

1

General site guidance	7
Health and Safety	8
Board fixing	11
Good practice detailing	15
Fixings into drywall systems	21
Services installations	26

General site guidance

At British Gypsum, we recognise the importance of following good site practice at all times. In this section we detail general site guidance outlining safe practice for handling and storing British Gypsum products and systems, helping you to work better and stay safe.

These notes are for guidance purposes only and are not intended to be exhaustive.

We advise that you read and familiarise yourself with all of the relevant information in this book prior to commencement of work.

Where other manufacturers' products or systems are being used in association with British Gypsum systems, reference should always be made to the manufacturer's own installation instructions and product data.



Health and Safety

IMPORTANT:

Please read the following notes before specifying, handling or installing British Gypsum products. The notes are for guidance purposes and are not intended to be exhaustive. When installing proprietary products, such as fixing devices, reference should be made to the manufacturers' instructions and product data.

General

The details and guidance contained in the **SITE BOOK** have been written for the benefit of experienced trade professionals, to assist them in the use and installation of British Gypsum products. The book assumes a level of knowledge which makes it unsuitable for use by a novice without the benefit of other instruction as to the use and installation of British Gypsum products. British Gypsum provides training on the use and installation of all its products at the Company's Drywall Academy Training Centres.

The advice and guidance referred to does not seek to replace the Health and Safety advice and systems of employers in relation to the use and installation of the Company's products but should be considered in addition. At all times all users of such products and installation techniques should ensure that they are familiar with, and adhere to, their employer's own Health and Safety procedures.

Whilst the advice and guidance given in the **SITE BOOK** meets relevant legislative and regulatory requirements and standards current at the date of publication, it is the responsibility of the user to ensure that these remain current prior to use.

The British Gypsum products and systems included in the **SITE BOOK** have been developed for use in domestic, commercial and industrial buildings. Guidance as to the correct installation and use of these products and systems is included in the installation sections.

It is important to follow good site practice at all times and to ensure that appropriate safety precautions are taken (including the wearing of appropriate personal protection equipment and clothing) when working with British Gypsum products.

The following general notes are offered for guidance:

- British Gypsum systems are non-loadbearing and are not designed to support body weight. Fixers must work from an independent support system.
- Manual off-loading of boards, panels and bagged materials should be carried out with care to avoid unnecessary strain.
- Keep sanding and other dust generation to a minimum. Maintain adequate ventilation and/or wear suitable protection.
- When cutting boards or metal sections, hand and power tools should be used with care keeping blades and saw teeth clear of hands, etc.
- Power tools should be used in accordance with manufacturers' recommendations, and only be used by people who have been instructed and trained to use them safely.

- When using powdered products, mix with water in well ventilated conditions. Avoid contact with eyes and skin – wear suitable eye and skin protection. In the event of contact with the eyes, irrigate with plenty of clean water immediately.
- When handling insulation or cutting board products containing glass fibre, wear suitable face and skin protection. Wear eye protection when working overhead.

NB Suitable protection should be to the following standards:-

- Face masks to *EN 149 FFP2*.
- Eye protection to *BS EN 166*.

Further information is available in Product Data Sheets (giving safety, handling and storage details) for all British Gypsum products, which are available on request from the British Gypsum Drywall Academy Advice Centre or are available to download from www.british-gypsum.com

Customers are also reminded that under the Health and Safety at Work Act 1974, and the following subsequent regulations, employers are under a duty to ensure that all risks associated with the use of equipment are properly risk assessed, that employees are informed of the findings of these assessments and are instructed, trained and supervised in the proper use of such work equipment and protective equipment. The extent of instruction, training and supervision required will depend on the employees existing competence necessary to use the work equipment with due regard for Health and Safety.

- Management of Health and Safety at Work Regulations
- Provision and Use of Work Equipment Regulations
- Personal Protective Equipment Regulations

Handling and storage

British Gypsum fully accepts its responsibilities as a supplier of building materials and systems as required by Section 6 of the Health and Safety at Work Act 1974.

However, in designing and installing systems incorporating British Gypsum products, full consideration must be taken of the legal requirements of:

- 1 Manual Handling Operations Regulations.
- 2 Construction (Design and Management) Regulations.
- 3 Control of Substances Hazardous to Health Regulations (COSHH).

Guidance documents / approved codes of practice regarding these regulations are available via the Health and Safety Executive.

Board fixing

General

- Fix boards with decorative side out to receive joint treatment or a skim plaster finish.
- Lightly butt boards together. Never force boards into position.
- Install fixings not closer than 13mm from cut edges and 10mm from bound edges.
- Position cut edges to internal angles whenever possible, removing paper burrs with fine sandpaper.
- Stagger horizontal and vertical board joints between layers by a minimum of 600mm.
- Locate boards to the centre line of framing where this supports board edges or ends.

NB Gyproc plasterboards should not be considered as a means of isolating dampness or used in areas subject to persistently damp or humid conditions.

Screw fixing to Gypframe metal framing

- Select Gyproc screws to give a nominal 10mm penetration into the metal. See **Table 1**.

- Where autofeed power screwdrivers are employed, use Gyproc Drywall Collated Screws (supplied in strips).
- Use Gyproc Drywall Screws for fixing Gypframe 'C' Studs and associated framing up to and including 0.7mm gauge (e.g. 70 S 60), and for fixing to Gypframe 'I' Studs up to and including 0.5mm gauge (e.g. 70 I 50).
- Use Gyproc Jack-Point Screws for fixing Gypframe 'C' Studs and associated framing 0.8mm gauge or greater (e.g. 92 S 10), and for fixing to Gypframe 'I' Studs 0.7mm gauge or greater (e.g. 70 I 70).

NB Understanding the codes for metal studs and channels. The first 2 or 3 digits refer to the component width, the letter/s refer to the component type, and the last two numbers indicate the metal thickness in mm, e.g. **92 S 10** refers to **92mm** wide 'C' Stud, metal thickness of **1.0mm**.

- Use Gyproc Wafer Head Drywall Screws for fixing Gypframe metal to metal. Their thin head minimises the risk of subsequent bulging of the lining board over fixings.
- Use Gyproc Wafer Head Jack-Point Screws for fixing Gypframe metal to metal where one or both of the sections is between 0.8mm and 2mm thick. Always fix 'thin' to 'thick' so that the thin metal is trapped between the 'thick' metal and the screw head.

Table 1 - Fixing to metal sections

Lining board thickness mm	Gyproc Drywall Screw length mm	Gyproc Jack-Point Screw length mm
6	22	–
9.5	25	–
10	25	–
12.5	22 [†]	–
12.5 or 2nd layer of 6 over 6	25	25
15	25	25
19	32	35
2nd layer of 12.5 over 12.5	36	35
2nd layer of 15 over 15	42	41
2nd layer of 12.5 over 19	42	41
3rd layer of 12.5 over 2 layers of 12.5	50	60
[†] Gyproframe RB2 SureFix Bar and DriLyner MF		
Thermal laminates thickness mm	Gyproc Drywall Screw length mm	
22	32	
27, 30	42	
35	50	
40	50	
48, 50	60	
60	75	

Fixing to timber supports

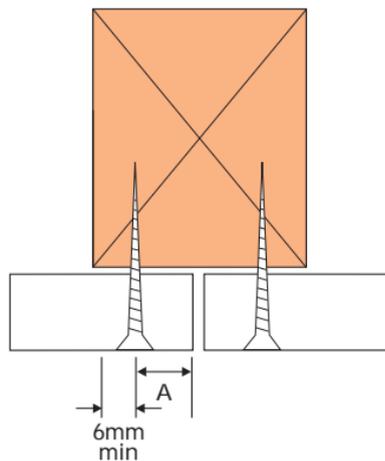
Select the correct length of fixing, see Table 2.

- Use Gyproc Drywall Timber Screws when fixing to standard softwood, super-dried timber and engineered 'I' beams. They provide a superior fixing to nails and minimise the risk of fixing defects occurring.
- Where autofeed power screwdrivers are employed, use Gyproc Collated Drywall Timber Screws (supplied in strips).
- Drive fixings firmly home without fracturing the board surface but leaving a shallow depression to facilitate spotting.
- Adhere to the fixing tolerances shown in Figure 1. If the timber support has insufficient bearing surface, fix a further timber support to it as shown in Figure 2. Alternatively, in the case of joists or trusses, use suitable counter battens.

Table 2 - Fixing to timber sections

Board mm	Gyproc Drywall Timber Screws thickness to fix board for direct decoration or plastering mm
9.5	32
12.5	38
15	38
19	41
12.5 over 12.5	51
15 over 15	60
12.5 over 19	60
15 over 19	60

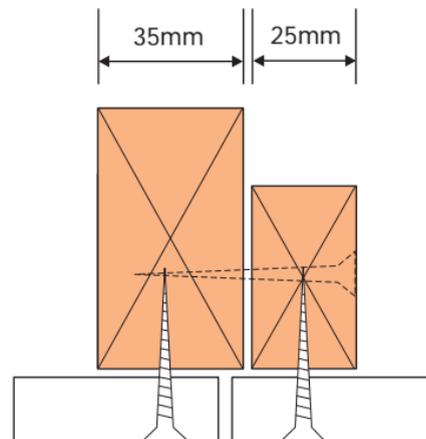
Figures



Fixing tolerances

Lightly butt boards with a max. separation of 3mm. Where a cut edge occurs dimension A is 13mm min; where a bound edge occurs

1 dimension A is 10mm min.



2 Increasing the bearing surface e.g. fixing boards to trussed rafters.

Avoiding fixing defects into timber

DO

- ✓ Use seasoned or kiln dried timber (preferably No.1 grade) to minimise the risk of drying shrinkage. *BS 8212* refers to 20% as being the maximum moisture content before drylining.
- ✓ Ensure timber supports are accurately spaced, aligned and levelled.
- ✓ Ensure that the dimensions and assembly of timber supports is sufficient to allow positive fixing of boards without bounce or undue deflection. If these fixing conditions can not be met, securely fix a timber batten to the side of the timber support to increase bearing surface.
- ✓ Fix boards tight to framing members.
- ✓ Use Gyproc Drywall Timber Screws to minimise any risks of nail popping. Alternatively, for timber joists fix Gypframe RB2 SureFix Bar to the underside to eliminate nail popping and to provide a positive fixing for boards using Gyproc Drywall Screws.

NB In all cases where defective or inadequate timber framing has been identified, defects must be rectified by suitable measures such as adjustment, inserting shims or replacement of affected timber prior to board fixing.

The use of timber which meets *BS 8212* moisture resistance, can still mean that nail popping can occur. The timber in use can 'dry down' to 8% causing shrinkage and twisting.

Good practice detailing

General

BS 8000 Part 8: 1994 Workmanship on Building Sites provides general guidance on good site practice. Specific reference is drawn to section 2.2 'Preparation of work, materials and components', covering liason, working conditions, distributed components and materials, cleanliness and protection, and suitability of backgrounds.

Acoustics

- Consider the layout and structure of buildings at the design stage to separate quiet and noisy areas
- Control sound paths around walls and floors to reduce flanking sound transmission
- Closely follow manufacturers' fixing details as deviations can negate any acoustic benefit
- Seal the base of the wall/drylining

NB When installing drylining, it is general practice to position the plasterboard so that a gap/break in contact occurs between the bottom edge of the plasterboard and the floor. It is important to seal this gap with a suitable filler prior to installation of the skirting. Furthermore, it is important to ensure that the base of the masonry wall is properly sealed prior to drylining to prevent an airspace being created straight under the wall.

- Tape and fill, or skim plaster plasterboard joints to increase airtightness
- Seal joints, junctions, penetrations, etc. to avoid air leakage
- Keep penetrations to a minimum
- Avoid back-to-back sockets

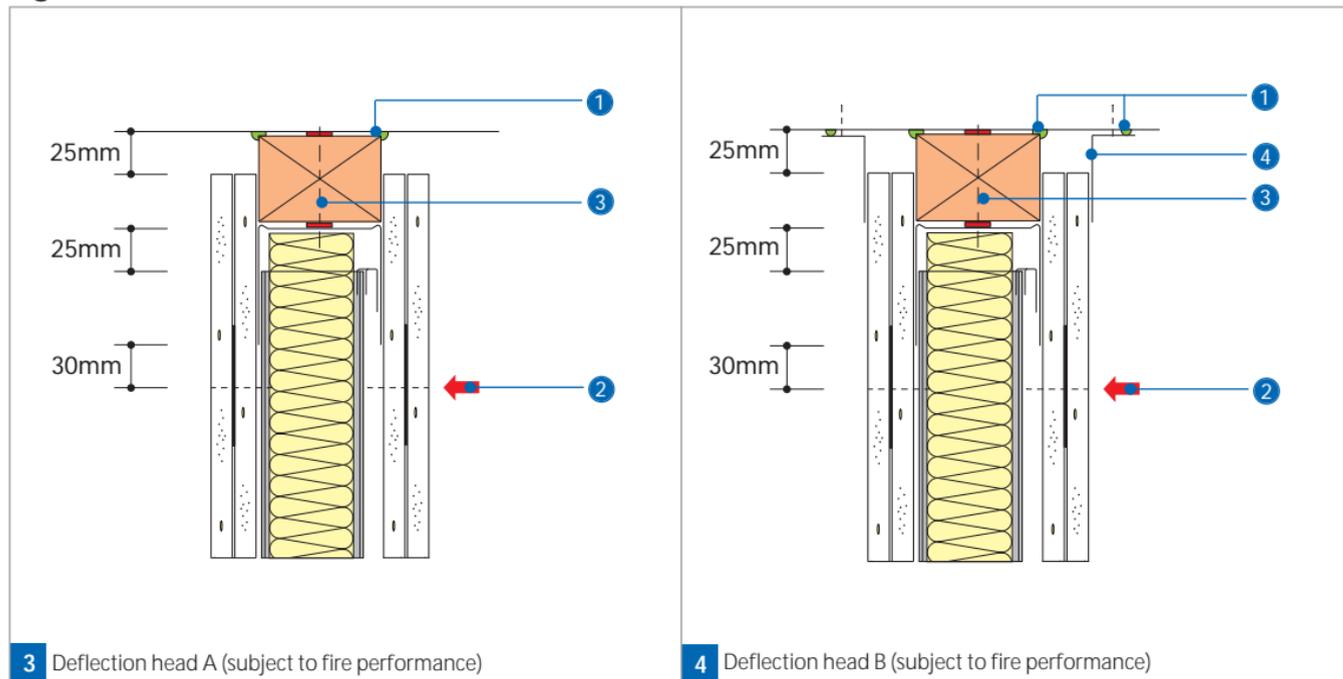
Deflection head details – acoustic performance

Deflection heads, by definition, must be able to move and, therefore, achieving an airtight seal is very difficult without incorporating sophisticated components and techniques. Air leakage at the partition heads will have a detrimental effect on acoustic performance of any partition. The approach shown in **Figure 3 - Deflection head A** could, for example, result in a loss of around 4dB to 5dB due to air leakage, in addition to that lost due to flanking transmission, etc.

Where acoustic performance is a key consideration, steps can be taken to minimise this loss of performance.

Figure 4 - Deflection head B shows the generally accepted method of achieving this and, provided care is taken to ensure a tight fit between cloaking angle and lining board surface, the loss in performance can be reduced. A loss in performance of around 1dB to 2dB would be typical with this method. Other factors, such as flanking transmission through the structural soffit, can significantly affect the overall level of sound insulation. Therefore, to optimise sound insulation performance, other measures may need to be taken.

Figures



3 Deflection head A (subject to fire performance)

4 Deflection head B (subject to fire performance)

- 1** Gyproc Sealant for optimum sound insulation
- 2** Uppermost board fixings
- 3** 50mm timber head plate equivalent to channel width forming fire-stop

- 4** Gypframe GA4 Steel Angle for optimum sound insulation

A suspended ceiling installed on both sides of the partition may provide a similar cloaking effect to that of steel angles. **CasoLine MF** can deliver a similar reduction in air leakage at the partition head. A tight fit between the ceiling perimeter and the surface of the partition lining board is important, although mechanically fixed perimeters are not essential. Ceilings with recessed light fittings may be less effective and if these cannot be sealed in some way, the installation of cloaking angles at the partition head should be considered. A suspended ceiling may also reduce the level of sound flanking transmission via the soffit.

Fire resistance

- Follow closely British Gypsum's installation instructions as deviations can negate any fire performance, e.g. plasterboard must be fully screw-fixed to framing supports
- Cut boards to a neat fit, avoiding any gaps

NB If small gaps do occur, they must be backed by a framing member and filled with appropriate jointing material or skim plastered.

- Tape and fill joints, or skim plaster plasterboard to achieve fire performance
- Fire-stop joints, junctions, penetrations, etc. to maintain integrity
- Keep penetrations to a minimum
- Avoid back-to-back sockets

Thermal performance

Seal lining perimeters and penetrations, etc. to avoid air leakage. Consider the use of Gyproc Soundcoat Plus on block external wall construction to reduce air leakage.

Robustness - partition duty ratings

All British Gypsum partition systems have a duty rating established in accordance with all the requirements of *BS 5234*. This rating relates to the strength and robustness characteristics of the partition system against specific end use applications. **Table 3** gives details of the four duty categories.

Table 3 - Duty ratings

Partition Duty	Category	Examples
Light	Adjacent space only accessible to persons with high incentive to exercise care. Small chance of accident occurring or misuse.	Domestic accommodation
Medium	Adjacent space moderately used, primarily by persons with some incentive to exercise care. Some chance of accident occurring or misuse.	Office accommodation
Heavy	Adjacent space frequently used by the public and others with little incentive to exercise care. Chance of accident occurring or misuse.	Public circulation areas, Industrial areas
Severe	Adjacent space intensively used by the public and others with little incentive to exercise care. Prone to vandalism and abnormally rough use.	Major circulation areas, heavy industrial areas

The series of tests are designed to determine the resistance to damage, both aesthetic and structural, from a range of impacts and load applications.

To claim a partition duty rating, all tests must achieve the designated performance level. It is not possible, for example, for a partition lined with a single layer of 12.5mm Gyproc WallBoard to achieve a duty rating better than Medium Duty, because of the board's performance in the hard body perforation test. In the majority of cases, the type of board used will determine the maximum partition duty rating. **Table 4** shows the maximum rating available based on a single layer board lining. In all cases, a double layer lining achieves Severe Duty.

Door detail

To achieve Heavy Duty or Severe Duty, the door detail needs to be reinforced, otherwise the door opening will undergo too much deflection and damage during the onerous door slamming test.

Table 4 - Board type required to achieve a given Duty Rating

Board type	Maximum rating
Gyproc WallBoard 12.5mm	Medium
Gyproc WallBoard 15mm	Medium
Gyproc SoundBloc 12.5mm	Medium
Gyproc SoundBloc 15mm	Medium
Gyproc FireLine 12.5mm	Medium
Gyproc FireLine 15mm	Heavy
Gyproc SoundBloc 15mm	Heavy [†]
Gyproc SoundBloc F 15mm	Heavy
Glasroc F MULTIBOARD 10mm	Heavy
Glasroc F MULTIBOARD 12.5mm	Severe
Gyproc DuraLine 15mm	Severe

[†] Minimum Gyframe 70mm Stud for Heavy Duty.

Maximum partition heights

As stated previously, *BS 5234: Part 2* does not contain a methodology for establishing the suitability of a partition in terms of height. The UK has

therefore adopted an internationally accepted methodology, which is based on the level of lateral deflection under a given uniformly distributed load (UDL). The criterion is that the maximum lateral deflection of the partition should not exceed $L/240$ (where L is the partition height) when the partition is uniformly loaded to 200Pa.

Fixings into drywall systems

There is a wide variety of fixing devices suitable for securing fixtures and fittings to British Gypsum systems. Generally, the choice of individual fixing devices will depend on the type of system and the loading requirements. This section gives recommendations on the selection of generic fixings. **Table 5** gives recommended fixing devices, and **Table 6** gives the recommended application in drywall systems to meet the specific load criteria. The guidance given is primarily concerned with fixtures at the time of installation. Subsequent installation is less easy, especially for heavier fixtures which will often require identification of the basic frame in hollow partitions or metal furring linings, or considerable care in the **DriLyner** systems, if the lining is not to be locally deflected.

It should be noted that, with drylined walls, there is normally a cavity to be bridged between the boards and the background. The fixing device should be long enough to allow for this and to penetrate well into the solid wall or background. When timber or metal framed partitions are used, lightweight fixtures can be made

directly to the partition linings. Medium weight fixtures should be made into the studs or to Gypframe 99 FC 50 Fixing Channels. Heavyweight fixtures (to *BS 5234*) such as wash basins, cupboards and shelving, should be fixed to Gypframe 150 FC 90 Fixing Channels. Gypframe 150 FC 90 Fixing Channels have been designed to suit Gypframe 'C' Studs, 'I' Studs, AcouStuds and GypLyner GL1 Lining Channels at 600, 400 or 300mm centres. The notched tabs both sides are first snipped at the desired positions (to suit stud module), bent to 90°, then fixed through pilot holes on each flange of the adjacent studs / channel. using Gyproc Wafer Head Screws. Where required, extra notches can be added by snipping and hammering flat. Once the partition is dry lined, the Gypframe 150 FC 90 Fixing Channels are securely 'trapped' between the plasterboard lining and the metal studs. To secure fixtures, suitable fixings are made into the Gypframe 150 FC 90 Fixing Channels. An example of a suitable fixing is a No.12 Self Tapping Screw with a 3mm pilot hole drilled through the fixing channel. See **Figure 8 - Gypframe 150 FC 90 Fixing Channel**. Gypframe Service Support Plates should be used to provide support to plywood noggings fitted within the partition cavity.

Table 5 - Recommended fixing devices and safe working loads

System	Lightweight fixtures up to 3kg (e.g. socket)	Lightweight to medium fixtures 4 - 8kg (e.g. small mirror)	Medium weight fixtures 9 - 20kg (e.g. shelf)	Medium to heavy fixtures 21 - 50kg (e.g. cupboard)	Heavy fixtures 51 - 100kg (e.g. basin)
ShaftWall GypWall systems [†] GypLyner iWL	A	B or C	D or I	G, H or I	K or H
Timber stud	A	B or C	K or D	K	K
DriLyner	A	B	F	L	L
GypLyner UNIVERSAL wall lining	A	B or C	D or E	J, K or L	K or L

Table 5 - Recommended fixing devices and safe working loads (cont'd)

Reference	Detail	Description	Typical SWL ² (typical failure load)
A		No. 10 woodscrew into Gyproc plasterboard	3kg (12kg)
B		Steel picture hook and masonry nail into Gyproc plasterboard	4kg (16kg)
C		Metal self-drive into single layer Gyproc plasterboard	6kg (24k)
		Metal self-drive into double layer Gyproc plasterboard into timber nogging	8kg (32kg)
D		Steel expanding cavity fixing, e.g. M5 x 40, into Gyproc plasterboard (board thicknesses up to 12.5mm)	12kg (48kg)
		Steel expanding cavity fixing, e.g. M5 x 65, into plasterboard (board thicknesses from 15mm to 28mm)	18kg (72kg)
E		Gyproc Drywall Screw fixed through Gyproc plasterboard into 0.5mm Gypframe metal stud / Gypframe 99 FC 50 Fixing Channel	19kg (76kg)
F		Heavy duty plastic plug fixed through Gyproc plasterboard into masonry with 55mm minimum penetration	20kg (140kg)
G		Gyproc Jack-Point Screws fixed through Gyproc plasterboard into minimum 0.9mm Gypframe metal stud / Gypframe 150 FC 90 Fixing Channel	30kg (120kg)

Table 5 - Recommended fixing devices and safe working loads (cont'd)			
Reference	Detail	Description (typical failure load)	Typical SWL ²
H		No.12 self-tapping screws fixed through Gyproc plasterboard into minimum 0.9mm Gypframe metal stud / Gypframe 150 FC 90 Fixing Channel	50kg (200kg)
I		Steel expanding metal cavity fixing, e.g. M4 x 40, through Gyproc plasterboard into 0.9mm Gypframe metal stud / Gypframe 150 FC 90 Fixing Channel (board thicknesses up to 12.5mm)	40kg (160kg)
		Steel expanding metal cavity fixing, e.g. M4 x 65, through Gyproc plasterboard into 0.9mm Gypframe metal stud / Gypframe 150 FC 90 Fixing Channel (board thicknesses from 15mm to 28mm)	50kg (200kg)
		Steel expanding metal cavity fixing, e.g. M5 x 65, fixing through Gyproc plasterboard into plywood supported by Gypframe Service Support Plate	50kg (200kg)
J		8mm steel frame fixing fixed through Gyproc plasterboard into masonry with minimum 55mm penetration	60kg (240kg)
K		No.12 self-tapping screw fixed through Gyproc plasterboard into timber sub-frame	120kg (480kg)
L		M8 steel bolt / anchor fixed through Gyproc plasterboard into masonry with minimum 55mm penetration	130kg (520kg)

Table 5 - Recommended fixing devices and safe working loads (cont'd)

1 For **GypWall QUIET SF**, ensure that the fixings do not bridge the Gypframe RB1 Resilient Bars, otherwise the acoustic performance may be compromised.

2 Safe Working Load (SWL) - a safety factor of 4 (steel fixings) and 7 (plastic fixings) has been used.

For technical assistance on above fixings please contact the fixings manufacturer. The suitability of the fixing must be confirmed by the building designer / fixing manufacturer.

Reference can also be made to the Construction Fixing Association (CFA) guidance note 'Fixing For Plasterboard', which is currently under review by the CFA and can be accessed at www.fixingscfa.co.uk

When specifying a fixing to / through Gyproc ThermoLine laminates, please give consideration to the thickness and compressibility of the insulation to ensure that the fixing used is fit for purpose.

The information within **Table 5** does not take into consideration any additional forces that may be applied whether it be accidental, abuse or otherwise.

The example fixing devices, typical safe working loads and typical failure loads given in **Table 5** relate to the installation of single fixtures. It is important to ensure that the drylining system specified is capable of supporting the loads, particularly if installing multiple fixtures.

Services installations

Services with partitions and lining cavities

The installation of electrical services should always be carried out in accordance with the requirements of the Institution of Electrical Engineers Wiring Regulations (*BS 7671*) which is the technical standard required of Approved Contractors enrolled with the National Inspection Council for Electrical Installation Contracting.

Services can be incorporated in all British Gypsum lining systems, partitions and ceilings.

Gypframe studs or wall lining channels either have cut-outs or push-outs to accommodate routing of electrical services. Grommets or isolating strip should be installed in the cut-out to prevent abrasion of the cables. Switch boxes and socket outlets can be supported on brackets formed from Gypframe 99 FC 50 Fixing Channel or cut and bent channels fixed horizontally between the studs. Alternatively, a high performance socket box detail can be used where higher acoustic performance is required.

Gypframe channels do not generally have cut-outs, these need to be cut on site, paying attention to Health and Safety issues. Grommets or isolating strip should be installed in these cut-outs to prevent abrasion of the cables.

If a lining system, such as **DriLyner**, does not have sufficient depth to accommodate the service then the background should be 'chased out' to the appropriate depth. Pipes or conduits should be fixed in position before work commences.

To maintain an airtight construction, the perimeter of any penetration through the lining should be sealed as necessary at the time the services are being installed.

The insulating backing of Gyproc ThermaLine laminates should not be chased to accommodate services. PVC covered cables must not come into contact with polystyrene insulation. Suitable isolation methods such as conduit or capping should be used (NHBC Standards 8.1).

In the case of gas service pipes behind drylined walls, *BS 6891* states that the pipe should be encased in building material. This could take the form of Thistle plaster, Gyproc Dri-Wall Adhesive totally encasing the pipe, or timber battens fixed either side of the pipe where the framing for the plasterboard is timber.

The following notes refer to specific service installation requirements in **GypWall** systems.

Walls 100mm thick or less

A zone formed by the installation of electrical accessories on one side of the wall or partition extends to the reverse side. This means that the concealed cable may be less than 50mm from the surface of the wall or partition on the reverse side.

Therefore, before carrying out work, e.g. drilling into the surface, the other side of the wall or partition must always be checked in order to determine the location of any concealed cables. It is good practice to maintain a clear zone.

Where the location of electrical outlets cannot be determined from the reverse side, then the cable must either be mechanically protected or run at least 50mm from the surface of the wall or partition on the reverse side (see **Figure 5 - Minimum distance of cabling**, and **Figure 6 - Standard zones of cabling**).

GypWall RAPID dB Plus

Electric cables, conduits and pipes up to 25mm outside diameter can easily be accommodated within the cavity of the system.

Gypframe GWR3 Floor & Ceiling Channels have circular cut-outs at regular centres. Gypframe Nogging Channels have half round cut-outs. These cut-outs are designed to prevent abrasion of electrical cables where they pass through the metal framework, therefore grommets are not required.

Other sections, such as Gypframe 43 AS 50 AcouStud, will need grommets or isolating strip to prevent abrasion. The cut-out in the cross nogging component, Gypframe Nogging Channels, allow PVC insulated and sheathed cable up to 4mm² to be installed without earthed metallic covering.

Heating Pipes

Where heating pipes, particularly micro-bore systems, are to be located within the **GypWall** system, it is recommended that only one pipe is passed through each aperture in the metal framework. If this cannot be accommodated for whatever reason, it may be necessary to incorporate proprietary pipe restraining clips, or other means of keeping the pipes apart, to prevent vibration noise.

Service ducts

Where a large number of electrical cables or pipes have to be accommodated when the framing is at 900mm centres, a service duct can be created by closing-up the stud centres to 450mm and omitting the intermediate nogging.

GypWall systems : **ShaftWall** : **FireWall**

The cut-outs in the studs can be used for routing electrical and other small services. Where Gypframe AcouStuds are used, services are routed through 'H' shaped push-outs, 50 x 28mm at the centres, as shown in **Figure 9 - Gypframe studs service cut-out details – 'C' and 'I' studs** and **Figure 10 - Gypframe studs service push-out details – AcouStuds**.

Service penetrations

Fixing electrical socket boxes into British Gypsum partitions and walls can impair both fire and acoustic performance, but with careful detailing this can be minimised. The national Building Regulations Part E offers specific guidance for the installation of socket boxes in separating walls, particularly the avoidance of back-to-back services. The plasterboard should always be neatly cut and Gyproc Sealant should be applied where optimum acoustic performance is required.

In fire-rated walls, the fire-stopping design is dependant on the period of fire resistance. Some typical details are shown in **Figure 11 - Socket box installation – up to 60 minutes fire resistance** and **Figure 12 - Socket box installation – up to 120 minutes fire resistance**.

For high acoustic performance socket box details, please refer to **GypWall QUIET** system.

In wall linings and ceilings, access for services may be required for routine maintenance, inspection, upgrading or repair. This can be achieved by installing Gyproc Profiflex Access Panels.

Dampers

Fire and smoke resisting dampers can be installed in British Gypsum's **GypWall** range of partitions and walls. Dampers prevent fire and smoke from passing from one fire compartment to another through heating, ventilation and air conditioning systems. 'An Industry Guide to the Design for the Installation of Fire and Smoke Resisting Dampers' is available

from the ASFP or as a download from their website www.asfp.org.uk. This document refers the designer to the principles of construction, and in particular to tested constructions, or to constructions assessed for performance in fire by a suitably qualified person.

Figure 13 - Opening bridging studs for duct / damper penetration, Figures 15, 16, 17 - Openings for service penetrations in fire-rated partitions and Figure 14 - Fire tested construction in which the damper is supported by the partition show a method of preparing openings for installing dampers up to a maximum weight of 57kg within British Gypsum systems. As the performance of the complete assembly will depend on a number of elements, the actual details of the opening need to be determined in conjunction with the fire-stopping and damper manufacturers.

Penetrations of fire resistant constructions for services need careful consideration to ensure that the integrity of the element is not impaired, and also that the services themselves do not act as the

mechanism of fire spread. It is important to use only those services and their installations which have been shown by fire test to be able to maintain the integrity of the construction. By designing service zones through which all services pass, the number of individual service penetrations can be minimised. Service zones can be sealed after installation of the services using a tested and substantiated fire-stopping system.

In most situations, the services will be installed by contractors other than the drylining contractor. It is important, therefore, that all relevant contractors should be advised as to where and how their service penetrations should be made and maintained. The necessity to independently support services will depend on their size and weight. Please refer to **Table 5 - Recommended fixing devices and safe working loads**.

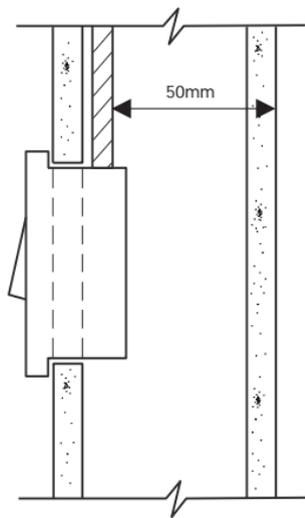
Services can be fixed to the face of a **GypWall** partition, using a Gypframe Service Support Plate, which carries 12.5mm plywood within the cavity of

the partition as shown in **Figure 7 - General arrangement of service support plates showing studs at 600mm centres**. An alternative to this would be to install a metal or timber support framework within the cavity of the partition. Consult the British Gypsum Drywall Academy Technical Advice Centre for further detailed information.

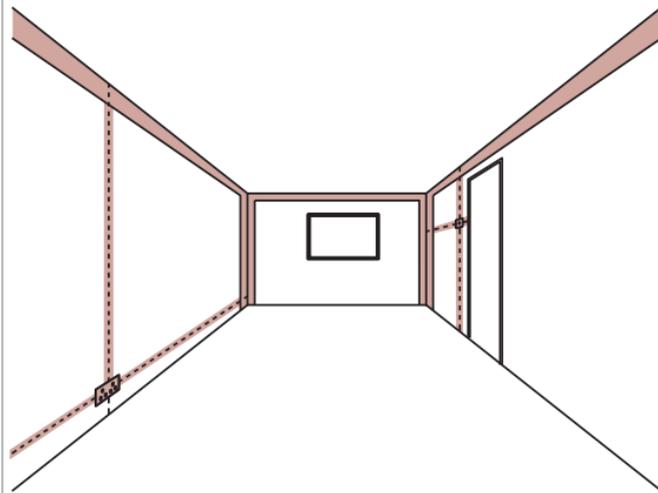
Access to services

Gyproc Profilex Access Panels have been designed and tested in order to offer practical, cost effective solutions. For more information, please refer to the British Gypsum website www.british-gypsum.com

Figures

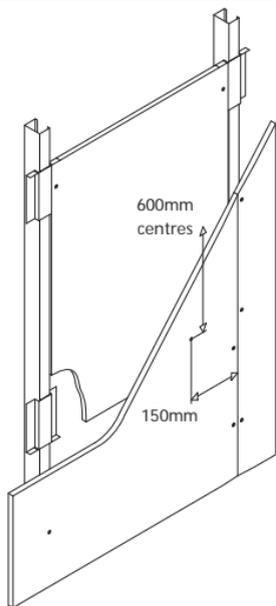


5 Minimum distance of cabling

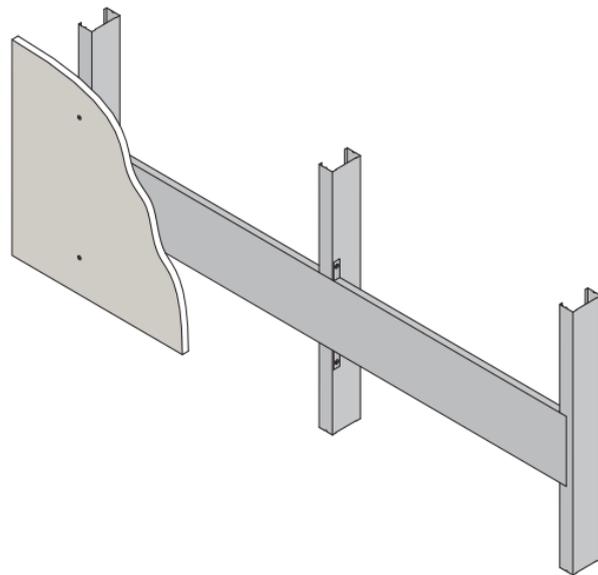


6 Standard zones of cabling

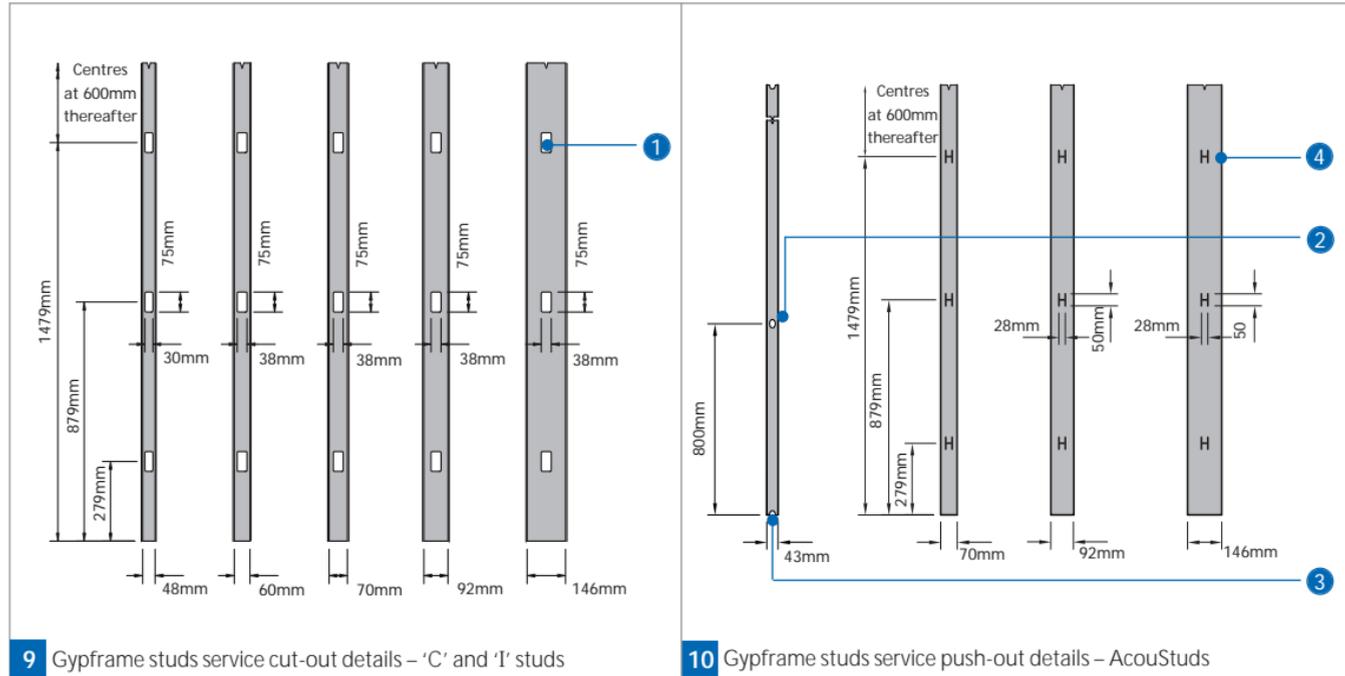
Figures



7 General arrangement of Gyframe Service Support Plates showing studs at 600mm centres

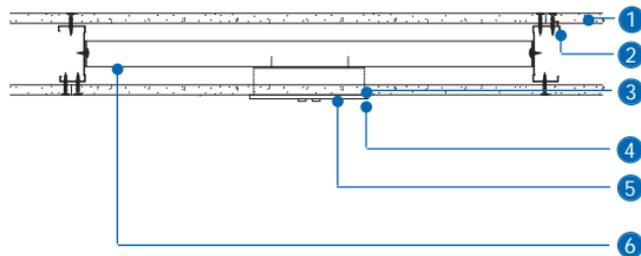


8 Gyframe 150 FC 90 Fixing Channel



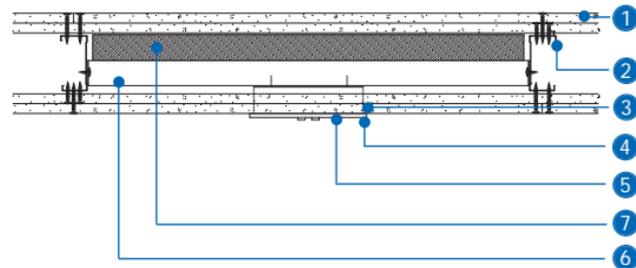
- ① Rectangular cut-out
- ② 25mm wide x 35mm high oval cut-out
- ③ Half cut-out at top and bottom
- ④ ‘H’ profile ‘push-outs’

Figures



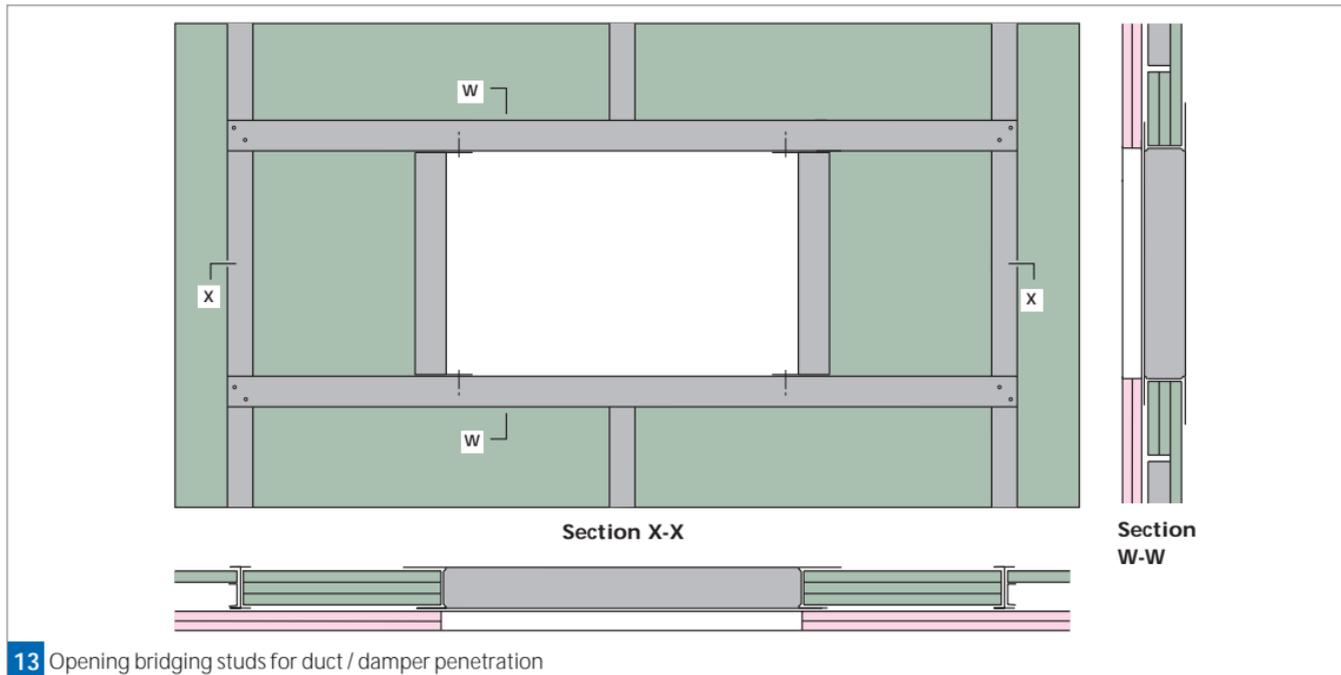
11 Socket box installation - up to 60 minutes fire resistance

- 1 Gyproc plasterboard
- 2 Gyproframe 70 S 50 'C' Studs at 600mm centres
- 3 Plasterboard cut to allow a close fitting entry for the socket box
- 4 Gyproc Sealant at switch box perimeter for improved acoustics
- 5 Electrical socket with metal back box



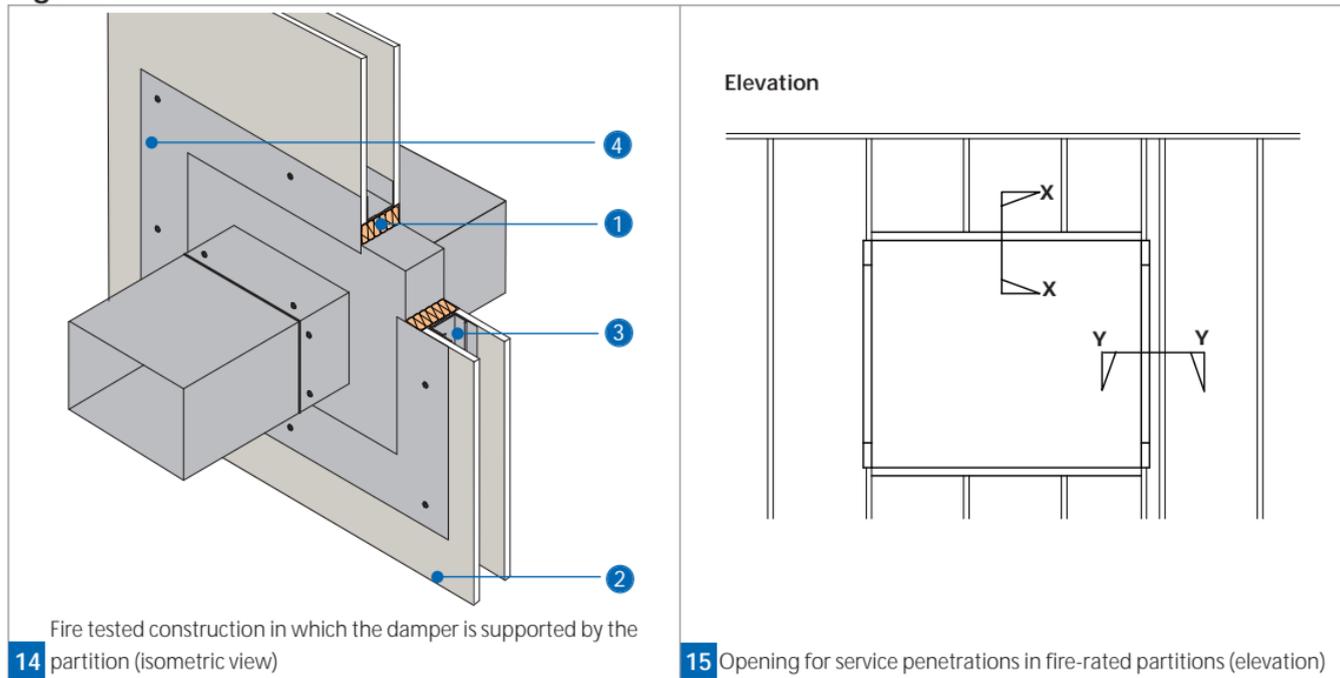
12 Socket box installation - up to 120 minutes fire resistance

- 6 Gyproframe 72 C 50 Standard Floor & Ceiling Channel receiving fixing of socket box - channel legs tabbed, bent and fixed to metal studs with Gyproc Wafer Head Drywall Screws
 - 7 Stone mineral wool (min. 80kg/m³) backing to the socket box
- NB** For high acoustic performance socket box details, please refer to GypWall QUIET systems



13 Opening bridging studs for duct / damper penetration

Figures

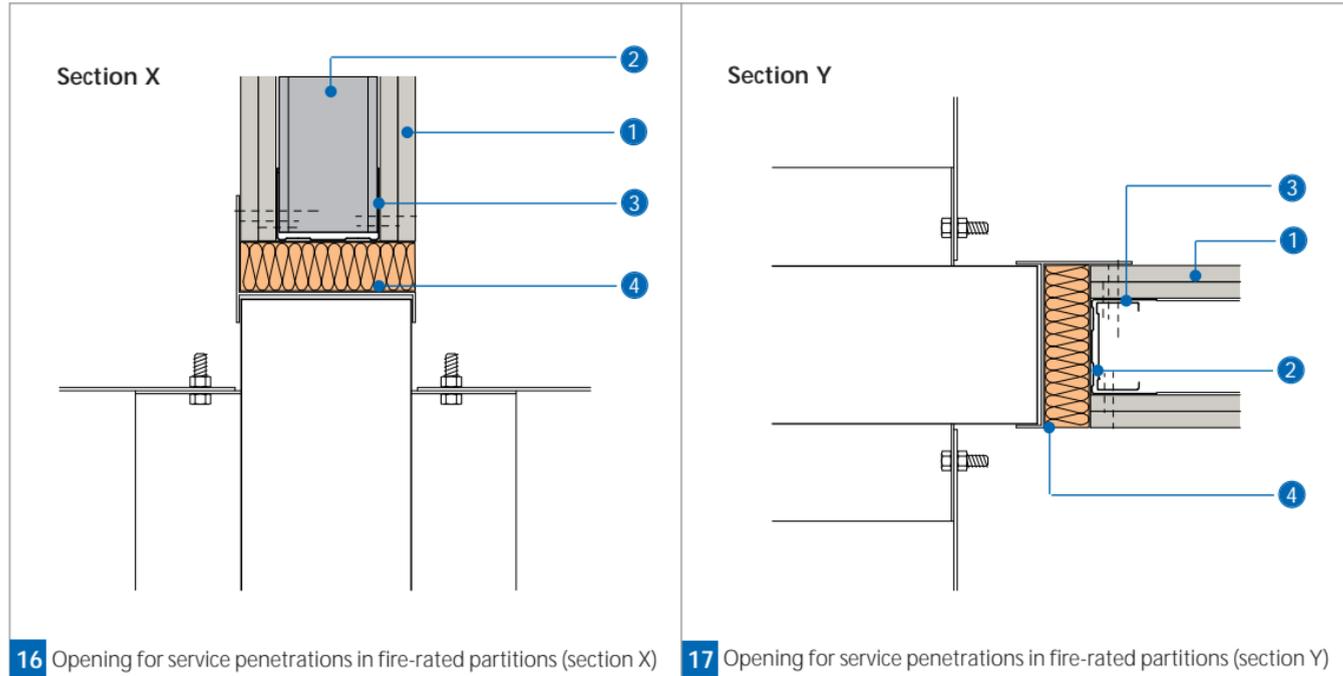


14 Fire tested construction in which the damper is supported by the partition (isometric view)

- 1** Stone mineral wool (80kg/m^3)
- 2** Gyproc or Glasroc plasterboard
- 3** Gypframe stud

15 Opening for service penetrations in fire-rated partitions (elevation)

- 4** Damper (by others). Weight of damper should not exceed 57kg. Size of damper should not exceed 1400 x 1200mm.



- 1 Gyproc plasterboard or Glasroc specialist board
- 2 Gypframe 'C' Stud
- 3 Gypframe Floor & Ceiling Channel

- 4 Penetration seal (as tested by damper manufacturer or proprietary alternative, confirmed as compatible by system designer / specifier)