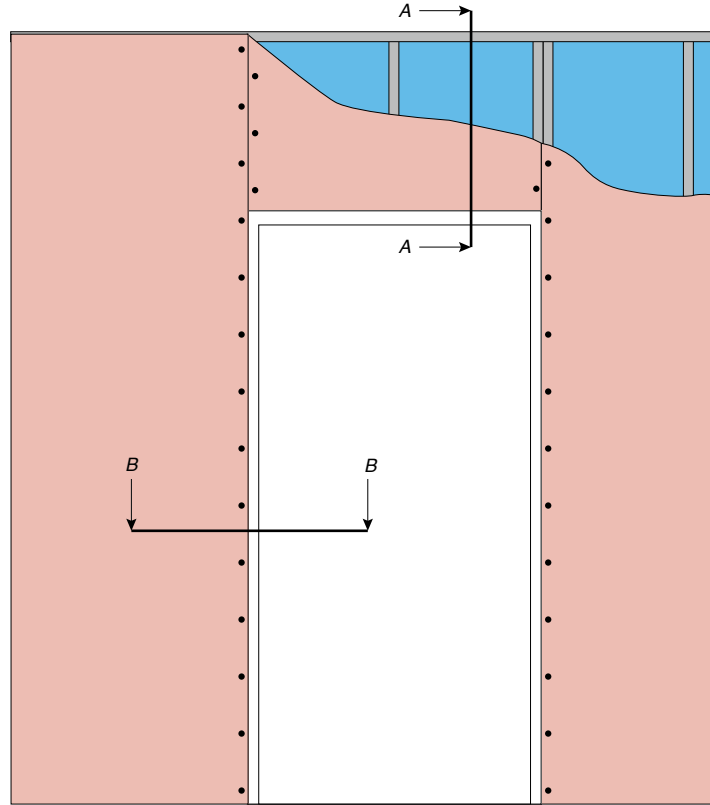
Figure 33: Wall Head Connection to Steel Beam





# Access Doorways

Figure 34: Typical Stud Location and Sheet Layout



Wall with provision for a single-leaf 2100mm high x 1080mm wide x 45mm thick side-hung fire. Refer to door manufacturer for frame filling requirements.

Figure 35: Shaft Wall Doorway Section A

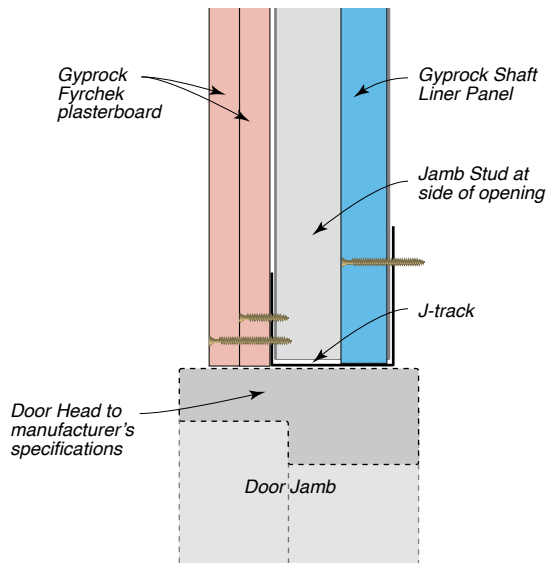
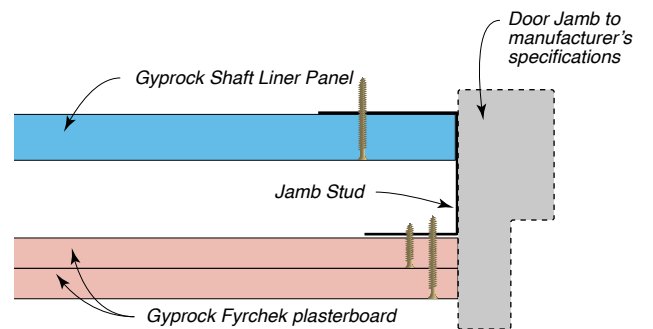


Figure 36: Shaft Wall Doorway Section B



**NOTE**

These are typical lift door details only, as these sections vary depending on the door type and manufacturer. Refer to appropriate lift manufacturers for full details.

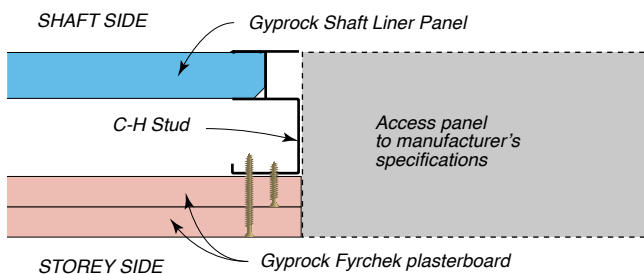
## Access Panels & Frames

Gyprock™ C-H Stud Shaftwall Systems have been tested for an FRL of – /120/120 incorporating both single and multiple modular access panels and frames.

The moulded access panels and mild steel frames are manufactured by Trafalgar Fire. They are supplied to order in single or multiple modular units and include plywood faced panels.

The mild steel frames are fixed into position by the Shaftwall installer.

**Figure 37: Shaftwall Access Panel – Plan at Side of Opening**



Panel	Max. Height	Max. Width
Single Unit	980mm	552mm
Multiple Unit	3020mm	552mm

## Laminated Service System Installation

### Framing

Install steel angles over a bead of Gyprock™ Fire Mastic to floor and soffit. Align angle with the sides and ends of the required enclosure area.

Fix angles with power driven fasteners or easy drive masonry fixings at the corners and at 1200mm maximum centres between. Refer to the respective manufacturer's instructions for edge distances and safety requirements.

Install steel angles vertically at corners with a 15mm gap at the top. Fix both flanges at the top and bottom to horizontal steel angles with aluminium rivets. Where corner angles abut a masonry wall, fit angles as detailed.

### Plasterboard Fixing Screw Only Installation

NOTE: The screw only fixing method is suitable for enclosures up to 1200mm width. Except at corners, no sheet joints are permitted.

Cut first layer sheets 20mm short of frame height. Install the bottom edge on the floor and fix only to the vertical corner angles at 75mm from the top and bottom and at 400mm maximum centres between. Use Gyprock™ N°6 x 25S screws.

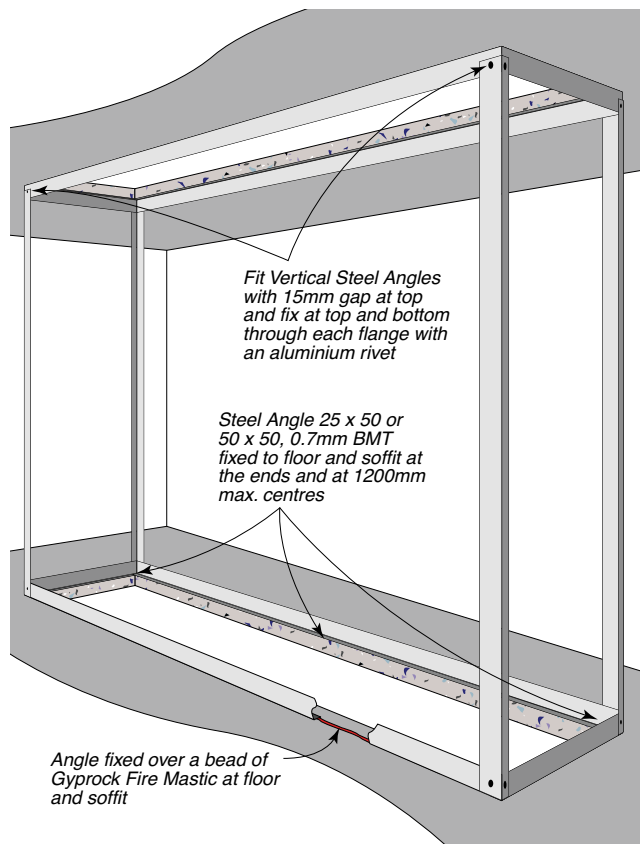
### Do not fix sheets along the top and bottom edges to the horizontal steel angles.

Install additional steel angles around the enclosure at the top, bottom and corners, and fix as for the original framing. Refer to installation details.

Fit the second layer sheets resting on the floor, leaving a 20mm gap at the top. Fix sheets to the vertical angles only as for the first layer. Fix the body of the sheet at 400mm max. vertical centres and 600mm max. horizontal centres using 40mm x N°10 Gyprock™ Laminating Screws.

Fit the third layer sheets with a 10mm gap at the bottom and a 20mm gap at the top. Fix the sheets at 75mm from top and bottom edges and corners, and at 400mm max. vertical centres and 600mm max. horizontal centres between, using 40mm x N°10 Gyprock™ Laminating Screws.

Figure 38: Typical Frame Layout



Caulk all perimeter gaps as detailed. Apply external corner bead and set corners where appropriate.

## Plasterboard Fixing Screw and Adhesive Installation

NOTE: Sheet joints must be offset a minimum of 300mm from joints in the adjacent layers. The minimum width of any sheet is 300mm. Determine the appropriate sheet widths to be installed before installing the first layer.

Install the first layer as detailed for the screw only system. Prop intermediate sheets or temporarily screw to the top and bottom steel angles. Remove temporary screws before fixing the second layer.

Install additional steel angles around the enclosure at the top, bottom and corners, and fix as for the original framing, refer details.

Mix sufficient Gyprock™ Base Coat or Gyprock™ Cornice Cement to cover the wall surface. Cut the second layer sheets 20mm short of the frame height and lay them face down on a flat surface.

Using a 5mm notched trowel, cover the entire back with the chosen adhesive.

Fit the second layer sheets immediately, leaving a 20mm gap at the top. Screw fix as detailed for the second layer of the fastener only system.

Apply adhesive to the back of the third layer sheets as previously detailed and install with a 10mm gap at the bottom and a 20mm gap at the top. Screw fix as detailed for the third layer of the screw only system.

Caulk all perimeter gaps as detailed. Apply external corner bead and set corners and joints where appropriate.

Figure 39: Typical Fixing – Screw And Adhesive Method

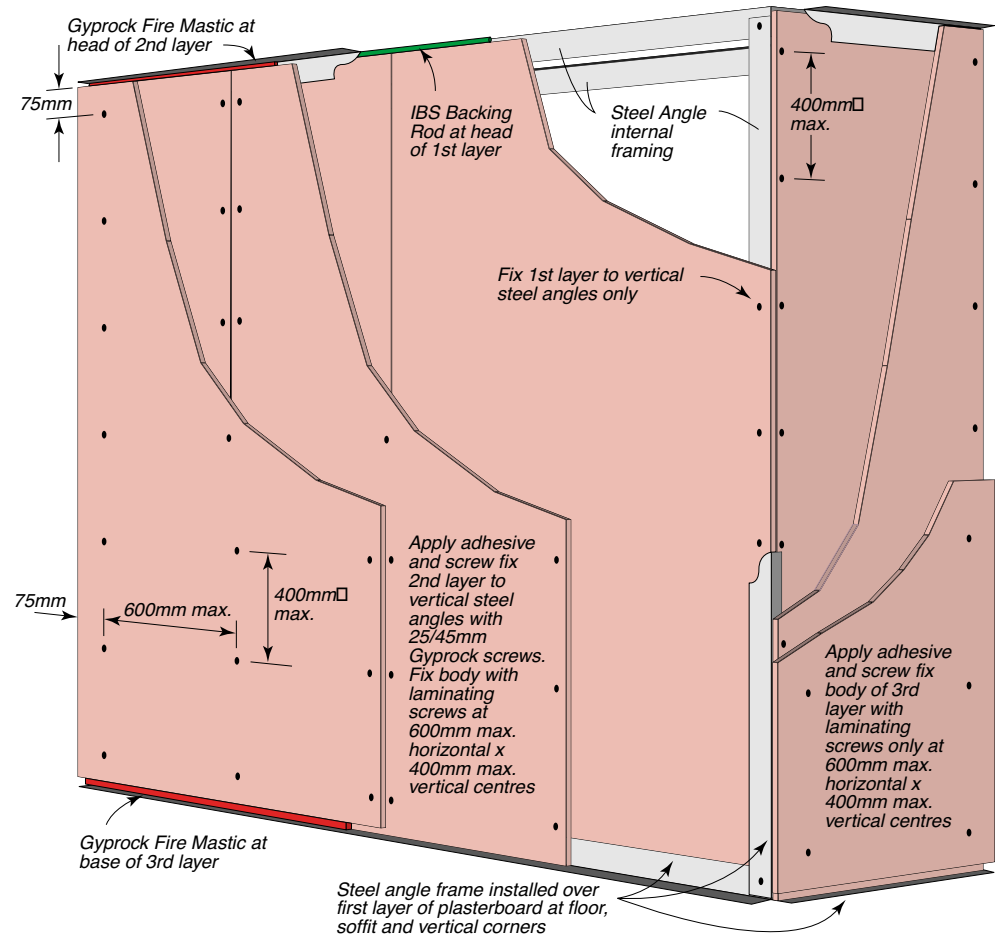


Figure 40: Head & Base Detail

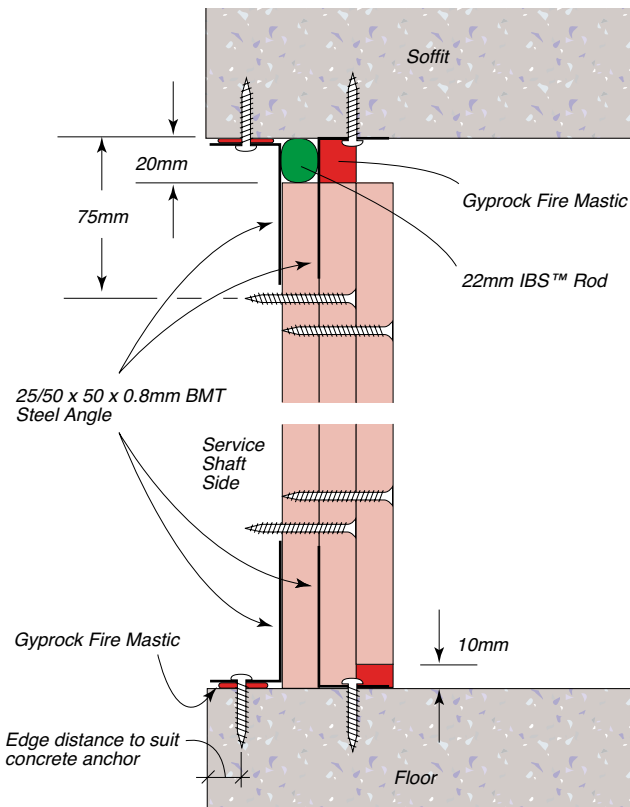
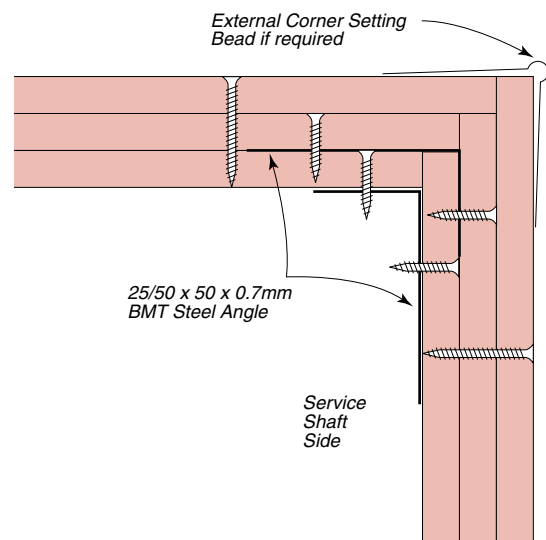
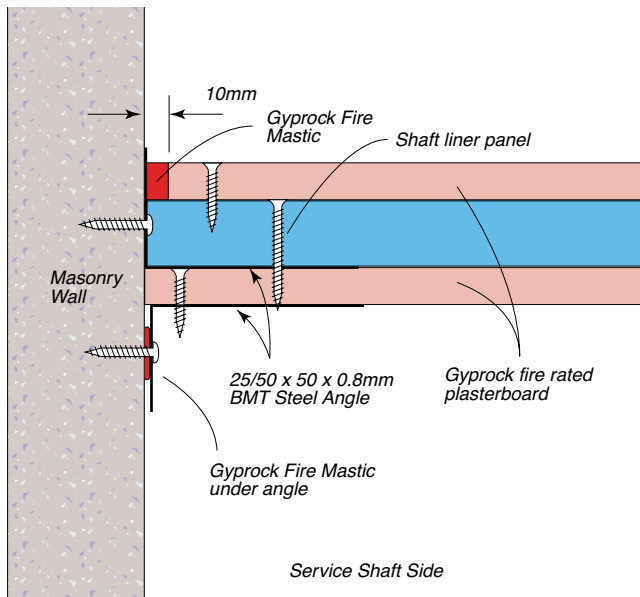


Figure 41: Vertical Corner – Plan View

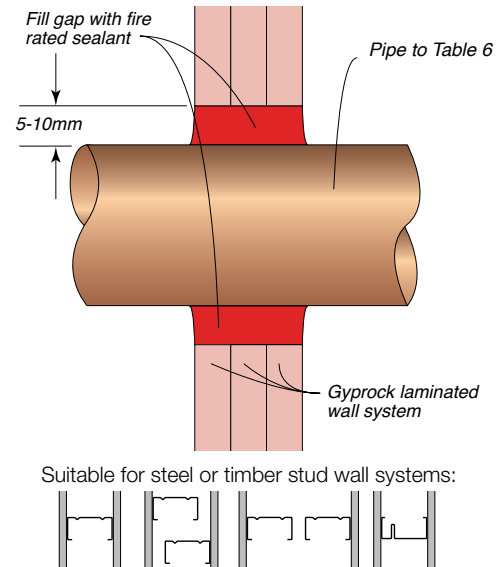


**Figure 42: Vertical Corner Abutting a Masonry Wall Detail**



**Figure 43: Pipe Penetration – Copper, Brass & Ferrous Metals**

Up to FRL -/120/-. Appraisal: FCO 3198.



**Penetrations in Steel Framed Walls – Pipes – Fire Rated**

Appraisals as noted.

NOTE: Where insulation component of FRL is required for metal pipe penetrations, solutions are available by compliance with the clearance requirements of BCA Clause C3.15(a) or the Gyprock Silencer F.

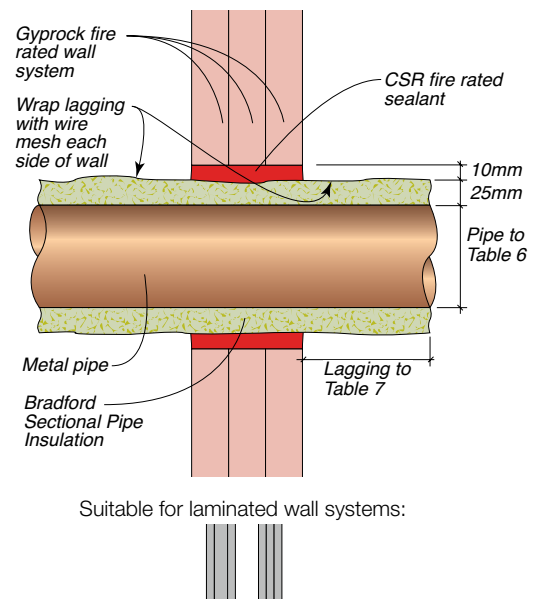
**Table 6: Pipe Sizes**

Nominal Pipe OD (mm)	Minimum Pipe Wall Thickness (mm)
32 to 65	0.91
66 to 101.6	1.22
101.6 to 125*	1.42
126 to 150*	1.63

\* Not suitable for brass services.

**Figure 44: Lagged Pipe Penetration – Copper, Brass & Ferrous Metals**

Up to FRL -/120/120. Appraisal: FCO 3198.



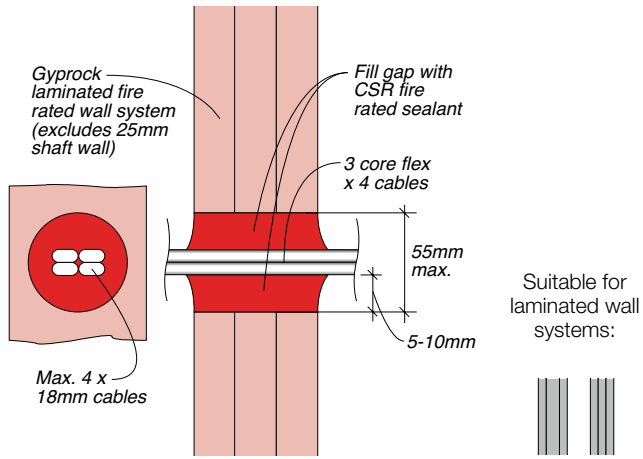
**Table 7: Lagging Requirements**

Nominal Size Ø (mm)	Length of lagging per side for required FRL (mm)		
	-/60/60	-/90/90	-/120/120
32 or less	350	400	450
40 to 150	650	700	750

\*FCO 3198 Approved pipe lagging CSR Bradford SPI Sectional Pipe Lagging (25mm thick Bradford Fibertex Pipe Insulation).

**Figure 45: Cable Penetration**

PVC sheathed Cables up to 3 cores of 2.5mm<sup>2</sup> nom. area or 7 x 0.67 metric strand  
Up to FRL -/120/- Appraisal FCO 3198.



**Figure 46: 200mm Diameter Copper Pipe Penetration**  
Up to FRL -/120/- . Appraisal: FCO 3050.

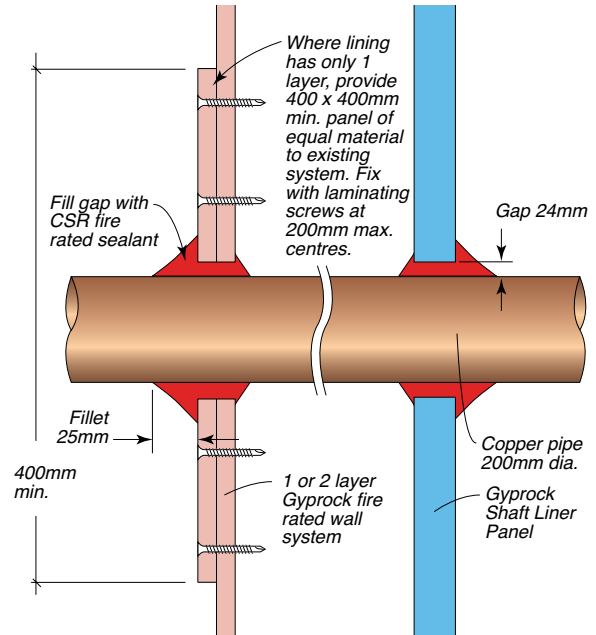
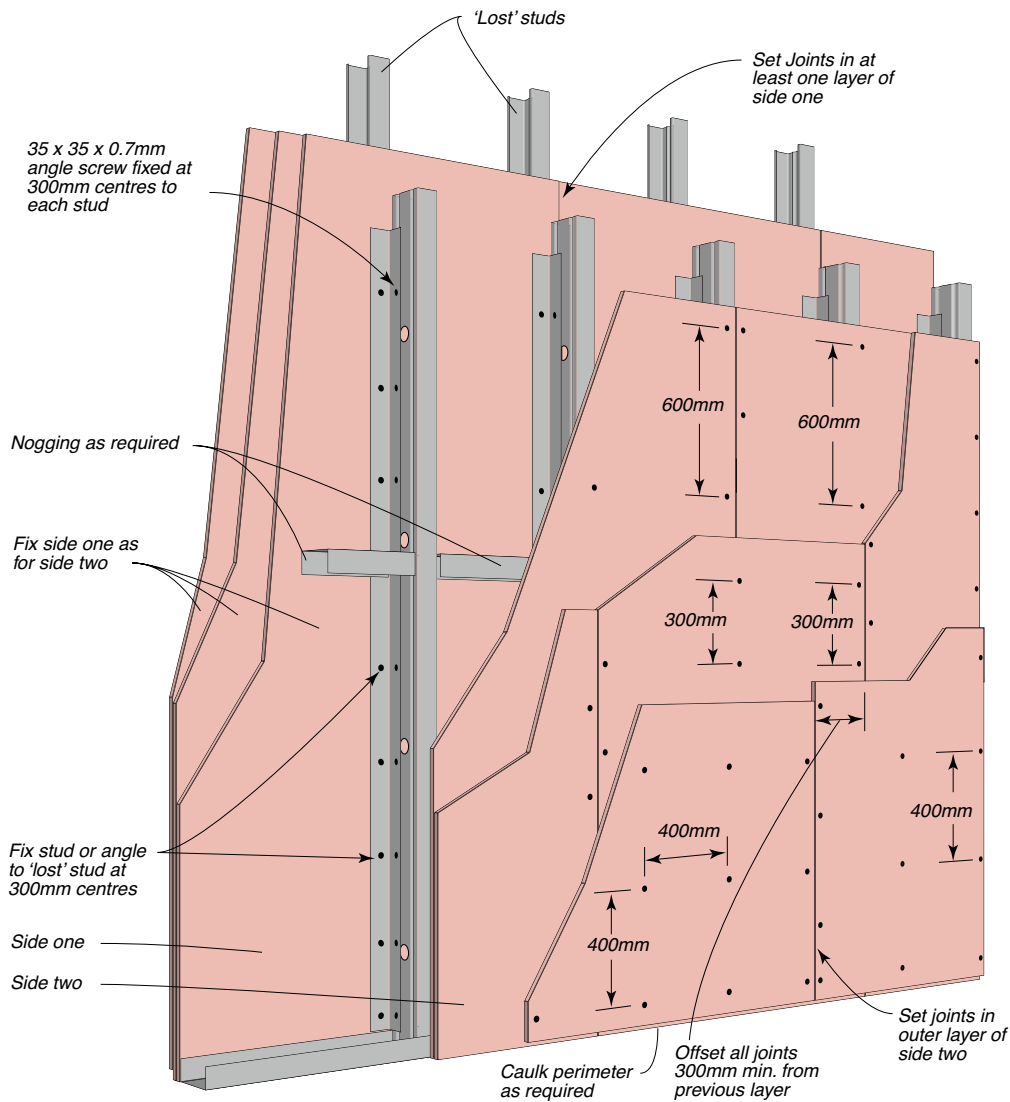


Figure 47: Alternative Installation Detail for Steel Frame Wall Systems – Two or Three Layer – Vertical or Horizontal Sheeting

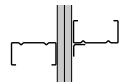
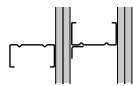


Fixing Specifications for Vertical Sheeting (shown)	
1st Layer	Fixing & Spacing
Recessed Edges, Field, Corners & Openings	#6-18 x 25mm, bugle head screws at 600mm max. centres on studs
2nd Layer	Fixing & Spacing
Recessed Edges Field	#6-18 x 40mm, bugle head screws at 300mm max. centres on studs
Butt Joints	Laminating screws at 200mm max. centres
Corners & Openings	#6-18 x 40mm, bugle head screws at 300mm max. centres
3rd Layer	Fixing & Spacing
Recessed Edges, Field, Butt Joints Corners & Openings	Laminating screws at 400x400mm max. grid

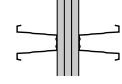
Fixing Specifications for Horizontal Sheeting	
1st Layer	Fixing & Spacing
Recessed Edges, Field, Butt Joints, Corners & Openings	#6-18 x 25mm, bugle head screws at 600mm max. centres on studs
2nd Layer	Fixing & Spacing
Recessed Edges	#6-18 x 40mm, bugle head screws at 600mm max. centres on studs
Field	#6-18 x 40mm, bugle head screws at 300mm max. centres on studs
Butt Joints	#6-18 x 40mm, bugle head screws at 200mm max. centres on studs
Corners & Openings	#6-18 x 40mm, bugle head screws at 300mm max. centres
3rd Layer	Fixing & Spacing
Recessed Edges, Field, Butt Joints Corners & Openings	Laminating screws at 400x400mm max. grid

NOTE: Fix single layer systems as shown for 2nd layer

SUITABLE FOR:



Alternative stud type for in-line stud framing



## Health & Safety

Information on any known health risks of our products and how to handle them safely is on their package and/or the documentation accompanying them.

Additional information is listed in the Safety Data sheet. To obtain a copy, telephone 1300 306 556 or visit [www.gyprock.com.au](http://www.gyprock.com.au).

## Warranty

Gyprock products are designed to achieve optimal performance when part of a CSR integrated system.

CSR Building Products Limited warrants its Australian made Gyprock products to remain free of defects in material and manufacture for the usual lifetime of the product (25 years).

CSR warrants its International Alliance Gyprock products to remain free of defects in material and manufacture for 7 years.

For details on our product warranty, please visit [www.gyprock.com.au](http://www.gyprock.com.au), or contact us on 1300 306 556.

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GYP546 FEBRUARY 2021 (BMS1821.0221)

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